

## RESPONSE TO COMMENTS

### FutureFuel Chemical Company

AFIN#: 32-00036

Permit #: 1085-AOP-R8

On, March 5, 2008, the Director of the Arkansas Department of Environmental Quality gave notice of a draft permitting decision for the above referenced facility. During the comment period, one interested party submitted written comments, data, views, or arguments on the draft permitting decision. The Department's response to these issues is as follows:

*Comment #1: During the comment period, the facility submitted a minor modification to redirect the vent from the SB-01 (Source # 4P05-02), located in the Aldehyde Section, to SV-03 (Source # 4P94-02), an equivalent water scrubber located in Solvent Recovery. The bakeout emissions would be exhausted from SV-03, and then to the Regenerative Thermal Oxidizer (Source # 5N09-01).*

**Response #1:** The permit has been changed to reflect the addition of this minor modification.

*Comment #2: The facility has some manufacturing equipment that was constructed prior to the promulgation date of the MON that is currently being used to produce products that don't involve any HAPs and is not covered by the any MACT standard. There is a strong possibility that at some time in the future a new product will be made in the equipment that will involve HAPs and will therefore be subject to the MON. This would mean that the equipment status would change from non-MON process vents to MON Group 1 process vents. In this event, the facility will need a reasonable amount time to complete our compliance demonstration.*

**Response #2:** Any equipment as defined above is clearly not a "new affected source" under §63.2440 of this subpart because it was in existence as of April 4, 2002. Because the facility is currently a major source, any "existing" manufacturing equipment not currently subject to any MACT standard but which later becomes subject to MON will have 150 days from startup to complete the required compliance demonstrations and to submit the Notification of Compliance report. Specific Condition MON 7 has been modified as follows:

If after the compliance date of an affected source the permittee starts production of a Subpart FFFF covered process in existing equipment not previously subject to Subpart FFFF, the permittee must meet all Subpart FFFF applicable conditions on the process startup date and must conduct an initial compliance demonstration

where applicable within 150 days after startup. [§19.304 of Regulation 19 and §63.2445]



# ADEQ

ARKANSAS  
Department of Environmental Quality

June 20, 2008

J. W. Ross  
Senior Environmental Associate  
FutureFuel Chemical Company  
PO Box 2357  
Batesville, AR 72503

Dear Mr. Ross:

The enclosed Permit Number 1085-AOP-R8 is issued pursuant to the Arkansas Operating Permit Program, Regulation # 26.

After considering the facts and requirements of A.C.A. §8-4-101 et seq., and implementing regulations, I have determined that Permit No. for the construction, operation and maintenance of an air pollution control system for FutureFuel Chemical Company to be issued and effective on the date specified in the permit, unless a Commission review has been properly requested under §2.1.14 of Regulation No. 8, Arkansas Department of Pollution Control & Ecology Commission's Administrative Procedures, within thirty (30) days after service of this decision.

All persons submitting written comments during this thirty (30) day period, and all other persons entitled to do so, may request an adjudicatory hearing and Commission review on whether the decision of the Director should be reversed or modified. Such a request shall be in the form and manner required by §2.1.14 of Regulation No. 8.

Sincerely,



Mike Bates  
Chief, Air Division



# ADEQ OPERATING AIR PERMIT

Pursuant to the Regulations of the Arkansas Operating Air Permit Program, Regulation #26:

Permit #: 1085-AOP-R8

IS ISSUED TO:

FutureFuel Chemical Company

2800 Gap Road

Batesville, AR 72503

AFIN: 32-00036

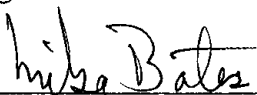
IS SUBJECT TO ALL LIMITS AND CONDITIONS CONTAINED HEREIN

THIS PERMIT AUTHORIZES THE ABOVE REFERENCED PERMITTEE  
TO INSTALL, OPERATE, AND MAINTAIN THE EQUIPMENT AND  
EMISSION UNITS DESCRIBED IN THE PERMIT APPLICATION AND ON  
THE FOLLOWING PAGES. THIS PERMIT IS VALID BETWEEN:

January 20, 2004      And      January 19, 2009

IS SUBJECT TO ALL LIMITS AND CONDITIONS CONTAINED  
HEREIN.

Signed:



Mike Bates  
Chief, Air Division

June 20, 2008

Date Modified

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**Table 1 - List of Acronyms**

A.C.A.	Arkansas Code Annotated
CFR	Code of Federal Regulations
CO	Carbon Monoxide
CSN	County Serial Number
HAP	Hazardous Air Pollutant
lb/hr	Pound per hour
MVAC	Motor Vehicle Air Conditioner
No.	Number
NO <sub>x</sub>	Nitrogen Oxide
PM	Particulate matter
PM <sub>10</sub>	Particulate matter smaller than ten microns
SNAP	Significant New Alternatives Program (SNAP)
SO <sub>2</sub>	Sulfur dioxide
SSM	Startup, Shutdown, and Malfunction Plan
Tpy	Ton per year
UTM	Universal Transverse Mercator
VOC	Volatile Organic Compound

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**Section I: FACILITY INFORMATION**

PERMITTEE:	FutureFuel Chemical Company
AFIN:	32-00036
PERMIT NUMBER:	1085-AOP-R8
FACILITY ADDRESS:	2800 Gap Road Batesville, AR 72501
MAILING ADDRESS:	P.O. Box 2357 Batesville, AR 72503-2357
COUNTY:	Independence
CONTACT POSITION:	J.W. Ross
TELEPHONE NUMBER:	(870)-698-5361
REVIEWING ENGINEER:	Paula Parker
UTM North - South (X):	3953.5 km
UTM East - West (Y):	633.5 km

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## **Section II: INTRODUCTION**

FutureFuel Chemical Company (AFIN # 32-00036), formerly known as Arkansas Eastman Division of Eastman Chemical Company, is located in Batesville, Arkansas, is a supplier of specialty organic chemical intermediates used in the manufacture of color film and photographic paper, paints and coatings, plastics and bottle polymers, medical supplies, prescription medicines, food supplements, household detergents, and agricultural products.

### **Summary of Permit Activity**

FutureFuel Chemical Company has submitted two modifications in order to make the following changes to their Title V Air Permit:

- Add 40 CFR 63, Subpart FFFF - National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing (MON) requirements for several sources at the facility;

The following, all or in part, are subject to the MON standards: Organic Chemical Intermediates, Organic Sulfonation Process, Solvent Recovery, Isopropyl Benzene Production, 5N07 Production Facility, Aldehyde Processing Facility, and the Storage Tanks and Miscellaneous Sources. These MON conditions have been included in a separate section. These sources are existing source because most of the equipment qualifies as existing sources. Also, the "potential to emit" for Aldehyde Processing is less than 10 TPY of a single HAP or 25 TPY of combined HAPS.

- Route the process equipment going to control devices 4P02-01 and 4P94-02 to the RTOs;

Several sources will now be routed to the RTO: From SV-01, SA-01, SC-01, SC-02, SI-01, SM-01, SX-01, SX-02, TFS-59, TFS-92; and from SV-03, BC-03, BW-02, TFS-61, TFS-62, TFS-63, TFS-64, TFS-65, TFS-66. Permitted emissions at the Solvent Recovery Emission Bubble will decrease from 27.8 lb/hr and 79 tpy to 3.9 lb/hr and 17.0 tpy VOC and Organic HAP.

- Route storage tank TF-2, PES # 5N01-44, to the RTOs;

This is an 18,000 gallon storage tank which currently vents to the atmosphere. The facility would like to control the tank through the RTO to allow for more flexibility of use. Emissions are currently part of the Tank Bubble 5N03-TK-01 but will be removed when routed to the RTO. The 5N03-TK-01 Bubbled emissions are decreasing, from 7.8 lb/hr and 34.0 tpy to 7.5 lb/hr and 33.0 tpy, VOC and Organic HAP.

- Install three new storage tanks;

Three new tanks, T-271 (30,000 gallons), T-272 (30,000 gallons), and T-273 (40,000 gallons) will be installed for HAP storage. Each tank is vapor balanced with incoming railcars and tank trucks at the Aldehyde Processing Section. These tanks will not emit and are not subject to NSPS Subpart Kb

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applicability because they will be operated at a pressure in excess of 29.7 psia.

- Use an existing storage tank, PT-50, for storage of off-site waste;

Tank PT-50 is an existing 10,000 gallon storage tank that will be used to receive waste from off-site and therefore, is subject to NESHAP DD – Off-Site Waste and Recovery Operations. The tank will be vented to the RTO and will not emit directly to the atmosphere.

- Rename T-212A to VC-PT-03;

There will be no physical changes at the source. It is located in the Aldehyde Processing Section.

- Remove TFB-30 from NSPS Subpart Kb applicability.

The tank is greater than 151 m<sup>3</sup> and stores a liquid with a maximum true vapor pressure less than 3.5 kPa.

- Redirect the vent from the SB-01 (Source # 4P05-02), located in the Aldehyde Section, to SV-03 (Source # 4P94-02), a water scrubber located in Solvent Recovery.

The SB-01 scrubber is only used to control emissions from reactor cleaning processes, performed 35 times a year at each of the two reactors. The bakeout emissions would instead, be exhausted from SV-03, and then to the Regenerative Thermal Oxidizer (Source # 5N09-01). Emissions at the RTO would increase slightly, by 2.2 tpy PM/PM<sub>10</sub> and 2.0 tpy CO, but due to the elimination of exhaust at the scrubber itself, plantwide emissions would be decreasing by 0.2 tpy VOC and 8.0 tpy CO.

Plantwide VOC and Organic HAP emissions are decreasing by 63.2 tpy and 8.0 tpy CO.

### Regulations

The following table contains the regulations applicable to this permit.

**Table 2 – Regulations**

Source (SN)	Regulation
All Sources	Arkansas Air Pollution Code (Regulation 18)
All Sources	Regulations of the Arkansas Plan of Implementation for Air Pollution Control (Regulation 19)
All Sources	Regulations of Arkansas Air Permit Operating Program (Regulation 26)

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Source (SN)	Regulation
Organic Chemical Intermediates Section	40 CFR Part 63 Subpart GGG 40 CFR Part 63 Subpart MMM

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Source (SN)	Regulation
WB-07 (SN-6M-03-09) WB-08 (SN-6M-03-10) WB-09 (SN-6M-03-11) TFS-60 PT-60 PT-68 PT-69A PT-69B TF-13 (SN-5N03-43) WB-06 (SN-6M-03-08) PB-51 PB-52 PM-50A PM-50B TBA-100 RNS-100 (SN-4P94-11) T-280 (SN-5N03-51) T-265 (SN-5N03-53) T-251 T-220 T-211A T-211B T-241 PA-50 T-270 RA-TF-01 AA-100 TBA-75 FAA-TF-01 FAA-TF-02 FAA-TF-101 FAA-TF-102 PROD-TF-02 T-242 PROD-TF-15 PROD-TF-302 RA-TF-01 RA-TF-02 SPS-TF-04	40 CFR Part 60 Subpart Kb

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Source (SN)	Regulation
SPS-TF-204 VC-PT-03 VC-PT-01 VC-PT-02	40 CFR Part 60 Subpart Kb
Utilities Section (coal processing activities)	40 CFR Part 60 Subpart Y
Organic Sulfonation Section. DIPB Production. (Equipment Leaks)	40 CFR Part 60 Subpart VV
5M01-02	40 CFR Part 60 Subpart NNN
DIPB Production (equipment Leaks, benzene)	40 CFR Part 61 Subpart J
DIPB Production (equipment leaks, VHAP)	40 CFR Part 61 Subpart V
Tank T-210 (benzene vessel)	40 CFR Part 61 Subpart Y
DIPB Production T9, D9 (benzene waste streams).	40 CFR Part 61 Subpart FF
Facility (waste management/recovery operations).	40 CFR Part 63 Subpart DD
6M03-05 6M01-01	40 CFR Part 63 Subpart EEE (Phase I and II)
Organic Chemical Intermediates Organic Sulfonation Process Solvent Recovery Isopropyl Benzene Production 5N07 Production Facility Aldehyde Processing Facility Storage Tanks and Misc. Sources	40 CFR Part 63 Subpart FFFF requires compliance with Subpart FFFF before May 10, 2008.

FutureFuel Chemical Company is also classified as a major stationary source as defined by 40 CFR 52.21, *Prevention of Significant Deterioration of Air Quality (PSD)*.

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The following table is a summary of emissions from the facility. The following table contains cross-references to the pages containing specific conditions and emissions for each source. This table, in itself, is not an enforceable condition of the permit.

**Table 3 – Emission Summary**

PES #	ARK ID#	Description	Pollutant	Emission Rates		Cross Reference Page
				lb/hr	tpy	
		Total Allowable Emissions	PM <sub>10</sub>	90.8	342.1	N/A
			SO <sub>2</sub>	1441.0	6314.6	
			VOC	163.0	639.4	
			CO	453.9	1864.4	
			NO <sub>x</sub>	182.0	794.7	
			Inorganics*	241.6	940.0	
			Organic HAPs**	***	639.6	
<b>Organic Chemical Intermediates</b>						
5N09-01	Regenerative Thermal Oxidizers (2 Units)		PM <sub>10</sub>	9.9	17.5	29
			SO <sub>2</sub>	8.4	36.8	
			VOC	42.0	184.0	
			CO	11.0	25.2	
			NO <sub>x</sub>	8.7	38.1	
			Inorganics*	10.0	43.8	
			Organic HAPs**	***	184.0	
			OCI-FUG	Organic Chemical Intermediates Fugitive Emissions	VOC	
		Organic HAPs**	***	14.3		
<b>Utilities</b>						
6M01	Coal Pile		PM <sub>10</sub>	0.1	0.1	83



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PES #	ARK ID#	Description	Pollutant	Emission Rates		Cross Reference Page
				lb/hr	tpy	
6M01-01		3 Coal Fired Boilers (70 MMBtu/hr each)	PM <sub>10</sub> SO <sub>2</sub> VOC CO NO <sub>x</sub> Inorganics* Organic HAPs**	46.9 1,418.7 0.5 384.4 111.5 227.4 ***	205.3 6,213.8 2.3 1,683.7 488.2 877.9 2.3	83
6M01-01A		Coal Bunker Fabric Filter	PM <sub>10</sub>	0.2	0.7	83
6M06-01		#4 Boiler (78 MMBtu/hr) Natural Gas	PM <sub>10</sub> SO <sub>2</sub> VOC CO NO <sub>x</sub> Organic HAPs**	1.1 1.2 0.5 2.8 13.3 ***	4.8 5.3 2.0 12.3 58.3 2.0	83
6M07-01		#5 Boiler (221 MMBtu/hr) Natural Gas	PM <sub>10</sub> SO <sub>2</sub> VOC CO NO <sub>x</sub> Organic HAPs**	1.1 0.1 2.9 18.0 22.0 ***	4.9 0.6 12.7 78.8 96.4 12.7	83
<b>Organic Sulfonation</b>						
5M01-01	SPS-S-01	Scrubber	VOC Organic HAPs**	0.1 ***	0.4 0.4	90
5M01-02	SPS-VE-03	Scrubber	VOC Organic HAPs**	0.1 ***	0.4 0.4	90

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PES #	ARK ID#	Description	Pollutant	Emission Rates		Cross Reference Page
				lb/hr	tpy	
5M01-05	PROD-VE-04	Scrubber	VOC Organic HAPs**	0.1 ***	0.4 0.4	90
5M01-06	SPS-S-02	Scrubber	VOC Organic HAPs**	0.5 ***	1.8 1.8	90
5M01-07	PROD-VE-05	Scrubber	VOC Organic HAPs**	0.1 ***	0.4 0.4	90
5M01-08	EX-VE-01	Scrubber	VOC Organic HAPs**	0.1 ***	0.4 0.4	90
5M01-09	SPS-S-03	Scrubber	VOC Organic HAPs**	0.2 ***	0.9 0.9	90
5M03-01	PROD-VE-02	Scrubber	VOC Organic HAPs**	0.1 ***	0.4 0.4	90
5M03-02	SPS-VE-01	Scrubber	VOC Organic HAPs**	0.2 ***	0.8 0.8	90
5M04-01	SPS-VE-02	Scrubber	VOC Organic HAPs**	0.6 ***	2.3 2.3	90
5M04-02	PROD-VE-01	Scrubber	VOC Organic HAPs**	0.2 ***	0.7 0.7	90
5M04-10	SPS-VE-04	Scrubber	SO <sub>2</sub>	0.1	0.4	90

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PES #	ARK ID#	Description	Pollutant	Emission Rates		Cross Reference Page
				lb/hr	tpy	
5M05-01	PROD-VE-03	Scrubber	VOC Organic HAPs**	0.1 ***	0.4 0.4	90
5M05-02	EX-C-20	Filter	PM <sub>10</sub>	0.1	0.4	90
5M11-01	SPS-S-201	Scrubber	VOC Organic HAPs**	0.1 ***	0.4 0.4	90
5M11-04	PROD-VE-304	Scrubber	VOC Organic HAPs**	0.1 ***	0.4 0.4	90
5M11-05	SPS-S-202	Scrubber	VOC Organic HAPs**	0.1 ***	0.4 0.4	90
5M11-06	PROD-VE-305	Scrubber	VOC Organic HAPs**	0.1 ***	0.4 0.4	90
5M11-07	EX-VE-401	Scrubber	VOC Organic HAPs**	0.1 ***	0.4 0.4	90
5M11-08	SER-VE-501	Scrubber	PM <sub>10</sub>	1.1	4.7	90
5M11-09	SER-VE-502	Filter	PM <sub>10</sub>	1.1	0.9	90
5M11-15	SPS Supersack Load Hopper Dust Control System		PM <sub>10</sub>	0.1	0.3	90
5M13-01	PROD-VE-302	Scrubber	VOC Organic HAPs**	0.1 ***	0.4 0.4	90

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PES #	ARK ID#	Description	Pollutant	Emission Rates		Cross Reference Page
				lb/hr	tpy	
5M16-01		Supersack Loadout Dust Control System	PM <sub>10</sub>	0.1	0.4	90
5M18-01	SER-VE-01	Continuous Dust Control System	PM <sub>10</sub>	0.9	3.9	90
5M18-02	SER-VE-02	Central Vacuum Cleaning System	PM <sub>10</sub>	3.4	3.7	90
5M18-03	SER-VE-03	Bin Vacuum Cleaning System	PM <sub>10</sub>	0.3	0.9	90
5MNOBS-TNK		Aggregate Tank (4 tanks)	VOC Organic HAPs**	0.4 ***	1.8 1.8	90
NOBS-FUG		Fugitive Emissions from Organic Sulfonation Process	VOC Organic HAPs**	6.2 ***	27.0 27.0	90
5M01-TSP		Dust Control Maintenance Fugitives	PM <sub>10</sub>	3.1	0.1	90
<b>Chemical Destructor</b>						
6M03-05		Chemical Waste Destructor (50 MMBtu/hr)	PM <sub>10</sub> SO <sub>2</sub> VOC CO NO <sub>x</sub> Inorganics* Organic HAPs**	20.0 11.6 2.4 11.4 23.0 4.0 ***	87.6 50.8 10.5 49.9 100.7 17.5 10.5	96
DEST-FUG		Destructor Fugitives	VOC Organic HAPs**	1.2 ***	5.1 5.1	96

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PES #	ARK ID#	Description	Pollutant	Emission Rates		Cross Reference Page
				lb/hr	tpy	
<b>Solvent Recovery</b>						
4PSR-00		Solvent Recovery Facility	VOC Organic HAPs**	3.9 ***	17.0 17.0	113
SR-FUG		Solvent Recovery Fugitive Emissions	VOC Organic HAPs**	12.7 ***	55.6 55.6	113
<b>Waste Water Treatment</b>						
7K01-01		Wastewater Treatment System	VOC Organic HAPs**	45.7 ***	200.0 200.0	115
7M01-02	EQ-C-05	Wastewater Decant Tank	VOC Organic HAPs**	0.8 ***	3.5 3.5	115
<b>Polymer Production</b>						
5NPOLY-TNK		Tank Bubble (4 Tanks at Polymer Production)		Removed from Service		
POLY-FUG		Fugitive Emissions from Polymer Production		Removed from Service		
<b>Isopropyl Benzene</b>						
5NDIPB-TNK		Tank Bubble (8 tanks)	VOC Organic HAPs**	0.5 ***	2.2 2.2	116
5N03-48	D-10	Scrubber	Inorganics*	0.1	0.4	116

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PES #	ARK ID#	Description	Pollutant	Emission Rates		Cross Reference Page
				lb/hr	tpy	
5N03-52	T-251	Tank	VOC Organic HAPs**	0.4 ***	1.8 1.8	116
5N03-54		Flare	PM <sub>10</sub> SO <sub>2</sub> VOC CO NO <sub>x</sub> Organic HAPs**	0.1 0.1 0.9 2.4 1.4 ***	0.4 0.4 3.9 10.4 6.1 3.9	116
5N03-55	D-270	Scrubber	Inorganics*	0.1	0.4	116
5Q94-01	T-241	Tank	VOC Organic HAPs**	0.4 ***	1.8 1.8	116
DIPB-FUG	Fugitive Emissions from Isopropyl Benzene Process		VOC Organic HAPs**	5.7 ***	25.0 25.0	116
<b>Kilo Lab (Research and Development)</b>						
4P03-05	Kilo Lab Hood		Insignificant activity.			
<b>Storage Tanks and Miscellaneous Sources</b>						
5N03TK-01	Process Tanks (35 Tanks)		VOC Organic HAPs**	7.5 ***	34.0 34.0	121
6N01-02	Diesel	Tank	VOC Organic HAPs**	0.1 ***	0.4 0.4	121

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PES #	ARK ID#	Description	Pollutant	Emission Rates		Cross Reference Page
				lb/hr	tpy	
6N01-03	Gasoline	Tank	VOC Organic HAPs**	1.4 ***	6.0 6.0	121
7N02-01	Cement Plant Fabric Filter		PM <sub>10</sub>	0.3	1.3	121
<b>Acrylic Resins Process</b>						
5N07-06	Acrylic Resin Bagging System		Removed from Service			
5N07-FUG	Acrylic Resin Fugitives		Removed from Service			
<b>Wood Pellet Production</b>						
6Q01	Baghouse/cyclone		PM <sub>10</sub>	3.1	13.5	126
<b>5N07 Production Facility</b>						
5N07	Biodiesel Production		VOC Organic HAPs**	1.5 ***	6.5 6.5	128
<b>Aldehyde Processing</b>						
4P05-01	Hot Oil System		PM <sub>10</sub> SO <sub>2</sub> VOC CO NO <sub>x</sub> Organic HAPs**	0.2 0.8 14.6 1.0 2.1 14.59	0.6 6.5 6.8 4.3 6.9 1.95 <sup>†</sup>	130
4PSR-FUG	Aldehyde Processing Fugitives		VOC Organic HAPs**	2.3 2.22	3.8 1.95 <sup>†</sup>	130

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The ARK ID# is for FutureFuel Chemical Company's use only.

Ton/yr limits are listed for individual sources for informational purposes only. The facility shall show compliance with the facility total ton/yr limits presented at the top of this table using the procedures outlined in Plantwide Conditions 8 through 12.

\*Inorganics are considered to be non-VOC Hazardous Air Pollutants.

\*\*Organic Hazardous Air Pollutants are considered to qualify as both VOC and HAPs.

\*\*\*Hourly plantwide Hazardous Air Pollutant emissions are limited by Plantwide Condition 12. Additional HAP limitations are included in Plantwide Condition 9.

†Total emissions from the Aldehyde Processing Section are limited to 1.95 tpy of a single HAP

Note: Acrylic acid is an organic HAP, rather than an inorganic compound. Combining the HAP (acrylic acid) with the VOC produces the numbers listed above.



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### **Section III: PERMIT HISTORY**

- 262-A The permit was issued to Arkansas Eastman in December of 1974 for the installation of a facility to manufacture various specialty and organic intermediate chemicals through batch operations. Three 70 MM Btu/hr coal-fired boilers were installed to provide steam for the processes.
- 262-AR-1 Issued in 1976, this permit recognized suspension of construction plans for the hydroquinone plant, authorized a higher number of reactors for the chemical intermediates plant, acknowledged the use of ESPs for control of boiler emissions, and permitted the chemical destructor at 9 pounds of particulate per hour.
- 487-A Permit was issued in 1978. This permit allowed the facility to add 8 batch reactors and 10 storage tanks. Each of the reactors were vented through a caustic scrubber. The particulate emissions were routed through fabric filters.
- 262-AR-2 This permit, issued in 1978, authorized an expansion of the chemical products and intermediates. Emission control was provided by caustic and water scrubbers. The permit required the facility to develop an ambient air monitoring program in order to evaluate emission concentrations beyond the property line.
- 262-AR-3 Issued on July 25, 1980. This permit approved an expansion in production to allow a greater variety and larger quantity of chemicals. New process equipment included reactors, filters, dryers, distillation columns, and storage tanks. Emission control equipment included scrubbers using sodium hydroxide or water. The permit also allowed the installation of a new coal fired boiler (193 MM Btu/hr). The coal boiler utilized an ESP for particulate control, and the boiler was limited to coal at or below 1 percent sulfur, and a heat content of 12,500 Btu per pound. This permitting action required PSD review.
- PSD-AR-311 Issued by the U.S. Environmental Protection Agency on March 27, 1981. This was a PSD permit which addressed the installation and operation of (coal-fired) Boiler #4 and the associated coal handling system. The permit imposed a coal sulfur limit of 1 percent by weight and an ash content of 20 percent by weight. The permit also specified limits on throughput, opacity, emissions, monitoring, and stack testing for the new boiler.
- 262-AR-4 Permit was issued on September 25, 1981. This permit allowed the installation of additional process equipment and a coal-fired boiler. The permit also authorized cessation of certain continuous monitoring equipment, subsequent to the demonstration that criteria pollutant concentrations were well below the NAAQS.

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- 262-AR-5 Permit revision was issued on July 23, 1982. This permit authorized an increase in sulfur content of the coal fueling the coal boilers. The sulfur limit was raised from 1 to 4 percent. Upon evaluation of emission increases and dispersion modeling, this permitting action did not require PSD review.
- 262-AR-6 Issued on March 21, 1986. This permit authorized the installation and operation of an oxidized cellulose facility. Emission control was provided by a packed column scrubber using sodium hydroxide.
- 744-A Issued on November 5, 1984. This permit was issued to allow the operation of a new isopropylbenzene production process. Emission control included a fabric filter and a water scrubber for the catalyst storage and transfer system. Reaction and refining emissions were routed to a flare.
- 829-A Issued on July 14, 1987. This permit authorized the installation and operation of one 78 MMBtu/hr steam boiler. Nitrogen oxides emissions from this boiler were estimated at above the 40 ton/yr Prevention of Significant Deterioration (PSD) threshold, and the permit application was therefore required to undergo PSD review. The BACT analysis found that emissions controlled by either staged combustion/low excess air burners or flue gas recirculation would not substantially improve ambient air quality and were not economically feasible. No additional controls were therefore required, and standard-register burners were approved for use.
- 981-A Issued on February 20, 1990. This permit was issued to allow the operation of a new polymer production facility. Emissions were controlled by conservation vents on the tanks and 2-stage scrubbers on the centrifuges, reactors, and distillation columns.
- 268-I Permit issued on March 25, 1976 in order to permit the facility's incinerator.
- 1085-A Issued on January 11, 1991. This permit was issued to modernize some of the older permits and to put all of the company's permits into one package. This permit also required Eastman to install and operate a Regenerative Thermal Oxidizer (RTO) on the batch organic chemicals production facilities in buildings 5N01 and 5N03 for the control of VOC emissions by July, 1992.
- 1085-AR-1 Issued on May 14, 1992. This permit involved the installation of a 221 MMBtu/hr natural gas fired boiler (6M-07-01), which required a PSD permit due to significant nitrogen oxide emissions (98 tons per year).

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- 1085-AR-2 Issued on February 9, 1994. This permit was issued to document the burning of wastewater sludge in all three of the coal fired boilers at the facility. Eastman proposed to dewater wastewater treatment plant sludge before atomizing it using compressed air, into the high temperature combustion zone of the boilers.
- 1085-AR-3 Issued on April 18, 1994. The modification involved the addition of a packed-bed water scrubber to source 5N01-45, a 24,000 gallon aboveground storage tank which stores crotonaldehyde. This was an uncontrolled source prior to this minor permit modification. Potential emissions from this source were calculated to be 5.7 tons per year after the controls.
- 1085-AR-4 Issued on October 20, 1994. This permit involved venting several temporary storage tanks to the RTOs. The main purpose for this modification was to control the odor generated from the use of ethyl mercaptan, which is mainly used to odorize natural gas. The following tanks were vented to the RTO: 5N01-11, 5N01-12, 5N01-13, 5N01-14, 5N01-16, 5N01-19, 5N01-20, 5N01-21, 5N01-29, 5N01-30, 5N01-34, 5N01-35, 5N01-36, 5N01-37, 5N01-50, 5N01-51, 5N01-52, 5N01-53, 5N01-60, 5N01-62, 5N03-09, 5N03-10, and 5N03-61.
- 1085-AR-5 Issued on October 18, 1994. This was a minor modification for producing a new polymer in the Polymer Production Facility. Emissions from this modification were controlled by the RTOs, scrubbers, and conservation vents on tanks.
- 1085-AR-6 Issued on June 6, 1995. This modification involved modifying existing solvent recovery equipment used to recover additional solvent and to remove potential odor producing compounds by destroying them in the existing RTOs. The main purpose of this modification was to control the odor generated from the use of ethyl mercaptan. Ethyl mercaptan is mainly used to odorize natural gas. The odor threshold of ethyl mercaptan is 0.4 ppb. To eliminate this odor, the facility proposed that the scrubber atmospheric vents be connected to the RTOs. Additionally, the permittee proposed to modify the existing wastewater treatment system by closing the existing equalization basin, discontinuing the use of the existing diversion basin for processing wastewater, and constructing aboveground tanks for equalization/neutralization and diversion of the wastewater. The system modification included the addition of two 30,000 gallon pump station clearwells, two 750,000 gallon equalization tanks, and one 1,000,000 gallon diversion tank. Also a new lift station, neutralization system, and a floating organic skimmer and decant system was to be provided. The existing diversion basis was to be used to capture noncontact cooling water and storm water runoff should it become contaminated.
- 1085-AR-7 Permit was issued on November 27, 1995. This permit was issued to raise the particulate emission limit on the RTOs.

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- 1085-AR-8 Permit was issued on May 8, 1996. This permit covered routing emissions from eleven waste storage tanks to the coal-fired boilers to abate odors within the utilities area of the plant, to burn waste solvent fuel in the boilers at the rates certified under the Boiler and Industrial Furnace regulation (BIF), to increase the rate of rubber and paper pellet fuel burning to 100% of the total heat input of the coal-fired boilers, and to construct one 20,000 gallon storage tank containing a final polymer product.
- 1085-AR-9 Permit was issued on November 12, 1996. This permit involved increasing potential VOC emission from the Waste Chemical Destructor from 0.5 tpy to 8.8 tpy due to an anticipated future increase in business and a corresponding increase in the amount of wastes that could potentially be generated; and to increase potential inorganic emissions from 16.3 tpy to 43.8 tpy from the two RTOs due to an anticipated increase in chlorinated compounds production.
- 1085-AR-10 Permit was issued on March 11, 1997. This permit involved the construction and operation of a continuous dust collection system and central vacuum cleaning system. Five additional emission points discharging from venturi scrubbers and fabric filters, and an emission point designating fugitive emission from maintenance activities, were created with the startup of this dust collection and vacuum cleaning system. This permit also allowed the organic sulfonation facility to produce alternative products, which required minor changes in the process chemistry to meet new markets. Eight new emission points were created with this modification.
- 1085-AOP-R0 Permit was issued on June 24, 2002. This permit (1085-AOP-R0) was issued in order to satisfy the requirements of Title V of the Clean Air Act. This permit also incorporated the requirements of 40 CFR Part 60, Subpart EEE, *National Emission Standards for Hazardous Air Pollutants from Hazardous Waste Combustors*, promulgated on September 30, 1999. In addition, the facility was authorized to: burn wood chips in the three coal-fired boilers; install a system of tanks, strippers, dryers, and distillation columns necessary to recover dimethyl sulfoxide from wastewater; incorporate a project to collect and reduce the accumulation of process dust within the organic sulfonate manufacturing area; install a small-scale laboratory for research and development activities; re-route emissions from 23 tanks to the Regenerative Thermal Oxidizer (RTO); replace five waste storage tanks; and to re-route three distillation column vents to the Regenerative Thermal Oxidizer (RTO) control system for the purpose of odor abatement.

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- 1085-AOP-R1      Permit was issued on January 20, 2004. This permit was issued in response to a Permit Appeal Resolution (PAR, Docket No. 02-006-P) concerning Air Permit 1085-AOP-R0. Changes based upon the PAR include: the deletion of individual unit pound-per-hour emission limits for Hazardous Air Pollutants (HAPs); the addition of a plantwide condition to clarify types of permit deviations and reporting schedules; the removal of the carbon monoxide (CO) stack testing requirement for the Chemical Waste Destructor (SN-6M03-05); the addition of a mechanism by which the facility may use a correlation study to petition the Department for less frequent (non-MACT) stack testing of NO<sub>x</sub>, SO<sub>2</sub>, and/or PM at SN6M03-05; the revision of conditions related to 40 CFR Part 63, Subpart EEE to reflect the most recent version of the interim rule; a modification of former Plantwide Condition 23 to clarify that a compliance report is required for state-only enforceable terms and conditions; and the incorporation of the requirements of 40 CFR Part 63, Subpart GGG, *National Emission Standards for Pharmaceuticals Production*.
- 1085-AOP-R2      Permit was issued on June 18, 2004. The permit was modified in order to connect three general-purpose bulk storage tanks to the Regenerative Thermal Oxidizers (RTOs) to meet the deadline of December 23, 2003 for 40 CFR Part 63, Subpart MMM – *National Emission Standards for Hazardous Air Pollutants for Pesticide Active Ingredient Production*. VOC and HAP emissions were reduced by 2.8 tons/yr as a result of the tank controls. In addition, the requirements of the MACT Subpart MMM were incorporated into the permit as well as changes to the Insignificant Activities list.
- 1085-AOP-R3      Permit was issued on May 20, 2005. Four changes were incorporated into the permit. First, the HCl (inorganic HAP) dispersion modeling demonstration to meet PAER requirements was changed as to allow the submitted modeling in combination with facility records of inorganic HAP emissions to verify that the off-site concentration is protective of public health. Second, a 2,000 gallon liquid process tank was installed. The tank was used for the purpose of flushing the chemical distribution piping at the Chemical Waste Destructor (6M03-05). The spent solvent is then routed to either the coal-fired boiler auxiliary waste chemical burners or to the burner of the chemical waste destructor. Emissions from tank venting will be collected and routed to the coal-fired boilers (6M01-01). Estimated emissions from the tank were less than 0.1 ton/yr VOC or HAP. Third, a bleach scrubber (D75-02) in the Organic Chemical Intermediates section was removed from service. The scrubber, while not actually an atmospheric emission source, removes ethyl mercaptan, an odorous compound generated by an existing batch process. The exiting gases are then routed to the regenerative thermal oxidizers (SN-5N09-01). There is no permitted change to emission estimates at SN-5N09-01. Finally, the facility also requested changes to final Specific Condition CDW 9 to include a compliance option, as CDW 9b, which was not

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included when the language was originally added to the permit. This option was already provided by 40 CFR Part 63 Subpart EEE. There were no permitted emission changes with this modification.

- 1085-AOP-R4 Issued on August 14, 2006. The facility modified their permit in order to: use tanks and scrubbers in the Solvent Recovery and Storage Tanks and Miscellaneous Sources areas to produce Biodiesel; to install upgrade equipment to the Regenerative Thermal Oxidizers (RTOs) to increase the destruction removal efficiency (DRE) from 95% to 98%; and to install a replacement air seal inlet and outlet main valves and to add a chamber purge system to prevent leakage and air infiltration around the valves that will increase the DRE, thus reducing emissions of VOC and HAP with no increased usage of natural gas.
- 1085-AOP-R5 Issued on February 15, 2007. The facility requested a minor permit modification in order to construct a new production line to manufacture wood fuel pellets.
- 1085-AOP-R6 Issued on May 8, 2007. The facility increased biodiesel production capacity and added several new tanks (accounted for within an existing tank bubble, 5N03TK-01) and loading racks which vent to the atmosphere. Controlled emissions from process equipment and storage tanks are routed to scrubbers SV-01 and SV-03 (in the 4PSR-00 emission bubble of the Solvent Recovery Section), and two regenerative thermal oxidizers (SN-5N09-01 of the OCI Section). The loading racks and BD-01 Biodiesel Sales Tank qualify as A-13 Insignificant Activities. The Building 5N07 acrylic resins (5N07-06 and 5N07-FUG) and polymer production (5NPOLY-TNK and POLY-FUG) facility will be retrofitted for biodiesel production. Acrylic resins and polymers will no longer be manufactured. Instead, a new source, the 5N07 Production Facility, which will produce primarily biodiesel, was added.
- 1085-AOP-R7 Issued on December 17, 2007. The permit was modified in order to allow for the production of Aldehyde products. The emission points for the new Aldehyde Processing Section were the hot oil system (4P05-01), the water scrubber (4P05-02), equipment fugitives (4PSR-FUG), and the RTO (5N09-01).

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**Section IV: EMISSION UNIT INFORMATION**

**Organic Chemical Intermediates: 5N09-01, OCI-FUG**

**Process Description**

FutureFuel’s batch organic chemical intermediates facilities are located in Buildings 5N01, 5N03, and 5N07. These production buildings contain multi-purpose/product equipment which may produce a variety of chemicals. The contained or captured vapors from the equipment in both batch production buildings are vented through a collection system to the RTO units via a common duct. Volatile organic compounds (VOCs) are destroyed by combustion.

The two RTOs are designated by source number 5N09-01. Fugitive emissions from organic chemical intermediates are designated as source number OCI-FUG.

**Specific Conditions**

- OCI 1. The permittee shall not exceed the emission rates set forth in the following table. The lb/hr rates are based on maximum measured test data. [Regulation No. 19 §19.501 et seq. effective October 15, 2007 and 40 CFR Part 52, Subpart E]

**Table 4 – Maximum Criteria Emission Rates for Organic Chemical Intermediates**

PES #	Description	Pollutant	lb/hr
5N09-01	Regenerative Thermal Oxidizer (2 Units)	PM <sub>10</sub>	9.9
		SO <sub>2</sub>	8.4
		VOC	42.0
		CO	11.0
		NO <sub>x</sub>	8.7
OCI-FUG	Fugitives	VOC	3.3

- OCI 2. The permittee shall not exceed the emission rates set forth in the following table. The lb/hr rates are based on maximum measured test data. [Regulation No. §18.801 effective February 15, 1999, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

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**Table 5 – Maximum Non-Criteria Emission Rates for Organic Chemical Intermediates**

PES #	Description	Pollutant	lb/hr
5N09-01	Regenerative Thermal Oxidizer (2 Units)	PM Inorganics* Organic HAPs**	3.5 10.0 ***
OCI-FUG	Fugitives	Organic HAPs**	***

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Ton/yr limits are listed for individual sources for informational purposes only. The facility shall show compliance with the facility total ton/yr limits presented at the top of this table using the procedures outlined in Plantwide Conditions 8 through 12.

\*Inorganics are considered to be non-VOC Hazardous Air Pollutants.

\*\*Organic Hazardous Air Pollutants are considered to qualify as both VOC and HAPs.

\*\*\*Hourly plantwide Hazardous Air Pollutant emissions are limited by Plantwide Condition 12. Additional HAP limitations are included in Plantwide Condition 9.

- OCI 3. The permittee shall perform testing of 5N09-01 (RTO) within 120 days of permit issuance for SO<sub>2</sub>, VOC, CO, and NO<sub>x</sub>, using Methods 6C, 25A, 10, and 7E, respectively. The VOC destruction efficiency shall be determined during the Method 25A testing. Subsequent testing shall be performed every five (5) years to coincide with the renewal of the permit. Testing at 5N09-01 shall conform with the requirements of Plantwide Conditions 3 and 4. [§19.702 of Regulation 19 and 40 CFR Part 52 Subpart E]
- OCI 4. The permittee shall not exceed 20% opacity as measured by Method 9 at 5N09-01 (RTOs) during normal operations. [§19.503 of Regulation 19, and 40 CFR Part 52 Subpart E]
- OCI 5. If visible emissions in excess of 20% are detected from 5N09-01 (RTO), then the permittee will conduct corrective action. The results of these observations and corrective action shall be kept on site and made available for inspection upon request. Opacity reading will be conducted in accordance with the Facility Operating Plan dated May 28, 2003. Opacity observations at the RTOs shall not be required during times when the RTOs are being "baked out." [§19.702 of Regulation 19 and 40 CFR Part 52, Subpart E]
- OCI 6. The permittee shall continuously monitor and record the temperature in the combustion chamber of the RTOs during normal operations. [§19.703 of Regulation 19, 40 CFR Part 52 Subpart E, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
- OCI 7. The permittee shall maintain the temperature in the combustion chamber of the RTOs during normal operations as outlined in the Facility Operating Plan dated May 28, 2003. [§19.303 of Regulation 19, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]



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***40 CFR 63 Subpart GGG - National Emission Standards for Pharmaceutical Production***

***APPLICABILITY***

OCI 8. A portion of this facility is subject to 40 CFR Part 63, Subpart GGG, National Standards for Pharmaceuticals Production. Applicable requirements include the following conditions [§19.304 of Regulation 19 and 40 CFR §63.1250]:

*Affected Source*

- a. The permittee is an affected source subject to 40 CFR Part 63, Subpart GGG as defined in 40 CFR §63.1250(a). The source is an existing source with a compliance date of October 21, 2002. [40 CFR §63.1250(a)]

*General Provisions Requirements*

- b. The provisions of Subpart A, specified in Table I of Subpart GGG are the only general provisions that apply to an affected source subject to this subpart. [40 CFR §63.1250(c)]

*Storage Tank Ownership*

- c. The requirements of §63.1250(e), storage tank ownership determination, do not apply until such a time the permittee either installs or activates a tank for use in an applicable Pharmaceutical Manufacturing Process (PMPU). The permittee does not currently have storage tanks subject to this requirement. [40 CFR §63.1250(e)]

*Compliance Date*

- d. The compliance date for the existing affected source is October 21, 2002. [40 CFR §63.1250(f)(1)]

*Applicability except during periods of startup, shutdown, and malfunction*

- e. The permittee shall comply with all applicable requirements of 40 CFR 63, Subpart GGG except that emission limitations shall not apply during periods of startup, shutdown, and malfunction. [40 CFR §63.1250(g)]

*Consistency with other Regulations*

- f. The permittee shall identify in the Notice of Compliance Status report [the report was submitted on March 20, 2003] required by §63.1260(f) the compliance options cited in §63.1250(h)(1) through (6) for those regulations identified that may overlap Subpart GGG. [40 CFR §63.1250(h)]

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- i. The permittee will be subject to MACT standards with upcoming compliance dates including the Pesticide Active Ingredient (PAI) MACT, and upon promulgation, the Miscellaneous Organic NESHAP (MON rule). These regulations are not specifically mentioned in the overlap section of the MACT (Subpart GGG). [40 CFR §63.1250(h)(1)]
- ii. The permittee may elect to comply with the monitoring recordkeeping and reporting requirements of either 40 CFR Part 63, Subpart GGG or RCRA Subparts AA, BB, CC for process vents, equipment leaks, and containers/storage tanks covered under both regulations. [40 CFR §63.1250(h)(2)]
- iii. A storage tank with a fixed roof, closed-vent system and control device in accordance with NSPS Kb, must comply with Subpart GGG monitoring, recordkeeping, and reporting requirements for that vessel. Currently the permittee has no tanks in Subpart GGG applicable service. [40 CFR §63.1250(h)(3)]
- iv. Equipment subject to Subpart I of this part may elect to comply with either the provisions of §63.1255 or the provisions of Subpart H of this part for all such equipment. The permittee does not have equipment in Subpart I or Subpart H applicable service. [40 CFR §63.1250(h)(4)]
- v. The permittee does not operate any process subject to the Polyether Polyols MACT. [40 CFR §63.1250(h)(6)]

### ***STANDARDS: GENERAL***

- OCI 9. The permittee shall control HAP emissions to levels specified in this section on and after the compliance dates specified in §63.1250(f) [the compliance date for an existing source is specified as October 21, 2002]. Initial compliance with the emission limits is demonstrated in accordance with the provisions of §63.1257 [Test Methods and Compliance Procedures], and compliance is demonstrated in accordance with the provisions of §63.1258 [Monitoring Requirements]. [40 CFR §63.1252]

#### *Opening of a safety device*

- a. The opening of a safety device, as defined in §63.1251, definitions, is allowed at any time conditions require it to do so to avoid unsafe conditions. [40 CFR §63.1252(a)]

#### *Closed-vent systems*

- b. If the permittee installs a by-pass line that could divert a vent stream away from a control device used to comply with the requirements of §63.1253 [*storage tanks*], §63.1254 [*process vents*], and §63.1256 [*wastewater provisions*], the permittee shall comply with the requirements of §63.1252(b)(1) and (2).

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The permittee operates regenerative thermal oxidizers (RTOs), which have emergency dampers meeting the definition of a safety device of §63.1251. By-pass lines do not exist on this closed-vent system and control device. [40 CFR §63.1252(b)(1) and (2)]

*Heat exchange systems*

- c. The permittee shall comply with the requirements in §63.1252(c)(1) of this section for heat exchange system that cool process equipment or materials used in pharmaceutical manufacturing operations except as provided by §63.1252(c)(2). [40 CFR §63.1252(c)(1)]

*Heat exchangers (HON) requirements*

- d. Applicable heat exchange systems shall be treated according to the provisions of §63.104 [*HON Heat Exchangers*] except that monitoring shall be no less than quarterly. [40 CFR §63.1252(c)(1)]

*Heat exchangers (cGMP) option*

- e. For identifying leaking heat exchange systems of equipment, which meet current good manufacturing practice (cGMP) requirements of 21 CFR Part 211. The permittee may elect to use the physical integrity of the reactor as a surrogate of the heat exchange system leaks around the reactor.

Unit D1-01 meets the criteria of this subpart, cGMP, so the physical integrity of the equipment (pressure vessel) is used as the surrogate indicator of heat exchange system leaks. [40 CFR §63.1252(c) and (c)(2)]

*Emissions averaging*

- f. The permittee may choose to comply with the provisions of §63.1253 [*storage tanks*] and §63.1254 [*process vents*] by using emissions averaging requirements specified in §63.1257(g) and (h) except as provided in §63.1252(d)(1). [40 CFR §63.1252(d)]

At this time, the permittee does not choose to opt for an emissions averaging compliance method.

*Pollution prevention alternative*

- g. The permittee may choose, except as provided in §63.1252(e)(1) of this section, to meet the pollution prevention alternative requirement specified in either §63.1252(e)(2) or (3) of this section, in lieu of the requirements specified in §63.1253 [*tanks*], §63.1254 [*process vents*], §63.1255 [*LDAR*], and §63.1256 [*wastewaters*]. Compliance shall be demonstrated through the procedures in §63.1257(f). Any Pharmaceutical Manufacturing Process Unit (PMPU) for which the permittee seeks to comply by using the pollution prevention alternative shall begin with the same starting material(s) and end with the same product(s). The permittee

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shall not comply with the pollution prevention alternative by eliminating any steps of a process by transferring the step offsite and to another manufacturing location.

The permittee presently does not choose to opt for the P2 alternative.

*Control requirements for certain liquid streams in open systems within a PMPU*

- h. The permittee does not operate any liquid streams in open systems as described in §63.1252(f). Therefore, this requirement is not applicable. [40 CFR §63.1252(f)]

*Control requirements for halogenated vent streams that are controlled by combustion devices*

- i. If a combustion device is used to comply with the provisions of §63.1253 [*storage tanks*], §63.1254 [*process vents*], or §63.1256(h) [*wastewater vent streams*] for a halogenated vent stream, then the vent stream shall be ducted to a halogen reduction device such as, but not limited to, a scrubber, before it is discharged to the atmosphere. The halogen reduction device must reduce emissions by amounts specified in either §63.1252(g)(1) or (2) of Subpart GGG.

The permittee does not manage any halogenated vent streams in its PMPU. Therefore, this requirement is not applicable. If halogenated compounds are to be vented from the PMPU, the permittee shall comply with the requirements of this subpart. [40 CFR §63.1252(g)]

*Planned routine maintenance for centralized combustion control devices*

- j. The permittee does not operate any non-dedicated PMPUs during periods of planned routine maintenance for centralized combustion control devices (CCCD) and is not subject to this citation. [40 CFR §63.1252(h)]

***STANDARDS: Storage Tanks***

- OCI 10. The requirements of §63.1253 do not apply until such a time the permittee either installs or activates a storage tank for use in an applicable Pharmaceuticals Manufacturing Process Unit. [40 CFR §63.1253]

***STANDARDS: Process Vents – Existing Sources***

- OCI 11. The permittee shall comply with the requirements in either §63.1254(a)(1) [process-based emission reduction] and (3) [individual vent emission reduction], or §63.1254(a)(2) [process-based annual mass limit] and (3) [individual vent emission reduction]. Initial compliance with the required emission limits or reductions in §63.1254(a)(1) through (3) are demonstrated in accordance with the initial compliance procedures described in §63.1257(d) [Initial Compliance with Process Vents], and continuous compliance is demonstrated in accordance with the monitoring requirements in [Monitoring]. [40 CFR §63.1254(a)]

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*Process-based emission reduction requirement*

- a. If the permittee chooses the compliance option in §63.1254(a)(1), uncontrolled HAP emissions from the sum of all process vents with a process that are not subject to the requirements of §63.1254(a)(3)[*individual vent emission reduction requirement*] shall be reduced by 93% or greater by weight, as specified in §63.1254(a)(1)(ii) [*process-based emission reduction requirement*]. Notification of changes in the compliance method shall be reported according to the procedures in §63.1260(h) [*notification of process change*].

The permittee has chosen not to comply with this compliance option. Notification of changes in the compliance method shall be reported according to the procedures in §63.1260(h) [*notification of process change*].

*Process-based annual mass limit*

- b. If the permittee chooses the compliance option in §63.1254(a)(2), the permittee shall not allow actual HAP emissions from the sum of all process vents within a process (individual PMPU) not to exceed 900 kg (1894 lbs) in any 365-day period. Actual HAP emissions from the sum of all process vents within processes (all PMPUs) complying with §63.1254(a)(2)(i) are limited to a maximum of 1,800 kg (3,968 lbs) in any 365-day period.

Initial compliance is demonstrated by determining controlled HAP emissions by:

- (1) Computing the uncontrolled emissions from the PMPU and,
- (2) By applying a demonstrated control efficiency to obtain “controlled HAP emissions”

The process is described in the Test Methods and Compliance Procedures section Subpart GGG §63.1257(d)(1)(ii)(A). The permittee has chosen the process-based annual mass limit option for initial compliance. [40 CFR §63.1254(a)(2)]

- c. Emissions from vents that are subject to the requirements of §63.1254(a)(3) [*individual vent emission reduction*] and emissions from vents that are controlled in accordance with the procedures in §63.1254(c)[*alternative standards*] may be excluded from the sums calculated in §63.1254(a)(2)(i) and (ii).

Emissions from vents subject to 98% HAP control or to less than 20 ppmv and that are meeting the alternative standard requirements do not have to be included in the 900 kg or 1,800 kg actual HAP emissions sums in §63.1254(a)(2)(i) and (ii). [40 CFR §63.1254(a)(2)(iii)]

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- d. The permittee may switch from compliance with §63.1254(a)(2) [*process-based annual mass limit*] to compliance with §63.1254(a)(1) [*process-based reduction*] after at least one year of operation in compliance with the §63.1254(a)(2) [*process-based annual mass limit*]. Notification of such a change in the compliance method shall be reported according to the procedures in §63.1260(h) [*notification of process change*]. [40 CFR §63.1254(a)(2)(iv)]

*Individual vent emission reduction requirements*

- e. If uncontrolled HAP emissions from a process vent exceeds 25 tons per year and the flow weighted average flowrate (FRA) is less than or equal to the flowrate index (FRI), the uncontrolled HAP emissions from the vent must be controlled to 98%, unless the vent is “grandfathered”, installed on or before April 2, 1997.

The permittee’s RTOs were installed in 1992 and are “grandfathered” under the language of §63.1254(a)(3)(ii) and (A)(1), which requires a HAP emissions reduction greater than or equal to 93% by weight but less than 98% by weight. [40 CFR §63.1254(a)(3)]

**STANDARDS: EQUIPMENT LEAKS**

- OCI 12. Equipment means each pump, compressor, agitator, pressure relief device, sampling connection system, open-ended valve or line, valve, connector and instrumentation system in OHAP service. In OHAP service means that the equipment either contains or contacts a fluid, liquid or gas that is at least 5% by weight total OHAP. [40 CFR §63.1255]

*General equipment leak requirements*

- a. The provisions of §63.1255(a) apply to pumps, compressors, agitators, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, connectors, instrumentation systems, control devices, and closed-vent systems that are intended to operate in OHAP service 300 hours or more during a calendar year within a source subject to this subpart. [40 CFR §63.1255(a)]

*LDAR (Leak Detection and Repair) Provision summary*

- b. An attached table provides a summary of the equipment leak requirements of Subpart GGG. Because of the complexities of the LDAR requirements, this table should be considered a reference tool only and the regulations should be referenced when developing a detailed plan of compliance. The permittee shall develop a comprehensive LDAR program to fully meet the Subpart GGG equipment leak requirements including developing a list of equipment and identification numbers subject to the requirements and a monitoring schedule. Connectors, except those determined to be unsafe-to-monitor, difficult to monitor, or inaccessible, do not have to be individually identified, but the lines must be identified. Physical tagging of components is not required by 40 CFR Part §63.1255(a)(7) and §63.1255(g)(2)(i)(C). [40 CFR §63.1255(a)(1)]

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**Table 6 – Summary of Equipment Leak Requirements of Subpart GGG**

Table 6, Summary of Equipment Leak Requirements for Subpart GGG <sup>1</sup>						
Equipment Pharma MACT/HON	Design Requirements/ Exemptions	Monitoring Frequency	Method	Leak Limit	Calculations	Recordkeeping Requirements (40 CFR §63.1255(g))
Pumps in Light Liquid Service (63.1255(c))		Quarterly with Instrument  (If 10% of pumps or three of the pumps in the group of the process, leak, then monitor monthly)  Weekly visual inspection	Method 21 (40 CFR Part 60 Appendix A)  Method 21 (40 CFR Part 60 Appendix A)  Visual	2,000 ppm  2,000 ppm	Calculate Leakers per 40 CFR Part 63.1255(c)(4)  Calculate Leakers	Keep records/statistics on leakers.  Develop a list of identification numbers of equipment subject to the requirements of this section. List is to be updated within 15 calendar days of the completion of each monitoring survey. (Connectors need not be identified if all connectors or length of a pipe is designated as a group).
Pressure Relief Devices in Gas/Vapor Service (§63.165)	OHAP Service  Exempt if routed to vent header	Monitor after every pressure relief episode		Operated with instrument reading less than 500 ppm above background		Develop and keep a schedule for monitoring connectors and valves subject to the standards for connectors in gas/vapor and light liquid service  Develop a list of compressors designated as operating at less than 500 ppm above the background.
Sampling Connection Systems (63.166)	Must be equipped with closed purge, closed loop, or closed vent system  Shall return fluid to process line	Initially				Develop a list of identification numbers of pressure relief devices in HAP service and/or equipped with rupture discs.

<sup>1</sup> Does not summarize the requirements of 40 CFR Part 63.169, standards for pumps, valves, connectors, and agitators in heavy liquid service, instrumentation systems; and pressure relieve devices in liquid service because these requirement do not apply to FutureFuel

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Table 6, Summary of Equipment Leak Requirements for Subpart GGG<sup>1</sup>

Equipment Pharma MACT/HON	Design Requirements/ Exemptions	Monitoring Frequency	Method	Leak Limit	Calculations	Recordkeeping Requirements (40 CFR §63.1255(g))
Open-Ended Valves or Lines (§63.1255(d))	Must be equipped with flanges, plugs, or another valve  If poses a safety hazard, is designed to open automatically, or if equipped with double block and bleed exempt by 40 CFR Part 63.1255(d)(4)-(6)	Initially				Develop a list of instrumentation systems used to comply with PAI regulations.  For dual mechanical seal systems, record design criteria and changes.  Keep a list of equipment designated as unsafe, difficult, or inaccessible to monitor, and a copy of plan to monitor these devices.
Valves in Gas/Vapor and Light Liquid Service (§63.1255(e))		Initial survey within 1 year of compliance date	Method 21 of 40 CFR Part 60 Appendix A	500 ppm	Calculate Leakers per 40 CFR Part 63.1255(e) (5)	Keep a list of any connectors removed or added to the process and documentation of the integrity of the weld for any removed connectors.  Keep dates of visual inspections  Keep records of initial pressure tests of compressors and pressure relief valves.  Keep a record background and initial reading.  Keep design data for closed vent systems
		>2% of leakers -monthly		500 ppm	Calculate Leakers	
		<2% of leakers -quarterly		500 ppm	Calculate Leakers	
		<1%-once/2 quarters		500 ppm	Calculate Leakers	
		<0.5%-once/4 quarters		500 ppm	Calculate Leakers	
		<0.25%-every 2 years		500 ppm	Calculate Leakers	
Connectors in Gas/Vapor and in Light Liquid Service (§63.174)		Once within a year of compliance date	Method 21 of 40 CFR Part 60 Appendix A	500 ppm	Calculate Leakers Per 40 CFR Part 63.174(h)(3)(i)	Keep records of components in heavy liquid service, including analysis used to determine heavy liquid status.  Maintain records of exempt components
		<0.5%-once/4 quarters			Calculate Leakers	



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Table 6, Summary of Equipment Leak Requirements for Subpart GGG<sup>1</sup>

Equipment Pharma MACT/HON	Design Requirements/ Exemptions	Monitoring Frequency	Method	Leak Limit	Calculations	Recordkeeping Requirements (40 CFR §63.1255(g))
		<0.25% - every 2 years			Calculate Leakers	
Agitators in Gas/Vapor and Light Liquid Service (§63.1255(c))		Quarterly with instrument  Weekly visual inspection	Method 21 of 40 CFR Part 60 Appendix A	10,000 ppm		

The following are key exemptions provided for the Subpart GGG standards for equipment leaks:

- i. Equipment that is intended to operate in OHAP service for less than 300 hours for a calendar year [40 CFR §63.1255(d)(4)(viii)]
- ii. Equipment that is in vacuum service, which is operated at an internal pressure at least 5 kPa (0.725 psia) below ambient pressure, is excluded from the equipment leaks provisions of Subpart GGG. [40 CFR §63.1255(a)(8)]
- iii. Lines and equipment not containing process fluids are not subject to the LDAR requirements. Utilities and other non-process lines, such as heating and cooling systems which do not combine their materials with those in the processes they serve, are not considered part of a process and are not subject. [40 CFR §63.1255(a)(5)]

*Consistency with other regulations*

- c. After the compliance date for a process, equipment subject to both §63.1255(a)(2) and either 40 CFR Part 60 and Part 61 will be required to only comply with the provisions of Subpart GGG. [40 CFR §63.1255(a)(2)]
- d. The provisions of §63.1(a)(3) of Subpart A do not alter the provisions in §63.1255(a)(2). [40 CFR §63.1255(a)(4)]
- e. The permittee shall comply with all applicable portions of §63.1255(b) through (h), including all recordkeeping, reporting, and monitoring requirements necessary for submitting information required in the Notification of Compliance Status report under §63.1260(f). [40 CFR §63.1255(b)]

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***STANDARDS: WASTEWATER***

OCI 13. The permittee shall comply with the general wastewater requirements §63.1256(a)(1) through (3), and the maintenance wastewater provisions of §63.1256(a)(4). The permittee may transfer wastewater to a treatment operation not owned by the permittee in accordance with §63.1256(a)(5). [40 CFR §63.1256]

*Identification of wastewater that requires control*

- a. The permittee shall comply with the requirements in §63.1256(a)(1) (i) [*determine characteristics of a wastewater stream*] or (ii) [*designate wastewater as affected wastewater*] to determine whether a wastewater stream is an affected wastewater stream that requires control for soluble and/or partially soluble HAP compounds or to designate the wastewater stream as an affected wastewater stream, respectively. The permittee may use a combination of approaches in §63.1256(a)(1)(i) and (ii) for different affected wastewater generated at the source. [40 CFR §63.1256(a)(1)]

*Requirements for affected wastewater*

- b. The permittee shall comply with the applicable requirements for wastewater tanks, surface impoundments, containers, individual drains, systems, and oil/water separators as specified in §63.1256(b) through (f), except as provided in §63.1256(g)(3) [*biological treatment process*]. [40 CFR §63.1256(a)(2)(i)]
- c. The permittee shall comply with the applicable requirements for control of soluble and partially soluble compounds as specified in §63.1256(g) [*performance standard for processes managing wastewater and/or residuals removed from wastewater*]. Alternatively, the permittee may elect to comply with the treatment provisions specified in §63.1256(a)(5) [*offsite treatment or onsite treatment not owned/operated by the source*]. [40 CFR §63.1256(a)(2)(ii)]
- d. The permittee shall comply with the applicable monitoring and inspection requirements in §63.1258 [*monitoring requirements*]. [40 CFR §63.1256(a)(2)(iii)]
- e. The permittee shall comply with the applicable recordkeeping and reporting requirements in §63.1259 [*recordkeeping*] and §63.1260 [*reporting*]. [40 CFR §63.1256(a)(2)(iv)]

*Requirements for multi-phase discharge*

- f. The permittee shall not discharge a separate phase that can be isolated through gravity separation from the aqueous phase to a waste management or treatment unit, unless the stream is discharged to a treatment unit in compliance with §63.1256(g)(13) [*treatment in RCRA unit option*]. [40 CFR §63.1256(a)(3)]

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*Maintenance wastewater requirements*

- g. The permittee shall comply with the requirements of §63.1256(a)(4)(i) through (iv) for maintenance wastewater containing partially soluble or soluble HAP listed in Tables 2 and 3 of Subpart GGG. Maintenance wastewater is exempt from all other provisions of Subpart GGG. [40 CFR §63.1256(a)(4)]

*Offsite treatment or onsite treatment not owned or operated by the source*

- h. The permittee may elect to transfer affected wastewater streams or a residual removed from such affected wastewater to an onsite treatment operation not owned or operated by the owner or operator of the source generating the wastewater or residual, or to an offsite treatment operation. [40 CFR §63.1256(a)(5)]

*Wastewater tanks*

- i. The permittee shall comply with the requirements of either §63.1256(b)(1) or (2) of Subpart GGG as specified in Table 6 of this subpart for each wastewater tank that receives, manages, or treats affected wastewater or a residual removed from affected wastewater.

The permittee does not have wastewater tanks associated with the present pharmaceutical processes. This condition does not apply until the permittee places tanks into service as wastewater tanks. [40 CFR §63.1250(b)]

*Surface impoundments*

- j. The permittee shall comply with §63.1256(c)(1),(2), and (3) of Subpart GGG for each surface impoundment that receives, manages, or treats affected wastewater or a residual removed from affected wastewater.

The permittee does not treat affected wastewaters or residuals in surface impoundments. This provision does not apply until such a time as the permittee chooses this treatment option. [40 CFR §63.1256(c)]

*Containers*

- k. The permittee shall comply with the requirements of §63.1256(d)(1) through (5) of Subpart GGG for each container that receives, manages, or treats affected wastewater or a residual removed from affected wastewater. [40 CFR §63.1256(d)]

*Individual drain systems*

- l. The permittee shall comply with the requirements of §63.1256(e)(1), (2), and (3), or with §63.1256(e)(4), (5), and (6) of Subpart GGG for each individual drain system that receives or manages affected wastewater or a residual from affected wastewater.

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The permittee does not have individual drain systems associated with the present pharmaceutical process. This condition does not apply unless the permittee installs individual drain systems meeting the applicability criteria. [40 CFR §63.1256(e)]

#### *Oil/water separators*

- m. The permittee shall comply with the requirements for oil/water separators that receives, manages, or treats affected wastewater or a residual removed from affected wastewater.

The permittee does not have oil/water separators associated with the pharmaceutical processes. This condition does not apply until such a time as the permittee implements this equipment. [40 CFR §63.1256(f)]

#### *Performance standards for treatment processes managing wastewater and/or residuals removed from wastewater*

- n. The permittee shall comply with the requirements in §63.1256(g)(1) through (6) of Subpart GGG. Where multiple compliance options are provided, the options may be used in combination for different wastewater and/or for different compounds (e.g. soluble versus partially soluble compounds) in the same wastewater, except where otherwise provided in Subpart GGG. Once affected wastewater or a residual removed from affected wastewater has been treated in accordance with Subpart GGG, it is no longer subject to the requirements of Subpart GGG. [40 CFR §63.1256(g)]

#### *Existing source*

- i. For a wastewater stream at an existing source that exceeds or is designated to exceed the concentration and load criteria in §63.1256(a)(1)(i)(A), the permittee shall comply with a control option in §63.1256(g)(8) [*wastewater containing partially soluble HAP compounds*]. For a wastewater stream at an existing source that exceeds the concentration and load criteria in either §63.1256(a)(1)(i)(B) or (C), the permittee shall comply with the control option in §63.1256(g)(8) and a control option in §63.1256(g)(9) [*wastewater containing soluble HAP*].

As an alternative to the control options in §63.1256(g)(8) and (9), the permittee may comply with a control option in either §63.1256(g)(10) [*enhanced bio-treatment*], (11) [*95% mass reduction for biological treatment processes*], or (13) [*treatment in a RCRA unit*], as applicable.

The permittee has initially chosen §63.1256(g)(13) [*RCRA unit option*] as the control option. [40 CFR §63.1256(g)(1)]

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*Biological treatment process*

- ii. Biological treatment processes in compliance may be either open or closed biological treatment processes as defined in §63.1251. [40 CFR §63.1256(g)(3)]

*Performance tests and Design evaluation*

- iii. If the RCRA option specified in §63.1256(g)(13) or the enhanced biological treatment process for soluble HAP compounds option in §63.1256(g)(10) is selected, neither a design evaluation nor a performance test is required. For any other nonbiological treatment process, and for closed biological treatment processes as defined in §63.1251, the permittee shall conduct either a design evaluation as specified in §63.1257(e)(2)(ii) or performance test as specified in §63.1257(e)(2)(iii). For each open biological treatment process as defined in §63.1251, the permittee shall conduct a performance test as specified in §63.1257(e)(2)(iii)(E) or (F). [40 CFR §63.1256(g)(4)]

*Control device requirements*

- iv. When gases are vented from the treatment process, the permittee shall comply with the applicable control device requirements in §63.1256(h) [*control device requirements*] and §63.1257(e)(3) [*test methods and compliance procedures – control device requirements*], and the applicable leak inspection provisions specified in §63.1258(h) [*leak inspection provisions for vapor suppression equipment*]. This requirement is additional to the requirements for treatment systems specified in §63.1256(g)(8) [*wastewater containing partially soluble HAP*] and (14) [*residuals*]. This requirement does not apply to any open biological treatment process that meets the mass removal requirement. [40 CFR §63.1256(g)(5)]

*Residuals: general*

- v. When residuals result from treating affected wastewater, the permittee shall comply with the requirements for residuals specified in §63.1256(g)(14).

The permittee's current selected wastewater treatment process does not generate residuals. This condition does not apply until such time that the permittee selects an applicable treatment option that produces a residual. [40 CFR §63.1256(g)(6)]

*Treatment using a series of treatment processes*

- vi. In all cases where the wastewater provisions of Subpart GGG allow or require the use of a treatment process or control device to comply with emissions limitations, the permittee may use multiple treatment processes or control devices, respectively. For combinations of treatment processes where the wastewater stream is conveyed

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by hard-piping, the permittee shall comply with either §63.1256(g)(7)(i) [*compliance across the combination of all treatment units or control devices in series*], or (ii) [*compliance across individual units*]. For combinations of treatment processes where the wastewater stream is not conveyed by hard-piping, the permittee shall comply with the requirements in §63.1256(g)(7)(ii). For combinations of control devices, the permittee shall comply with the requirements of §63.1256(g)(7)(i) of Subpart GGG.

The permittee shall identify, and keep a record of, the combination of treatment processes, including identification of the first and last treatment process. The permittee shall include this information as part of the treatment process description reported in the Notification of Compliance status report. [40 CFR §63.1256(g)(7)]

#### *Treatment in RCRA unit option*

- vii. The permittee shall treat the affected wastewater or residual in a unit identified in, and complying with, §63.1256(g)(13)(i), (ii), or (iii) of Subpart GGG. These units are exempt from the design evaluation or performance tests requirements specified in §63.1256(g)(4) [*performance tests and design evaluations*] and §63.1257(e)(2) [*compliance with treatment unit control provisions*], and from the monitoring requirements specified in §63.1256(a)(2)(iii) [*requirements for affected wastewater*], as well as the recordkeeping and reporting requirements associated with monitoring and performance tests.

This is the initial compliance option performance standard the permittee has chosen for the management of affected wastewaters. [40 CFR §63.1256(g)(13)]

#### *Residuals*

- viii. When residuals are generated, the permittee shall control for air emissions by complying with §63.1256(b) through (f) of Subpart GGG, and by complying with one of the provisions in §63.1256(g)(14)(i) through (iv).

The permittee's current selected wastewater treatment option process does not generate residuals. This condition does not apply until the permittee selects a wastewater treatment option that produces a residual. [§63.1256(g)(14)]

#### *Wastewater control devices*

- o. For each control device or combination of control devices used to comply with the provisions of §63.1256(b) through (f) and §63.1256(g)(5) [*control device requirements*], the permittee shall operate and maintain the control device or combination of control devices in accordance with the requirements of §63.1256(h)(1) through (5) of Subpart GGG. [40 CFR §63.1256(h)]

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### ***TEST METHODS AND COMPLIANCE PROCEDURES: GENERAL***

OCI 14. The permittee is subject to the following requirements of 40 CFR §63.1257:

- a. Except as provided in §63.1257(a)(5), the procedures specified in §63.1257(c) [*storage tanks*], (d) [*process vents*], (e) [*wastewater*], and (f) [*pollution prevention*] of Subpart GGG, are required to demonstrate initial compliance with §63.1253 [*tanks*], §63.1254 [*process vents*], §63.1256 [*wastewater*] and §63.1252(3) [*heat exchangers*], respectively. The provision in §63.1257(a)(2) through (3) apply to performance tests that are specified in §63.1257(c) [*tanks*], (d) [*process vents*], and (e) [*wastewater*]. The provisions in §63.1257(a)(5) of this section are used to demonstrate initial compliance with the alternative standards specified in §63.1253(d) [*tanks*] and §63.1254(c) [*new source alternative standards*]. The provisions in §63.1257(a)(6) [*initial compliance with the 20 ppmv limit*] are used to comply with the outlet concentration requirements specified in §§63.1253(c) [*tanks*], §63.1254(a)(2)(i) [*process vent process-based annual mass limit*] and §63.1254(a)(3)(ii)(B) [*individual vent emission reduction*], §63.1254(b)(i) [*new sources*], and §63.1256(h)(2) [*control devices*]. [40 CFR §63.1257(a)]

#### *Test methods*

- b. When testing is conducted to measure emissions from an affected source, the test methods specified in §63.1257(b)(1) through (10) shall be used. [40 CFR §63.1257(b)]

#### *Initial compliance with storage tanks*

- c. Initial compliance with the outlet concentration requirement of §63.1253(d) is demonstrated by fulfilling the requirements of §63.1257(a)(5).

The permittee does not currently operate any storage tank meeting the definition of PMPU storage tank. Therefore, the permittee is not currently subject to the storage tank standards of this subpart. The requirements of §63.1253 [*storage tanks*] do not apply until such time the permittee either installs or activates a tank for use in an applicable Pharmaceuticals Manufacturing Process Unit. Upon installing or activating a storage tank, which would be subject to this subpart, the permittee must at that time comply with the provisions of §63.1253, as well as the initial compliance provisions in §63.1257(c). [40 CFR §63.1257(c)]

#### *Initial compliance with process vent provisions*

- d. The permittee shall demonstrate compliance using the procedures described in §63.1257(d)(1) through (4) for the process vent standards in §63.1254 [*process vents*]. [40 CFR §63.1257(d)]

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*Compliance with wastewater provisions*

- e. The wastewaters being treated in a RCRA unit are exempt from the design evaluation or performance tests requirements specified in §63.1256(g)(4) [*performance testing and design evaluations*] and §63.1257(e)(2), and from the monitoring requirements in §63.1256(a)(2)(iii) [*requirements for affected wastewater*], as well as the recordkeeping and reporting requirements associated with performance tests. [40 CFR §63.1256(g)(13) and §63.1257(e)(2)]

The permittee has chosen the RCRA treatment option specified in §63.1256(g)(13). If the permittee opts for wastewater treatment controls other than allowed by §63.1256(g)(13), the permittee will be subject to the applicable requirements of §63.1257(e) [*compliance with wastewater provisions*].

**MONITORING REQUIREMENTS**

OCI 15. The permittee is subject to the following requirements of 40 CFR §63.1258:

- a. The permittee shall provide evidence of continued compliance with the standard as specified. During the initial compliance demonstration, maximum or minimum operating parameter levels, as appropriate, shall be established for emission sources that will indicate the source is in compliance. Test data, calculations, or information from the evaluation of the control device design shall be used to establish the operating parameter level. [40 CFR §63.1258(a)]

*Monitoring of control devices*

- b. Except as provided by §63.1258(b)(1)(i), for each control device, the permittee shall install and operate monitoring devices and operate within the established parameter levels to ensure continued compliance with the standard. Monitoring parameters are specified for control scenarios in Table 4, and in §63.1258(b)(1)(ii) through (ix), of Subpart GGG. [40 CFR §63.1258(b)]

*Averaging periods*

- i. Averaging periods for parametric monitoring levels shall be established according to §63.1258(b)(2)(i) through (iii). [40 CFR §63.1258(b)(2)]

*Procedures for setting parameter levels for control devices used to control emissions – Large control devices*

- ii. For devices controlling greater than 10 tpy of HAP for which a performance test is required the parameter level must be established according to §63.1258(b)(3)(ii)(A) through (C). [40 CFR §63.1258(b)(3)(ii)]



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*Request approval to monitor alternative parameters*

- iii. The permittee may request approval to monitor parameters other than those required by §63.1258(b)(1)(ii) through (ix). The request shall be submitted according to the procedures in §63.8(f) [*use of an alternative monitoring method*] or included in the Precompliance report. [40 CFR §63.1258(b)(4)]

*Exceedances of operating parameters*

- iv. Exceedance of an operating parameter is defined as one of the following: [40 CFR §63.1258(b)(6)]
  - 1) If the parameter, averaged over the operating day or block, is below the minimum value established during the initial compliance determination;
  - 2) If the parameter, average over the operating day or block, is above the maximum value established during the initial compliance test; or
  - 3) Each loss of pilot flame for flares.

*Excursions*

- v. Excursions are defined as either of the two cases listed in §63.1258(b)(7)(i) or (ii) as follows: [40 CFR §63.1258(b)(7)]
  - 1) When the period of control devices operation is 4 hours or greater in an operating day and monitoring data are insufficient to constitute a valid hour of data as defined in §63.1258(b)(7)(iii), for at least 75 percent of the operating day.
  - 2) When the period of control device operation is less than 4 hours in an operating day and more than one of the hours during the period of operation does not constitute a valid hour of data due to insufficient monitoring data, or
  - 3) Monitoring data are insufficient to constitute a valid hour of data, as used in §63.1268(b)(7)(i) and (ii). If measured values are unavailable for any of the required 15-minute periods within the hour.

*Violations*

- vi. Exceedances of parameters monitored according to §63.1258(b)(1)(ii), (iv) through (ix), and §63.1258(b)(5)(ii)(A) and (B), or excursions as defined by §63.1258(b)(7)(i) through (iii) constitute violations of the operating limit according to §63.1258(b)(8)(i), (ii), and (iv). Exceedances of the temperature limit monitored according to §63.1258(b)(1)(iii) or exceedances of the outlet concentrations

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monitored according to the provisions of §63.1258(b)(1)(x) constitute violations of the emission limit according to §63.1258(b)(8)(i), (ii), and (iv). Exceedances of the outlet concentration monitored according to §63.1258(b)(5) constitute violations of the emission limit according to the provisions of §63.1258(b)(8)(iii) and (iv) of Subpart GGG. [40 CFR §63.1258(b)(8)]

*Monitoring for emission limits*

- c. Compliance with §63.1254(a)(2) [process-based annual mass limit] shall demonstrate continuous compliance with the 900 and 1,800 kg/yr emission limits by calculating daily 365-day rolling summations of emissions. During periods of planned routine maintenance when emissions are controlled as specified in §63.1252(h), the permittee must calculate controlled emissions assuming the HAP emissions are reduced by 93 percent. If the permittee opts to switch compliance strategy from the 93 percent control requirement to the annual mass emission limit method, as described in §63.1254(a)(1)(i), the rolling summations beginning with the first day after the switch must include emissions from the past 365 days. [40 CFR §63.1258(c)]

*Monitoring for equipment leaks*

- d. If the permittee is complying with the requirements of §63.1255 [LDAR], the monitoring requirements of §63.1255 shall be met. [40 CFR §63.1258(d)]

*Inspection and monitoring of waste management units and treatment processes*

- e. The permittee shall comply with the inspection requirements specified in Table 7 of Subpart GGG for each wastewater tank, surface impoundment, container, individual drain system, and oil-water separator that receives, manages, or treats wastewater, a residual removed from wastewater, a recycled wastewater, or a recycled residual removed from wastewater. [40 CFR §63.1258(g)(1)]

*Leak inspection provisions for vapor suppression equipment*

- f. The permittee shall comply with the requirements of §63.1258(h)(2) through (8), except as provided in §63.1258(h)(9) and (10), for each vapor collection system, closed-vent system, fixed roof, cover, or enclosure required to comply with this section. [40 CFR §63.1258(h)]
- g. The permittee shall comply with the requirements of §63.1258(h)(10) in lieu of complying with the requirements of §63.1258(h)(2) through (8). The permittee shall maintain the closed-vent system below atmospheric pressure during normal RTO operation. The system shall be equipped with at least one pressure gauge or other pressure measurement device that can be read from a readily accessible location to verify that negative pressure is being maintained in the closed-vent system when the control devices are operating. [40 CFR §63.1258(h)(10)]

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### ***RECORDKEEPING REQUIREMENTS***

OCI 16. The permittee is subject to the following requirements of 40 CFR §63.1259:

- a. The permittee shall comply with the recordkeeping requirements in Subpart A of Part 63, as specified in Table 1 of Subpart GGG and in §63.1259(a)(1) through (5). [40 CFR §63.1259(a)]

#### *Records of equipment operation*

- b. The permittee shall keep up-to-date and readily accessible records of equipment operation as specified in §63.1259(b)(1) through (13), which conform to the sources applicability determination and operations. [40 CFR §63.1259(b)]

#### *Records of operating scenarios*

- c. The permittee shall keep records of each operating scenario, which demonstrates compliance with Subpart GGG. [40 CFR §63.1259(c)]

#### *Records of LDAR programs*

- d. A requirement to implement a leak detection and repair (LDAR) program under §63.1255, shall require the permittee to implement the recordkeeping requirements of §63.1255 of Subpart GGG. [40 CFR §63.1259(d)]

#### *Records of emission averaging*

- e. If the permittee elects to comply with the requirements of §63.1252(d), the permittee shall maintain up-to-date records of the information specified in 63.1259(e)(1) through (4). [40 CFR §63.1259(e)]

#### *Records of delay of repair*

- f. Documentation of a decision to use a delay of repair due to unavailability of parts, as specified in §63.1256(i) [*delay of repair – wastewater*], shall include a description of the failure, the reason additional time was necessary (including a statement of why replacement parts were not kept onsite and when delivery from the manufacturer is scheduled), and the date when the repair was completed. [40 CFR §63.1259(f)]

#### *Record of wastewater stream and residual transfer*

- g. If the permittee transfers an affected wastewater stream or residual removed from an affected wastewater stream in accordance with §63.1256(a)(5) [*offsite treatment or onsite treatment not owned/operated by the source*] shall keep a record of the notice sent to the treatment operator stating that the wastewater stream or residual contains organic HAP,

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which are required to be managed and treated in accordance with the provisions of Subpart GGG. [40 CFR §63.1259(g)]

#### *Records of extension*

- h. The permittee shall keep documentation of a decision to use an extension, as specified in §63.1256(b)(6)(ii) [*wastewater tanks-floating roof*] or (b)(9) [*wastewater tanks – delay of repair*], in a readily accessible location. The documentation shall include a description of the failure, documentation that alternate storage capacity is unavailable, and specification of a schedule of actions that will ensure that the control equipment will be repaired and the tank will be emptied as soon as possible. [40 CFR §63.1259(h)]

Currently, the permittee does not have wastewater tanks associated with the present pharmaceutical processes. This condition does not apply until the permittee places tanks into service as wastewater tank, upon which action this condition becomes effective.

#### *Records of inspection*

- i. The permittee shall keep records of all applicable inspection requirements as specified in §63.1259(i)(1) through (9). [40 CFR §63.1259(i)]

### **REPORTING REQUIREMENTS**

OCI 17. The permittee is subject to the following requirements of 40 CFR §63.1260:

- a. The permittee shall comply with the reporting requirements in §63.1260(b) through (l) of Subpart GGG. Applicable reporting requirements of §63.9 [*notification requirements*] and 63.10 [*recordkeeping requirements*] are also summarized in Table 1 of Subpart GGG. [40 CFR §63.1260(a)]

The Initial Notification report specified in §63.1260(b) was submitted to ADEQ on January 8, 1999. The Precompliance Report specified in §63.1260(e) was submitted to ADEQ on April 19, 2002.

#### *Application for approval of construction or reconstruction*

- b. Any application for approval of construction of a new major affected source, the reconstruction of a major affected source, or the reconstruction of a major source such that the source becomes a major affected source subject to the standards shall be prepared in accordance with §63.5(d) [*application for approval of construction or reconstruction*]. [40 CFR §63.1260(c)]

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*Notification of CMS performance evaluation*

- c. Any owner/operator who is required by the Administrator to conduct a performance evaluation for a continuous monitoring system shall notify the Administrator of the date of the performance evaluation as specified in §63.8(e)(2). [40 CFR §63.1260(d)]

*Notification of Compliance Status Report*

- d. The Notification of Compliance Status report required under §63.9 shall be submitted no later than 150 days after the compliance date of October 21, 2002 and shall include information specified in §63.1260(f)(1) through (7). [40 CFR §63.1260(f)]

*Periodic reports*

- e. The permittee shall prepare Periodic Reports in accordance with §63.1260(g)(1) and (2) of Subpart GGG. [40 CFR §63.1260(g)]

*Notification of process change*

- f. Except as specified in §63.1260(h)(2), whenever a process change is made, or a change in any of the information in the Notification of Compliance Status Report, the permittee shall submit the information specified in §63.1260(h)(1)(i) through (iv) with the next Periodic Report required under §63.1260(g). [40 CFR 63.1260(h)(1):]

*Reports of startup, shutdown, and malfunction*

- g. The permittee shall prepare startup, shutdown, and malfunction (SSM) reports as specified in §63.1260(i)(1) and (2). [40 CFR §63.1260(i)]

*Reports of LDAR programs*

- h. The permittee implementing the LDAR program specified in §63.1255 shall implement the reporting requirements in §63.1255 of Subpart GGG. Copies of all reports shall be retained as records for a period of 5 years, in accordance with the requirements of §63.10(b)(1) [recordkeeping and reporting]. [40 CFR §63.1260(j)]

*Reports of emission averaging*

- i. If the permittee chooses to comply with the requirements of §63.1252(d) [emission averaging provisions], the implementation plan required by §63.1259(e) [records of emission averaging] must be submitted 6-months prior to the compliance date of the standard and the following information in §63.1260(k)(1) through (6) [reporting of emission averaging]. [40 CFR §63.1260(k)]

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*Notification of performance test and test plan*

- j. The permittee shall notify the Administrator of the planned date of a performance test at least 60-days before the test in accordance with §63.7(b) [*notification of performance tests*]. The permittee shall also submit the test plan required by §63.7(c) [*quality assurance program*] and the emission profile required by §63.1257(b)(8)(ii) with the notification of the performance test. [40 CFR §63.1260(l),]

**40 CFR Part 63, Subpart MMM, National Emission Standards for Pesticide Active Ingredient Production**

**APPLICABILITY**

- OCI 18. A portion of this facility is subject to 40 CFR Part 63, Subpart MMM, National Emission Standards for Pesticide Active Ingredient Production. Applicable requirements include the following conditions. [§19.304 of Regulation 19 and 40 CFR §63.1360]

*Affected Source*

- a. The permittee is an affected source subject to 40 CFR Part 63, Subpart MMM as defined in 40 CFR §63.1360(a) [*Applicability*]. The source is an existing source with a compliance date of December 23, 2003. [40 CFR §63.1360(a)]

*General Provisions Requirements*

- b. The provisions of Subpart A, specified in Table 1 of 40 CFR 63, Subpart MMM are the only general provisions that apply to an affected source subject to this subpart. [40 CFR §63.1360(c)]

*Applicability of this Subpart except During Periods of Startup, Shutdown, and Malfunction*

- c. The permittee shall comply with all applicable requirements of 40 CFR 63, Subpart MMM except that emission limitations shall not apply during periods of startup, shutdown, and malfunction as defined in 40 CFR §63.1361, provided the conditions in 40 CFR §63.1360(e)(1) through (4) are met. [40 CFR §63.1360(e)]

*Storage Vessel Applicability Determination*

- d. The permittee shall follow the procedures in 40 CFR §63.1360(f)(1) through (5) to determine whether a storage vessel is part of the affected PAI source. [40 CFR §63.1360(f)]

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*Designating Production of an Intermediate as a PAI Process Unit*

- e. With the exception of 40 CFR §63.1360(d) [*Exemptions*]: The permittee may elect to designate production of any intermediate that does not meet the definition of integral intermediate as a PAI process unit. Storage vessels containing the intermediate is assigned to the PAI process unit according to the procedures in 40 CFR §63.1360(f) [*storage vessel applicability determination*]. Any process tank containing the intermediate is part of the process unit used to produce the intermediate. [40 CFR §63.1360(g)]

*Applicability of Process Units Included in a Process Unit Group*

- f. The permittee may elect to develop process unit groups in accordance with 40 CFR §63.1360(h)(1). For PAI process units in these process unit groups, the permittee may comply with the provisions in the overlapping MACT standards as specified in 40 CFR §63.1360(h)(2) through (4), as an alternative means of demonstrating compliance with this subpart. [40 CFR §63.1360(h)]

*Overlap with other MACT Standards*

- g. If the permittee is subject to the provisions of Subpart MMM and also subject to the provisions of any other subpart under 40 CFR Part 63, the permittee may elect, to the extent the subparts are consistent, under which subpart to maintain records and report to EPA. The permittee shall identify in the Notice of Compliance Status (NOCS) report required by 40 CFR §63.1368(f) under which subpart such records shall be maintained. [40 CFR §63.1360(i)(1)]

*Overlap with RCRA Subparts AA, BB, and/or CC*

- OCI 19. The permittee may elect to comply with the monitoring, reporting, and recordkeeping requirements of 40 CFR 63, Subpart MMM or RCRA Subparts AA, BB, and/or CC for devices covered under both regulations. Compliance with the recordkeeping, monitoring, and reporting requirements in 40 CFR Parts 264 and/or 265 shall constitute compliance with the monitoring, reporting and recordkeeping of Subpart MMM. The permittee shall identify in the NOCS report required in §63.1368(f) the authority under which compliance is demonstrated. [40 CFR §63.1360(i)(2)]

*Overlap with NSPS Kb*

- a. The permittee is only required to comply with the provisions of Subpart MMM for Group 1 and Group 2 storage vessels that are also subject to the requirements of 40 CFR 60, Subpart Kb. [40 CFR §63.1360(i)(3)]

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*Overlap with Subpart I*

- b. If the permittee has equipment in a process unit subject to 40 CFR 63, Subpart I; the permittee may elect to comply with either Subpart MMM, or 40 CFR 63, Subpart H. The permittee shall identify in the NOCS report required in §63.1368(f) the elected option of compliance. [40 CFR §63.1360(i)(4)]

*Overlap with RCRA Regulations for Wastewater*

- c. If the permittee has affected wastewater streams subject to 40 CFR 260 through 272, compliance shall be based on the more stringent control requirements and the more stringent testing, monitoring, recordkeeping and reporting requirements that overlap between the requirements of Subpart MMM and Parts 260 through 272. The permittee shall keep a record of the information used to determine which requirements are the most stringent and shall submit this information if requested by the Administrator. [40 CFR §63.1360(i)(5)]

*Overlap with NSPS Subparts III, NNN, and RRR*

- OCI 20. If the permittee has any process vent subject to Subpart MMM that is also subject to 40 CFR 60, Subparts III, NNN, or RRR and elects to reduce organic HAP emissions from the process vent by 98% as specified in §63.1362(b)(2)(iii)(A), then the permittee is only required to comply with Subpart MMM. Otherwise the permittee shall comply with Subpart MMM and the provisions of 40 CFR 60 Subparts III, NNN, and RRR as applicable. [40 CFR §63.1360(i)(6)]

*Meanings of Periods of Time*

- a. All terms of Subpart MMM that define a period of time for completion of required tasks (e.g., weekly, monthly, quarterly, annual), unless specified otherwise in §63.1360 [Applicability], or subsection that imposes the requirement, refer to standard calendar periods of time. [40 CFR §63.1360(j)]

**DEFINITIONS**

- OCI 21. Terms used in Subpart MMM are defined in the CAA, in Subpart A of 40 CFR 63, or in §63.1361. If the same term is defined in Subpart A and in §63.1361, it shall have the same meaning given in §63.1361 for the purposes of Subpart MMM. [40 CFR §63.1361]

**STANDARDS**

- OCI 22. The permittee is subject to the following requirements of 40 CFR §63.1362:
- a. Affected sources subject to Subpart MMM shall control HAP emission to the levels specified in §63.1362 [Standards: General] and in §63.1363 [Standards: Equipment Leaks], as summarized in Table 2 of Subpart MMM. [40 CFR §63.1362(a)]



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*Process Vents*

- b. Subpart MMM existing sources shall comply with the requirements of §63.1362(b)(2) and (3). New sources shall comply with the requirements of §63.1362(b)(4) and (5). Compliance with §63.1362(b)(2) through (5) shall be demonstrated through the applicable test methods and initial compliance procedures in §63.1365 and the monitoring requirements in §63.1366. [40 CFR §63.1362(b)(1)]

*Organic HAP Emissions from Existing Sources*

- c. Existing effected sources must comply with the requirements in either §63.1362(b)(2)(i), or with §63.1362(b)(2)(ii) through (iv). [40 CFR §63.1363(b)(2)]

- i. The uncontrolled organic HAP (OHAP) emission rate shall not exceed 0.15 Mg/yr from the sum of all process vents within a process. [40 CFR §63.1362(b)(2)(i)]

The permittee has chosen to not comply with the option under §63.1362(b)(2)(i) at the present time, but reserves the ability to switch to this option at a later date providing proper notification under §63.1368(f).

- ii. Except as provided in §63.1361(b)(2)(ii)(B): Uncontrolled OHAP emissions from a process vent shall be reduced by 98% by weight or greater if the flow-weighted average flow rate for the vent, as calculated using Equation 1 is less than or equal to the flow rate using Equation 2 as specified in §63.1362(b)(2)(ii). [40 CFR §63.1362(b)(2)(ii)(A)]

The requirement under 63.1362(b)(2)(ii)(A) is not applicable at the present time, but the permittee may switch to this option at a later date providing proper notification under §63.1368(f)

- iii. Control devices installed on or before November 10, 1997 on a process vent subject to §63.1362(b)(2)(ii)(A), and reducing inlet emissions of the total organic HAP by greater than 90% by weight, but less than 98% by weight, must be operated to reduce inlet emissions of total organic HAP by 90% weight or greater. [40 CFR §63.1362(b)(2)(ii)(B)]

This option does not apply at present to the permittee's operations. The permittee may comply with this option at a later date providing proper notification under §63.1368(f).

- iv. The permittee shall reduce, uncontrolled organic HAP emissions from the sum of all process vents within a process shall be reduced by 90% or greater by weight, excluding process vents that are subject to §63.1362(b)(2)(ii). [40 CFR §63.1362(b)(2)(iii)]

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- v. As an alternative to §63.1362(b)(2)(ii) and (iii), uncontrolled OHAP emissions from any process vent may be reduced in accordance with and of the provisions in §63.1362(b)(2)(iv)(A) through (D) as listed below. All remaining process vents must be controlled in accordance with §63.1362(b)(2)(ii) and (iii). [40 CFR §63.1362(b)(2)(iv)]
  - 1) To outlet concentrations less than or equal to 20 ppmv; or
  - 2) By a flare that meets the requirements of §63.11(b); or
  - 3) By a control device specified in §63.1365(a)(4); or
  - 4) In accordance with the alternative standard specified in §63.1362(b)(6).

#### *HCL and CL<sub>2</sub> Emissions from Existing Sources*

- d. The permittee shall comply with either of the following emission reduction requirements for HCL and CL<sub>2</sub> from existing process vents:
  - i. The uncontrolled HCL and CL<sub>2</sub> emissions, including HCL generated from the combustion of halogenated process vent emissions, from the sum of all process vents within a process shall not exceed 6.8 Mlb/yr; or
  - ii. HCL and CL<sub>2</sub> emissions, including HCL generated from combustion of halogenated process vent emissions, from the sum of all process vents within a process shall be reduced by 94% or greater or to outlet concentrations less than or equal to 20 ppmv.

[40 CFR §63.1362(b)(3)]

#### *Alternative Standard – Process Vents*

- e. As an alternative to the standards for existing and new process vent emission control requirements, the permittee may route emissions from a process vent to a combustion control device achieving an outlet TOC concentration (calibrated on methane or the predominate HAP) of 20 ppmv or less, and an outlet concentration of HCL and CL<sub>2</sub> of 20 ppmv or less. If routing to a non-combustion control device or series of control devices, the control device(s) must achieve an outlet TOC concentration of 50 ppmv or less, and an outlet concentration of HCL and CL<sub>2</sub> of 50 ppmv or less. Process vents not routed to a control device must be controlled according to §63.1362(b)(2)(ii) through (iv), §63.1362(b)(3)(ii), §63.1362(b)(4)(ii), §63.1362(b)(5)(ii) or (iii) of Subpart MMM. [40 CFR §63.1362(b)(6)]

#### *Storage Vessels*

- f. The permittee shall either determine the group status of a storage vessel or designate it as a Group 1 storage vessel. Storage vessels designated as Group 1 are not required to have the maximum true vapor pressure of the material stored to be determined. [40 CFR §63.1362(c)]

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*Storage Vessel Standard for Existing Sources*

- i. Except as specified in §63.1362(c)(4), (5), and (6), the permittee shall equip each Group 1 storage vessel at an existing affected source with one of the following:
  - 1) A fixed roof and internal floating roof; or
  - 2) An external floating roof; or
  - 3) An external floating roof converted to an internal floating roof; or
  - 4) A closed-vent system meeting the requirements in §63.1363(j) [closed-vent systems] and a control device that meets any of the following conditions:
    - 5) Reduces organic HAP emissions by 95% weight or greater; or
    - 6) Reduces organic HAP emissions to outlet concentrations of 20 ppmv or less; or
    - 7) Is a flare meeting the requirements of §63.11(b); or
    - 8) Is a control device specified in §63.1365(a)(4) [boiler/process heater].

[40 CFR §63.1362(c)(2)(i) through (iv)]

*Storage Vessel Standard for New Sources*

- ii. Presently the permittee is not subject to the new source requirements for storage vessels. The new source provisions do not apply until such time that the permittee installs or modifies a PAI storage vessel to meet the definition of new affected source as defined in §63.1361. Group 1 storage vessels at a new source shall equip the affected storage vessel with any of the controls specified in §63.1362(c)(2)(i) through (iv) listed above. [40 CFR §63.1362(c)(3)]

*Storage Vessels – Alternative Standard*

- iii. As an alternative to the standards for existing and new storage vessel emission control requirements, the permittee may route emissions from a storage vessel to a combustion control device achieving an outlet TOC concentration (calibrated on methane or the predominate HAP) of 20 ppmv or less, and an outlet concentration of HCL and CL<sub>2</sub> of 20 ppmv or less. If routing to a non-combustion control device or series of control devices, the control device(s) must achieve an outlet TOC concentration of 50 ppmv or less, and an outlet concentration of HCL and CL<sub>2</sub> of 50 ppmv or less. [40 CFR §63.1362(c)(4)]

*Storage Vessel Planned Routine Maintenance*

- iv. The permittee is exempt from the storage vessel existing and new source standards and the alternative standard during periods of planned routine maintenance of the control device that does not exceed 240 hours/yr. The permittee may submit an extension to the Administrator requesting an extension of this time limit to 360 hours/yr. The request must explain why the extension is needed and it must indicate

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that no material will be added to the storage vessel between the time the 240-hour limit is exceeded and this control device is again operational. The request must be submitted at least 60-days before the 240 hour limit will be exceeded. [40 CFR §63.1362(c)(5)]

*Storage Vessel – Vapor Balancing Alternative*

- v. As an alternative to the storage vessel existing and new source standards, the permittee may implement vapor balancing as specified in §63.1362(c)(6)(i) through (vii). [40 CFR §63.1362(c)(6)]

*Storage Vessel Compliance Provisions*

- vi. Compliance with storage vessel existing and new source standards is demonstrated using the initial compliance procedures in §63.1365(d) [*Initial compliance with storage vessel provisions*] and the monitoring requirements in §63.1366 [*Monitoring and inspection requirements*]. Compliance with outlet concentrations in the alternative standard shall be determined by the initial compliance provisions in §63.1365(a)(5) and the continuous emission monitoring requirements in §63.1366(b)(5). [40 CFR §63.1362(c)(7)]

**WASTEWATER**

- OCI 23. The permittee shall comply with the requirements of 40 CFR §63.132 through §63.147, with the differences noted in §63.1362(d)(1) through (16) for the purpose of compliance with Subpart MMM. [40 CFR §63.1362(d)]

*Definitions*

- a. When the term “process wastewater is referred to in §63.132 through §63.147 of Subpart G, the term “wastewater” as defined in §63.1361 shall apply for the purposes of Subpart MMM. [40 CFR §63.1362(d)(7)]
- b. When the term “Group 1 wastewater stream” is used in §63.132 through §63.147 of Subpart G, the definition of “Group 1 wastewater stream” in §63.1361 shall apply for both new and existing sources for the purposes of Subpart MMM. [40 CFR §63.1362(d)(8)]
- c. When the term “Storage vessel” is used in §63.119 through §63.123 of Subpart G, the definition of “storage vessel” in §63.1361 shall apply for the purposes of Subpart MMM. [40 CFR §63.1362(d)(2)(i)]

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*Statement of Table 8 Non-Applicability*

- d. The requirements in §63.132 through §63.147 for compounds listed on Table 8 of Subpart G shall not apply for the purposes of Subpart MMM. [40 CFR §63.1362(d)(9)]

**EXISTING SOURCE WASTEWATER PROVISIONS - GENERAL**

OCI 24. The permittee shall comply with the requirements of §63.132(a)(1) through (3) no later than the applicable date of Subpart MMM. [40 CFR §63.132(a)]

*Determination of Group 1 or Group 2 Status for Table 9 Compounds*

- a. The permittee shall determine the Group 1 or Group 2 status for Table 9 compounds according to the requirements of §63.132(c). [40 CFR §63.132(c)]

*Designation of a Group 1 Wastewater Stream*

- b. The permittee may elect to designate a wastewater stream a Group 1 wastewater stream in order to comply with the requirements of §63.132(a)(1) or (b)(1) by following the procedures in §63.132(e). [40 CFR §63.132(e)]
- c. The permittee shall not discard liquid or solid organic materials with a concentration of greater than 10,000 ppm of Table 9 compounds (as determined by analysis of the stream composition, engineering calculations, or process knowledge, according to the provisions of §63.144(b) of this subpart) from a chemical manufacturing process unit to water or wastewater, unless the receiving stream is managed and treated as a Group 1 wastewater stream. This prohibition does not apply to materials from the activities listed in §63.132(f)(1) through (f)(4) below:
  - i. Equipment leaks;
  - ii. Activities included in maintenance or SSM plans;
  - iii. Spills; or
  - iv. Samples of a size not greater than reasonably necessary for the method of analysis that is used.

[40 CFR §63.132(f)]

*Off-site Treatment not Owned or Operated by the Source*

- d. The permittee may elect to transfer Group 1 wastewater or residuals removed from Group 1 wastewater streams to an off-site treatment operation by complying with the requirements of §63.132(g). [40 CFR §63.132(g)]

**PROCESS WASTEWATER PROVISIONS – WASTEWATER TANKS**

OCI 25. The permittee is subject to the following requirements of 40 CFR §63.133:

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- a. The permittee shall comply with either §63.133(a)(1) or (2), as specified in Table 10, for each wastewater tank that receives, manages, or treats a Group 1 wastewater stream or wastewater residual removed from a wastewater stream. [40 CFR §63.133(a)]
- b. The maximum true vapor pressures in Table 10 shall be limited to the HAP listed in Table 9 to 40 CFR 63, Subpart G. [40 CFR §63.1362(d)(15)]
- c. The permittee shall comply with the requirements of §63.133(a)(2)(i) for fixed-roof tanks. The fixed roof shall meet the requirements of §63.133(b)(1), the control device shall meet the requirements of §63.133(b)(2), and the control device shall meet the requirements of §63.133(b)(3). [40 CFR §63.133(b)]
- d. The permittee shall inspect each wastewater tank initially, and semi-annually for improper work practices in accordance with 63.143, with the exception provided in §63.133(e)(2). [40 CFR §63.133(f)]
- e. The permittee shall inspect each wastewater tank for control equipment failures as specified in §63.133(g)(1) through (3). [40 CFR §63.133(g)]
- f. The permittee shall initiate first efforts to repair control equipment failures or improper work practices within 5 calendar days, and complete the repairs within 45 calendar days. Two extensions of up to 30 additional calendar days each may be utilized provided documentation supporting the decision as identified in §63.133(h) is maintained. [40 CFR §63.133(h)]

#### ***PROCESS WASTEWATER PROVISIONS – SURFACE IMPOUNDMENTS***

OCI 26. The permittee is subject to the following requirements of 40 CFR §63.134:

The permittee shall comply with §63.134(a) through (d) for each surface impoundment that receives, manages, or treats a Group 1 wastewater stream or residual removed from a Group 1 wastewater stream. [40 CFR §63.134(a)]

Presently, the permittee does not treat affected wastewaters or residuals in surface impoundments. This specific condition does not apply until such time as the permittee chooses this option.

#### ***PROCESS WASTEWATER PROVISIONS - CONTAINERS***

OCI 27. The permittee is subject to the following requirements of 40 CFR §63.135:

The permittee shall comply with §63.135(b) through (f) for each container that receives, manages or treats a Group 1 wastewater stream or a residual from a Group 1 wastewater stream. [40 CFR §63.135(a)]

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***PROCESS WASTEWATER – INDIVIDUAL DRAIN SYSTEMS***

OCI 28. The permittee is subject to the following requirements of 40 CFR §63.136:

The permittee shall comply with the requirements in §63.136(b) through (d), or with §63.136(e) through (g) for each individual drain system that receives or manages a Group 1 wastewater stream or residual from a Group 1 wastewater stream. [40 CFR §63.136(a)]

***PROCESS WASTEWATER – OIL/WATER SEPARATORS***

OCI 29. The permittee is subject to the following requirements of 40 CFR §63.137:

- a. The permittee shall comply with §63.137(c) and (d) for each oil-water separator that receives, manages, or treats a Group 1 wastewater stream or residual from a Group 1 wastewater stream, and shall maintain and operate a fixed roof and closed-vent system and control device as specified in §63.137(a)(1), and which meets the requirements of §63.137(b). [40 CFR §63.137(a)]
- b. As an alternative to §63.137(a)(1), the permittee may elect to comply with the floating roof requirements in §63.137(a)(2), or an equivalent means of emission limitation as specified in §63.137(a)(3). [40 CFR §63.137(a)(2) and (3)]
- c. The permittee shall inspect each oil-water separator initially, and semi-annually for improper work practices in accordance with §63.143. [40 CFR §63.137(d)]
- d. The permittee shall inspect each wastewater tank for control equipment failures as specified in §63.137(e). [40 CFR §63.137(e)]
- e. Except as provided in §63.140, when an improper work practice or control equipment failure is identified, the first attempt at repair shall be made no later than 5 calendar days after identification and repair shall be completed within 45 calendar days. [40 CFR §63.137(f)]

***PROCESS WASTEWATER PROVISIONS – PERFORMANCE STANDARDS FOR TREATMENT PROCESSES MANAGING GROUP 1 WASTEWATER STREAMS***

OCI 30. The permittee is subject to the following requirements of 40 CFR §63.138:

*General Requirements*

- a. The permittee shall comply with the requirements specified in §63.138(a)(1) through (6). Where multiple compliance options are provided, the options may be used in combination for different wastewater streams and/or different compounds in the same wastewater streams, except where otherwise provided in §63.138. Once a Group 1 stream or residual

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removed from a Group 1 stream has been treated in accordance with Subpart MMM, it is no longer subject to the requirements of Subpart MMM. [40 CFR §63.138(a)]

*Existing Source*

- i. The permittee is an existing source for the purpose of these requirements. If the wastewater stream is Group 1 for Table 9 compounds, the permittee shall comply with §63.138(b). [40 CFR §63.138(a)(1)]

*New Source*

- ii. If the permittee becomes subject to the new source wastewater standard, the permittee shall comply with §63.138(a)(2) for Group 1 compounds in a Table 9, as determined by the procedures in §63.132. [40 CFR §63.138(a)(2)]

*Control Options: Group 1 Wastewater Streams for Table 9 Compounds*

- b. The permittee shall comply with §63.138(b)(2) [other compliance options] for the control of Table 9 compounds. [40 CFR §63.138(b)]

*Options:*

- i. Operate a design steam stripper meeting the requirements of §63.138(d);
- ii. Percent mass removal option meeting the requirements of §63.138(e);
- iii. Required mass removal option meeting the requirements of §63.138(f);
- iv. 95% required mass removal option for biological treatment processes meeting the requirements of §63.138(g);
- v. Treatment in a RCRA unit option meeting the requirements of §63.138(h); or
- vi. One megagram total source mass flow rate option meeting the requirements of §63.138(i).

[40 CFR §63.138(b)(1) and (b)(2)]

*Design Evaluations or Performance Tests for Treatment Processes*

- c. The permittee shall demonstrate compliance with the elected treatment option by following the requirements of §63.138(j), as applicable to the treatment option specified, with the exceptions provided in §63.138(j)(3) or §63.138(h). [40 CFR §63.138(j)]

*Exemptions from Performance Testing and Design Analysis*

- d. The provisions of §63.138(j)(1) [design evaluation – mass balance] and (j)(2) [performance tests] do not apply to steam strippers which meet the requirements of §63.138(d). [40 CFR §63.138(j)(3)]



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- e. The provisions of §63.138(h) [RCRA unit treatment option] exempt the permittee from the design evaluation and performance test requirements specified in §63.138(a)(3) and §63.138(j), and from the monitoring requirements specified in §63.132(a)(2)(iii) and §63.132(b)(3)(iii), as well as the recordkeeping and reporting requirements associated with monitoring and performance tests. [40 CFR §63.138(j) and §63.138(h)]

#### *Residuals*

- f. The permittee shall control residuals from Group 1 wastewater streams by complying with §63.133 through §63.137 and by complying with one of the following options:
  - iii. Recycle the residual to a production process or sell the residual for the purpose of recycling. Once a residual is returned to the production process, the residual is no longer subject to Subpart MMM;
  - iv. Return the residual to the treatment process;
  - v. Treat the residual to destroy the total combined mass flow rate of Table 9 compounds by more than 99% or more; or
  - vi. Comply with the requirements for RCRA treatment options specified in §63.138(h).  
[40 CFR §63.138(k)]

#### ***PROCESS WASTEWATER PROVISIONS – CONTROL DEVICES***

OCI 31. The permittee is subject to the following requirements of 40 CFR §63.139:

The permittee shall operate and maintain control device or combination of control devices in accordance with §63.138(b) through (f) for control devices used to comply with the requirements of §63.133 through §63.138. [40 CFR §63.139(a)]

#### ***PROCESS WASTEWATER PROVISIONS – DELAY OF REPAIR***

OCI 32. The permittee is subject to the following requirements of 40 CFR §63.140:

The permittee is allowed delays in repair of equipment for which a control equipment failure or a gap, crack, tear, or hole has been identified, provided the permittee complies with the exceptions specified in §63.140(a) through (c). [§63.140(a) through (c)]

#### ***PROCESS WASTEWATER PROVISIONS – INSPECTIONS AND MONITORING OF OPERATIONS***

OCI 33. The permittee is subject to the following requirements of 40 CFR §63.143:

- a. The permittee shall comply with the inspection requirements in Table 11 for each wastewater tank, surface impoundment, container, individual drain system, and oil-water separator that receives, manages, or treats a Group 1 wastewater stream, a residual removed

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- from a Group 1 wastewater stream, a recycled Group 1 wastewater stream, or recycled residual removed from a Group 1 wastewater stream. [40 CFR §63.143(a)]
- b. The permittee shall comply with the monitoring requirements in Table 12 for each design steam stripper and biological treatment unit used to comply with §63.138. [40 CFR §63.143(b)]
  - c. If the permittee elects to comply with Item 1 of Table 12, the permittee shall request approval to monitor appropriate parameters that demonstrate proper operation of the biological treatment unit. The request shall be submitted according to the procedures in §63.151(f) and shall include a description of the planned reporting and recordkeeping procedures. The basis for the selected monitoring frequencies and the methods used shall be included in the submittal. [40 CFR §63.143(c)]
  - d. If the permittee elects to comply with Item 3 of Table 12, the permittee shall request approval to monitor appropriate parameters that demonstrate proper operation of the selected treatment process. The request shall be submitted according to the procedures in §63.151(f) and shall include a description of the planned reporting and recordkeeping procedures. [40 CFR §63.143(d)]
  - e. For each control device used to comply with the requirements of §63.133 through §63.139, the permittee shall comply with the requirements of §63.139(d), and with the requirements of §63.143(e)(1), (e)(2), or (e)(3), except as provided in §63.143(e)(4) and (5). [§63.143(e)]
  - f. The permittee shall establish a range that indicates proper operation of the treatment process or control device for each parameter monitored in accordance with §63.143(c), (d), or (e). In order to establish the range, the permittee shall comply with the requirements of §63.146(b)(7)(ii)(A) and (b)(8)(ii). [40 CFR §63.143(f)]
  - g. Monitoring equipment shall be installed, calibrated, and maintained according to the manufacturer's specifications or other written procedures that provide adequate assurance that the equipment would be reasonably expected to monitor accurately. [40 CFR §63.143(g)]

***PROCESS WASTEWATER PROVISIONS – TEST METHODS AND PROCEDURES FOR DETERMINING APPLICABILITY AND GROUP 1/GROUP 2 DETERMINATION (Determining which Wastewater Streams Require Control)***

OCI 34. The permittee is subject to the following requirements of 40 CFR §63.144:

The permittee shall comply with §63.144(a)(1) [*determine Group 1 or Group 2 status*] or (a)(2) [*designate as Group 1*] for each wastewater stream to determine which wastewater streams

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require control for Table 9 compounds. The permittee may use a combination of the approaches in §63.144(a)(1) or (a)(2) for different wastewater streams generated at the source. [40 CFR §63.144(a)]

- a. The permittee may determine the Group 1 and Group 2 status under §63.144(a)(1) and use the procedures in 63.144(b) to establish concentration limits, and §63.144(c) to determine flow rates. [40 CFR §63.144(a)(1)]
- b. The permittee may designate as a Group 1 wastewater stream a single wastewater stream or mixture of wastewater streams under §63.144(a)(2). The permittee is not required to determine the concentration of flow rate of each designated Group 1 wastewater stream for the purposes of §63.144. [40 CFR §63.144(a)(2)]

### ***PROCESS WASTEWATER PROVISIONS – TEST METHODS AND PROCEDURES TO DETERMINE COMPLIANCE***

OCI 35. The permittee is subject to the following requirements of 40 CFR §63.145:

#### *General*

§63.145 specifies the procedures for performance tests that are conducted to demonstrate compliance of a treatment process or a control device with the control requirements specified in §63.138. If conducting a design evaluation, the permittee shall comply with the requirements of §63.145(a)(1) and (a)(2). If conducting a performance test, the permittee shall comply with the requirements in §63.145(a) through (i). [40 CFR §63.145(a)]

#### *Performance Tests and Design Evaluations for treatment Processes*

- a. If the permittee has chosen the design steam stripper option in §63.138(d), or RCRA option in §63.138(h) to comply with §63.138, neither a design evaluation nor a performance test is required. [40 CFR §63.145(a)(1)]
- b. If the permittee chooses to use any other non-biological treatment process, the permittee shall conduct either a design evaluation as specified in §63.138(j), or a performance test as required in §63.145. [40 CFR §63.145(a)(1)]
- c. If the permittee chooses to use a closed biological treatment process, the permittee shall conduct either a design evaluation according to §63.138(j), or a performance test according to §63.145. If using an open biological treatment system, the permittee shall conduct a performance test according to §63.145. [40 CFR §63.145(a)(1)]

### ***PROCESS WASTEWATER PROVISIONS – REPORTING***

OCI 36. The permittee is subject to the following requirements of 40 CFR §63.146:

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- a. For each waste management unit, treatment process, or control device used to comply with §63.138(b)(1), (c)(1), (d), (e), (f), or (g) for which the permittee seeks to monitor a parameter other than those specified in Tables 11, 12, or 13, the permittee shall submit a request for approval to monitor alternative parameters according to the procedures in §63.8(f) of Subpart A, as referenced in §63.1366(b)(4). [40 CFR §63.146(a), 63.8(f), 63.1362(d)(3), and §63.1366(b)(4)]
- b. The permittee shall submit the information specified in §63.146(b)(1) through (b)(9) as part of the Notification of Compliance Status report required by §63.1368(f) of Subpart MMM. [40 CFR §63.146(b), §63.1368(f), and §63.1362(d)(4)]
- c. The permittee shall submit as part of the Periodic Report required by §63.1368(g) the results of each inspection required by §63.143(a). Each Periodic Report shall include the date of the inspection, identification of each waste management unit in which a control equipment failure was detected, description of the failure, and description of the nature of and date the repair was made for each waste management unit that receives, manages, or treats a Group 1 wastewater stream or residual removed from a Group 1 wastewater stream. [40 CFR §63.146(c), §63.1362(d)(6) and §63.1368(g)]
- d. The permittee shall submit as part of the Periodic Report required by §63.1368(g) the information specified in §63.146(d)(1) through (3) for the monitoring required by §63.143(b), (c), and (d). [40 CFR §63.146(d) and §63.1368(g)]
- e. The permittee shall submit as part of the Periodic Report the information specified in §63.146(e)(1) or (e)(2) for each control device used to comply with §63.133 through §63.139. [40 CFR §63.146(e)]
- f. If the permittee utilizes an extension for delay or repair in accordance with §63.133(e)(2) or §63.133(h) the information shall be included in the next Periodic Report. [40 CFR §63.146(g)]

### ***PROCESS WASTEWATER PROVISIONS – RECORDKEEPING***

OCI 37. The permittee is subject to the following requirements of 40 CFR §63.147:

- a. If the permittee transfers a Group 1 wastewater stream or residual removed from a Group 1 stream in accordance with §63.132(g), the permittee shall keep a record of the notice sent to the treatment operating stating that the wastewater stream or residual contains organic HAP which are required to be managed and treated in accordance with the provisions of this subpart. [40 CFR §63.147(a)]
- b. The permittee shall keep in a readily accessible location the records specified in §63.147(b)(1) through (8). [40 CFR §63.147(b)]
- c. The permittee shall keep records of the daily average value of each continuously monitored

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parameter for each operating day as specified in §63.1367, except as provided in §63.147(d)(1) through (3). [40 CFR §63.146(d) and §63.1362(d)(5)]

- d. If the permittee obtains approval to use a control device other than the one for which monitoring requirements are specified in §63.143, or to monitor parameters other than those specified in Tables 12 or 13, the Administrator will specify the appropriate recordkeeping requirements. [40 CFR §63.147(e)]
- e. If the permittee uses process knowledge to determine the annual average concentration of a wastewater stream as specified in §63.144(b)(3) and/or uses process knowledge to determine the annual average flow rate as specified in §63.144(c), and determines that the wastewater stream is not a Group 1 wastewater stream, the permittee shall keep in a readily accessible location the documentation of how process knowledge was used to determine the annual average concentration and/or the annual average flow rate of the wastewater stream. [40 CFR §63.147(f)]

### ***BAG DUMPS AND PRODUCT DRYERS***

OCI 38. The permittee is subject to the following requirements of 40 CFR §63.1362:

- a. The following standards apply to bag dumps and product dryers:
  - i. The permittee shall reduce particulate matter emissions to a concentration not to exceed 0.01 gr/dscf from product dryers that dry PAI or integral intermediate that is a HAP. [40 CFR §63.1362(e)(1)]
  - ii. The permittee shall reduce particulate matter emissions to a concentration not to exceed 0.01 gr/dscf from bag dumps that introduce to a PAI process unit a feedstock that is a solid material and a HAP, excluding bag dumps where the feedstock contains HAP only as an impurity. [40 CFR §63.1362(e)(2)]
  - iii. The permittee shall control gaseous HAP emissions from product dryers and bag dumps in according to the provisions of the process vent requirements in §63.1362(b). [40 CFR §63.1362(e)(3)]

#### *Heat exchange systems*

- b. With the exception of the conditions specified in 40 CFR 63, Subpart F, §63.104(a)(1) through (6), the permittee shall monitor each heat exchange system that is used to cool PAI process units that are part of an affected source as defined in §63.1360(a) according to one of the provisions in 40 CFR §63.104(b) or (c) of Subpart F. Whenever a leak is detected, the permittee shall comply with the requirements in 40 CFR 63, Subpart F, §63.104(d). Delay of repair of heat exchange systems for which leaks have been detected is allowed according to §63.104(e) of Subpart F. [40 CFR §63.1362(f)]

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#### *Pollution Prevention Alternative*

- c. Except as provided in §63.1362(g)(1) of Subpart MMM, for a process that has an initial startup prior to November 10, 1997, the permittee may choose to meet the pollution prevention alternative requirement specified in §63.1362(g)(2) or (3) for any PAI process unit, in lieu of the requirements specified in §63.1362(b) [*Process vents*], (c) [*Storage vessels*], (d) [*Wastewater*], and (e) [*Bag dumps*] and in §63.1363 [*Equipment Leaks*]. Compliance with the requirements of §63.1363(g)(2) and (3) shall be demonstrated through the procedures in §63.1365(g) and §63.1366(f). [40 CFR §63.1362(g)].

#### *Emissions Averaging Provisions*

- d. Except as provided in §63.1362(h)(1) through (7), the permittee may choose to comply with the emission standards in §63.1362(b), (c), and (d) of this section by using emissions averaging procedures specified in §63.1365(h) for organic HAP emissions from any storage vessel, process or waste management unit this is part of an affected source subject to Subpart MMM. [§40 CFR 63.1362(h)]

Presently, the permittee does not choose to opt for the emissions averaging compliance method.

#### *Opening of a Safety Device*

- e. Opening of a safety device, as defined in §63.1361 is allowed at any time conditions require it to avoid unsafe conditions. [40 CFR §63.1362(i)]

#### *Closed-vent Systems*

- f. Presently, the permittee does not have a closed-vent system containing a bypass line that could divert a vent stream away from a control device used to comply with the requirements of §63.1362(b) [*Process vents*], (c) [*Storage vessels*], or (d) [*Wastewater*]. If any bypass line is installed in the future, the permittee shall comply with the requirements of §63.1362(j)(1) and (2) [*Closed-vent systems*], and Table 2 of Subpart MMM. [40 CFR §63.1362(j)]

The permittee operates regenerative thermal oxidizers (RTOs), which have emergency vent dampers meeting the definition of a safety device as specified in §63.1361. Bypass lines do not exist on the closed-vent system and control device configuration.

#### *Exception for RCRA Treatment Units*

- g. The permittee shall be exempt from the initial compliance demonstrations and monitoring provisions in §63.1365 [*Test methods and initial compliance*] and §63.1366 [*Monitoring and inspections*] and the recordkeeping and reporting requirements in §63.1367 [*Recordkeeping*] and §63.1368 [*Reporting*] for emissions from process vents, storage vessels, and waste management units that are discharging to the following devices:

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- i. A boiler or process heater burning hazardous waste for which the permittee has been issued a final permit under 40 CFR Part 270 and complies with the requirements of 40 CFR Part 266, Subpart H; or
- ii. Has certified compliance with the interim status requirements of 40 CFR Part 266, Subpart H.
- iii. A hazardous waste incinerator for which the permittee has been issued a final permit under 40 CFR Part 270 and complies with the requirements of 40 CFR Part 264, Subpart O, or has certified compliance with the interim status requirements of 40 CFR Part 265, Subpart O.

[40 CFR §63.1362(l)]

### ***STANDARDS – EQUIPMENT LEAKS***

OCI 39. The permittee is subject to the following requirements of 40 CFR §63.1363:

#### *General Equipment Leak Requirement*

- a. The following General Equipment Leak requirements apply:
  - i. For the purpose of §63.1363 [*Standards: Equipment Leaks*], equipment means each pump, compressor, agitator, pressure relief device, sampling connection system, open-ended valve or line, valve, connector, and instrument system in organic HAP service. In organic HAP service means that a piece of equipment contains or contacts a fluid (liquid or gas) that is at least 5 percent by weight of total organic HAP. These provisions also apply to any closed-vent systems and control devices required under §63.1363. [40 CFR §63.1363(a)(1) and §63.1361]

#### *Consistency with Other Regulations*

- ii. After the compliance date for a process, equipment subject to both §63.1363 [*Standards: Equipment Leaks*] and either of the following (40 CFR Part 60 and Part 61) will be required to only comply with the provisions of Subpart MMM. [40 CFR §63.1363(a)(2)]
- iii. The provisions in §63.1(a)(3) of subpart A of Part 63 do not alter the provisions in §63.1363(a)(2). [40 CFR §63.1363(a)4]

#### *Exemptions*

- iv. The following are key exemptions regarding Subpart MMM standards for equipment leaks.

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- 1) Equipment that is in vacuum service is excluded from the requirements of §63.1363. [40 CFR §63.1363(a)(8)]
- 2) Equipment that operates in organic HAP service for less than 300 hours per calendar year, if it is identified as required in §63.1363(g)(9). [40 CFR §63.1363(a)(9)]
- 3) Lines and equipment not containing process fluids are not subject to §63.1363. Utilities and other nonprocess lines, such as heating and cooling systems which do not combine their materials with those in the processes they serve, are not part of a process. [40 CFR §63.1363(a)(5)]

*LDAR Provision Summary*

vii. An attached table provides a summary of the Subpart MMM equipment leak requirements. Because of the complexity of the LDAR requirements, this table should be considered a reference tool only and the regulation should be referenced when developing a detailed compliance plan. Moreover, the permittee shall develop a comprehensive LDAR to fully meet the Subpart MMM requirements, including developing a list of equipment and identification numbers subject to the requirements and monitoring schedule. Connectors, except those determined to be unsafe-to-monitor, difficult-to-monitor, or inaccessible, do not have to be individually identified but the associated lines must be identified. Physical tagging of components is not required per 40 CFR §63.1363(a)(7) and §63.1363(g)(2).

**Table 7 - Summary of Equipment Leak Requirements of Subpart MMM**

PAI MACT Equipment Leak Requirement Summary – Part 1					
Equipment (PAI MACT / HON Cite- 40 CFR Part)	Design Requirements (Exemptions in parentheses)	Monitoring Frequency	Method	Leak Limit	Calculations
Pumps in Light Liquid Service (63.1363(c))	OHAP HAP Service (Dual mechanical seal systems that include a barrier fluid system are exempt per 40 CFR Part 63.1363(c)(5))	Quarterly with Instrument	Method 21 <sup>1</sup>	2,000 ppm	Calculate Leakers per 40 CFR Part 63.1363(c)(4)
		If 10% of pumps or 3 pumps in the process group leak, then monitor monthly			

i. \_\_\_\_\_

<sup>1</sup> Method 21 citation is 40 CFR Part 60 Appendix A.



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PAI MACT Equipment Leak Requirement Summary – Part 1					
Equipment (PAI MACT / HON Cite- 40 CFR Part)	Design Requirements (Exemptions in parentheses)	Monitoring Frequency	Method	Leak Limit	Calculations
		Weekly visual inspection	Visual		
Pressure Relief Devices in Gas/Vapor Service (63.165)	OHAP Service (Exempt if routed to vent header)	Monitor after every pressure relief episode		Operated with instrument reading less than 500 ppm above background	
Sampling Connection Systems (63.166)	Must be equipped with closed purge, closed loop, or closed vent system  Shall return fluid to process line	Initially			
Open-Ended Valves or Lines (63.1363(d))	Must be equipped with flanges, plugs, or another valve  (If poses a safety hazard, is designed to open automatically, or if equipped with double block and bleed exempt by 40 CFR Part 63.1363(d)(4)-(6))	Initially			
Valves in Gas/Vapor and Light Liquid Service (63.1363(e))		Once within year of compliance date	Method 21 <sup>2</sup>	500 ppm	Calculate Leakers per 40 CFR Part 63.1363(e)(5)
		>2% leakers-monthly		500 ppm	
		<2% leakers-quarterly		500 ppm	
		<1%-once/2 quarters		500 ppm	
		<0.5%-once/4 quarters		500 ppm	

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PAI MACT Equipment Leak Requirement Summary – Part 1					
Equipment (PAI MACT / HON Cite- 40 CFR Part)	Design Requirements (Exemptions in parentheses)	Monitoring Frequency	Method	Leak Limit	Calculations
		<0.25%-every 2 years		500 ppm	
Connectors in Gas/Vapor and in Light Liquid Service (63.174)		Once within year of compliance date	Method 21 <sup>2</sup>	500 ppm	Calculate Leakers per 40 CFR Part 63.174(h)(3)(i)
		<0.5% - once/4 quarters		500 ppm	
		<0.25%-every 2 years		500 ppm	
Agitators in Gas/Vapor and Light Liquid Service (63.1363(c))		Quarterly with instrument	Method 21 <sup>2</sup>	10,000 ppm	
		Weekly visual inspection	Visual		

*References to 40 CFR Subpart H*

- b. The permittee shall comply with the provisions of 40 CFR 63, Subpart H as specified in §63.1363(b)(1) through (3) of Subpart MMM. When the term “process unit” is used in Subpart H, it shall mean any group of processes for the purpose of Subpart MMM. Groups of processes, as used in Subpart MMM, may be any individual process or combination of processes. [40 CFR §63.1363(b)]

*Standards for Designated Equipment*

- c. The permittee shall comply with all specific equipment leak standards §63.1363(c) through (f), including all documentation and calculations necessary for submitting information required in the Notification of Compliance Status Report (NOCS) under §63.1368(f). [40 CFR §63.1363(c) through (f)]

*LDAR Recordkeeping*

- d. The permittee may comply with recordkeeping requirements of more than one group of processes in a one recordkeeping system if the system identifies with each record the program being implemented. (e.g., quarterly monitoring) for each equipment type. All records shall be maintained in a manner that can be readily accessed at the plant site. This includes accessing the records from a central location by computer at the plant site. [40 CFR §63.1363(g)(1)]

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- e. The permittee shall record all information required under §63.1363(g)(2) through (10), except as allowed under §63.1363(g)(5). [40 CFR §63.1363(g)(2) through (10)]

#### *LDAR Reporting*

- f. The permittee shall submit a Notification of Compliance Status report as specified in §63.1363(h)(2) and periodic reports identified in §63.1363(h)(3). [40 CFR §63.1363(h)(1) through (3)]

#### **COMPLIANCE DATE**

OCI 40. The permittee is subject to the following requirements of 40 CFR §63.1364:

The existing source compliance date for Subpart MMM is December 23, 2003. [40 CFR §63.1364(a)(1)]

#### **TEST METHODS AND INITIAL COMPLIANCE PROCEDURES**

OCI 41. The permittee is subject to the following requirements of 40 CFR §63.1365:

##### *General*

- a. Except as specified in §63.1365(a)(5) [*Alternative standard*], the procedures specified in (c) [*Process vents*], (d) [*Storage vessels*], (e) [*Wastewater*], (f) [*Bag dump/product dryer*], and (g) [*Pollution prevention alternative*] are required to demonstrate initial compliance with 63.1362(b) [*Process vents*], (c) [*Storage vessels*], (d) [*Wastewater*], (f) [*Bag dumps*], and (g) [*Pollution prevention alternative*] respectively. Design evaluations that are used to demonstrate compliance with the standards for process vents and storage tanks are subject to the provisions of §63.1365(a)(1). Performance tests that are specified in §63.1365(c), (d), and (e) are subject to the requirements in §63.1365(a)(2). Initial compliance procedures for flares are subject to §63.1365(a)(3). Alternative standards specified in 63.1362(b)(6) and (c)(4) are subject to the requirements in §63.1365(a)(5). The outlet concentration requirements of §63.1362(b)(2)(iv)(A), §63.1362(b)(3)(ii), §63.1363(b)(4)(ii)(A), §63.1362(b)(5)(ii), and §63.1632(b)(5)(iii) are subject to the requirements of §63.1365(a)(6). [40 CFR §63.1365(a)]

##### *Initial Compliance Procedures*

- b. The permittee shall demonstrate initial compliance by following the applicable procedures in §63.1365(a)(1) through (7). [40 CFR §63.1365(a)]

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*Test Methods and Conditions*

- c. The permittee shall use the appropriate test methods in §63.1365(b)(1) through (9) when testing is used to measure emissions. Compliance tests shall be performed under the conditions specified in §63.1365(b)(10) and (11). [40 CFR §63.1365(a)]

*Initial Compliance with Process Vents Provisions*

- d. The permittee shall demonstrate compliance with the process vent standards in §63.1362(b) using the procedures described in §63.1365(c)(1) through (3). [40 CFR §63.1365(c)]

*Initial Compliance with Storage Vessel Provisions*

- e. The permittee shall demonstrate initial compliance with the storage vessel standards in §63.1362(c)(2) through (4) by meeting the requirements in either §63.1365(d)(1), (2), (3), (4), (5), or (6). The demonstration of compliance for the planned routine maintenance provision in §63.1362(c)(5) is fulfilled by meeting the requirements in §63.1365(d)(7). [40 CFR §63.1365(d)]

*Initial Compliance with the Wastewater Provisions*

- f. The permittee shall demonstrate initial compliance with the wastewater requirements by complying with the applicable provisions of §63.145, except the permittee need not comply with the requirement to determine visible emissions that are specified in §63.145(j)(1), and the references to compounds in Table 8 of Subpart G are not applicable for the purposes of Subpart MMM. When §63.145(i) refers to Method 18 of 40 CFR Part 60, Appendix A-6, the permittee may use any method specified in §63.1362(d)(12) to demonstrate initial compliance with Subpart MMM. 40 CFR [§63.1365(e)]

*Initial Compliance with the Bag Dump and Product Dryer Provisions*

- g. Compliance with the particulate matter concentration limits specified in §63.1362(e) [*Bag dumps*] is demonstrated when the concentration of particulate matter is less than 0.01 gr/dscf, as measured using the method described in §63.1365(b)(7). [40 CFR §63.1365(f)]

*Initial Compliance with the Pollution Prevention Alternative Standard*

- h. If the permittee chooses to comply with the pollution prevention alternative standard, the permittee shall demonstrate initial compliance with §63.1362(g)(2) and (3) for a PAI process unit by preparing the demonstration summary in accordance with §63.1365(g)(1) and by calculating baseline and target annual HAP and VOC factors in accordance with §63.1365(g)(2) and (3). To demonstrate compliance with §63.1362(g)(3), the permittee must also comply with the procedures for add-on control devices that are specified in §63.1365(g)(4). [40 CFR §63.1365(g)]

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*Compliance with Emissions Averaging Provisions*

- i. If the permittee chooses to comply with the emissions averaging provisions, the permittee must meet the requirements of §63.1365(h)(1). [40 CFR §63.1365(h)]

***MONITORING AND INSPECTION REQUIREMENTS***

OCI 42. The permittee is subject to the following requirements of 40 CFR §63.1366:

- a. The permittee shall provide evidence of continued compliance with the standard as specified in §63.1366. During the initial compliance demonstration, maximum or minimum operating parameter levels, as appropriate, shall be established for emission sources that will indicate the source is in compliance. Test data, calculations, or information from the evaluation of the control device design shall be used to establish operating parameter level. [40 CFR §63.1366(a)]

*Monitoring for Control Devices*

- b. Except as provided by §63.1366(b)(1)(i), for each control device, the permittee shall install and operate monitoring devices and operate within the established parameter levels to ensure continued compliance with the standard. Monitoring parameters are specified for control scenarios in Table 3, and in §63.1366(b)(1)(ii) through (xii), of Subpart MMM. [40 CFR §63.1366(b)(1)]

*Averaging Periods*

- c. The permittee shall establish averaging periods for parametric monitoring levels according to §63.1366(b)(2)(i) through (iii). [40 CFR §63.1366(b)(2)]

*Procedures for Setting Parameter Levels for Control Devices used to Control Emissions from Process Vents*

*Process Vents - Small Control Devices*

- d. The permittee shall set the parametric monitoring levels for control devices (controlling less than 10 tons/yr of HAP), for which a performance test is not required, by conducting a design evaluation. If a performance test is conducted it shall be established according to the procedures in §63.1366(b)(3)(i). [40 CFR §63.1366(b)(3)]

*Process Vents – Large Control Devices*

- i. The permittee shall establish the parameter monitoring level for large control devices (controlling greater than or equal to 10 tons/yr), for which a performance test is required by Subpart MMM, by following the procedures in §63.1366(b)(3)(ii). [40 CFR §63.1366(b)(3)(ii)]

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*Process Vents – Parameter Levels for Control Devices Controlling Batch Process Vent*

- ii. The permittee shall establish parameter monitoring levels for devices controlling batch process vents, alone or in combination with other streams according to §63.1366(b)(3)(iii). [40 CFR §63.1366(b)(3)(iii)]

*Request for Approval to Monitor Alternative Parameters*

- e. The permittee may request approval to monitor parameters other than those required by §63.1366(b)(1)(ii) through (xiii). The request shall be submitted according to the procedures in §63.8(f) of Subpart A or in the Precompliance Report as specified in §63.1368(e). [40 CFR §63.1366(b)(4)]

*Monitoring for the Alternative Standard*

- f. The permittee may monitor for the alternative standards identified in §63.1362(b)(6) and (c)(4) by following the requirements in §63.1366(b)(5). [40 CFR §63.1366(b)(5)]

*Exceedances of Operating Parameters*

- g. An exceedance of an operating parameter is defined as one of the following:
  - i. If the parameter level, averaged over the operating day block, is below a minimum value established during the initial compliance demonstration;
  - ii. If the parameter level, averaged over the operating day block, is above the maximum value established during the initial compliance demonstration;
  - iii. A loss of all pilot flame for a flare during an operating day or block. Multiple losses of pilot flame during an operating day constitutes an exceedance;
  - iv. Each operating day or block for which the time interval between replacement of a nonregenerative carbon absorber exceeds the interval established in §63.1366(b)(1)(v); or
  - v. Each instance in which procedures to initiate the response to a bag lead detection alarm within 1-hour of the alarm as specified in the corrective action plan. [40 CFR §63.1366(b)(6)]

*Excursions*

- h. Monitoring data are insufficient to constitute a valid hour of data, as used in §63.1366(b)(7)(i) and (ii) if measured values are unavailable for any of the required 15-minute periods within the hour. [40 CFR §63.1366(b)(7)]

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Excursions are defined by either of the two cases listed in §63.1366(b)(7)(i) or (ii) as follows:

- i. When the period of control device operation is 4-hours or greater in an operating day or block and monitoring data are insufficient to constitute a valid hour of data as defined in §63.1366(b)(7)(iii) for at least 75% of the operating hours. [40 CFR §63.1266(b)(7)(i)]
- ii. When the period of control device operation is less than 4-hours in an operating day or block and more than 1 of the hours during the period of operation does not constitute a valid hour of data due to insufficient monitoring data. [40 CFR §63.1366(b)(7)(ii)]

#### *Violations*

- i. Exceedances of parameters monitored according to §63.1366(b)(1)(ii), (iv) through (ix), and §63.1366(b)(5)(i)(A) and (B), or excursions as defined by §63.1258(b)(7)(i) and (ii) constitute violations of the operating limit according to §63.1366(b)(8)(i), (ii), and (iv). Exceedances of the temperature limit monitored according to §63.1366(b)(1)(iii) or exceedances of the outlet concentrations monitored according to the provisions of §63.1366(b)(1)(x) constitute violations of the emission limit according to §63.1366(b)(8)(i), (ii), and (iv). Exceedances of the outlet concentration monitored according to §63.1366 (b)(5) constitute violations of the emission limit according to the provisions of §63.1366(b)(8)(iii) and (iv) of Subpart MMM. [40 CFR §63.1366(b)(8)]

#### *Exceptions to Exceedances, Excursions, and Violations*

- i. Except as provided in §63.1366(b)(8)(iv), for episodes occurring more than once per day, exceedances of established parameter limits or excursions will result in no more than one violation per operating day for each monitored item or equipment utilized in the process. [40 CFR §63.1366(b)(8)(i)]
- ii. Except as provided in §63.1366(b)(8)(iv), for control devices used for more than one process in the course of an operating day, exceedances or excursions will result in no more than one violation per operating day, per control device, for each process for which the control device is in service. [40 CFR §63.1366(b)(8)(ii)]
- iii. Except as provided in §63.1366(b)(8)(iv), exceedances of the 20 ppmv TOC outlet emission limit, or the HCL and chlorine emission limit, averaged over the operating day, will result in no more than one violation per operating day per control device. [40 CFR §63.1366(b)(8)(iii)]
- iv. Periods of time when the monitoring measurements exceed the parameter values as well as periods of inadequate monitoring data do not constitute a violation if they occur

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during a startup, shutdown, or malfunction, and the facility follows its startup, shutdown, and malfunction plan. [40 CFR §63.1366(b)(8)(iv)]

*Monitoring for Equipment Leaks*

- j. The permittee shall comply with the equipment leak monitoring requirements in §63.1363. [40 CFR §63.1366(d)]

*Emission Monitoring for Heat Exchanger Systems*

- k. The permittee shall comply with the heat exchanger monitoring requirements in §63.1362(f) for those heat exchangers subject to Subpart MMM. [40 CFR §63.1366(e)]

*Monitoring for the Pollution Prevention Alternative Standard*

- l. If the permittee chooses to comply with the pollution prevention alternative standards in §63.1362(g)(2) or (3) the requirements of §63.1366(f) shall be followed. [40 CFR §63.1366(f)]

*Monitoring of Emissions Averaging*

- m. If the permittee chooses to comply with the emissions averaging requirements in §63.1362(h), the monitoring requirements of §63.1366(b) [*Monitoring for control devices*] must be followed for all processes, storage tanks, and waste management units included in the emissions average. [40 CFR §63.1366(g)]

*Leak Inspection Provisions of Vapor Suppression Equipment*

- n. The following General Equipment Leak requirements apply:
  - i. The permittee shall comply with the requirements of §63.1366(h)(2) through (8), except as provided in §63.1366(h)(9) and (10), for each vapor collection system, closed-vent system, fixed roof, cover, or enclosure. [40 CFR §63.1366(h)(1)]
  - ii. If a closed-vent system subject to §63.1366 [*Monitoring and inspection requirements*] is also subject to the equipment leak provisions of §63.1363, the permittee shall comply with the provisions of §63.1363 and is exempt from the requirements in §63.1366. [40 CFR §63.1366(h)(9)]
  - iii. The permittee is not required to comply with the requirements specified in §63.1366(h)(2) through (8) for any closed-vent system that is operated and maintained under negative pressure. [40 CFR §63.1366(h)(10)]



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### ***RECORDKEEPING REQUIRMENTS***

OCI 43. The permittee is subject to the following requirements of 40 CFR §63.1363:

- a. The permittee shall comply with the recordkeeping requirements in 40 CFR 63, Subpart A as specified in Table 1 of Subpart MMM and in §63.1367(a)(1) through (5). [40 CFR §63.1367(a)]

#### *Records of Equipment Operations*

- b. The permittee shall keep the records specified in §63.1367(b)(1) through (11) up- to-date and readily accessible, that conforms to the sources applicability determination and operations. [40 CFR §63.1367(b)]

#### *Records of Equipment Leak Detection and Repair*

- c. The permittee shall implement recordkeeping requirements specified in §63.1363(g) [*Recordkeeping*] for equipment subject to the equipment leak standards in §63.1363. All records shall be kept for a period of 5-years, in accordance with the requirements in §63.10(b)(1) of 40 CFR 63, Subpart A. [40 CFR §63.1367(c)]

#### *Records of Emissions Averaging*

- d. If the permittee chooses to comply with the emissions averaging requirements of §63.1362(h), up-to-date records of the information in §63.1367(d)(1) through (4) must be kept. [40 CFR §63.1367(d)]

#### *Heat Exchanger Records*

- e. If the permittee is subject to the heat exchanger system requirements of §63.1362(g), records as specified in §63.104(f)(1)(i) through (iv) of 40 CFR 63, Subpart G must be retained. [40 CFR §63.1367(e)]

#### *Records of Inspections*

- f. The permittee shall keep records of inspections specified in §63.1367(f)(1) through (6). [40 CFR §63.1367(f)]

#### *Records of Primary Use*

- g. The permittee shall keep records of each PAI process unit that is used to produce a given material for use as a PAI as well as for other purposes. The permittee shall keep records of total production and the production for use as a PAI on a semiannual or more frequent basis if the use as a PAI is not the primary use. [40 CFR §63.1367(g)]

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## **REPORTING REQUIREMENTS**

OCI 44. The permittee is subject to the following requirements of 40 CFR §63.1368:

- a. The permittee shall comply with the reporting requirements in §63.1368(b) through (l) of Subpart MMM. Applicable reporting requirements of §63.9 [*notification requirements*] and §63.10 [*recordkeeping requirements*] are also summarized in Table 1 of Subpart MMM. [40 CFR §63.1368(a)]

### *Initial Notification*

- b. The permittee shall submit the applicable initial notification in accordance with §63.9(b) or (d) of 40 CFR 63, Subpart A, as specified in Table 1 of Subpart MMM. [40 CFR §63.1368(b)]

### *Application for Approval of Construction or Reconstruction*

- c. Any application for approval of construction of a new major affected source, the reconstruction of a major affected source, or the reconstruction of a major source such that the source becomes major affected source subject to the standards shall be prepared in accordance with §63.5(d) [Application for approval of construction or reconstruction]. [40 CFR §63.13268(c)]

### *Notification of Continuous Monitoring System Performance Evaluation*

- d. If the permittee is required by the Administrator to conduct a performance evaluation for a continuous monitoring system that is used to comply with the alternate standard in §63.1362(b)(6) or (c)(4), the permittee shall notify the Administrator of the date of the performance evaluation as specified in §63.8(e)(2). [40 CFR §63.1368(d)]

### *Precompliance Plan*

- e. The permittee shall submit the Precompliance Plan at least 3-months prior to the compliance date of the standard. The Precompliance Plan shall include the information specified in §63.1368(e)(1) through (5). [40 CFR §63.1368(e)]

### *Notice of Compliance Status Report*

- f. The permittee shall submit the Notification of Compliance Status report required under §63.9 no later than 150 days after the compliance date and shall include information specified in §63.1360(f)(1) through (9). [40 CFR §63.1368(f)]

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*Periodic Reports*

- g. The permittee shall prepare and submit periodic reports specified in §63.1368(g)(1) and (2) to the Administrator. [40 CFR §63.1368(g)]

*Notification of Process Change*

- h. Except as specified in §63.1368(h)(2), whenever a process change is made, or a change in any of the information in the Notification of Compliance Status Report, the permittee shall submit the information specified in §63.1268(h)(1)(i) through (iv) with the next Periodic Report required under §63.1368(g) [*Periodic reports*]. [40 CFR §63.1368(h)]

*Reports of Startup, Shutdown, and Malfunction*

- i. The permittee shall prepare startup, shutdown, and malfunction (SSM) reports as specified in §63.1368(i). [40 CFR §63.1368(i)]

*Reports of Equipment Leaks*

- j. The permittee shall implement the reporting requirements specified in §63.1363(h) [*LDAR Reporting*] for sources subject to the equipment leak standards in §63.1363. Copies of all reports shall be retained for a period of 5 years in accordance with the requirements of §63.10(b)(1) of Subpart A. [40 CFR §63.1368(j)]

*Reports of Emissions Averaging*

- k. If the permittee chooses to comply with the emissions averaging requirements in §63.1362(h), all information specified in §63.1367(d) shall be submitted for all emission points included in the emissions average. Additionally, the report shall include all information specified in §63.1368(g) [*Periodic reports*] for each emission point included in the emissions average, and all information listed in §63.1368(k)(1)(i) through (iv). [40 CFR §63.1368(k)]

*Reports of Heat Exchange Systems*

- l. The permittee shall submit reports of applicable heat exchange systems as specified in §63.1368(l). [40 CFR §63.1368(l)]

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*Notification of Performance Test and Test Plan*

- m. The permittee shall notify the Administrator of the planned date of a performance test at least 60-days before the test in accordance with §63.7(b) *[notification of performance tests]*. The permittee shall also submit the test plan required by §63.7(c) *[quality assurance program]* and the emission profile required by §63.1365(b)(8)(ii) with the notification of the performance test. [40 CFR §63.1368(m)]

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**Utilities Section: 6M01, 6M01-01, 6M01-01A, 6M06-01, 6M07-01**

**Process Description**

There are three coal fired (6M01-01) and two natural gas fired boilers (6M06-01 and 6M07-01) at the facility.

The coal fired boilers are balanced draft, coal-fired steam generation boilers that have been fitted with atomizing nozzles to facilitate burning of liquid chemical wastes. Each coal fired boiler system is designed as a 70 million Btu/hr unit and is equipped with its own electrostatic precipitator (ESP) to control particulate emissions. The three coal fired boilers share a common primary fuel conveying system, a common ash handling system, and a common 200 foot tall stack. The boilers are independently controlled by a Distributed Control System (DCS). All interactions from the operator to the burners are made through this computer system.

The three coal fired boilers were installed in 1975, and are rated for 70 million Btu/hr per unit. Due to size and installation date, these boilers are not subject to any of the NSPS requirements. These units are hazardous waste solid fuel boilers and subject to the Phase II requirements of NESHAP EEE.

The spent solvent from the 2,000 gallon liquid process tank to be used for the purpose of flushing the chemical distribution piping is routed to either the coal-fired boiler auxiliary waste chemical burners or to the burner of the chemical waste destructor. Emissions from tank venting will be collected and routed to the coal-fired boilers (6M01-01).

There are two natural gas fired boilers at the facility. The #4 boiler (6M06-01) burns natural gas at 78 million BTU/hr. The #5 boiler (6M07-01) burns natural gas at 221 million BTU/hr. Each boiler system consists of a water tube boiler, economizer, superheater and a stack.

The #4 boiler was installed in 1986 and is rated for 78 million Btu/hr. The #5 boiler was installed in 1993 and is rated for 221 million Btu/hr. Due to size and installation date, the #4 boiler is not subject to NSPS requirements. However, the #5 boiler is subject to NSPS Subpart Db, with requirements pertaining to NO<sub>x</sub> are applicable. Both the #4 (6M06-01) and #5 (6M07-01) natural gas fired boilers are subject to PSD emissions limitations. Initial testing to confirm PSD emission limits for NO<sub>x</sub> were performed on August 2, 1988 for the #4 Boiler and August 6-7, 1992 for the #5 Boiler. The #4 (6M06-01) and #5 (6M07-01) natural gas fired boilers are also subject to NESHAP DDDDD, though, as existing, large gaseous fuel units, these sources are not required to demonstrate compliance with any emission standards or work practices.

NSPS Kb requirements are identified and addressed in the Plantwide Conditions of this permit for all facility storage vessels, including those used in waste chemical service in the Utilities section. Emissions from utilities waste chemical storage tanks are routed through a closed-vent system to three coal-fired boilers as control devices.

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**BACT Analysis for Boilers #4 and #5**

Boiler #4. This boiler is subject to a PSD emission rate limitation for NO<sub>x</sub> which is simply 13.3 lb/hr. BACT for NO<sub>x</sub> at the time of permit issuance was considered to be a standard register burner. BACT analysis for this source was performed in Permit No. 829-A.

Boiler #5. This boiler is subject to both PSD and NSPS Subpart Db requirements. The PSD BACT limit for NO<sub>x</sub> is 22 lb/hr (0.1 lb/million Btu), which is more stringent than the NSPS emissions standard for NO<sub>x</sub> (0.2 lb/million Btu). The BACT analysis was performed in Permit No. 1085-AR-1.

**Specific Conditions**

US 1. The permittee shall not exceed the emission rates set forth in the following table. [Regulation No. 19 §19.501 et seq. effective October 15, 2007 and 40 CFR Part 52, Subpart E]

**Table 8 – Maximum Criteria Emission Rates for Utilities Section**

PES #	Description	Pollutant	lb/hr	tpy
6M01-01	3 Coal Fired Boilers (70 MMBtu/hr each)	PM <sub>10</sub>	46.9	205.3
		SO <sub>2</sub>	1,418.7	6,213.8
		VOC	0.5	2.3
		CO	384.4	1,683.7
		NO <sub>x</sub>	111.5	488.2
6M01	Coal Pile	PM <sub>10</sub>	0.10	0.1
6M01-01A	Coal Bunker Fabric Filter	PM <sub>10</sub>	0.2	0.7
6M06-01	#4 Boiler (78 MMBtu/hr) Natural Gas	PM <sub>10</sub>	1.1	4.8
		SO <sub>2</sub>	1.2	5.3
		VOC	0.5	2.0
		CO	2.8	12.3
		NO <sub>x</sub>	13.3*	58.3
6M07-01	#5 Boiler (221 MMBtu/hr) Natural Gas	PM <sub>10</sub>	1.1	4.9
		SO <sub>2</sub>	0.1	0.6
		VOC	2.9	12.7
		CO	18.0	78.8
		NO <sub>x</sub>	22.0*	96.4

\*PSD limits

US 2. The permittee shall not exceed the emission rates presented in the following table. [Regulation No. §18.801 effective February 15, 1999, and A. C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

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**Table 9 – Maximum Non-Criteria Emission Rates for Utilities Section**

PES #	Description	Pollutant	lb/hr	tpy
6M01-01	Three Coal Fired Boilers (70 MMBtu/hr each)	PM Inorganics* Organic HAPs**	46.9 277.4 ***	205.3 877.9 2.3
6M01	Coal Pile	PM	0.10	0.1
6M01-01A	Coal Bunker Fabric Filter	PM	0.2	0.7
6M06-01	#4 Boiler (78 MMBtu/hr) Natural Gas	PM Organic HAPs**	1.1 ***	4.8 2.3
6M07-01	#5 Boiler (221 MMBtu/hr) Natural Gas	PM Organic HAPs**	1.1 ***	4.9 4.9

The ARK ID# is for FutureFuel Chemical Company's use only.

Ton/yr limits are listed for individual sources for informational purposes only. The facility shall show compliance with the facility total ton/yr limits presented at the top of this table using the procedures outlined in Plantwide Conditions 8 through 12.

\*Inorganics are considered to be non-VOC Hazardous Air Pollutants.

\*\*Organic Hazardous Air Pollutants are considered to qualify as both VOC and HAPs.

\*\*\*Hourly plantwide Hazardous Air Pollutant emissions are limited by Plantwide Condition 12. Additional HAP limitations are included in Plantwide Condition 9.

- US 3. Boiler #4 and Boiler #5 shall be limited to NO<sub>x</sub> emission rates of 13.3 and 22.0 lb/hr, respectively. [§19.901 of Regulation 19 and 40 CFR 52.21]
- US 4. The permittee shall not exceed 20% opacity at 6M01-01(Coal Fired Boilers), except during periods of startup, shutdown, and malfunction. Compliance with this condition shall be demonstrated through operating the ESP as specified by the manufacturer, and as outlined in the Facility Operating Plan dated May 28, 2003. [§19.503 of Regulation 19 and 40 CFR Part 52, Subpart E]
- US 5. The permittee shall maintain the power input to the ESP (6M01-01 - Coal Fired Boilers) as outlined in the Facility Operating Plan dated May 28, 2003. [§19.303 of Regulation 19 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
- US 6. The permittee shall maintain daily records of the power input at the ESP (6M01-01 - Coal Fired Boilers). [§19.705 of Regulation 19 and 40 CFR Part 52 Subpart E]
- US 7. The permittee shall maintain compliance with the VOC, SO<sub>2</sub>, NO<sub>x</sub>, CO and inorganic emission limits of 6M01-01 (Coal Fired Boilers) per the methodology outlined in the Facility Operating

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Plan dated May 28, 2003. [§19.303 of Regulation 19 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

- US 8. The permittee shall not combust coal with a sulfur content greater than 3.5% by weight. [§19.705 of Regulation 19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR Part 70.6]
- US 9. The permittee shall record the amount and type of coal, biosludge, liquids, and rubber fed to the coal fired boilers (6M01-01 - Coal Fired Boilers) during a 30-day period. These records shall be kept on site and made available upon request. [§19.705 of Regulation 19 and 40 CFR Part 52 Subpart E]
- US 10. The permittee shall perform testing of 6M01-01 (Coal Fired Boilers) within 180 days of permit issuance for NO<sub>x</sub>, using EPA Reference Method 7E. This testing shall conform with the requirements of Plantwide Conditions 3 and 4. [§19.702 of Regulation 19 and 40 CFR Part 52 Subpart E]
- US 11. The permittee may burn scrap rubber as long as the sulfur content of the rubber does not exceed 4% by weight. [§19.705 of Regulation 19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR Part 70.6]
- US 12. Rubber scrap shall not exceed 50% of the total heat input to the boilers while burning hazardous waste authorized by applicable Resource Conservation and Recovery Act (RCRA) regulations. [§18.1002 of Regulation 18, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR Part 70.6]
- US 13. The permittee shall track natural gas usage in the #4 Boiler (6M06-01) as outlined in the Facility Operating Plan dated May 28, 2003. [§19.705 of Regulation 19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR Part 70.6]
- US 14. The permittee shall use a predictive emission monitoring system (PEMS) to monitor NO<sub>x</sub> emissions from the #5 Boiler (6M07-01) as outlined in the Facility Operating Plan dated May 28, 2003. [§19.705 of Regulation 19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR Part §60.48b(g)(2)]
- US 15. The permittee shall not exceed 5% opacity over a three (3) hour period at 6M01-01A (Coal Bunker Fabric Filter) or 6M06-01 (#4 Boiler). Compliance with this opacity limit shall be demonstrated by complying with Specific Condition US 16, US 17, and US 18. [§18.501 of the Arkansas Air Pollution Control Code (Regulation 18), and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
- US 16. The permittee shall combust only pipeline quality natural gas in 6M06-01 and 6M07-01. [§19.705 of Regulation 19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR 70.6]



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- US 17. The permittee shall maintain the pressure drop across the fabric filter at 6M01-01A as outlined in the Facility Operating Plan May 28, 2003. [§19.705 of Regulation 19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR 70.6]
- US 18. The permittee shall keep records on site of the pressure drop across 6M01-01A. [§19.705 of Regulation 19 and 40 CFR Part 52 Subpart E]

***40 CFR Part 60 Subpart Db - Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units***

- US 19. The permittee is to comply with the following nitrogen oxides emission limitation (expressed as NO<sub>2</sub>) at SN-6M07-01: The NO<sub>2</sub> limitation is 0.20 lb/MMBtu based on a high heat release rate. [40 CFR §60.44b(a)(1)(ii), Subpart Db]
- US 20. The nitrogen oxide standard at SN-6M07-01 applies at all times including periods of startup, shutdown, or malfunction. [40 CFR §60.44b(h), Subpart Db]
- US 21. Compliance with the emission limitations at SN-6M07-01 is determined on a 30-day rolling average basis. [40 CFR §60.44b(i)-(j), Subpart Db]
- US 22. The permittee is limited to opacity at SN-6M07-01 of 20%. This limit shall apply at all times except periods of startup, shutdown, or malfunction. [40 CFR §60.46b(a), Subpart Db]
- US 23. The permittee shall use a continuous parametric monitoring system (PEMS) at SN-6M07-01 to determine compliance with monitoring nitrogen oxides under §60.48b. [40 CFR §60.46b(e)]
- US 24. The permittee shall monitor steam generating unit operating conditions at SN-6M07-01 and predict nitrogen oxides emission rates as specified in a plan submitted pursuant to §60.49(c). [40 CFR §60.48b(g)(2), Subpart Db]
- US 25. The permittee shall comply with all provisions of this citation for monitoring steam generating unit operating conditions at SN-6M07-01 under §60.48b(g)(2). [40 CFR §60.49b(c), Subpart Db]
- US 26. The permittee shall record and maintain records of amounts of natural gas combusted at SN-6M07-01 each day and calculate the annual capacity factor for the reporting period. The annual capacity factor is determined on a 12-month rolling average basis with a new annual capacity factor calculated at the end of each calendar month. [40 CFR §60.49b(d), Subpart Db]
- US 27. The permittee shall maintain and record at SN-6M07-01, for each steam generating unit operating day, the information required by §60.49b(g). [40 CFR §60.49b(g), Subpart Db]
- US 28. The permittee shall submit excess emission reports for any excess emission which occur at SN-6M07-01 during the reporting period. [40 CFR §60.49b(h), Subpart Db]

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US 29. The reporting period for the reports required at SN-6M07-01 under this subpart is each 6-month period. All reports shall be submitted to the Administrator and shall be postmarked by the 30<sup>th</sup> day following the end of the reporting period. [40 CFR §60.49b(w), Subpart Db]

***40 CFR Part 63 Subpart DD - National Emission Standards for Hazardous Air Pollutants from Off-Site Waste and Recovery Operations***

- US 30. The permittee shall comply with any of the requirements specified in 40 CFR §63.683(b)(1) for Off-site Material Management Units within an affected source designation under 40 CFR §60.680(c).
- US 31. Specific units identified as applicable under this regulation include the following liquid waste storage tanks: WB-01, WB-02, WB-03, WB-04, WB-05, WB-06, WB-07, WB-08, WB-09, WDT-01, WDT-02, and PT-50. These tanks, with the exception of PT-50, are routed through the coal-fired boilers via a closed-vent vapor recovery system. PT-50 is routed to the RTO. [40 CFR §63.683(b)(1), Off-Site Waste and Recovery Operation MACT]
- US 32. The permittee is exempt from those off-site material management units identified in 40 CFR §63.683(b)(2). [40 CFR §63.683(b)(2), Off-Site Waste and Recovery Operation MACT]
- US 33. The permittee controls air emissions from off-site material management units in accordance with the applicable standards specified in 40 CFR §63.685 through §63.689. [40 CFR §63.683(b)(1)(i), Off-Site Waste and Recovery Operation MACT]
- US 34. The permittee shall comply with the requirements of 40 CFR §63.684(a) and any of the treatment processes under 40 CFR §63.684 (b), as applicable, for the treatment of off-site material to remove or destroy HAP for which §63.683(b)(1)(i) references such treatment. [40 CFR §63.684(a) and (b), Off-Site Waste and Recovery Operation MACT]
- US 35. The permittee shall maintain records of each treatment process in accordance with the requirements in 40 CFR §63.696. [40 CFR §63.684(f), Off-Site Waste and Recovery Operation MACT]
- US 36. The permittee shall submit and prepare reports for each treatment process in accordance with 40 CFR §63.697(a). [40 CFR §63.684(g), Off-Site Waste and Recovery Operation MACT]
- US 37. The permittee shall comply with the requirements of §63.685(a) and (b), and control air emissions from tanks for which §63.683(b)(1)(i) references such air emission control. [40 CFR §63.685(a) and (b), Off-Site Waste and Recovery Operation MACT]
- US 38. The permittee shall comply with the requirements of §63.685(c) when controlling air emissions from tanks using Tank Level 1 controls, unless the permittee has implemented Tank Level 2 controls. [40 CFR §63.685(c), Off-Site Waste and Recovery Operation MACT]

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- US 39. The permittee shall comply with §63.685(d) for controlling air emissions from a tank, which requires the use of Tank Level 2 controls. [40 CFR §63.685(d), Off-Site Waste and Recovery Operation MACT]
- US 40. The permittee shall comply with the requirements of §63.685(g)(1) through (3) for the control of tank air emissions if venting to a control device. [40 CFR §63.685(g), Off-Site Waste and Recovery Operation MACT]
- US 41. The permittee shall comply with the requirements of either §63.689(b) or (c), as applicable, for the control of air emissions from transfer systems for which §63.683(b)(1)(i) references such air emission control. [40 CFR §63.689(a), Off-Site Waste and Recovery Operation MACT]
- US 42. The permittee shall comply with the requirements of §63.691(a) and (b) for the control of equipment leaks for which §63.680(c)(3) references such air emission control. [40 CFR §63.691(a), Off-Site Waste and Recovery Operation MACT]
- US 43. The permittee shall meet the requirements of 40 CFR §63.693(b)(1) for each closed-vent system. [40 CFR §63.693(b)(1), Off-Site Waste and Recovery Operation MACT]
- US 44. The permittee shall meet the requirements of 40 CFR §63.693(b)(2) for each control device. [40 CFR §63.693(b)(2), Off-Site Waste and Recovery Operation MACT]
- US 45. The permittee shall perform testing as specified in 40 CFR §63.694 for all applicable treatment processes and/or control devices used for compliance with applicable standards under this subpart. [40 CFR §63.694, Off-Site Waste and Recovery Operation MACT]
- US 46. The permittee shall comply with the inspection and monitoring requirements of 40 CFR §63.695 for all affected tanks, closed-vent systems, transfer systems, and control devices as applicable. [40 CFR §63.695, Off-Site Waste and Recovery Operation MACT]
- US 47. The permittee shall comply with all applicable recordkeeping requirements in 40 CFR §63.696, including requirements in 40 CFR §63.10, General Provisions that applies as specified in Table 2 of 40 CFR §63, Subpart DD. [40 CFR §63.696, Off-Site Waste and Recovery Operation MACT]

***40 CFR Part 60 Subpart Y - Standards of Performance for Coal Preparation Plants***

- US 48. The coal processing and conveying equipment, coal storage, and coal transfer equipment shall be limited to 20% opacity. This condition applies to 6M01, storage pile and coal unloading area. [40 CFR §60.252(c), Subpart Y – Coal Preparation Plants]
- US 49. In conducting the initial performance tests required in §60.8, the permittee shall use Method 9 to determine opacity. [40 CFR §60.254(b)(2), Subpart Y - Coal Preparation Plants]

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**Organic Sulfonation Process: 5M01-01, 5M01-02, 5M01-05, 5M01-06, 5M01-07, 5M01-08 5M01-09, 5M03-01, 5M03-02, 5M04-01, 5M04-02, 5M04-10, 5M05-01, 5M05-02, 5M11-01, 5M11-04, 5M11-05, 5M11-06, 5M11-07, 5M11-08, 5M11-09, 5M11-15, 5M13-01, 5M16-01, 5M18-01, 5M18-02, 5M18-03, 5MNOBS-TNK, NOBS-FUG, 5M01-TSP**

**Process Description**

The organic sulfonate facility produces a solid material for use as a household consumer product. The two organic sulfonation facilities include reactors, centrifuges, scrubbers, distillation equipment, raw materials and process tanks. Scrubbers are the primary means for controlling emissions from the production facilities. The phenol and solvent storage tanks vent to a scrubber. The acid loading station is equipped with a scrubber to reduce emissions (PES 5M05-01). The low vapor pressures of the contents of the storage tanks minimize the potential for VOC emissions from these emission points.

NSPS subpart NNN (SOCMI Distillation Operations) applies to a scrubber associated with an acetic acid distillation column (5M01-02).

NSPS Subpart VV (SOCMI VOC Equipment Leaks) applies to certain equipment in this process such as pumps, compressors, pressure relief devices, sampling connection systems, and valves.

NSPS Subpart Kb (VOC Storage Vessels) applies to several tanks in the organic sulfonate production area.

**Specific Conditions**

OSP 1. The permittee shall not exceed the emission rates set forth in the following table. [Regulation No. 19 §19.501 et seq. effective October 15, 2007 and 40 CFR Part 52, Subpart E]

**Table 10 – Maximum Criteria Emission Rates for Organic Sulfonation Process**

PES #	ARK ID#	Equipment Type	Pollutant	lb/hr
5M01-01	SPS-S-01	Scrubber	VOC	0.1
5M01-02	SPS-VE-03	Scrubber	VOC	0.1
5M01-05	PROD-VE-04	Scrubber	VOC	0.1
5M01-06	SPS-S-02	Scrubber	VOC	0.5
5M01-07	PROD-VE-05	Scrubber	VOC	0.1
5M01-08	EX-VE-01	Scrubber	VOC	0.1
5M01-09	SPS-S-03	Scrubber	VOC	0.2
5M03-01	PROD-VE-02	Scrubber	VOC	0.1

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PES #	ARK ID#	Equipment Type	Pollutant	lb/hr
5M03-02	SPS-VE-01	Scrubber	VOC	0.2
5M04-01	SPS-VE-02	Scrubber	VOC	0.6
5M04-02	PROD-VE-01	Scrubber	VOC	0.2
5M04-10	SPS-VE-04	Scrubber	SO <sub>2</sub>	0.1
5M05-01	PROD-VE-03	Scrubber	VOC	0.1
5M05-02	EX-C-20	Fabric Filter	PM <sub>10</sub>	0.1
5M11-01	SPS-S-201	Scrubber	VOC	0.1
5M11-04	PROD-VE-304	Scrubber	VOC	0.1
5M11-05	SPS-S-202	Scrubber	VOC	0.1
5M11-06	PROD-VE-305	Scrubber	VOC	0.1
5M11-07	EX-VE-401	Scrubber	VOC	0.1
5M11-08	SER-VE-501	Scrubber	PM <sub>10</sub>	1.1
5M11-09	SER-VE-502	Scrubber	PM <sub>10</sub>	1.1
5M11-15	SPS Dust Control	Dust Collector	PM <sub>10</sub>	0.1
5M13-01	PROD-VE-302	Scrubber	VOC	0.1
5M16-01	Supersack Dust Control	Dust Collector	PM <sub>10</sub>	0.1
5M18-01	SER-VE-01	Dust Collector	PM <sub>10</sub>	0.9
5M18-02	SER-VE-02	Dust Collector	PM <sub>10</sub>	3.4
5M18-03	SER-VE-03	Dust Collector	PM <sub>10</sub>	0.3
5MNOBS-TNK	EX-TF-01 EX-TF-02 EX-TF-03 MLG-TF-01	Tanks	VOC	0.4
NOBS-FUG	Fugitive		VOC	6.2
5M01-TSP	Particulate Fugitive		PM <sub>10</sub>	3.1

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OSP 2. The permittee shall not exceed the emission rates presented in the following table. [Regulation No. §18.801 effective February 15, 1999, and A. C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

**Table 11 – Maximum Non-Criteria Emission Rates for Organic Sulfonation Process**

PES #	ARK ID#	Equipment Type	Pollutant	lb/hr
5M01-01	SPS-S-01	Scrubber	Organic HAPs**	***
5M01-02	SPS-VE-03	Scrubber	Organic HAPs**	***
5M01-05	PROD-VE-04	Scrubber	Organic HAPs**	***
5M01-06	SPS-S-02	Scrubber	Organic HAPs**	***
5M01-07	PROD-VE-05	Scrubber	Organic HAPs**	***
5M01-08	EX-VE-01	Scrubber	Organic HAPs**	***
5M01-09	SPS-S-03	Scrubber	Organic HAPs**	***
5M03-01	PROD-VE-02	Scrubber	Organic HAPs**	***
5M03-02	SPS-VE-01	Scrubber	Organic HAPs**	***
5M04-01	SPS-VE-02	Scrubber	Organic HAPs**	***
5M04-02	PROD-VE-01	Scrubber	Organic HAPs**	***
5M05-01	PROD-VE-03	Scrubber	Organic HAPs**	***
5M05-02	EX-C-20	Fabric Filter	PM	0.1
5M11-01	SPS-S-201	Scrubber	Organic HAPs**	***
5M11-04	PROD-VE-304	Scrubber	Organic HAPs**	***
5M11-05	SPS-S-202	Scrubber	Organic HAPs**	***
5M11-06	PROD-VE-305	Scrubber	Organic HAPs**	***
5M11-07	EX-VE-401	Scrubber	Organic HAPs**	***
5M11-08	SER-VE-501	Scrubber	PM	1.1
5M11-09	SER-VE-502	Scrubber	PM	1.1
5M11-15	SPS Dust Control	Dust Collector	PM	0.1

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PES #	ARK ID#	Equipment Type	Pollutant	lb/hr
5M13-01	PROD-VE-302	Scrubber	Organic HAPs**	***
5M16-01	Supersack Dust Control	Dust Collector	PM	0.1
5M18-01	SER-VE-01	Dust Collector	PM	0.9
5M18-02	SER-VE-02	Dust Collector	PM	3.4
5M18-03	SER-VE-03	Dust Collector	PM	0.3
5MNOBS-TNK	EX-TF-01 EX-TF-02 EX-TF-03 MLG-TF-01	Tanks	Organic HAPs**	***
NOBS-FUG	Fugitive		Organic HAPs**	***
5M01-TSP	Particulate Fugitive		PM	3.1

The ARK ID# is for FutureFuel Chemical Company's use only.

Ton/yr limits are listed for individual sources for informational purposes only. The facility shall show compliance with the facility total ton/yr limits presented at the top of this table using the procedures outlined in Plantwide Conditions 8 through 12.

\*Inorganics are considered to be non-VOC Hazardous Air Pollutants.

\*\*Organic Hazardous Air Pollutants are considered to qualify as both VOC and HAPs.

\*\*\*Hourly plantwide Hazardous Air Pollutant emissions are limited by Plantwide Condition 12. Additional HAP limitations are included in Plantwide Condition 9.

OSP 3. The permittee shall not exceed 5% opacity over a three (3) hour period at sources 5M05-02, 5M11-15, 5M16-01, 5M18-01, 5M18-02, 5M18-03, 5M11-08, and 5M11-09 except during periods of startup, shutdown and malfunction. Compliance with this limit shall be demonstrated as outlined in the Facility Operating Plan dated May 28, 2003. [§18.501 of Regulation 18, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

OSP 4. The permittee shall comply with all applicable provisions of the Standards of Performance for Volatile Organic Liquid Storage Vessels. See Plantwide Conditions 14 through 22. [40 CFR Part 60, Subpart Kb]

**40 CFR Part 60 Subpart NNN - Manufacturing Industry (SOCMI) Distillation Operations**

OSP 5. The permittee shall maintain a TRE index value of greater than 1.0 without the use of VOC emission control device for 5M01-02. The permittee shall document and record all calculations performed to determine the TRE index value of the vent stream per §60.664(d), (e) and (f). [40 CFR §60.662(c), Subpart NNN - Manufacturing Industry (SOCMI) Distillation Operations]

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- OSP 6. The permittee shall keep up-to-date, readily accessible records of:
- Any changes in production capacity, feedstock type, or catalyst type, or of any replacement, removal or addition of recovery equipment or a distillation unit,
  - Any recalculation of the TRE index value performed pursuant to §60.664(f), and,
  - The results of any performance test performed pursuant to the methods and procedures required by §60.664(d).
- [40 CFR §60.665(h), Subpart NNN - Manufacturing Industry (SOCMI) Distillation Operations]
- OSP 7. The provisions of this subpart apply to affected sources as defined in paragraph (b) of this section, and is part of process or production unit that produces any of the chemicals listed in §60.667 as a product, co-product, by-product, or intermediate, except as provided in paragraph (c). [40 CFR §60.660, Subpart NNN - Manufacturing Industry (SOCMI) Distillation Operations]
- OSP 8. This source is operated under the exemption allowed by this citation; being, an affected facility with a TRE index value greater than 8.0. This source is exempt from all provisions of this subpart except for §60.662; §60.664(d), (e), and (f); and §60.665(h) and (l). [40 CFR §60.660(c)(4), Subpart NNN - Manufacturing Industry (SOCMI) Distillation Operations]
- OSP 9. The permittee shall use any of the options listed in §60.662(a), (b), or (c) for an applicable treatment standard, providing proper notification is provided to the Department to document the change in treatment standard. The permittee shall then comply with the requirements of §60.663, §60.664, and §60.665 as applicable to the emission standard chosen. [40 CFR §60.662, Subpart NNN - Manufacturing Industry (SOCMI) Distillation Operations]
- OSP 10. The permittee shall comply with all recordkeeping and reporting requirements in §60.665 as applicable to the treatment standard and control devices used to meet compliance with this subpart. [40 CFR §60.665, Subpart NNN - Manufacturing Industry (SOCMI) Distillation Operations]
- OSP 11. The permittee is exempt from the quarterly reporting requirements contained in §60.7(c) of the General Provisions. [40 CFR Part §60.665(k), Subpart NNN - Manufacturing Industry (SOCMI) Distillation Operations]
- OSP 12. The permittee shall submit semiannual reports of the following information: Any recalculation of the TRE index value, as recorded under §60.665(h). [40 CFR §60.665, Subpart NNN - Manufacturing Industry (SOCMI) Distillation Operations]



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***40 CFR Part 60, Subpart VV - Standards of Performance for Equipment Leaks of VOC in SOCM***

OSP 13. The permittee shall comply with the applicable requirements of this Subpart in the acetic acid recovery area of the Organic Sulfonation process. [40 CFR §60, Subpart VV - Standards of Performance for Equipment Leaks of VOC in SOCM]

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### Chemical Waste Destructor : 6M03-05 and DEST-FUG

#### Process Description

The chemical waste destructor at FutureFuel Chemical Company is designed to burn a mixture of waste streams resulting from various fine chemical manufacturing facilities at the plant. Some of the waste is mainly organic solvents, but the majority is comprised of aqueous solutions containing some organic and salt compounds. The equipment used to burn the waste includes a burner assembly, oxidizer chamber, weir tank, quench separator tank, high-energy scrubber, vane separator, and a stack. The chemical destructor is a vertically downfired unit. Emissions were calculated for the incinerator (6M03-05) and for fugitive equipment leaks (DEST-FUG).

The chemical waste destructor is subject to 40 CFR Part 63, Subpart EEE, *National Emission Standards for Hazardous Air Pollutants from Hazardous Waste Combustors*.

The facility is installing a 2,000 gallon liquid process tank to be used for the purpose of flushing the chemical distribution piping at the Chemical Waste Destructor (6M03-05). The tank will be used to store acetone or xylene for using in the flushing operation. The spent solvent used in flushing is then routed to either the coal-fired boiler auxiliary waste chemical burners or to the burner of the chemical waste destructor. Emissions from tank venting will be collected and routed to the coal-fired boilers (6M01-01).

#### Specific Conditions

CWD 1. [RESERVED]

CWD 2. [RESERVED]

CWD 3. [RESERVED]

CWD 4. The permittee shall not exceed the emission rates set forth in the following table.  
 [Regulation No. 19 §19.501 *et seq.* effective October 15, 2007 and 40 CFR Part 52, Subpart E]

**Table 12 – Maximum Criteria Emission Rates for Chemical Waste Destructor, Post-EEE Compliance Date**

PES #	Description	Pollutant	lb/hr
6M03-05	Chemical Waste Destructor	PM <sub>10</sub>	3.20
		SO <sub>2</sub>	20.16
		VOC	0.86
		CO	6.03
		NO <sub>x</sub>	25.20

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PES #	Description	Pollutant	lb/hr
DEST-FUG	Destructor Fugitives	VOC	1.2

CWD 5. The permittee shall not exceed the emission rates set forth in the following table. [Regulation No. §18.801 effective February 15, 1999, and A. C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

**Table 13 – Maximum Non-Criteria Emission Rates for Chemical Waste Destructor, Post-EEE Compliance Date**

PES #	Description	Pollutant	lb/hr
6M03-05	Chemical Waste Destructor	PM	3.20
		Inorganics*	6.04
		Organic HAPs**	***
DEST-FUG	Destructor Fugitives	Organic HAPs**	***

The ARK ID# is for FutureFuel Chemical Company's use only.

Ton/yr limits are listed for individual sources for informational purposes only. The facility shall show compliance with the facility total ton/yr limits presented at the top of this table using the procedures outlined in Plantwide Conditions 8 through 12.

\*Inorganics are considered to be non-VOC Hazardous Air Pollutants.

\*\*Organic Hazardous Air Pollutants are considered to qualify as both VOC and HAPs.

\*\*\*Hourly plantwide Hazardous Air Pollutant emissions are limited by Plantwide Condition 12. Additional HAP limitations are included in Plantwide Condition 9.

CWD 6. The permittee shall not exceed 20% opacity as measured by Method 9 at the chemical destructor in accordance with the Facility Operating Plan dated May 28, 2003, except during periods of startup, shutdown, and malfunction. Opacity readings will be conducted in accordance with the Facility Operating Plan dated May 28, 2003. [§19.503 of Regulation 19 and 40 CFR Part 52, Subpart E]

CWD 7. The permittee shall maintain the operating limits as outlined in the Documentation of Compliance (DOC) for the chemical destructor. The DOC is required by 40 CFR Part 63, Subpart EEE, and is addressed in Specific Condition CWD 12(n) of this section. [§19.303 of Regulation 19 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

CWD 8. The permittee shall maintain records of the chemical destructor operating limits as specified in the DOC. These records shall be maintained on site and available for inspection upon request. [§19.705 of Regulation 19 and 40 CFR Part 52 Subpart E]

CWD 9. The permittee shall record the hourly feed rate to the chemical destructor. These records shall be maintained on site and made available for inspection upon request. [§19.705 of Regulation 19 and 40 CFR Part 52 Subpart E]

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- CWD 10. The permittee shall measure the VOC emissions at the chemical destructor every five (5) years using Method 25A. The permittee shall also determine the destruction efficiency by measuring the inlet and outlet concentrations of VOC during this test. Based on maximum rates, the destruction efficiency during testing shall be 99.99% or higher. [§18.1002 of Regulation 18 and 40 CFR Part 52 Subpart E]
- CWD 11. The permittee shall measure the particulate emissions from the chemical destructor annually using Method 5. The permittee shall measure the NO<sub>x</sub> emissions annually using Method 7E. The permittee shall measure the SO<sub>2</sub> emissions annually using Method 6C.

Upon completion of a compliant stack test event as required by this condition, the permittee may elect to perform a correlation study for NO<sub>x</sub>, SO<sub>2</sub>, and/or PM. Upon completion of such a correlation study, the permittee may petition the Department for less frequent stack testing for those pollutants that are the subject of the correlation study. [§19.702 of Regulation 19 and 40 CFR Part 52 Subpart E]

***40 CFR Part 63 Subpart EEE - National Emission Standards for Hazardous Air Pollutants from Hazardous Waste Combustors***

- CWD 12. This facility is subject to 40 CFR Part 63, Subpart EEE, National Emission Standards for Hazardous Air Pollutants from Hazardous Waste Combustors. Applicable requirements include, but are not limited to, the following conditions [§19.304 of Regulation 19 and 40 CFR §63.1200 of EEE]:

*Emission Limits*

- a. The permittee shall not discharge or cause combustion gases to be emitted to the atmosphere that contain dioxin and furans in excess of 0.2 ng TEQ/dscm, corrected to 7 percent oxygen. [40 CFR §63.1203(a)(1)]
- b. Emissions in excess of 0.40 ng TEQ/dscm corrected to 7 percent oxygen provided that the combustion gas temperature at the inlet to the initial particulate matter control device is 400 °F or lower based on the average of the test run average temperatures. For purposes of compliance, operation of a wet particulate control device is presumed to meet the 400 °F or lower requirement. [40 CFR §63.1203(a)(1)(ii)]
- c. The permittee shall not discharge or cause combustion gases to be emitted to the atmosphere that contain mercury in excess of 130 µg/dscm, corrected to 7 percent oxygen. [40 CFR §63.1203(a)(2)]
- d. The permittee shall not discharge or cause combustion gases to be emitted to the atmosphere that contain lead and cadmium in excess of 240 µg/dscm, combined emissions, corrected to 7 percent oxygen. [40 CFR §63.1203(a)(3)]

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- e. The permittee shall not discharge or cause combustion gases to be emitted to the atmosphere that contain arsenic, beryllium, and chromium in excess of 97 $\mu$ g/dscm, combined emissions, corrected to 7 percent oxygen. [40 CFR §63.1203(a)(4)]
- f. The permittee shall not discharge or cause combustion gases to be emitted to the atmosphere that contain carbon monoxide in excess of 100 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, and corrected to 7 percent oxygen and hydrocarbons in excess of 10 parts per million by volume over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, and corrected to 7 percent oxygen, and reported as propane, at any time during the destruction and removal efficiency (DRE) test runs or their equivalent as provided by §63.1206(b)(7). [40 CFR §63.1203(a)(5)(i)]
- g. The permittee shall not discharge or cause combustion gases to be emitted to the atmosphere that contain hydrochloric acid and chlorine gas in excess of 77 parts per million by volume, combined emissions, expressed as hydrochloric acid equivalents, dry basis and corrected to 7 percent oxygen. [40 CFR §63.1203(a)(6)]
- h. The permittee shall not discharge or cause combustion gases to be emitted to the atmosphere that contain particulate matter in excess of 34 mg/dscm corrected to 7 percent oxygen. [40 CFR §63.1203(a)(7)]

*Destruction and Removal Efficiency (DRE) Standard*

- i. The permittee shall maintain a 99.99% destruction and removal efficiency (DRE) for each principal organic hazardous constituent (POHC) designated under paragraph (c)(3) of this section. The DRE shall be calculated using the following equation:

$$\text{DRE} = [1 - (\text{Win} / \text{Wout})] \times 100\%$$

Where:

Win = mass feedrate of one principal organic hazardous constituent (POHC) in a waste feed stream; and

Wout = mass emission rate of the same POHC present in exhaust emissions prior to release to the atmosphere. [40 CFR §63.1203(c)]

- j. The permittee must treat the POHCs in the waste feed that are specified under paragraph (c)(3)(ii) of this section to the extent required by paragraphs §63.1203(c)(1) and (c)(2) (i.e. 99.99% as stated in the previous Specific Condition). [40 CFR §63.1203(c)(3)(i)]

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- k. The permittee shall specify one or more POHCs from the list of hazardous air pollutants established by 42 U.S.C. 7412(b)(1), excluding caprolactum as provided by §63.60, for each waste to be burned. The permittee must base this specification on the degree of difficulty of incineration of the organic constituents in the waste and on their concentration or mass in the waste feed, considering the results of waste analyses or other data and information. [40 CFR §63.1203(c)(3)(ii)]
- l. The emission limits provided by paragraphs §63.1203(a) and §63.1203(b) are presented with two significant figures. Although the permittee must perform intermediate calculations using at least three significant figures, the resultant emission levels may be rounded to two significant figures to document compliance. [40 CFR §63.1203(d)]

#### *Compliance Provisions*

- m. The permittee shall comply with the standards of 40 CFR Part 63, Subpart EEE no later than September 30, 2003 unless the Administrator grants an extension under §63.6(i) or §63.1213. [40 CFR §63.1206(a)(1)]
- n. The permittee shall comply with the emission standards and operating requirements set forth in 40 CFR Part 63, Subpart EEE at all times when hazardous wastes are in the combustion chamber, except as specified in §63.1206(b)(1)(i) and (ii). [40 CFR §63.1206(b)(1)]
- o. The permittee shall demonstrate compliance based on performance testing under operating conditions representative of the extreme range of normal conditions. This performance test shall be conducted as required by 40 CFR §63.1206(b)(12). Prior to the completion of the performance test, the permittee shall document compliance with 40 CFR Part 63, Subpart EEE no later than September 30, 2003. This documentation of compliance (DOC) will ensure that operating parameters are established to ensure compliance with this subpart. [40 CFR §63.1206(b)(2)]
- p. The permittee may petition the Administrator to grant an extension of compliance with the emission standards of this subpart as provided by §63.6(i) and §63.1213. [40 CFR §63.1206(b)(4)]
- q. The permittee shall comply with the requirements of notification, performance testing, and waste-burning restrictions as outlined in §63.1206(b)(5)(i)(A) through (C) if the facility plans to make a change in design, operation, or maintenance that could adversely affect compliance. [40 CFR §63.1206(b)(5)(i)]
- r. The permittee shall document any changes not affecting compliance in the facility operating record. Revisions reflecting such changes shall also be made, as necessary, to the performance test plan, Documentation of Compliance, Notification of Compliance, and the start-up, shutdown, and malfunction plan. [40 CFR §63.1206(b)(5)(ii)]

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- s. The permittee shall ensure and document compliance with the CO emission standard using a continuous emission monitoring system (CEMS). The permittee shall ensure and document compliance with the hydrocarbon emission standard by complying with the CO emission standard, and by demonstrating that the highest hourly rolling average hydrocarbon level emitted during the comprehensive performance test does not exceed the hydrocarbon emission limit. [40 CFR §63.1206(b)(6)]
- t. The permittee shall demonstrate destruction removal efficiency (DRE) of at least 99.99% during the comprehensive performance test conducted in compliance with the conditions of §63.1207(b)(1) of this subpart. [40 CFR §63.1206(b)(7)]
- u. Any particulate matter and opacity standards or any permit or other emissions operating parameter limits or conditions, including any limitation on workplace practices, that are applicable to hazardous waste combustors to ensure compliance with any particulate matter or opacity standard of parts 60, 61, 63, 264, 265, and 266 of this chapter (i.e., any title 40 particulate or opacity standards) do not apply while the permittee conducts particulate matter continuous emissions monitoring system (CEMS) correlation tests. However, compliance with this condition is not required until such time that the Agency promulgates all performance specifications and operational requirements applicable to PM CEMS. [40 CFR §63.1206(b)(8)(i) and (ii)]
- v. For provisions of this section to apply, the permittee must develop a particulate matter CEMS correlation test plan that includes the following information. This test plan may be included as part of the comprehensive performance test plan required under §63.1207(e) and (f):
  - i. Number of test conditions and number of runs for each test condition;
  - ii. Target particulate matter emission level for each test condition;
  - iii. How you plan to modify operations to attain the desired particulate matter emission levels; and
  - iv. Anticipated normal emission levels.

The permittee shall submit the particulate CEMS correlation test plan to the Administrator for approval at least 90 calendar days before the correlation test is scheduled to be conducted. However, compliance with this condition is not required until such time that the Agency promulgates all performance specifications and operational requirements applicable to PM CEMS. [40 CFR §63.1206(b)(8)(iii)(A) and (B)]

- w. If the Administrator fails to approve or disapprove the correlation test plan with the time period specified by §63.7(c)(3)(i), the plan is considered approved, unless the Administrator has requested additional information. [40 CFR §63.1206(b)(8)(iv)]

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- x. The particulate matter and associated operating limits and conditions will not be waived for more than 96 hours, in the aggregate, for a correlation test, including all runs of all test conditions, unless more time is approved by the Administrator. [40 CFR §63.1206(b)(8)(v)]
- y. The permittee must return to operating conditions indicative of compliance with the applicable particulate matter and opacity standards as soon as possible after correlation testing is completed. [40 CFR §63.1206(b)(8)(vii)]
- z. The permittee must calculate the hazardous waste residence time and include the calculation in the performance test plan under §63.1207(f) and the operating record. The permittee must also provide the hazardous waste residence time in the Documentation of Compliance under §63.1211(c) and the Notification of Compliance under §63.1207(j) and §63.1210(b). [40 CFR §63.1206(b)(11)]
- aa. The permittee must conduct a minimum of three runs of a performance test required under §63.1207 to document compliance with the emission standards of this subpart. [40 CFR §63.1206(b)(12)(i)]
- bb. The permittee must document compliance with the emission standards based on the arithmetic average of the emission results of each run, except that the permittee must document compliance with the destruction and removal efficiency standard for each run of the comprehensive performance test individually. [40 CFR §63.1206(b)(12)(ii)]

#### *General Operating Requirements*

- cc. The permittee must operate only under the operating requirements specified in the Documentation of Compliance under §63.1211(c) or the Notification of Compliance under §63.1207(j) and §63.1210(b), except: [40 CFR §63.1206(c)(1)(i)]
  - i. During performance tests under approved test plans according to §63.1207(e), (f), and (g), [40 CFR §63.1206(c)(1)(i)(A)]
  - ii. Under the conditions of paragraph (b)(1)(i) or (ii) of this section [40 CFR §63.1206(c)(1)(i)(B)]
    - 1. The Documentation of Compliance and the Notification of Compliance must contain operating requirements including, but not limited to, the operating requirements of this section and §63.1209. [40 CFR §63.1206(c)(1)(ii)]
    - 2. Failure to comply with the operating requirements is failure to ensure compliance with the emissions standards of this subpart [40 CFR §63.1206(c)(1)(iii)]



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3. Operating requirements in the Notification of Compliance are applicable requirements for purposes of parts 70 and 71 of this chapter [40 CFR §63.1206(c)(1)(iv)]
  4. The operating requirements specified in the Notification of Compliance will be incorporated in the Title V permit. [40 CFR §63.1206(c)(1)(v)]
- dd. Except as provided in by paragraph (c)(2)(ii) of this section, the permittee is subject to the startup, shutdown, and malfunction plan requirements of §63.6(e)(3). [40 CFR §63.1206(c)(2)(i)]
- i. If the permittee elects to comply with §270.235(a)(1)(iii), §270.235(a)(2)(iii), or §270.235(b)(1)(ii) of this chapter to address RCRA concerns, the permittee must comply with the provisions of §63.1206(c)(2)(ii)(A) and (B). [40 CFR §63.1206(c)(2)(ii)]
  - ii. The permittee must identify in the plan the projected oxygen correction factor based on normal operations to use during periods of startup and shutdown. [40 CFR §63.1206(c)(2)(iii)]
  - iii. The permittee must record the plan in the operating record. [40 CFR §63.1206(c)(2)(iv)]
  - iv. The permittee must comply with this requirement for operation under the startup, shutdown, and malfunction plan. [Pursuant to §63.1206(c)(2)(v)]
- ee. Upon the compliance date, the permittee must operate the combustor with a functioning system that immediately and automatically cuts off the hazardous waste feed, except as provided by paragraph (c)(3)(viii) of this section, when the following conditions apply: [40 CFR §63.1206(c)(3)(i)]
- i. When operating parameter limits specified under §63.1209; an emission standard monitored by CEMS; and the allowable combustion chamber pressure; [40 CFR §63.1206(c)(3)(i)(A)]
  - ii. When the span value of any CMS detector, except a CEMS, is met or exceeded; [40 CFR §63.1206(c)(3)(i)(B)]
  - iii. Upon malfunction of a CMS monitoring an operating parameter limit specified under §63.1209 or an emission level; or [40 CFR §63.1206(c)(3)(i)(C)]
  - iv. When any component of the automatic waste feed cutoff system fails. [40 CFR §63.1206(c)(3)(i)(D)]

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- ff. During an automatic waste feed cutoff (AWFCO) the permittee must continue to duct combustion gases to the air pollution control system while hazardous waste remains in the combustion chamber. [40 CFR §63.1206(c)(3)(ii)]
- gg. The permittee must continue to monitor during the cutoff the operating parameters for which limits are established under §63.1209 and the emissions required under that section to be monitored by a CEMS, and the permittee shall not restart the hazardous waste feed until the operating parameters and emission levels are within specified limits. [40 CFR §63.1206(c)(3)(iii)]
- hh. If the AWFCO system fails to automatically and immediately cutoff the flow of hazardous waste upon exceedance of a parameter required to be interlocked with the AWFCO system under paragraph (c)(3)(i) of this section, the permittee has failed to comply with the AWFCO requirements of paragraph (c)(3) of this section. [40 CFR §63.1206(c)(3)(iv)]
- ii. If, after any AWFCO, there is an exceedance of any emission standard or operating requirement, irrespective of whether the exceedance occurred while hazardous waste remained in the combustion chamber, the permittee shall investigate the cause of the AWFCO, take appropriate corrective measures to minimize future AWFCOs and record the findings and corrective measures in the operating record. [40 CFR §63.1206(c)(3)(v)]
- jj. For each set of 10 exceedances of an emissions standard or operating requirement while hazardous waste remains in the combustion chamber during a 60-day block period, the permittee must submit to the Administrator a written report within 5 calendar days of the 10th exceedance documenting the exceedances and the results of the investigation and corrective measures taken. [40 CFR §63.1206(c)(3)(vi)(A)]
- kk. On a case-by-case basis, the Administrator may require excessive exceedance reporting when fewer than 10 exceedances occur during a 60-day block period. [40 CFR §63.1206(c)(3)(vi)(B)]
- ll. The AWFCO system and associated alarms must be tested at least weekly to verify operability, unless the permittee documents in the operating record that weekly inspections will unduly restrict or upset operations and that less frequent inspection will be adequate. At a minimum, the permittee must conduct operability testing at least monthly. The permittee must document and record in the operating record AWFCO operability test procedures and results. [40 CFR §63.1206(c)(3)(vii)]

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- mm. The permittee may ramp down waste feed according to the requirements of §63.1206(c)(3)(viii), except as provided in §63.1206(c)(3)(B). The permittee must document ramp down procedures in the operating and maintenance plan. If the AWFCO is triggered by an exceedance of any of the following operating limits, the permittee may not ramp down the waste feed cutoff: Minimum combustion chamber temperature, maximum hazardous waste feedrate, or any hazardous waste firing system operating limits that may have been established. [40 CFR §63.1206(c)(3)(viii)]
- nn. The permittee is subject to the emergency safety vent (ESV) operating and reporting requirements set forth in this section. [40 CFR §63.1206(c)(4)(i through iv)]
- oo. The permittee is subject to the combustion system leak control system operating and reporting requirements set forth in these sections. [40 CFR §63.1206(c)(5)(i)(A) and (ii)]
- pp. The permittee is subject to the operator training and certification standards set forth in this section. [40 CFR §63.1206(c)(6)(i through vii)]
- qq. The permittee must prepare and at all times operate according to an operation and maintenance plan which complies with the requirements set forth in these sections. [40 CFR §63.1206(c)(7)(i)(A-D)]

*Performance Testing Requirements*

- rr. The permittee must conduct performance testing in accordance with the applicable requirements contained in this section. [40 CFR §63.1207(a-m)]
- ss. The permittee must commence the initial comprehensive performance test not later than six months after the compliance date. [40 CFR §63.1207(c)(1)]
- tt. The permittee must conduct testing periodically as described in paragraphs (d)(1) through (3) of this section. The date of commencement of the initial comprehensive performance test is the basis for establishing the deadline to commence the initial confirmatory performance test and the next comprehensive performance test. The permittee may conduct performance testing at any time prior to the required date. The deadline for commencing subsequent confirmatory and comprehensive performance testing is based on the date of commencement of the previous comprehensive performance test. [40 CFR §63.1207(d)(1) through (3)]
  - i. The permittee must commence comprehensive testing no later than 61 months after the date of commencing the previous comprehensive performance test.

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- ii. The permittee must commence confirmatory performance testing no later than 31 months after the date of commencing the previous comprehensive performance test. To ensure that the confirmatory test is conducted approximately midway between comprehensive performance tests, the Administrator will not approve a test plan that schedules testing within 18 months of commencing the previous comprehensive performance test.
- iii. The permittee must complete performance testing within 60 days after the date of commencement, unless the Administrator determines that a time extension is warranted based on documentation in writing of factors beyond the permittee's control that prevent testing from being completed within 60 days.

*Applicable Testing Requirements under the Interim Standard*

- uu. *Waiver of periodic comprehensive performance tests.* Except as provided by §63.1207(c)(2), the permittee must conduct only an initial comprehensive performance test under the interim standards (i.e., the standards published in the Federal Register on February 13, 2002). All subsequent comprehensive performance testing requirements are waived under the interim standards. The provisions in the introductory test to paragraph (d) and in paragraph (d)(1) of this section do not apply until EPA promulgates permanent replacement standards pursuant to the Settlement Agreement noticed in the Federal Register on November 16, 2001. [40 CFR §63.1207(d)(4)(i)].
- vv. *Waiver of periodic confirmatory performance tests.* The permittee is not required to conduct a confirmatory test under the interim standards (i.e., the standards published in the Federal Register on February 13, 2002). The confirmatory testing requirements in the introductory text to paragraph (d) and in (d)(2) of §63.1207 are waived until EPA promulgates permanent replacement standards pursuant to the Settlement Agreement noticed in the Federal Register on November 16, 2001. [40 CFR §63.1207(d)(4)(ii)].
- ww. The permittee must submit to the Administrator a notification of intent to conduct a comprehensive performance test and CMS performance evaluation and a site specific test plan and CMS performance evaluation plan at least one year before the performance test and performance evaluation are scheduled to begin. [40 CFR §63.1207(e)(1)(i)]
- xx. The permittee must submit to the Administrator a notification of intent to conduct the comprehensive performance test at least 60 calendar days before the test is scheduled to begin. [40 CFR §63.1207(e)(1)(i)(B)]
- yy. The permittee must submit to the Administrator a notification of intent to conduct a confirmatory performance test and CMS performance evaluation and a test plan and CMS performance evaluation plan at least 60 calendar days before the performance test is scheduled to begin. [40 CFR §63.1207(e)(1)(ii)]

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*Test Methods*

- zz. The permittee shall use the test methods contained in this section when determining compliance with the emissions standards of this subpart. [40 CFR §63.1208(a-b)]

*Monitoring Requirements*

- aaa. The permittee is subject to the applicable monitoring requirements contained in these sections. [40 CFR §63.1209 (a-q)]
- bbb. The permittee must either use a carbon monoxide or hydrocarbon CEMS to demonstrate compliance with either the carbon monoxide and hydrocarbon standards under this subpart. The permittee must also use an oxygen CEMS to continuously correct the carbon monoxide and hydrocarbon levels to 7 percent oxygen. [40 CFR §63.1209(a)(1)(i)]
- ccc. The permittee must install, calibrate, maintain, and operate a particulate matter CEMS to demonstrate and monitor compliance with the particulate matter standards under this subpart. However, compliance with the requirements in this section to install, calibrate, maintain, and operate the PM CEMS is not required until such time that the Agency promulgates all performance specifications and operational requirements applicable to PM CEMS. [40 CFR §63.1209(a)(1)(iii)]
- ddd. The permittee must install, calibrate, maintain, and continuously operate the CEMS in compliance with the quality assurance procedures provided in the appendix to this subpart and Performance Specifications 1 (opacity), 4B (carbon monoxide and oxygen), and 8A (hydrocarbons) in Appendix B, Part 60 of this chapter. [40 CFR §63.1209(a)(2)]
- eee. The permittee must comply with the span requirements of §63.1209(a)(3). [40 CFR §63.1209(a)(3)]
- fff. The permittee may petition the Administrator to use CEMS for compliance monitoring for other standards in lieu of compliance with the corresponding operating parameter limits under this section. [40 CFR §63.1209(a)(5)]
- ggg. The permittee will begin recording one-minute and hourly rolling average values as necessary to ensure that 60 one-minute values will be available for calculating the initial hourly rolling average before the compliance date. The permittee will continue to use the CEMS to monitor parameters as required in §63.1209(a)(6). [40 CFR §63.1209(a)(6)]
- hhh. The permittee will use the Comprehensive Performance Test to demonstrate that the THC standard is met to establish operating parameters for DRE. [40 CFR §63.1209(a)(7)]
- iii. The permittee will use Continuous Monitoring Systems where necessary to ensure compliance with operating parameters established in the Documentation of Compliance or the Notification of Compliance. [40 CFR §63.1209(b)]

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- jjj. Prior to feeding the material, the permittee must obtain an analysis of each feedstream that is sufficient to document compliance with the applicable feedrate limits provided in this section. [40 CFR §63.1209(c)(1)]
- kkk. The permittee must develop and implement a feedstream analysis plan and record it in the operating record. [40 CFR §63.1209(c)(2)]
- lll. The permittee must submit the feedstream analysis plan to the Administrator for review and approval, if requested. [40 CFR §63.1209(c)(3)]
- mmm. To comply with the applicable feedrate limits of this section, the permittee must monitor and record the feedrates as follows: [40 CFR §63.1209(c)(4)]
  - i. Determine and record the value of the parameter for each feedstream by sampling and analysis or other method;
  - ii. Determine and record the mass or volume flowrate of each stream by a CMS. If the permittee determines flowrate of a feedstream by volume, the permittee must determine and record the density of the feedstream by sampling and analysis (unless the permittee reports the constituent concentration in units of weight per volume); and
  - iii. Calculate and record the mass feedrate of the parameter per unit time.
- nnn. The requirements of §63.8(d) (Quality control program) and (e) (Performance evaluation of continuous monitoring systems) apply, except that the permittee must conduct performance evaluations components of the CMS under the frequency and procedures (for example, submittal of performance evaluation test plan for review and approval) applicable to performance tests as provided by §63.1207. [40 CFR §63.1209(d)(1)]
- ooo. The permittee shall maintain and operate each CMS as specified in §63.8(c), except for §63.8(c)(3) and §63.8(c)(4)(ii). The permittee shall have the CMS installed, calibrated, and operational on the compliance date. The permittee must sample the regulated parameter without interruption, and evaluate the detector response at least once each 15 seconds, and compute and record the average values at least every 60 seconds. [40 CFR §63.1209(f)]
- ppp. The permittee shall follow the requirements for the reduction of monitoring data as specified in 40 CFR §63.8(g). [40 CFR §63.1209(h)]
- qqq. When one operating parameter is used to ensure compliance with one or more standards, the permittee must use the most stringent limit, determined during the comprehensive performance test, as the limit for that operating parameter. [40 CFR §63.1209(i)]

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- rrr. To remain in compliance with the destruction and removal efficiency (DRE) standards, the permittee must establish operating limits during the comprehensive performance test (or during a previous DRE test under provisions of §63.1206(b)(7)) for the following parameters, unless the limits are based on manufacturer specifications and comply with those limits at all times that hazardous waste remains in the combustion chamber. [40 CFR §63.1209(j)]
- sss. The permittee must measure the temperature of each combustion chamber at locations that best represents, as practicable, the bulk gas temperature in the combustion zone. The permittee must document the temperature measurement location in the test plan submitted under §63.1207(e), and establish a minimum rolling average limit as the average of the test run values. [40 CFR §63.1209(j)(1)(i) and (ii)]
- ttt. As an indicator of gas residence time in the control device, the permittee must establish and comply with a limit on the maximum flue gas flowrate, the maximum production rate, or another parameter that is documented in the site-specific test plan as an appropriate surrogate for gas residence time, as the average of the maximum hourly rolling averages for each run. [40 CFR §63.1209(j)(2)(i)]
- uuu. The permittee must establish limits on the maximum pumpable and total (i.e., pumpable and nonpumpable) hazardous waste feedrate for each location where hazardous waste is fed. [40 CFR §63.1209(j)(3)(i)]
- vvv. The permittee must specify operating parameters and limits to ensure that good operation of each hazardous waste firing system is maintained. [40 CFR §63.1209(j)(4)]
- www. The permittee must comply with the dioxin and furans emission standard by establishing and complying with the following operating parameter limits. You must base the limits on operations during the comprehensive performance test, unless the limits are based on manufacturer specifications. [40 CFR §63.1209(k)]
- xxx. The permittee must measure the temperature of each combustion chamber at a location that best represents, as practicable, the bulk gas temperature in the combustion zone. The permittee must document the temperature measurement location in the test plan and establish a minimum hourly rolling average limit as the average of the test runs. [40 CFR §63.1209(k)(2)(i) and (ii)]
- yyy. As an indicator of gas residence time in the control device, the permittee must establish and comply with a limit on the maximum flue gas flowrate, the maximum production rate, or another parameter which is an appropriate surrogate for residence time, as the hourly rolling averages for each run. Compliance with this limit is on an hourly rolling average basis. [40 CFR §63.1209(k)(3)(i) and (ii),]

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- zzz. The permittee must establish limits on the maximum pumpable and total (pumpable and nonpumpable) waste feedrate for each location where waste is fed and establish limits as the average of the maximum hourly rolling averages for each run. Compliance shall be based on an hourly rolling average basis. [40 CFR §63.1209(k)(4)(i B iii)]
- aaaa. The permittee shall ensure compliance with the mercury emission standard by establishing minimum mercury feed rate limit. The limit is established as a 12-hour rolling average limit for the total feedrate of mercury in all feedstreams as the average of the test run values, unless mercury feedrate limits are extrapolated from performance test feedrate levels, and maintaining the scrubber operating parameters described under §63.1209(l). [40 CFR §63.1209(l)]The permittee must comply with the particulate matter emission standard by establishing and complying with the operating parameter limits found in §63.1209(m) of this subpart. [40 CFR §63.1209(m)]
- bbbb. The permittee must comply with the particulate matter emission standard by establishing and complying with the operating parameter limits found in §63.1209(m) of this subpart. [40 CFR §63.1209(m)]
- cccc. The permittee must establish a maximum ash feedrate limit as the average of the test run averages. [40 CFR §63.1209(m)(3)]
- dddd. The permittee must comply with the semivolatile metal (cadmium and lead) and low volatile metal (arsenic, beryllium, and chromium) emission standards by establishing and complying with the following operating parameter limits: [40 CFR §63.1209(n)]
  - i. The permittee must establish feed rate limits for semivolatile metals and low volatile metals, with compliance based on 12-hour rolling average limits as the average of the test run averages. [40 CFR §63.1209(n)(2)(i)(A) and (B)]
  - ii. The permittee must establish operating parameter limits on the particulate matter control device as specified by paragraph 63.1209(m)(1). [40 CFR §63.1209(n)(3)]
  - iii. The permittee must establish a 12-hour rolling average limit for the feedrate of total chlorine and chloride in all feedstreams as the average of the test run averages. [40 CFR §63.1209(n)(4)]
- eeee. The permittee must establish a 12-hour rolling average limit for the total feedrate of chlorine in all feedstreams as the average of the test run averages. [40 CFR §63.1209(o)(1)]
- ffff. As an indicator of gas residence time in the control device, the permittee must establish a limit on the maximum flue gas flowrate, the maximum production rate, or another parameter documented in the site-specific test plan as an appropriate surrogate for gas residence time, as the average of the maximum hourly rolling averages for each run. This limit must be maintained on an hourly rolling average basis. [40 CFR §63.1209(o)(2)(i)]



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gggg. The permittee must establish the following parameter limits for the wet scrubber: [40 CFR §63.1209(o)(3)]

- i. Minimum pressure drop. The permittee must establish a limit on minimum pressure drop on an hourly rolling average as the average of the test run averages.
- ii. Minimum pH. The permittee must establish a limit on minimum pH on an hourly rolling average as the average of the test run averages.
- iii. Minimum scrubber liquid flow rate. The permittee must establish a minimum scrubber liquid flow rate on an hourly rolling average as the average of the test run averages.

#### *Notification Requirements*

hhhh. The permittee shall submit all of the applicable notifications prior to the deadlines established in this subpart. [40 CFR §63.1210(a)(1)]

iiiii. The permittee must submit the required notifications outlined in this section to the Administrator in order to request or elect to comply with the alternative requirements contained in this subpart. [40 CFR §63.1210(a)(2)]

jjjj. Upon postmark of the Notification of Compliance, the operating parameter limits identified in the Notification of Compliance, as applicable, shall be complied with, the limits identified in the Document of Compliance or a previous Notification of Compliance are no longer applicable. [40 CFR §63.1210(b)(2)]

#### *Recordkeeping and Reporting Requirements*

kkkk. The permittee shall submit the reports required by this subpart to the Administrator prior to the deadlines set forth in this subpart. [40 CFR §63.1211]

#### *Procedure for Extending the Compliance Date*

llll. The permittee may request an extension of the compliance date to install pollution prevention or waste minimization controls provided that the conditions outlined in this section are met. [40 CFR §63.1213]

CWD 13. The permittee shall submit an application for air permit modification, if necessary, based upon the results of the chemical destructor trial burn. The application shall include complete test results, calculations, and emission rates for all criteria and non-criteria pollutants emitted at the chemical destructor. [§19.401 of Regulation 19]

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CWD 14. The permittee shall operate all CEMS at this source in accordance with all applicable conditions of Section III – Notification and Recordkeeping of the Department's Continuous Emission Monitoring Systems Conditions as found in Appendix B of this permit. [Regulation 19, §19.703, 40 CFR Part 52, Subpart E, and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8 4 311]

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**Solvent Recovery: 4PSR-00 and SR-FUG**

**Process Description**

FutureFuel Chemical Company operates dedicated Solvent Recovery equipment to recover solvents that become contaminated during the manufacturing processes. Individual streams from the chemical manufacturing processes are transferred to storage tanks in the solvent recovery area. These streams are pumped to a pH adjustment system and then to a series of distillation columns. After distillation, the solvents are reused in the manufacturing processes or are sold for other uses.

**Specific Conditions**

SR 1. The permittee shall not exceed the emission rates set forth in the following table. [Regulation No. 19 §19.501 et seq. effective October 15, 2007 and 40 CFR Part 52, Subpart E]

**Table 14 – Maximum Criteria Emission Rates for Solvent Recovery**

PES #	Description	Pollutant	lb/hr
4PSR-00	Solvent Recovery Bubble	VOC	3.9
SR-FUG	Solvent recovery Fugitives	VOC	12.7

SR 2. The permittee shall not exceed the emission rates set forth in the following table. [Regulation No. §18.801 effective February 15, 1999, and A. C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

**Table 15– Maximum Non-Criteria Emission Rates for Solvent Recovery**

PES #	Description	Pollutant	lb/hr
4PSR-00	Solvent Recovery Bubble	Organic HAP**	***
SR-FUG	Solvent recovery Fugitives	Organic HAP**	***

The ARK ID# is for FutureFuel Chemical Company's use only.

Ton/yr limits are listed for individual sources for informational purposes only. The facility shall show compliance with the facility total ton/yr limits presented at the top of this table using the procedures outlined in Plantwide Conditions 8 through 12.

\*Inorganics are considered to be non-VOC Hazardous Air Pollutants.

\*\*Organic Hazardous Air Pollutants are considered to qualify as both VOC and HAPs.

\*\*\*Hourly plantwide Hazardous Air Pollutant emissions are limited by Plantwide Condition 12. Additional HAP limitations are included in Plantwide Condition 9.

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- SR 3. The permittee shall not process more than 40 million pounds per year of VOC solvents at the solvent recovery facility. [§19.705 of Regulation 19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR Part 70.6]
- SR 4. The permittee shall keep monthly records of the amount of solvent throughput at 4PSR-00. These records shall be kept on site and made available upon request. [§19.705 of Regulation 19 and 40 CFR Part 52 Subpart E]
- SR 5. [Reserved]
- SR 6. [Reserved]
- SR 7. The permittee is limited to 250 million gallons of biodiesel refining in the Solvent Recovery area. [§18.1004 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

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**Wastewater Treatment Facility: 7K01-01 and 7M01-02**

**Process Description**

The Wastewater Treatment Plant at FutureFuel Chemical Company services continuous wastewater influent from various areas of the plant, as well as incidental and storm water wastewater streams. Its design consists of traditional earthen basins except for the two equalization tanks and a diversion tank.

**Specific Conditions**

WWT 1. The permittee shall not exceed the emission rates set forth in the following table. [Regulation No. 19 §19.501 et seq. effective October 15, 2007 and 40 CFR Part 52, Subpart E]

**Table 16 – Maximum Criteria Emission Rates for Wastewater Treatment Facility**

PES #	Description	Pollutant	lb/hr
7K01-01	Wastewater Treatment	VOC	45.7
7M01-02	Wastewater Decant Tank	VOC	0.8

WWT 2. The permittee shall not exceed the emission rates set forth in the following table. [Regulation No. §18.801 effective February 15, 1999, and A. C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

**Table 17 – Maximum Non-Criteria Emission Rates for Wastewater Treatment Facility**

PES #	Description	Pollutant	lb/hr
7K01-01	Wastewater Treatment	Organic HAPs**	***
7M01-02	Wastewater Decant Tank	Organic HAPs**	***

The ARK ID# is for FutureFuel Chemical Company's use only.

Ton/yr limits are listed for individual sources for informational purposes only. The facility shall show compliance with the facility total ton/yr limits presented at the top of this table using the procedures outlined in Plantwide Conditions 8 through 12.

\*Inorganics are considered to be non-VOC Hazardous Air Pollutants.

\*\*Organic Hazardous Air Pollutants are considered to qualify as both VOC and HAPs.

\*\*\*Hourly plantwide Hazardous Air Pollutant emissions are limited by Plantwide Condition 12. Additional HAP limitations are included in Plantwide Condition 9.

WWT 3. The permittee shall calculate the emissions of VOC from the wastewater basins (7K01-01) using a Department or EPA approved model once per quarter. Annual emissions shall be based on the most recent twelve consecutive months of operation. [§19.703 of Regulation 19, and 40 CFR Part 52 Subpart E, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

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**Isopropyl Benzene Production (DIPB): 5NDIPB-TNK, 5N03-52, 5N03-54, 5Q94-01, and  
 DIPB-FUG**

**Process Description**

The isopropyl benzene process consists of alkylation of benzene with propylene. A catalyst is used to promote the reaction. The intermediate, cumene, reacts with propylene to produce three isopropyl benzene variations. Subsequent to the reaction, the catalyst is removed by washing and decanting. Any benzene or intermediate generated that is not fully converted to product is recycled back into the process. 5N03-48 and 5N03-55 are scrubbers associated with the DIPB process.

NSPS Subpart VV (SOCMI VOC Equipment Leaks) applies to certain equipment installed after 1/5/81. Cumene is produced in this area. Therefore, this regulation is applicable.

NESHAP Subpart J (Equipment Leaks of Benzene) applies to certain equipment in benzene service. Affected equipment does exist at the DIPB plant. Therefore, this regulation is applicable. This regulation requires affected facilities to comply with the requirements contained in NESHAP Subpart V (Equipment Leaks of VHAP).

NESHAP Subpart Y (Benzene Storage Vessels) applies to storage tank #T-210. A flare (5N03-54) controls emissions from this tank.

NESHAP Subpart FF (Benzene Waste Operations) applies to benzene waste streams at certain facilities, including chemical manufacturing plants. It is applicable to the DIPB plant. A flare (5N03-54) controls benzene emissions generated by the wastewater collection tank (T-9) and the wastewater steam stripper (D-9).

**Specific Conditions**

- IB 1. The permittee shall not exceed the emission rates set forth in the following table. These rates are based on maximum physical capacity of the equipment, therefore no compliance demonstration is necessary. [Regulation No. 19 §19.501 et seq. effective October 15, 2007 and 40 CFR Part 52, Subpart E]

**Table 18 – Maximum Criteria Emission Rates for Isopropyl Benzene Production**

PES #	Description	Pollutant	lb/hr
5NDIPB-TNK	DIPB Tank Bubble	VOC	0.5
5N03-52	Tank	VOC	0.4

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PES #	Description	Pollutant	lb/hr
5N03-54	Flare	PM <sub>10</sub>	0.1
		SO <sub>2</sub>	0.1
		VOC	0.9
		CO	2.4
		NO <sub>x</sub>	1.4
5Q94-01	Tank	VOC	0.4
DIPB-FUG	DIPB Fugitives	VOC	5.7

IB 2. The permittee shall not exceed the emission rates set forth in the following table. [Regulation No. §18.801 effective February 15, 1999, and A. C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

**Table 19 – Maximum Non-Criteria Emission Rates for Isopropyl Benzene Production**

PES #	Description	Pollutant	lb/hr
5NDIPB-TNK	DIPB Tank Bubble	Organic HAPs**	***
5N03-52	Tank	Organic HAPs**	***
5N03-54	Flare	PM	0.1
		Organic HAPs**	***
5Q94-01	Tank	Organic HAPs**	***
5N03-48	Scrubber	Inorganics*	0.1
DIPB-FUG	DIPB Fugitives	Organic HAPs**	***
5N03-55	Scrubber	Inorganics*	0.1

The ARK ID# is for FutureFuel Chemical Company's use only.

Ton/yr limits are listed for individual sources for informational purposes only. The facility shall show compliance with the facility total ton/yr limits presented at the top of this table using the procedures outlined in Plantwide Conditions 8 through 12.

\*Inorganics are considered to be non-VOC Hazardous Air Pollutants.

\*\*Organic Hazardous Air Pollutants are considered to qualify as both VOC and HAPs.

\*\*\*Hourly plantwide Hazardous Air Pollutant emissions are limited by Plantwide Condition 12. Additional HAP limitations are included in Plantwide Condition 9.

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- IB 3. The permittee shall operate 5N03-55 in accordance with the Facility Operating Plan dated May 28, 2003. [§19.303 of Regulation 19 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
- IB 4. The permittee shall keep records of the weekly inspections on scrubber 5N03-55 on site and available for inspection upon request. [§19.705 of Regulation 19 and 40 CFR Part 52 Subpart E]
- IB 5. The permittee shall operate and maintain a control system on scrubber 5N03-48 in accordance with the Facility Operating Plan dated May 28, 2003. [§19.303 of Regulation 19 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
- IB 6. The permittee shall operate a control system which detects the presence of a flame on the flare (5N03-54) and gives an alarm if flame is not detected. The reactor process shall be shut down if the cause of the alarm is not corrected within 30 minutes. [§19.303 of Regulation 19 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
- IB 7. The permittee shall operate and monitor the DIPB off-gas flare (5N03-54) according to the requirements of §60.18(d), (e), and (f). Records shall be kept of all periods of operation during which the flare pilot flame is absent. [40 CFR §60.18, NSPS Subpart A – General Provisions]

***40 CFR Part 61 Subpart FF - NESHAP for Benzene Waste Operations***

- IB 8. The permittee shall comply with all applicable benzene waste stream reporting requirements at the flare (5N03-54) (which controls benzene emissions generated by the wastewater steam stripper) of all applicable waste stream records as outlined by §61.356(b), and as outlined by §61.357(c). [40 CFR Part 61, Subpart FF - NESHAP for Benzene Waste Operations]
- IB 9. Provisions of the Subpart FF - NESHAP for Benzene Waste Operations shall apply to chemical manufacturing plants. [40 CFR §61.340(a), Subpart FF - NESHAP for Benzene Waste Operations]
- IB 10. Subpart FF - NESHAP for Benzene Waste Operations, §61.340(c) identifies wastes exempt from the regulatory requirements. The permittee may claim exemptions under §61.342(c)(2) and §61.342(c)(3) providing documentation is kept to support the exemptions identified. [40 CFR §61.340(c), §61.342(a), §61.342(c)(2), §61.342(c)(3), Subpart FF - NESHAP for Benzene Waste Operations]
- IB 11. The permittee may claim exemptions as allowed in §61.342(a)(1) through (4), providing documentation of the benzene waste quantity is calculated as specified for the exemption. [40 CFR §61.342(a)(1) through (4), Subpart FF - NESHAP for Benzene Waste Operations]
- IB 12. The permittee has elected to remove or destroy benzene in the waste using a treatment process or wastewater treatment system which complies with §61.348 (Treatment Processes) [40 CFR §61.342(c)(1)(i), Subpart FF - NESHAP for Benzene Waste Operations ]



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- IB 13. The permittee shall comply with the standards specified in §61.343 through §61.347, as applicable, for each waste management unit. [40 CFR §61.342(c)(1)(ii), Subpart FF - NESHAP for Benzene Waste Operations]
- IB 14. The permittee may elect to meet one of these additional compliance options identified in the citations noted. Subpart FF does not require prior approval for changing between options. The permittee may choose between compliance options as long as documentation is readily available for inspection to provide evidence of compliance with the applicable treatment standard. [40 CFR §61.342(d), (e), and (f), Subpart FF - NESHAP for Benzene Waste Operations]
- IB 15. Compliance with this subpart will be determined by review of facility records and results from tests and inspections using methods and procedures specified in §61.355. [40 CFR §61.342(g), Subpart FF - NESHAP for Benzene Waste Operations]

***40 CFR Part 61 Subpart VV - Standards of Performance for Equipment Leaks of VOC in SOCFI***

***40 CFR Part 61 Subpart J – National Emission Standard for Equipment Leaks (Fugitive Emission Sources of Benzene***

- IB 16. The permittee shall comply with all applicable requirements in 40 CFR Part 61, Subpart J and Subpart V at all applicable sources in the DIPB process. The provisions of this subpart apply to each of the following sources that are intended to operate in benzene service: pumps, compressors, pressure relief devices, sampling connection systems, open-ended lines, valves, flanges, and other connectors, product accumulator vessels, and control devices or systems required by these subparts. [40 CFR §61, Subpart J and Subpart V]
- IB 17. The permittee may comply with one of the alternative means of compliance identified in §60.483-1 and §60.483-2. [40 CFR §60.483-1 and §60.483-2, Subpart VV – Standards of Performance for Equipment Leaks of VOC in SOCFI]
- IB 18. The permittee shall follow the recordkeeping and reporting procedures for equipment leaks as outlined under §60.486 and §60.487. [40 CFR §60.486 and §60.487, Subpart VV – Standards of Performance for Equipment Leaks of VOC in SOCFI]
- IB 19. The permittee may comply with one of the alternative means of compliance identified in §60.483-1 and §60.483-2. [40 CFR §60.483-1 and §60.483-2, Subpart VV – Standards of Performance for Equipment Leaks of VOC in SOCFI]
- IB 20. NESHAP J – National Emission Standard for Equipment Leaks (Fugitive Emission Sources of Benzene), applies to equipment in benzene service including: pumps, valves, flanges, compressors, pressure relief devices, sampling connections, open-ended valves or lines, other connectors, product accumulation vessels, and control devices or systems required by the subpart. [40 CFR §61.110(a), NESHAP J – National Emission Standard for Equipment Leaks (Fugitive Emission Sources of Benzene)]

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- IB 21. Each owner or operator subject to the provisions of this subpart shall comply with the provisions of NESHAP, Subpart V. [40 CFR §61.112(a), NESHAP J – National Emission Standard for Equipment Leaks (Fugitive Emission Sources of Benzene)]
- IB 22. The owner/operator may elect to comply with the provisions of 61.243-1 and 61.243-2. [40 CFR §61.112(b), NESHAP J – National Emission Standard for Equipment Leaks (Fugitive Emission Sources of Benzene)]
- IB 23. The permittee shall comply with all applicable parts of sections §61.240 through §61.247. [40 CFR §61.240 through §61.247, NESHAP V – National Emission Standard for Equipment Leaks, Pursuant to 40 CFR 61, Subpart V]

***40 CFR Part 61 Subpart Y - National Emission Standard for Benzene Storage Vessels***

- IB 24. NESHAP Y – National Emission Standard for Benzene Storage Vessels, defines applicability and designation of sources and defines exemptions. The condition applies to Tank T-210 which is vent to the DIPB flare (5N03-54). [40 CFR §61.270, NESHAP Y – National Emission Standard for Benzene Storage Vessels]
- IB 25. The storage vessel shall be equipped with a closed vent system and flare control device meeting the specifications of §61.271(d). [40 CFR §61.271(c), NESHAP Y – National Emission Standard for Benzene Storage Vessels]
- IB 26. The closed vent system and flare shall meet the requirements as specified for general control devices in 40 CFR §60.18(e) and (f). [40 CFR §61.271(d), NESHAP Y – National Emission Standard for Benzene Storage Vessels]
- IB 27. The specifications and requirements of §61.271(c)(1) and (2) do not apply during a control system malfunction. [40 CFR §61.271(c)(4), NESHAP Y – National Emission Standard for Benzene Storage Vessels]
- IB 28. Excess emissions shall be reported as specified in §61.275(e). [40 CFR Part §61.275(e), NESHAP Y – National Emission Standard for Benzene Storage Vessels]
- IB 29. The owner/operator shall keep copies of all reports and records required by §61.276(a). [40 CFR §61.276(a), NESHAP Y – National Emission Standard for Benzene Storage Vessels]
- IB 30. The permittee shall keep readily assessable records showing the dimensions of the storage vessel and an analysis of the capacity. Each storage vessel with a design capacity of less than 10,000 gallons is subject to no provisions of this subpart other than this requirement. [40 CFR §61.276(b), NESHAP Y – National Emission Standard for Benzene Storage Vessels]

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**Storage Tanks and Miscellaneous Sources: 5N03TK-01, 6N01-02, 6N01-03, and 7N02-01**

**Process Description**

FutureFuel Chemical Company is a manufacturer of organic chemical intermediates. The primary business opportunities for this facility are producing chemicals that are put into the marketplace quickly. Therefore, many different chemicals can be manufactured in the multi-purpose batch equipment.

Because of the changing nature of process chemistry and the marketplace needs, FutureFuel uses a variety of tanks for storage of raw materials, intermediates, and final products. There are no specific controls on the tanks besides conservation vents. Tanks TFV-1 and TFV-3 (5N01-22 and 5N01-25) are controlled by a thermal oxidizer and do not contribute to the tank bubbled emissions.

FutureFuel maintains and uses a cement plant on site for construction purposes. Emissions (PM/PM<sub>10</sub>) are controlled by the use of a fabric filter (PES # 7N02-01).

**Table 20 – Storage Tanks and Miscellaneous Sources**

PES # (emission point)	Tank ID	Control Device	Applicable Federal Regulation
4P94-12	PR-56A	conservation vent	None
4P94-13	PR-56B	conservation vent	None
5N01-22	TFV-1	RTO	None
5N01-23	TFV-5	conservation vent	None
5N01-25	TFV-3	RTO	None
5N01-26	TFV-6	conservation vent	None
5N01-27	TFV-4	conservation vent	None
5N01-31	TFS-2	conservation vent	None
5N01-32	TFS-1	conservation vent	None
5N01-35	TFS-5	conservation vent	None
5N01-36	TFS-7	conservation vent	None
5N01-37	TFS-10	conservation vent	None

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PES # (emission point)	Tank ID	Control Device	Applicable Federal Regulation
5N01-39	TF-3	conservation vent	None
5N01-41	TF-7	conservation vent	None
5N01-42	TF-6	conservation vent	None
5N01-44	TF-2	conservation vent	None
5N01-48	WG-1	conservation vent	None
5N01-49	CG-1	conservation vent	None
5N03-18	PBV-50	conservation vent	None
5N03-31	AA-52	seal pot	None
5N03-32	TL-52	conservation vent	None
5N03-33	BS-53	seal pot	None
5N03-39	TF-10	conservation vent	None
5N03-40	TF-11	conservation vent	None
5N03-43	TF-13	conservation vent	NSPS-Kb
5N03-45	TF-12	conservation vent	None
5N03-50	PA-50	conservation vent	NSPS-Kb
5N07-03	PDA-155	conservation vent	None
	SR-52	conservation vent	None
5N01-38	TFS-9	conservation vent	None
	TFS-79	conservation vent	None
	BS-55R	conservation vent	None
	SR-50	conservation vent	None

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PES # (emission point)	Tank ID	Control Device	Applicable Federal Regulation
	SR-70	conservation vent	None
4Q01-01	TFB-01	conservation vent	None
4Q01-02	TFB-02	conservation vent	None
4Q01-03	TFB-10	conservation vent	None
4Q01-04	TFB-11	conservation vent	None
4Q01-05	TFB-12	conservation vent	None
4Q01-06	TFB-20	conservation vent	None
4Q01-07	TFB-21	conservation vent	None
4Q01-08	TFB-30	conservation vent	NSPS Kb
4Q01-09	TFB-31	conservation vent	None
3P01-01	TFB-40	conservation vent	None
3P01-02	TFB-41	conservation vent	None
3P01-03	Truck Transfer Racks	atmospheric vent	None
4Q01-10	T-242	internal floating roof	NSPS Kb
4Q01-11	T-243	internal floating roof	NSPS Kb
4Q01-12	Rail Transfer Racks	atmospheric vent	None

**Specific Conditions**

STMS 1. The permittee shall not exceed the emission rates set forth in the following table. These rates are based on maximum physical capacity. [Regulation No. 19 §19.501 et seq. effective October 15, 2007 and 40 CFR Part 52, Subpart E]

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**Table 21– Maximum Criteria Emission Rates Storage Tanks and Miscellaneous Sources**

PES #	Description	Pollutant	lb/hr
5N03TK-01	Tank Bubble	VOC	7.5
6N01-02	Tank	VOC	0.1
6N01-03	Tank	VOC	1.4
7N02-01	Fabric Filter	PM <sub>10</sub>	0.3

STMS 2. The permittee shall not exceed the emission rates set forth in the following table. [Regulation No. §18.801 effective February 15, 1999, and A. C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

**Table 22 - Maximum Non-Criteria Emission Rates Storage Tanks and Miscellaneous Sources**

PES #	Description	Pollutant	lb/hr
5N03TK-01	Tank Bubble	Organic HAPs**	***
6N01-02	Tank	Organic HAPs**	***
6N01-03	Tank	Organic HAPs**	***
7N02-01	Fabric Filter	PM	0.3

The ARK ID# is for FutureFuel Chemical Company’s use only.

Ton/yr limits are listed for individual sources for informational purposes only. The facility shall show compliance with the facility total ton/yr limits presented at the top of this table using the procedures outlined in Plantwide Conditions 8 through 12.

\*Inorganics are considered to be non-VOC Hazardous Air Pollutants.

\*\*Organic Hazardous Air Pollutants are considered to qualify as both VOC and HAPs.

\*\*\*Hourly plantwide Hazardous Air Pollutant emissions are limited by Plantwide Condition 12. Additional HAP limitations are included in Plantwide Condition 9.

STMS 3. Hours of operation of source 7N02-01 fabric filter, during bulk cement deliveries, shall not exceed 300 hours during any consecutive 12 month period. The permittee shall keep records sufficient to verify compliance with this condition. These records shall be updated monthly within 30 days after each 12 month period. [§19.303 of Regulation 19 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

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STMS 4. The permittee shall maintain records to demonstrate compliance with the limits in STMS 4. Emissions from biodiesel production at Solvent Recovery and Storage Tanks and Misc. Sources areas shall be recalculated monthly, and shall be based upon a 12-month rolling total. The records shall be updated by the last day of the month following the recorded 12-month period, and shall be kept on site and made available for inspection upon request. [§19.705 of Regulation 19, 40 CFR Part 52 Subpart E, and §18.1004 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

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## Wood Pellet Manufacturing: 6Q01-01

### Process Description

Dry wood waste is delivered to the facility in self-unloading enclosed trailers. The wood is unloaded into a sealed hopper and conveyed into a storage silo. The dust collection system maintains a negative pressure on the hopper and returns the collected wood material back into the conveyer.

A storage shed contains wood material unloaded from the self-unloading enclosed trailers for emergency use in situations where normal delivery is interrupted. Material from the storage shed is moved with a loader to the sealed hopper.

A conveyor removes wood material from the silo and delivers it to a hammer mill for size reduction. The hammer mill discharges into an air convey system that uses a high efficiency cyclone and inline baghouse (SN 6Q01-01) to feed the wood material into a mechanical conveyor. The air conveying system also provides central dust collection for other points throughout the system.

The mechanical conveyor moves the sized wood material to a bin that feeds the pellet mills. The pellet mills compress the wood material into pellets which are then conveyed to a cooler. From the cooler, the pellets are conveyed to a storage silo. The pellets are conveyed to a shaker screen to remove fine material before being conveyed to the bagging system.

The fine material is collected by a central dust collection system and returned to the pellet mills. The bagging system weighs the pellets and deposits them in plastic bags. The plastic bags are stacked on pallets, stretch wrapped, and covered for storage or shipment to customers.

### Specific Conditions

WP 1. The permittee shall not exceed the emission rates set forth in the following table. [Regulation No. 19 §19.501 et seq. effective October 15, 2007 and 40 CFR Part 52, Subpart E]

**Table 23 – Maximum Criteria Emission Rates for Wood Pellet Production**

PES #	Description	Pollutant	lb/hr	tpy
6Q01	Baghouse/cyclone	PM <sub>10</sub>	3.1	13.5

WP 2. The permittee shall not exceed the emission rates set forth in the following table. [Regulation No. §18.801 effective February 15, 1999, and A. C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]



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**Table 24 – Maximum Non-Criteria Emission Rates for Wood Pellet Production**

PES #	Description	Pollutant	lb/hr	tpy
6Q01	Baghouse/cyclone	PM	3.1	13.5

- WP 3. The permittee shall process no more than 160,000 tons of wood pellets by 12-month rolling total. [§18.1004 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
- WP 4. The permittee shall maintain monthly records to demonstrate compliance with the limits in Specific Condition WP 3. The records shall be updated by the last day of the month following the recorded 12-month period, and shall be kept on site and made available for inspection upon request. [§19.705 of Regulation 19, 40 CFR Part 52 Subpart E, and §18.1004 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
- WP 5. Visible emissions from the baghouses at 6Q01-01 shall not exceed 5% opacity. [§18.501 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
- WP 6. The permittee shall conduct weekly visual inspections of the system for possible emissions using EPA Method 22 and monthly observations of the system using EPA Method 9. The permittee shall record the presence of any excessive visible emissions and the subsequent actions taken to correct the exceedance. [§18.501 of Regulation 18, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
- WP 7. The permittee shall maintain a minimum pressure drop across the fabric filter at SN-6Q01-01 as outlined in the most current version of the Facility Operating Plan. [§19.705 of Regulation 19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR 70.6]
- WP 8. The permittee shall keep records on site of the pressure drop across SN-6Q01-01. [§19.705 of Regulation 19 and 40 CFR Part 52 Subpart E]

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## **5N07 Production Facility**

### **Process Description**

The 5N07 production facility contains multi-purpose production equipment which may produce a variety of chemicals including biofuel. Biodiesel is the primary product from this facility. The contained or captured vapors from the equipment in this facility are vented through a collection system to the RTO (SN 5N09-01) units via a common duct. VOCs are destroyed by combustion.

Fugitive emissions are estimated based on components, monitoring data, and published emission leak factors. Fugitive emissions are designated as source OCI-FUG.

#### Biodiesel Washing

The reaction mixture from the Biodiesel production facilities is transferred to a surge tank. From the surge tank, the crude Biodiesel is fed continuously to equipment where methanol, the catalyst and glycerin are removed by washing with water. After most of the water is removed, the washed Biodiesel flows to the Biodiesel Drying and Filtration equipment. The used water stream flows to the Methanol Recovery equipment.

#### Biodiesel Drying and Filtration

Residual water and methanol are removed from the Biodiesel using heat and a nitrogen sweep. Vacuum is applied if needed. The dry Biodiesel is cooled, filtered and sent to storage.

#### Biodiesel Storage

Product from the Biodiesel Drying and Filtration equipment flows to accumulation tanks. When an accumulation tank fills the contents are analyzed prior to transferring to sales tanks. Product from the sales tanks is loaded into tank trucks or railcars for sale.

#### Methanol Recovery and Storage

Two methanol tanks (T-242 and T-243) are in this area. Emissions from these tanks will be accounted for in tank bubble 5N03TK-01. Methanol-containing streams from the Biodiesel reactors and the aqueous stream from the Biodiesel Washing equipment are fed to the Methanol Recovery and Storage equipment. Methanol is separated from the other components (primarily water and glycerin) by distillation. The methanol is stored for recycle to the biodiesel reactors.

#### Glycerin Recovery and Storage

Glycerol will be recovered and refined in the 4P (Solvent Recovery) production area. Glycerin streams from the Biodiesel reactors and the aqueous stream from the Biodiesel Washing equipment are fed to the Glycerin Recovery and Storage equipment. Methanol is separated from the glycerin by distillation and the glycerin is further refined to improve purity.

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**Specific Conditions**

BD 1. The permittee shall not exceed the emission rates set forth in the following table. These rates are limited by SR 7. [Regulation No. 19 §19.501 et seq. effective October 15, 2007 and 40 CFR Part 52, Subpart E]

**Table 25 - Maximum Criteria Emission Rate for 5N07 Production Facility**

PES #	Description	Pollutant	lb/hr
5N07	Biodiesel Production	VOC	1.5

BD 2. The permittee shall not exceed the emission rates set forth in the following table. These rates are limited by SR 7. [Regulation No. §18.801 effective February 15, 1999, and A. C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

**Table 26 - Maximum Non-Criteria Emission Rate for 5N07 Production Facility**

PES #	Description	Pollutant	lb/hr
5N07	Biodiesel Production	Organic HAPs**	***

The ARK ID# is for FutureFuel Chemical Company's use only.

Ton/yr limits are listed for individual sources for informational purposes only. The facility shall show compliance with the facility total ton/yr limits presented at the top of this table using the procedures outlined in Plantwide Conditions 8 through 12.

\*Inorganics are considered to be non-VOC Hazardous Air Pollutants.

\*\*Organic Hazardous Air Pollutants are considered to qualify as both VOC and HAPs.

\*\*\*Hourly plantwide Hazardous Air Pollutant emissions are limited by Plantwide Condition 12. Additional HAP limitations are included in Plantwide Condition 9.

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**Aldehyde Processing Section: 4P05-01, 4P-05-02, 4PSR-FUG**

**Process Description**

Raw materials are unloaded into existing storage tanks (TFS-51, TFS-75, TF-14, and TR-8). TFS-51 and TFS-75 vent to the RTO while TF-14 and TF-8 are part of a vapor balancing system and have no associated emissions. Raw materials are transferred to the process as needed. Product precursors are distilled at the new distillation column. Distillate is stored in an existing tank, TFS-73. Both column and tank vent to the RTO.

The process also involves two reactors. These reactors are periodically cleaned and the vent gas routed to a water scrubber, SV-03 (SN 4P94-02). The vent stream from this source discharges to the RTO. The water stream is routed to the wastewater treatment facilities. The reactors are heated with a 5 MMBTU/hr hot oil system, SN P405-01. The hot oil system will be designed to burn natural gas, fuel oil, biodiesel, and process vent streams.

Products will be refined using an existing distillation column, SB-02, and an existing extraction column, SX-03. The distillation column and the extraction column both vent back to the hot oil system where VOCs are combusted for thermal recovery. The refined product is transferred to two new lot tanks, VC-PT-01 and VC-PT-02, and an existing tank VC-PT-03, are used to store product. These tanks are equipped with vapor balancing and do not vent to the atmosphere. VC-ST-01, a shutdown tank, will also be installed. This tank vents to the hot oil system for thermal recovery and are not emission sources themselves. Tank WDT-03, a waste tank, is located in the Utilities section and is connected to the coal-fired boiler closed vent system and control device. VC-PT-03, VC-PT-01, and VC-PT-02 are all subject to NSPS Kb.

The emission points for the Aldehyde Processing Section are the hot oil system (4P05-01), equipment fugitives (4PSR-FUG), and the RTO (5N09-01).

**Specific Conditions**

AP 1. The permittee shall not exceed the emission rates set forth in the following table. Compliance with these limits shall be demonstrated by compliance with the throughput limits of this section. [Regulation No. 19 §19.501 *et seq.* effective October 15, 2007 and 40 CFR Part 52, Subpart E]

**Table 27 - Maximum Criteria Emission Rate for Aldehyde Processing Section**

SN #	Source Description	Pollutant	lb/hr
4P05-01	Hot Oil System	PM <sub>10</sub>	0.2
		SO <sub>2</sub>	0.8
		VOC	14.6
		CO	1.0
		NO <sub>x</sub>	2.1

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SN #	Source Description	Pollutant	lb/hr
4PSR-FUG	Aldehyde Processing Fugitives	VOC	2.3

AP 2. The permittee shall not exceed the emission rates presented in the following table. [Regulation No. §18.801 effective February 15, 1999, and A. C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

**Table 28 - Maximum Non-Criteria Emission Rate for Aldehyde Processing Section**

SN #	Source Description	Pollutant	lb/hr
4P05-01	Hot Oil System	PM Organic HAPs**	0.2 14.59
4PSR-FUG	Aldehyde Processing Fugitives	Organic HAPs**	2.22

The ARK ID# is for FutureFuel Chemical Company's use only.

Ton/yr limits are listed for individual sources for informational purposes only. The facility shall show compliance with the facility total ton/yr limits presented at the top of this table using the procedures outlined in Plantwide Conditions 8 through 12.

\*Inorganics are considered to be non-VOC Hazardous Air Pollutants.

\*\*Organic Hazardous Air Pollutants are considered to qualify as both VOC and HAPs.

\*\*\*Hourly plantwide Hazardous Air Pollutant emissions are limited by Plantwide Condition 12. Additional HAP limitations are included in Plantwide Condition 9.

- AP 3. The permittee is limited to no more than 45 million pounds per year of vinyl compound products from the Aldehyde Processing Section per 12-month rolling total. [§19.705 of Regulation 19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR Part 70.6]
- AP 4. Visible emissions from the Hot Oil System shall not exceed 5% opacity except during periods of fuel oil usage, which the permittee is allowed opacity of 20% opacity. [§18.501 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
- AP 5. [Reserved]
- AP 6. The permittee shall conduct weekly visual inspections for 4P05-01, for all fuels except fuel oil, for possible emissions using EPA Method 22 and monthly observations using EPA Method 9. In the event that fuel oil usage exceeds one week at 4P05-01, the permittee shall perform weekly observations of the Hot Oil system using EPA Method 9. The permittee shall record the presence of any excessive visible emissions and the subsequent actions taken to correct the exceedance. [§18.501 of Regulation 18, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

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- AP 7. The permittee shall keep monthly records of the amount of vinyl compounds produced via Aldehyde Processing equipment to demonstrate compliance with the limits in Specific Condition AP 3. These records shall be kept onsite and made available upon request. [§19.705 of Regulation 19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR Part 70.6]
- AP 8. The permittee shall maintain a scrubber liquor flow rate in scrubber SV-03 (SN 4P94-02) as outlined in the most current version of the Facility Operating Plan. [§19.303 of Regulation 19 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
- AP 9. The permittee shall keep daily records of the liquor flow rate at scrubber SV-03 (SN 4P94-02). These records shall be kept on site and made available upon request. [§19.705 of Regulation 19 and 40 CFR Part 52 Subpart E]
- AP 10. The permittee shall equip and maintain the following tanks with the control equipment specified. [§19.303 of Regulation 19 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

**Table 29 – Tanks of the Aldehyde Processing Section**

Tank ID	Tank Size (gallons)	Control Device
TFS-51	47,000	RTO (5N09-01)
TFS-75	47,000	RTO (5N09-01)
TF-14	13,250	Vapor Balancing
TF-8	20,000	Vapor Balancing
TFS-73	47,000	RTO (5N09-01)
WDT-03	12,500	Boiler Closed Vent System (6M01-01)
VC-PT-01	29,660	Vapor Balancing
VC-PT-02	29,660	Vapor Balancing
VC-ST-01	12,000	Hot Oil System (4P05-01)
VC-PT-03	45,000	Hot Oil System (4P05-01)

- AP 11. The permittee is limited to no more than 1.95 tpy of any single Organic HAP or 4.75 tpy combined Organic HAP, from all equipment or processes associated with the Aldehyde

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Processing Section, including fugitives, or equipment in other sections used in Aldehyde Processing. The permittee shall calculate emissions from this section in accordance with Plantwide Condition 11. [§18.1004 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

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### **Section V: COMPLIANCE PLAN AND SCHEDULE**

FutureFuel Chemical Company is in compliance with the applicable regulations cited in the permit application. FutureFuel continue to operate in compliance with those identified regulatory provisions. The facility will examine and analyze future regulations that may apply and determine their applicability with any necessary action taken on a timely basis.



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### **Section VI: Plantwide Sources Subject to MON**

Miscellaneous organic chemical manufacturing process units (MCPU) that are located at, or are part of, a major source of hazardous air pollutants (HAP) emissions as defined in section 112(a) of the Clean Air Act (CAA). [§63.2435(a)]

An MCPU includes equipment necessary to operate a miscellaneous organic chemical manufacturing process, as defined in §63.2550, that satisfies all of the conditions specified in paragraphs (b)(1) through (3) of this section. An MCPU also includes any assigned storage tanks and transfer racks; equipment in open systems that is used to convey or store water having the same concentration and flow characteristics as wastewater; and components such as pumps, compressors, agitators, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, connectors, and instrumentation systems that are used to manufacture any material or family of materials described in paragraphs (b)(1)(i) through (v) of this section. [§63.2435(b)]

All or part of the following facilities are subject to the MON standards:

- Organic Chemical Intermediates
- Organic Sulfonation Process
- Solvent Recovery
- Isopropyl Benzene Production
- 5N07 Production Facility
- Aldehyde Processing Facility
- Storage Tanks and Miscellaneous Sources

#### *Affected Source Applicability*

MON 1. The permittee is an existing affected source subject to 40 CFR 63, Subpart FFFF as defined in §63.2435(a) through (e), and §63.2440. [§19.304 of Regulation 19 and 40 CFR §63.2345 and §63.2440]

#### *Compliance Date*

MON 2. The permittee must comply with the requirements for existing sources in this subpart no later than May 10, 2008. [§19.304 of Regulation 19 and §63.2440 and §63.2445(b)]

#### *Notification Requirements*

MON 3. The permittee must meet the notification requirements in §63.2515 according to the dates specified in that section and in subpart A of part 63. [§19.304 of Regulation 19 and §63.2445(c)]

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- MON 4. If the permittee has a Group 2 emission point that becomes a Group 1 emission point after the compliance date for the affected source, the permittee must comply with the Group 1 requirements beginning on the date the switch occurs. An initial compliance demonstration as specified in this subpart must be conducted within 150 days after the switch occurs. [§19.304 of Regulation 19 and §63.2445(d)]
- MON 5. If, after the compliance date for an affected source, hydrogen halide and halogen HAP emissions from process vents in a process increase to more than 1,000 lb/yr, or HAP metals emissions from a process at a new affected source increase to more than 150 lb/yr, the permittee must comply with the applicable emission limits specified in Table 3 to this subpart and the associated compliance requirements beginning on the date the emissions exceed the applicable threshold. An initial compliance demonstration as specified in this subpart must be conducted within 150 days after the switch occurs. [§19.304 of Regulation 19 and §63.2445(e)]
- MON 6. If the permittee operates a small control device for process vents or transfer rack emissions that become a large control device, as defined in 63.2550(i), the permittee must comply with monitoring and associated recordkeeping and reporting requirements for large control devices beginning on the date the switch occurs. An initial compliance demonstration as specified in this subpart must be conducted within 150 days after the switch occurs. [§19.304 of Regulation 19 and §63.2445(f)]
- MON 7. If after the compliance date of an affected source the permittee starts production of a Subpart FFFF covered process in existing equipment not previously subject to Subpart FFFF, the permittee must meet all Subpart FFFF applicable conditions on the process startup date and must conduct an initial compliance demonstration where applicable within 150 days after startup. [§19.304 of Regulation 19 and §63.2445]

#### *General Requirements*

- MON 8. The permittee must be in compliance with the emission limits and work practice standards in Tables 1 through 7 to Subpart FFFF at all times, except during periods of startup, shutdown, and malfunction (SSM), and must meet the requirements specified in §§63.2455 through 63.2490 (or the alternative means of compliance in §63.2495, §63.2500, or §63.2505), except as specified in paragraphs (b) through (s) of this section, and must meet the notification, reporting, and recordkeeping requirements specified in §§63.2515, 63.2520, and 63.2525. [§19.304 of Regulation 19 and §63.2450(a)].

#### *Requirements for Continuous Process Vents*

- MON 9. The permittee must meet each emission limit in Table 1 to Subpart FFFF that applies to continuous process vents, and must meet each applicable requirement specified in paragraphs (b) through (c) of §63.2455. [§19.304 of Regulation 19 and §63.2455(a)]

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**Table 30—Emission Limits and Work Practice Standards for Continuous Process Vents (Table 1 to Subpart FFFF of Part 63)**

For each . . .	For which . . .	Then you must . . .
1. Group 1 continuous process vent	a. Not applicable	i. Reduce emissions of total organic HAP by $\geq 98$ percent by weight or to an outlet process concentration $\leq 20$ ppmv as organic HAP or TOC by venting emissions through a closed-vent system to any combination of control devices (except a flare); or ii. Reduce emissions of total organic HAP by venting emissions through a closed vent system to a flare; or iii. Use a recovery device to maintain the TRE above 1.9 for an existing source or above 5.0 for a new source.
2. Halogenated Group 1 continuous process vent stream	a. You use a combustion control device to control organic HAP emissions	i. Use a halogen reduction device after the combustion device to reduce emissions of hydrogen halide and halogen HAP by $\geq 99$ percent by weight, or to $\leq 0.45$ kg/hr, or to $\leq 20$ ppmv; or ii. Use a halogen reduction device before the combustion device to reduce the halogen atom mass emission rate to $\leq 0.45$ kg/hr or to a concentration $\leq 20$ ppmv.
3. Group 2 continuous process vent at an existing source	You use a recovery device to maintain the TRE level $> 1.9$ but $\leq 5.0$	Comply with the requirements in §63.993 and the requirements referenced therein.
4. Group 2 continuous process vent at a new source	You use a recovery device to maintain the TRE level $> 5.0$ but $\leq 8.0$	Comply with the requirements in §63.993 and the requirements referenced therein.

*Requirements for Batch Process Vents*

MON 10. The permittee must meet each emission limit in Table 2 to this subpart that applies, and must meet each applicable requirement specified in paragraphs (b) and (c) of 63.2460. [§19.304 of Regulation 19 and §63.2460(a)]

**Table 31—Emission Limits and Work Practice Standards for Batch Process Vents 9 Table 2 to Subpart FFFF of Part 63)**

For each . . .	Then you must . . .	And you must . . .
1. Process with Group 1 batch process vents	a. Reduce collective uncontrolled organic HAP emissions from the sum of all batch process vents within the process by $\geq 98$ percent by weight by venting	Not applicable.

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For each . . .	Then you must . . .	And you must . . .
	emissions from a sufficient number of the vents through one or more closed-vent systems to any combination of control devices (except a flare); or	
	b. Reduce collective uncontrolled organic HAP emissions from the sum of all batch process vents within the process by $\geq 95$ percent by weight by venting emissions from a sufficient number of the vents through one or more closed-vent systems to any combination of recovery devices or a biofilter, except you may elect to comply with the requirements of subpart WW of this part for any process tank; or	Not applicable.
	c. Reduce uncontrolled organic HAP emissions from one or more batch process vents within the process by venting through a closed-vent system to a flare or by venting through one or more closed-vent systems to any combination of control devices (excluding a flare) that reduce organic HAP to an outlet concentration $\leq 20$ ppmv as TOC or total organic HAP.	For all other batch process vents within the process, reduce collective organic HAP emissions as specified in item 1.a and/or item 1.b of this table.
2. Halogenated Group 1 batch process vent for which you use a combustion device to control organic HAP emissions	a. Use a halogen reduction device after the combustion control device; or	i. Reduce overall emissions of hydrogen halide and halogen HAP by $\geq 99$ percent; or  ii. Reduce overall emissions of hydrogen halide and halogen HAP to $\leq 0.45$ kg/hr; or  iii. Reduce overall emissions of hydrogen halide and halogen HAP to a concentration $\leq 20$ ppmv.
	b. Use a halogen reduction device before the combustion control device	Reduce the halogen atom mass emission rate to $\leq 0.45$ kg/hr or to a concentration $\leq 20$ ppmv.

*Requirements for Process Vents that Emit Hydrogen Halide and Halogen HAP or HAP Metals*

MON 11. The permittee must meet each emission limit in Table 3 to this subpart that applies and must meet each applicable requirement in paragraphs (b) through (d) of this section. [§19.304 of Regulation 19 and §63.2465(a)]

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**Table 32—Emission Limits for Hydrogen Halide and Halogen HAP Emissions or Particulate HAP Emissions From Process Vents (Table 3 To Subpart FFFF of Part 63)**

For each . . .	You must . . .
1. Process with uncontrolled hydrogen halide and halogen HAP emissions from process vents $\geq 1,000$ lb/yr.	<p>a. Reduce collective hydrogen halide and halogen HAP emissions by <math>\geq 99</math> percent by weight or to an outlet concentration <math>\leq 20</math> by venting through one or more closed-vent systems to any combination of control devices, or</p> <p>b. Reduce the halogen atom mass emission rate from the sum of all batch process vents and each individual continuous process vent to <math>\leq 0.45</math> kb/hr by venting through one or more closed-vent systems to a halogen reduction device.</p>
2. Process at a new source with uncontrolled emissions from process vents $\geq 150$ lb/yr of HAP metals	Reduce overall emission of HAP metals by $\geq 97$ percent by weight.

*Requirements for Storage Tanks*

MON 12. The permittee must meet each emission limit in Table 4 to Subpart FFFF that applies to its storage tanks, and must meet each applicable requirement specified in paragraphs (b) through (e) of §63.2470. [§19.304 of Regulation 19 and §63.2470(a)]

**Table 33—Emission Limits for Storage Tanks (Table 4 to Subpart FFFF of Part 63)**

For each . . .	For which . . .	Then you must . . .
1. Group 1 storage tank	a. The maximum true vapor pressure of total HAP at the storage temperature is $\geq 76.6$ kilopascals	<p>i. Reduce total HAP emissions by <math>\geq 95</math> percent by weight or to <math>\leq 20</math> ppmv of TOC or organic HAP and <math>\leq 20</math> ppmv of hydrogen halide and halogen HAP by venting emissions through a closed vent system to any combination of control devices (excluding a flare); or</p> <p>ii. Reduce total organic HAP emissions by venting emissions through a closed vent system to a flare; or</p> <p>iii. Reduce total HAP emissions by venting emissions to a fuel gas system or process in accordance with §63.982(d) and the requirements referenced therein.</p>

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For each . . .	For which . . .	Then you must . . .
	b. The maximum true vapor pressure of total HAP at the storage temperature is <76.6 kilopascals	i. Comply with the requirements of subpart WW of this part, except as specified in §63.2470; or  ii. Reduce total HAP emissions by $\geq 95$ percent by weight or to $\leq 20$ ppmv of TOC or organic HAP and $\leq 20$ ppmv of hydrogen halide and halogen HAP by venting emissions through a closed vent system to any combination of control devices (excluding a flare); or  iii. Reduce total organic HAP emissions by venting emissions through a closed vent system to a flare; or  iv. Reduce total HAP emissions by venting emissions to a fuel gas system or process in accordance with §63.982(d) and the requirements referenced therein.
2. Halogenated vent stream from a Group 1 storage tank	You use a combustion control device to control organic HAP emissions	Meet one of the emission limit options specified in Item 2.a.i or ii. in Table 1 to this subpart.

*Requirements for Transfer Racks*

MON 13. The permittee must comply with each emission limit and work practice standard in Table 5 to Subpart FFFF that applies to transfer racks, and must meet each applicable requirement in paragraphs (b) and (c) of §63.2475. [§19.304 of Regulation 19 and §63.2475(a)]

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**Table 34—Emission Limits and Work Practice Standards for Transfer Racks (Table 5 to Subpart FFFF of Part 63)**

For each . . .	You must . . .
1. Group 1 transfer rack	<p>a. Reduce emissions of total organic HAP by <math>\geq 98</math> percent by weight or to an outlet concentration <math>\leq 20</math> ppmv as organic HAP or TOC by venting emissions through a closed-vent system to any combination of control devices (except a flare); or</p> <p>b. Reduce emissions of total organic HAP by venting emissions through a closed-vent system to a flare; or</p> <p>c. Reduce emissions of total organic HAP by venting emissions to a fuel gas system or process in accordance with §63.982(d) and the requirements referenced therein; or</p> <p>d. Use a vapor balancing system designed and operated to collect organic HAP vapors displaced from tank trucks and railcars during loading and route the collected HAP vapors to the storage tank from which the liquid being loaded originated or to another storage tank connected by a common header.</p>
2. Halogenated Group 1 transfer rack vent stream for which you use a combustion device to control organic HAP emissions	<p>a. Use a halogen reduction device after the combustion device to reduce emissions of hydrogen halide and halogen HAP by <math>\geq 99</math> percent by weight, to <math>\leq 0.45</math> kg/hr, or to <math>\leq 20</math> ppmv; or</p> <p>b. Use a halogen reduction device before the combustion device to reduce the halogen atom mass emission rate to <math>\leq 0.45</math> kg/hr or to a concentration <math>\leq 20</math> ppmv.</p>

*Requirements for Equipment Leaks*

MON 14. The permittee must meet each requirement in Table 6 to Subpart FFFF that applies to equipment leaks, except as specified in paragraphs (b) through (d) of §63.2480. [§19.304 of Regulation 19 and §63.2480(a)]

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**Table 35—Requirements for Equipment Leaks (Table 6 to Subpart FFFF of Part 63)**

For all . . .	And that is part of . . .	You must . . .
1. Equipment that is in organic HAP service	a. Comply with the requirements of subpart UU of this part 63 and the requirements referenced therein, except as specified in §63.2480(b) and (d); or  b. Comply with the requirements of subpart H of this part 63 and the requirements referenced therein, except as specified in §63.2480(b) and (d); or  c. Comply with the requirements of 40 CFR part 65, subpart F and the requirements referenced therein, except as specified in §63.2480(c) and (d).	
2. Equipment that is in organic HAP service at a new source	a. Any MCPU	i. Comply with the requirements of subpart UU of this part 63 and the requirements referenced therein; or  ii. Comply with the requirements of 40 CFR part 65, subpart F.

*Requirements for Wastewater and Liquid Streams in Open Systems within an MCPU*

MON 15. The permittee must meet each requirement in Table 7 to Subpart FFFF that applies to wastewater streams and liquid streams in open systems within an MCPU, except as specified in paragraphs (b) through (o) of §63.2485. [§19.304 of Regulation 19 and §63.2485(a)]

**Table 36—Requirements for Wastewater Streams and Liquid Streams in Open Systems Within an MCPU (Table 7 to Subpart FFFF of Part 63)**

For each . . .	You must . . .
1. Process wastewater stream	Comply with the requirements in §§63.132 through 63.148 and the requirements referenced therein, except as specified in §63.2485.
2. Maintenance wastewater stream	Comply with the requirements in §63.105 and the requirements referenced therein, except as specified in §63.2485.
3. Liquid streams in an open system within an MCPU	Comply with the requirements in §63.149 and the requirements referenced therein, except as specified in §63.2485.



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*Requirements for Heat Exchange Systems*

MON 16. The permittee must comply with each requirement in Table 10 to Subpart FFFF that applies to heat exchange systems, except as specified in paragraphs (b) and (c) of §63.2490. [§19.304 of Regulation 19 and §63.2490(a)]

**Table 37—Work Practice Standards for Heat Exchange Systems (Table 10 to Subpart FFFF of Part 63)**

For each . . .	You must . . .
Heat exchange system, as defined in §63.101	Comply with the requirements of §63.104 and the requirements referenced therein, except as specified in §63.2490.

*Compliance with Pollution Prevention Standards*

MON 17. The permittee may elect to comply with the pollution prevention alternative requirements specified in paragraphs (a)(1) and (2) of this section in lieu of the emission limitations and work practice standards contained in Tables 1 through 7 to this subpart for any MCPU for which initial startup occurred before April 4, 2002. [§19.304 of Regulation 19 and §63.2595(a)]

*Emissions Averaging*

MON 18. For an existing source, the permittee may elect to comply with the percent reduction emission limitations in Tables 1, 2, 4, 5, and 7 to this subpart by complying with the emissions averaging provisions specified in 63.150, except as specified in paragraphs (b) through (f) of 63.2500. [§19.304 of Regulation 19 and §63.2500(a)]

*Alternative Standard*

MON 19. As an alternative to complying with the emission limits and work practice standards for process vents and storage tanks in Tables 1 through 4 to this subpart and the requirements in §§63.2455 through 63.2470, the permittee may comply with the emission limits in paragraph (a) of this section and demonstrate compliance in accordance with the requirements in paragraph (b) of this section. [§19.304 of Regulation 19 and §63.2505]

*Notification, Reports, and Records*

MON 20. The permittee must submit all of the notifications in §§63.6(h)(4) and (5), 63.7(b) and (c), 63.8(e), (f)(4) and (6), and 63.9(b) through (h) that apply by the dates specified. [§19.304 of Regulation 19 and §63.2515(a)]

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*Reporting Requirements*

MON 21. The permittee must submit each report in Table 11 to Subpart FFFF that applies. [§19.304 of Regulation 19 and §63.2520(a)]

**Table 38—Requirements for Reports (Table 11 to Subpart FFFF of Part 63)**

<b>You must submit a(n)</b>	<b>The report must contain...</b>	<b>You must submit the report . . .</b>
1. Precompliance report	The information specified in §63.2520(c)	At least 6 months prior to the compliance date; or for new sources, with the application for approval of construction or reconstruction.
2. Notification of compliance status report	The information specified in §63.2520(d)	No later than 150 days after the compliance date specified in §63.2445.
3. Compliance report	The information specified in §63.2520(e)	Semiannually according to the requirements in §63.2520(b).

MON 22. Unless the Administrator has approved a different schedule for submission of reports under §63.10(a), the permittee must submit each report by the date in Table 11 to Subpart FFFF and according to paragraphs (b)(1) through (5) of §63.2520. [§19.304 of Regulation 19 and §63.2520(b)]

MON 23. The permittee shall follow the reporting requirements of §63.2520(c) through (e). [§19.304 of Regulation 19 and §63.2520(c) through (e)]

*Recordkeeping Requirements*

MON 24. The permittee shall keep the records specified in paragraphs (a) through (k) of section §63.2525. [§19.304 of Regulation 19 and §63.2525(a) through (k)]

*Compliance Options for Applicability to 40 CFR 63, Subpart FFFF and another Subpart*

MON 25. For any equipment, emission stream, or wastewater stream subject to the provisions of both Subpart FFFF and another rule, the permittee may elect to comply only with the provisions as specified in paragraphs (a) through (l) of this section. The permittee also must identify the subject equipment, emission stream, or wastewater stream, and the provisions with which the permittee will comply, in the notification of compliance status report required by §63.2520(d). [§19.304 of Regulation 19 and §63.2535]

*General Applicability*

MON 26. The permittee shall comply with parts of the General Provisions in §§63.1 through 63.15 as referenced in §63.2540. [§19.304 of Regulation 19 and §63.2540]

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### **Section VII: PLANTWIDE CONDITIONS**

1. The permittee will notify the Director in writing within thirty (30) days after commencing construction, completing construction, first placing the equipment and/or facility in operation, and reaching the equipment and/or facility target production rate. [Regulation No. 19 §19.704, 40 CFR Part 52, Subpart E, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
2. If the permittee fails to start construction within eighteen months or suspends construction for eighteen months or more, the Director may cancel all or part of this permit. [§19.410(B) of Regulation 19 and , 40 CFR Part 52, Subpart E]
3. The permittee must test any equipment scheduled for testing, unless stated in the Specific Conditions of this permit or by any federally regulated requirements, within the following time frames: (1) New Equipment or newly modified equipment within sixty (60) days of achieving the maximum production rate, but no later than 180 days after initial start-up of the permitted source or (2) operating equipment according to the time frames set forth by the Department or within 180 days of permit issuance if no date is specified. The permittee must notify the Department of the scheduled date of compliance testing at least fifteen (15) days in advance of such test. The permittee will submit the compliance test results to the Department within thirty (30) days after completing the testing. [Regulation 19 §19.702 and/or Regulation 18 §18.1002 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
4. The permittee must provide: [§19.702 of Regulation 19 and/or §18.1002 of Regulation 18 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
  - a. Sampling ports adequate for applicable test methods
  - b. Safe sampling platforms
  - c. Safe access to sampling platforms
  - d. Utilities for sampling and testing equipment.
5. The permittee must operate the equipment, control apparatus and emission monitoring equipment within the design limitations. The permittee will maintain the equipment in good condition at all times. [Regulation 19 §19.303 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
6. This permit subsumes and incorporates all previously issued air permits for this facility. [Regulation 26 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

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7. The permittee must prepare and implement a Startup, Shutdown, and Malfunction Plan (SSM). If the Department requests a review of the SSM, the permittee will make the SSM available for review. The permittee must keep a copy of the SSM at the source's location and retain all previous versions of the SSM plan for five years. [40 CFR §63.1260(i)]
8. The permittee shall not exceed the following emission rates at the facility during any consecutive 12 month period. [§19.501 et seq of the Arkansas State Regulation 19 and 40 CFR Part 52 Subpart E]

**Table 39 – Maximum Annual Emission Rates Utilities Section**

<b>Utilities Area Only</b>		
PES #	Pollutant	ton/yr
6M01-01 Coal Fired Boilers	PM/PM <sub>10</sub>	205.3
	SO <sub>2</sub>	6,213.8
	VOC	2.3
	CO	1,683.7
	NO <sub>x</sub>	488.2
6M01-01A	PM/PM <sub>10</sub>	0.1
6M06-01 #4 Boiler	PM/PM <sub>10</sub>	4.8
	SO <sub>2</sub>	5.3
	VOC	2.0
	CO	12.3
	NO <sub>x</sub>	58.3
6M07-01 #5 Boiler	PM/PM <sub>10</sub>	4.9
	SO <sub>2</sub>	0.6
	VOC	12.7
	CO	78.8
	NO <sub>x</sub>	96.4

**Table 40 – Maximum Criteria Plantwide Annual Emission Rates**

<b>Plantwide Limits</b>	
Pollutant	ton/yr
PM/PM <sub>10</sub>	342.1
SO <sub>2</sub>	6314.6

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<b>Plantwide Limits</b>	
Pollutant	ton/yr
VOC	639.4
CO	1864.6
NO <sub>x</sub>	794.7

9. The permittee shall not exceed the following emission rates at the facility during any consecutive 12 month period. [§18.801 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

**Table 41 – Maximum Plantwide Annual HAP Emission Rates**

Pollutant	ton/yr
Inorganics*	940.0
Organic HAPs**	639.4

\*Inorganics are considered to be non-VOC Hazardous Air Pollutants.

\*\*Organic Hazardous Air Pollutants are considered to qualify as both VOC and HAPs.

10. The permittee shall maintain records to demonstrate compliance with the criteria emission limits in Plantwide Condition 8. The emission records shall be recalculated monthly, and shall be based upon a 12-month rolling total. The records shall be updated by the last day of the month following the recorded 12-month period, and shall be kept on site and made available for inspection upon request. [§19.705 of Regulation 19, 40 CFR Part 52 Subpart E, and §18.1004 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
11. The permittee shall determine the monthly emissions of each non-criteria air pollutant by material balance. This determination shall include each inorganic contaminant and each Hazardous Air Pollutant (HAP), as designated by Section 112 of the Clean Air Act. The material balance shall be recalculated monthly, and shall be based upon a 12-month rolling total. The records shall be updated by the last day of the month following the recorded 12-month period, and shall be kept on site and made available for inspection upon request. [§18.1004 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
12. The permittee shall use the emissions determined from Plantwide Condition 11 to show acceptable impacts in accordance with the Department’s Non-Criteria Air Pollutant Control Strategy. Except for inorganic HCl, the permittee shall calculate the site-specific 30-day Presumptively Acceptable Emission Rate (PAER) for each non-criteria pollutant emitted at the facility using the equation

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presented below. [§18.1004 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Except for inorganic HCl, this determination shall include each inorganic contaminant and each Hazardous Air Pollutant (HAP), as designated by Section 112 of the Clean Air Act. The permittee shall not emit more than the calculated 30-day PAER during any consecutive 30-day period. The permittee shall maintain on-site records of the emissions rates and the calculated 30-day site-specific PAER (lb/month) for each non-criteria pollutant emitted. These records shall be made available for inspection upon request.

$$\text{Allowable site-specific PAER (lb/month)} = 0.88 \times (\text{TLV in mg/m}^3 \text{ from ACGIH}) \times 720$$

Any exceedance of the site-specific PAER shall be reported to the Department within 24 hours of such discovery. A full report of the exceedance and subsequent corrective action shall be submitted to the Department within 5 business days.

For inorganic HCl, the permittee shall maintain documentation to confirm the monthly plantwide inorganic HCl emission rates are less than the allowable inorganic limit. These records shall be made available for inspection upon request.

The permittee shall review and update the TLV values used for each compound at least once annually, according to the most recent edition of the ACGIH *Threshold Limit Values for Chemical Substances and Physical Agents*.

- This facility is a major stationary source as defined by 40 CFR §52.21. Any physical change or change in the method of operation which results in a significant emission increase, as defined by 40 CFR 52.21, shall require prior approval of a PSD netting exercise or a PSD permit before the event taking place, regardless of the plantwide emission rate. [40 CFR §52.21]

**40 CFR Part 60, Subpart Kb Standards of Performance for Volatile Organic Liquid Storage Vessels**

- The permittee shall maintain documentation necessary to determine compliance with the applicability of this subpart for all storage vessels having a capacity of greater than or equal to 75 cubic meters (19,813 gallons). Affected tanks include the following: [40 CFR §60.110b, Subpart Kb]

TF-13 (SN-5N03-43)	PM-50A	T-270	PROD-TF-02
WB-06 (SN-6M-03-08)	PM-50B	RA-TF-01	PROD-TF-15
WB-07 (SN-6M-03-09)	TBA-100	EX-TF-01	PROD-TF-302
WB-08 (SN-6M-03-10)	4P94-11	EX-TF-02	RA-TF-01
WB-09 (SN-6M-03-11)	T-280 (SN-5N03-51)	EX-TF-03	RA-TF-02
TFS-60	T-265 (SN-5N03-53)	AP-100	SPS-TF-04
PT-60	T-251	AA-100	SPS-TF-204
PT-68	T-220	TBA-75	T-242

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PT-69A	T-211A	FAA-TF-01	T-243
PT-69B	T-211B	FAA-TF-02	VC-PT-03
PB-51	T-241	FAA-TF-101	VC-PT-01
PB-52	PA-50	FAA-TF-102	VC-PT-02

15. The permittee shall maintain documentation identifying storage vessels complying with the requirements of 40 CFR §60.112b, including emission controls used, and all documentation to support compliance with the emission control used. [40 CFR §60.112b, Subpart Kb]
16. The permittee shall meet the specifications of this citation for closed vent systems and control devices used for tank emission abatement. [40 CFR §60.112b(a)(3), Subpart Kb]
17. The permittee shall comply with all applicable testing and procedures as identified in §60.113b. The applicable requirement for a particular storage vessel depends on the control equipment installed to meet the requirements of §60.112b. [40 CFR §60.113b, Subpart Kb]
18. Each closed vent system and control device (other than a flare) is exempt from §60.8 of the General Provisions and shall comply with the requirements specified in this citation. [40 CFR §60.113b(c), Subpart Kb]
19. Closed vent systems with flares shall comply with the requirements as specified in §60.18(e) and (f). Records shall be kept of all periods of operation during which the flare pilot flame is absent and shall be reported semiannually. [40 CFR §60.113b(d)(2) and (3), Subpart Kb]
20. The permittee shall keep records and furnish reports as required, depending upon the control equipment installed, to meet the requirements of §60.112b. Copies of operating plans shall be kept for the life of the control equipment. [40 CFR §60.115b, Subpart Kb]
21. The permittee shall keep copies of all records required by Subpart Kb. [40 CFR §60.116b, Subpart Kb]
22. Each storage vessel equipped with a closed vent system and control device meeting the specifications of §60.112b is exempt from the requirements of paragraphs (c) and (d) of §60.116b. [40 CFR §60.116b(g), Subpart Kb]
23. The permittee shall be allowed a 120-day phase-in period to fully comply with certain monitoring, record keeping, and reporting provisions of this permit. The 120-day phase-in period shall commence upon the issuance date of Air Permit 1085-AOP-R0. The phase-in period shall only apply to the provisions of the following conditions:

Specific Conditions OCI 3, OCI 5, OCI 6, OCI 7, US 7, US 14, US 17, US 18, US 22, OSP 3, CWD 6, SR 3, SR 4, IB 4, IB 5, and IB 6, and Plantwide Conditions 10, 11 and 12.

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24. This phase-in period shall not apply to any federal regulatory provisions, such as those required by any NSPS or NESHAP regulation. [§19.705 of Regulation 19, 40 CFR Part 52 Subpart E, §18.1004 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
25. The permittee shall submit a compliance report with state-only enforceable terms and conditions contained in the permit, including emission limitations, standards, or work practices. This compliance report shall be submitted annually to the Department. All compliance reports required by this permit shall include the following [§18.1004 of Regulation 18]:
  - a. The identification of each term or condition of the permit that is the basis of the certification;
  - b. The compliance status;
  - c. Whether compliance was continuous or intermittent;
  - d. The method(s) used for determining the compliance status of the source, currently and over the reporting period established by the monitoring requirements of this permit; and
  - e. Such other facts as the Department may require elsewhere in this permit.

This compliance report may be in the same format as, and may be included with, the annual compliance certification required by General Provision 21.

26. For purposes of General Provision 8 of this permit and §§26.701(C)(3)(b) of Regulation #26, "prompt" or "prompt reporting" shall be construed to mean:
  - (a) by the next business day, if deviations result in exceedances of applicable emission limitations lasting 30 or more minutes, in the aggregate during a 24-hour period, unless otherwise specified in an applicable permit or regulation (including, but not limited to, NSPS regulations); and
  - (b) in the next semi-annual report for all other deviations.

[40 CFR §70.6(a)(3)(iii)(B), §26.701(C)(3)(b) of Regulation 26, and §19.601 and §19.602 of Regulation 19]

### **Permit Shield**

27. Compliance with the conditions of this permit shall be deemed compliance with all applicable requirements, as of the date of permit issuance, included and specifically identified below:

The following have been specifically identified as applicable requirements based upon the information submitted by the permittee in an application dated November 13, 2007.



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**Table 42 – Applicable Regulations**

Source (SN)	Regulation	Description
Organic Chemical Intermediates Section	40 CFR Part 63 Subpart MMM	National Emission Standards for Pesticide Active Ingredient Production
	40 CFR Part 63 Subpart GGG	National Emission Standards for Pharmaceuticals Production.
6M07-01	40 CFR Part 60 Subpart Db	Standards of Performance for Industrial- Commercial-Institutional Steam Generating Units

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Source (SN)	Regulation	Description
TF-13 (SN-5N03-43) WB-06 (SN-6M03-08) WB-07 (SN-6M03-09) WB-08 (SN-6M03-10) WB-09 (SN-6M03-11) TFS-60 PT-60 PT-68 PT-69A PT-69B PB-51 PB-52 PM-50A PM-50B TBA-100 RNS-100 (SN-4P94-11) T-280 (SN-5N03-51) T-265 (SN-5N03-53) T-251 T-220 T-211A T-211B T-241 PA-50 T-270 RA-TF-01 EX-TF-01 EX-TF-02 EX-TF-03 AP-100 AA-100 TBA-75 FAA-TF-01 FAA-TF-02 FAA-TF-101 FAA-TF-102 PROD-TF-02 PROD-TF-15 SPS-TF-204	40 CFR Part 60 Subpart Kb	Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984

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Source (SN)	Regulation	Description
PROD-TF-302 RA-TF-01 RA-TF-02 SPS-TF-04 T-242 T-243 VC-PT-03 VC-PT-01 VC-PT-02	40 CFR Part 60 Subpart Kb	Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984
Utilities Section (coal processing activities).	40 CFR Part 60 Subpart Y	Standards of Performance for Coal Preparation Plants
Organic Sulfonation Section. DIPB Production. (Equipment Leaks)	40 CFR Part 60 Subpart VV	Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry
5M01-02	40 CFR Part 60 Subpart NNN	Standards of Performance for Volatile Organic Compound (VOC) Emissions from Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations
DIPB Production (equipment Leaks, benzene)	40 CFR Part 61 Subpart J	National Emission Standard for Equipment Leaks (Fugitive Emission Sources) of Benzene
DIPB Production (equipment leaks, VHAP)	40 CFR Part 61 Subpart V	National Emission Standard for Equipment Leaks (Fugitive Emission Sources)
Tank T-210 (benzene vessel)	40 CFR Part 61 Subpart Y	National Emission Standard for Benzene Emissions from Benzene Storage Vessels
DIPB Production T9, D9 (benzene waste streams).	40 CFR Part 61 Subpart FF	National Emission Standard for Benzene Waste Operations
Facility (waste management/recovery operations).	40 CFR Part 63 Subpart DD	National Emission Standards for Hazardous Air Pollutants from Off-Site Waste and Recovery Operations
6M03-05	40 CFR Part 63 Subpart EEE	National Emission Standards for Hazardous Air Pollutants from Hazardous Waste Combustors

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Source (SN)	Regulation	Description
Organic Chemical Intermediates Organic Sulfonation Process Solvent Recovery Isopropyl Benzene Production 5N07 Production Facility Aldehyde Processing Facility Storage Tanks and Misc. Sources	40 CFR Part 63 Subpart FFFF	National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing and Miscellaneous Coating Manufacturing

**Acid Rain (Title IV)**

28. The Director prohibits the permittee to cause any emissions exceeding any allowances the source lawfully holds under Title IV of the Act or the regulations promulgated under the Act. No permit revision is required for increases in emissions allowed by allowances acquired pursuant to the acid rain program, if such increases do not require a permit revision under any other applicable requirement. This permit establishes no limit on the number of allowances held by the permittee. However, the source may not use allowances as a defense for noncompliance with any other applicable requirement of this permit or the Act. The permittee will account for any such allowance according to the procedures established in regulations promulgated under Title IV of the Act. [Regulation No. 26 §26.701 and 40 CFR 70.6(a)(4)]

**Title VI Provisions**

29. The permittee must comply with the standards for labeling of products using ozone-depleting substances. [40 CFR Part 82, Subpart E]
- a. All containers containing a class I or class II substance stored or transported, all products containing a class I substance, and all products directly manufactured with a class I substance must bear the required warning statement if it is being introduced to interstate commerce pursuant to §82.106.
  - b. The placement of the required warning statement must comply with the requirements pursuant to §82.108.
  - c. The form of the label bearing the required warning must comply with the requirements pursuant to §82.110.
  - d. No person may modify, remove, or interfere with the required warning statement except as described in §82.112.
30. The permittee must comply with the standards for recycling and emissions reduction, except as provided for MVACs in Subpart B. [40 CFR Part 82, Subpart F]

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- a. Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to §82.156.
  - b. Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to §82.158.
  - c. Persons performing maintenance, service repair, or disposal of appliances must be certified by an approved technician certification program pursuant to §82.161.
  - d. Persons disposing of small appliances, MVACs, and MVAC-like appliances must comply with record keeping requirements pursuant to §82.166. ("MVAC-like appliance" as defined at §82.152.)
  - e. Persons owning commercial or industrial process refrigeration equipment must comply with leak repair requirements pursuant to §82.156.
  - f. Owners/operators of appliances normally containing 50 or more pounds of refrigerant must keep records of refrigerant purchased and added to such appliances pursuant to §82.166.
31. If the permittee manufactures, transforms, destroys, imports, or exports a class I or class II substance, the permittee is subject to all requirements as specified in 40 CFR Part 82, Subpart A, Production and Consumption Controls.
32. If the permittee performs a service on motor (fleet) vehicles when this service involves ozone-depleting substance refrigerant (or regulated substitute substance) in the motor vehicle air conditioner (MVAC), the permittee is subject to all the applicable requirements as specified in 40 CFR part 82, Subpart B, Servicing of Motor Vehicle Air Conditioners.
- The term, a "motor vehicle" as used in Subpart B does not include a vehicle in which final assembly of the vehicle has not been completed. The term AMVAC@ as used in Subpart B does not include the air-tight sealed refrigeration system used as refrigerated cargo, or the system used on passenger buses using HCFC-22 refrigerant.
33. The permittee can switch from any ozone-depleting substance to any alternative listed in the Significant New Alternatives Program (SNAP) promulgated pursuant to 40 CFR Part 82, Subpart G, "Significant New Alternatives Policy Program".

### **Future MACT Requirements**

34. [Reserved]
35. The permittee shall submit a permit modification application demonstrating how FutureFuel Chemical Company will comply with 40 CFR Part 63, Subpart EEE for the 6M01-01 (#1 coal fired boiler, #2 coal-fired boiler, and #3 coal-fired boiler) no later than six months before the compliance date of October 14, 2008 (six months prior, April 14, 2008). If in the event the

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compliance date changes for this subpart, the permittee shall submit the required application no later than six months prior to the revised compliance date. [§19.304 of Regulation 19, 40 CFR Part 63, Subpart EEE, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

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**Section VIII: Insignificant Activities**

The following sources are insignificant activities. Any activity that has a state or federal applicable requirement is a significant activity even if this activity meets the criteria of §8-4-304 of Regulation 26 or listed in the table below. Insignificant activity determinations rely upon the information submitted by the permittee in an application dated March 1997.

**Table 43 - Insignificant Activities**

Source #	Description	Category
5N01-63	Storage Tank (Organic Chemical Intermediate Process)	A-3
5N01-64	Storage Tank (Organic Chemical Intermediate Process)	A-3
6N02-01	Storage Tank (Utilities Process)	A-4
6N02-02	Storage Tank (Utilities Process)	A-13
5M01-03	Vacuum System (Organic Sulfonation Process)	A-13
5M03-06	Vacuum System (Organic Sulfonation Process)	A-13
5M11-03	Vacuum System (Organic Sulfonation Process)	A-13
5M11-08	Vents (Organic Sulfonation Process)	A-13
5M11-09	Vents (Organic Sulfonation Process)	A-13
5M11-10	Vents (Organic Sulfonation Process)	A-13
5M11-13	Truck Loading (Organic Sulfonation Process)	A-13
5M11-14	Hold Bin (Organic Sulfonation Process)	A-13
5M04-04	Storage Tank (Organic Sulfonation Process)	A-4
5M04-07	Storage Tank (Organic Sulfonation Process)	A-4
5M04-03	Storage Tank (Organic Sulfonation Process)	A-13
5M04-09	Storage Tank (Organic Sulfonation Process)	A-13
6M03-15	Storage Tank (Chemical Destruction Process)	A-4
4P02-02	Quenching (Solvent Recovery Process)	A-13

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Source #	Description	Category
4P94-04	Storage Tank (Solvent Recovery Process)	A-13
5N01-58	Extractor (Solvent Recovery Process)	A-13
4P94-03	Storage Tank (Solvent Recovery Process)	A-3
7M01-03	Storage Tank (Wastewater Treatment Process)	A-4
7M01-04	Dumpster (Wastewater Treatment Process)	A-4
5N03-46	Unloading Station (Isopropyl Benzene Process)	A-13
5N03-47	Unloading Station (Isopropyl Benzene Process)	A-13
6N01-01	Storage Tank (Storage Tank Process)	A-3
5N03-39	Storage Tank (Storage Tank Process)	A-4
5N03-40	Storage Tank (Storage Tank Process)	A-4
5N01-41	Storage Tank (Storage Tank Process)	A-13
5N01-42	Storage Tank (Storage Tank Process)	A-13
5N02-01	Storage Tank (Storage Tank Process)	A-13
5N02-02	Storage Tank (Storage Tank Process)	A-13
	Caustic Tank (CL-01R)	A-4
5N03-63	Storage Tank (Organic Chemical Intermediate Process)	A-3
4P03-05	Kilo Lab	A-5
3N01-01	Storage Tank (Storage Tank Process), BD-01	A-13
	Railcar Loading and Unloading Racks	A-13

Pursuant to §26.304 of Regulation 26, the Department determined the emission units, operations, or activities contained in Regulation 19, Appendix A, Group B, to be insignificant activities. Activities included in this list are allowable under this permit and need not be specifically identified.



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### **Section IX: GENERAL CONDITIONS**

1. Any terms or conditions included in this permit which specify and reference Arkansas Pollution Control & Ecology Commission Regulation 18 or the Arkansas Water and Air Pollution Control Act (A.C.A. §8-4-101 et seq.) as the sole origin of and authority for the terms or conditions are not required under the Clean Air Act or any of its applicable requirements, and are not federally enforceable under the Clean Air Act. Arkansas Pollution Control & Ecology Commission Regulation 18 was adopted pursuant to the Arkansas Water and Air Pollution Control Act (A.C.A. §8-4-101 et seq.). Any terms or conditions included in this permit which specify and reference Arkansas Pollution Control & Ecology Commission Regulation 18 or the Arkansas Water and Air Pollution Control Act (A.C.A. §8-4-101 et seq.) as the origin of and authority for the terms or conditions are enforceable under this Arkansas statute. [Pursuant to 40 CFR 70.6(b)(2)]
2. This permit shall be valid for a period of five (5) years beginning on the date this permit becomes effective and ending five (5) years later. [40 CFR 70.6(a)(2) and §26.701(B) of the Regulations of the Arkansas Operating Air Permit Program (Regulation 26), effective August 10, 2000]
3. The permittee must submit a complete application for permit renewal at least six (6) months before permit expiration. Permit expiration terminates the permittee's right to operate unless the permittee submitted a complete renewal application at least six (6) months before permit expiration. If the permittee submits a complete application, the existing permit will remain in effect until the Department takes final action on the renewal application. The Department will not necessarily notify the permittee when the permit renewal application is due. [Regulation #26 §26.406]
4. Where an applicable requirement of the Clean Air Act, as amended, 42 U.S.C. 7401, et seq. (Act) is more stringent than an applicable requirement of regulations promulgated under Title IV of the Act, the permit incorporates both provisions into the permit, and the Director or the Administrator can enforce both provisions. [40 CFR 70.6(a)(1)(ii) and Regulation #26 §26.701(A)(2)]
5. The permittee must maintain the following records of monitoring information as required by this permit. [40 CFR 70.6(a)(3)(ii)(A) and Regulation #26 §26.701(C)(2)]
  - a. The date, place as defined in this permit, and time of sampling or measurements;
  - b. The date(s) analyses performed;
  - c. The company or entity performing the analyses;
  - d. The analytical techniques or methods used;
  - e. The results of such analyses; and
  - f. The operating conditions existing at the time of sampling or measurement.
6. The permittee must retain the records of all required monitoring data and support information for at

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least 5 years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. [40 CFR 70.6(a)(3)(ii)(B) and Regulation #26 §26.701(C)(2)(b)]

7. The permittee must submit reports of all required monitoring every 6 months. If the permit establishes no other reporting period, the reporting period will end on the last day of the anniversary month of this permit. The report is due within 30 days of the end of the reporting period. Even though the reports are due every six months, each report shall contain a full year of data. The report must clearly identify all instances of deviations from permit requirements. A responsible official as defined in Regulation #26 §26.2 must certify all required reports. The permittee will send the reports to the address below: [40 CFR 70.6(a)(3)(ii)(B) and §26.701(C)(2)(b)]

Arkansas Department of Environmental Quality  
Air Division  
ATTN: Compliance Inspector Supervisor  
5301 Northshore Drive  
North Little Rock, AR 72118

8. The permittee will report to the Department all deviations from permit requirements, including those attributable to upset conditions as defined in the permit.
- a. For all upset conditions (as defined in Regulation 19.601), the permittee will make an initial report to the Department by the next business day after the discovery of the occurrence. The initial report may be made by telephone and shall include:
- i. The facility name and location,
  - ii. The process unit or emission source deviating from the permit limit,
  - iii. The permit limit, including the identification of pollutants, from which deviation occurs,
  - iv. The date and time the deviation started,
  - v. The duration of the deviation,
  - vi. The average emissions during the deviation,
  - vii. The probable cause of such deviations,
  - viii. Any corrective actions or preventive measures taken or being taken to prevent such deviations in the future, and
  - ix. The name of the person submitting the report.

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The permittee will make a full report in writing to the Department within five (5) business days of discovery of the occurrence. The report must include, in addition to the information required by the initial report, a schedule of actions taken or planned to eliminate future occurrences and/or to minimize the amount the permit's limits were exceeded and to reduce the length of time the limits were exceeded. The permittee may submit a full report in writing (by facsimile, overnight courier, or other means) by the next business day after discovery of the occurrence, and the report will serve as both the initial report and full report.

- b. For all deviations, the permittee will report such events in semi-annual reporting and annual certifications required in this permit. This includes all upset conditions reported in 8a. above. The semi-annual report must include all the information as required in the initial and full report required in 8a.

[40 CFR 70.6(a)(3)(iii)(B), Regulation No. 26 §26.701(C)(3)(b), Regulation No. 19 §19.601 and §19.602]

9. If any provision of the permit or the application thereof to any person or circumstance is held invalid, such invalidity will not affect other provisions or applications hereof which can be given effect without the invalid provision or application, and to this end, provisions of this Regulation are declared to be separable and severable. [40 CFR 70.6(a)(5) and §26.701(E) of Regulation #26, and A.C.A. §8-4-203, as referenced by §8-4-304 and §8-4-311]
10. The permittee must comply with all conditions of this Part 70 permit. Any permit noncompliance with applicable requirements as defined in Regulation #26 constitutes a violation of the Clean Air Act, as amended, 42 U.S.C. §7401, *et seq.* and is grounds for enforcement action; for permit termination, revocation and reissuance, for permit modification; or for denial of a permit renewal application. [40 CFR 70.6(a)(6)(i) and Regulation No. §26.701(F)(1)]
11. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity to maintain compliance with the conditions of this permit. [40 CFR 70.6(a)(6)(ii) and §26.701(F)(2)]
12. The Department may modify, revoke, reopen and reissue the permit or terminate the permit for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition. [40 CFR 70.6(a)(6)(iii) and Regulation #26 §26.701(F)(3)]
13. This permit does not convey any property rights of any sort, or any exclusive privilege. [40 CFR 70.6(a)(6)(iv) and Regulation #26 §26.701(F)(4)]
14. The permittee must furnish to the Director, within the time specified by the Director, any information that the Director may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee must also furnish to the Director copies of records required by

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- the permit. For information the permittee claims confidentiality, the Department may require the permittee to furnish such records directly to the Director along with a claim of confidentiality. [40 CFR 70.6(a)(6)(v) and Regulation #26 §26.701(F)(5)]
15. The permittee must pay all permit fees in accordance with the procedures established in Regulation #19. [40 CFR 70.6(a)(7) and Regulation #26 §26.701(G)]
  16. No permit revision shall be required, under any approved economic incentives, marketable permits, emissions trading and other similar programs or processes for changes provided for elsewhere in this permit. [40 CFR 70.6(a)(8) and Regulation #26 §26.701(H)]
  17. If the permit allows different operating scenarios, the permittee will, contemporaneously with making a change from one operating scenario to another, record in a log at the permitted facility a record of the operational scenario. [40 CFR 70.6(a)(9)(i) and Regulation #26 §26.701(I)(1)]
  18. The Administrator and citizens may enforce under the Act all terms and conditions in this permit, including any provisions designed to limit a source's potential to emit, unless the Department specifically designates terms and conditions of the permit as being federally unenforceable under the Act or under any of its applicable requirements. [40 CFR 70.6(b) and Regulation #26 §26.702(A) and (B)]
  19. Any document (including reports) required by this permit must contain a certification by a responsible official as defined in Regulation #26 §26.2. [40 CFR 70.6(c)(1) and Regulation #26 §26.703(A)]
  20. The permittee must allow an authorized representative of the Department, upon presentation of credentials, to perform the following: [40 CFR 70.6(c)(2) and Regulation #26 §26.703(B)]
    - a. Enter upon the permittee's premises where the permitted source is located or emissions-related activity is conducted, or where records must be kept under the conditions of this permit;
    - b. Have access to and copy, at reasonable times, any records required under the conditions of this permit;
    - c. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit; and
    - d. As authorized by the Act, sample or monitor at reasonable times substances or parameters for assuring compliance with this permit or applicable requirements.
  21. The permittee will submit a compliance certification with the terms and conditions contained in the permit, including emission limitations, standards, or work practices. The permittee will submit the compliance certification annually. The permittee must also submit the compliance certification to the Administrator as well as to the Department. All compliance certifications required by this

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permit must include the following: [40 CFR 70.6(c)(5) and Regulation #26 §26.703(E)(3)]

- a. The identification of each term or condition of the permit that is the basis of the certification;
- b. The compliance status;
- c. Whether compliance was continuous or intermittent;
- d. The method(s) used for determining the compliance status of the source, currently and over the reporting period established by the monitoring requirements of this permit; and
- e. Such other facts as the Department may require elsewhere in this permit or by §114(a)(3) and §504(b) of the Act.

22. Nothing in this permit will alter or affect the following: [Regulation #26 §26.704(C)]

- a. The provisions of Section 303 of the Act (emergency orders), including the authority of the Administrator under that section;
- b. The liability of the permittee for any violation of applicable requirements prior to or at the time of permit issuance;
- c. The applicable requirements of the acid rain program, consistent with §408(a) of the Act or,
- d. The ability of EPA to obtain information from a source pursuant to §114 of the Act.

23. This permit authorizes only those pollutant-emitting activities addressed in this permit. [A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]



The source is subject to the regulations identified herein at the time of this permit issuance. The source must comply with the most recent version of these regulations as published in the Code of Federal Regulations. The source must comply with all applicable federal regulations, whether or not accurately and specifically identified in the appendix to this permit.

Regulations attached in this permit are for illustrative purposes only and are not deemed to be enforceable as attached unless the attached version is the most current and affective revision as cited and published in the CFR. Regardless of the form of the attached Subparts, the source is always subject to the most recent version of the Subparts. In addition, subsequent changes to the Subparts do not necessarily exempt the source from existing requirements in the air permit.

## **APPENDIX A**

### **APPLICABLE FEDERAL REGULATIONS**

40 CFR Part 60  
Subparts Db, Kb, Y, VV, NNN

40 CFR Part 61  
Subparts J, V, Y, FF

40 CFR Part 63  
Subparts DD, EEE, GGG, MMM, FFFF





## § 60.52Da

Before submitting reports in the electronic format, the owner or operator shall coordinate with the permitting authority to obtain their agreement to submit reports in this alternative format.

[44 FR 33613, June 11, 1979, as amended at 63 FR 49454, Sept. 16, 1998; 64 FR 7464, Feb. 12, 1999. Redesignated and amended at 70 FR 28653, 28656, May 18, 2005, and further redesignated and amended at 70 FR 51268, 51269, Aug. 30, 2005]

### § 60.52Da Recordkeeping requirements.

The owner or operator of an affected facility subject to the emissions limitations in §60.45Da or §60.46Da shall provide notifications in accordance with §60.7(a) and shall maintain records of all information needed to demonstrate compliance including performance tests, monitoring data, fuel analyses, and calculations, consistent with the requirements of §60.7(f).

[70 FR 28656, May 18, 2005. Redesignated and amended at 70 FR 51268, 51269, Aug. 30, 2005]

## Subpart Db—Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units

### § 60.40b Applicability and delegation of authority.

(a) The affected facility to which this subpart applies is each steam generating unit that commences construction, modification, or reconstruction after June 19, 1984, and that has a heat input capacity from fuels combusted in the steam generating unit of greater than 29 MW (100 million Btu/hour).

(b) Any affected facility meeting the applicability requirements under paragraph (a) of this section and commencing construction, modification, or reconstruction after June 19, 1984, but on or before June 19, 1986, is subject to the following standards:

(1) Coal-fired affected facilities having a heat input capacity between 29 and 73 MW (100 and 250 million Btu/hour), inclusive, are subject to the particulate matter and nitrogen oxides standards under this subpart.

(2) Coal-fired affected facilities having a heat input capacity greater than

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73 MW (250 million Btu/hour) and meeting the applicability requirements under subpart D (Standards of performance for fossil-fuel-fired steam generators; §60.40) are subject to the particulate matter and nitrogen oxides standards under this subpart and to the sulfur dioxide standards under subpart D (§60.43).

(3) Oil-fired affected facilities having a heat input capacity between 29 and 73 MW (100 and 250 million Btu/hour), inclusive, are subject to the nitrogen oxides standards under this subpart.

(4) Oil-fired affected facilities having a heat input capacity greater than 73 MW (250 million Btu/hour) and meeting the applicability requirements under subpart D (Standards of performance for fossil-fuel-fired steam generators; §60.40) are also subject to the nitrogen oxides standards under this subpart and the particulate matter and sulfur dioxide standards under subpart D (§60.42 and §60.43).

(c) Affected facilities which also meet the applicability requirements under subpart J (Standards of performance for petroleum refineries; §60.104) are subject to the particulate matter and nitrogen oxides standards under this subpart and the sulfur dioxide standards under subpart J (§60.104).

(d) Affected facilities which also meet the applicability requirements under subpart E (Standards of performance for incinerators; §60.50) are subject to the nitrogen oxides and particulate matter standards under this subpart.

(e) Steam generating units meeting the applicability requirements under subpart Da (Standards of performance for electric utility steam generating units; §60.40Da) are not subject to this subpart.

(f) Any change to an existing steam generating unit for the sole purpose of combusting gases containing TRS as defined under §60.281 is not considered a modification under §60.14 and the steam generating unit is not subject to this subpart.

(g) In delegating implementation and enforcement authority to a State under section 111(c) of the Act, the following authorities shall be retained by the Administrator and not transferred to a State.

- (1) Section 60.44b(f).
- (2) Section 60.44b(g).
- (3) Section 60.49b(a)(4).

(h) Affected facilities which meet the applicability requirements under subpart Eb (Standards of performance for municipal waste combustors; § 60.50b) are not subject to this subpart.

(i) Heat recovery steam generators that are associated with combined cycle gas turbines and that meet the applicability requirements of subpart KKKK of this part are not subject to this subpart. This subpart will continue to apply to all other heat recovery steam generators that are capable of combusting more than 29 MW (100 MMBtu/h) heat input of fossil fuel. If the heat recovery steam generator is subject to this subpart, only emissions resulting from combustion of fuels in the steam generating unit are subject to this subpart. (The gas turbine emissions are subject to subpart GG or KKKK, as applicable, of this part.)

(j) Any affected facility meeting the applicability requirements under paragraph (a) of this section and commencing construction, modification, or reconstruction after June 19, 1986 is not subject to Subpart D (Standards of Performance for Fossil-Fuel-Fired Steam Generators, § 60.40).

(k) Any facility covered by subpart Eb or subpart AAAA of this part is not covered by this subpart.

(l) Any facility covered by an EPA approved State or Federal section 111(d)/129 plan implementing subpart Cb or subpart BBBB of this part is not covered by this subpart.

[52 FR 47842, Dec. 16, 1987, as amended at 63 FR 49454, Sept. 16, 1998; 65 FR 61752, Oct. 17, 2000; 71 FR 9881, Feb. 27, 2006; 71 FR 33400, June 9, 2006]

#### § 60.41b Definitions.

As used in this subpart, all terms not defined herein shall have the meaning given them in the Act and in subpart A of this part.

*Annual capacity factor* means the ratio between the actual heat input to a steam generating unit from the fuels listed in § 60.42b(a), § 60.43b(a), or § 60.44b(a), as applicable, during a calendar year and the potential heat input to the steam generating unit had it been operated for 8,760 hours during a

calendar year at the maximum steady state design heat input capacity. In the case of steam generating units that are rented or leased, the actual heat input shall be determined based on the combined heat input from all operations of the affected facility in a calendar year.

*Byproduct/waste* means any liquid or gaseous substance produced at chemical manufacturing plants, petroleum refineries, or pulp and paper mills (except natural gas, distillate oil, or residual oil) and combusted in a steam generating unit for heat recovery or for disposal. Gaseous substances with carbon dioxide levels greater than 50 percent or carbon monoxide levels greater than 10 percent are not byproduct/waste for the purpose of this subpart.

*Chemical manufacturing plants* means industrial plants which are classified by the Department of Commerce under Standard Industrial Classification (SIC) Code 28.

*Coal* means all solid fuels classified as anthracite, bituminous, subbituminous, or lignite by the American Society of Testing and Materials in ASTM D388-77, 90, 91, 95, or 98a, Standard Specification for Classification of Coals by Rank (IBR—see § 60.17), coal refuse, and petroleum coke. Coal-derived synthetic fuels, including but not limited to solvent refined coal, gasified coal, coal-oil mixtures, and coal-water mixtures, are also included in this definition for the purposes of this subpart.

*Coal refuse* means any byproduct of coal mining or coal cleaning operations with an ash content greater than 50 percent, by weight, and a heating value less than 13,900 kJ/kg (6,000 Btu/lb) on a dry basis.

*Cogeneration*, also known as combined heat and power, means a facility that simultaneously produces both electric (or mechanical) and useful thermal energy from the same primary energy source.

*Combined cycle system* means a system in which a separate source, such as a gas turbine, internal combustion engine, kiln, etc., provides exhaust gas to a heat recovery steam generating unit.

*Conventional technology* means wet flue gas desulfurization (FGD) technology, dry FGD technology, atmospheric fluidized bed combustion technology, and oil hydrodesulfurization technology.

*Distillate oil* means fuel oils that contain 0.05 weight percent nitrogen or less and comply with the specifications for fuel oil numbers 1 and 2, as defined by the American Society of Testing and Materials in ASTM D396-78, 89, 90, 92, 96, or 98, Standard Specifications for Fuel Oils (incorporated by reference—see § 60.17).

*Dry flue gas desulfurization technology* means a sulfur dioxide control system that is located downstream of the steam generating unit and removes sulfur oxides from the combustion gases of the steam generating unit by contacting the combustion gases with an alkaline slurry or solution and forming a dry powder material. This definition includes devices where the dry powder material is subsequently converted to another form. Alkaline slurries or solutions used in dry flue gas desulfurization technology include but are not limited to lime and sodium.

*Duct burner* means a device that combusts fuel and that is placed in the exhaust duct from another source, such as a stationary gas turbine, internal combustion engine, kiln, etc., to allow the firing of additional fuel to heat the exhaust gases before the exhaust gases enter a heat recovery steam generating unit.

*Emerging technology* means any sulfur dioxide control system that is not defined as a conventional technology under this section, and for which the owner or operator of the facility has applied to the Administrator and received approval to operate as an emerging technology under § 60.49b(a)(4).

*Federally enforceable* means all limitations and conditions that are enforceable by the Administrator, including the requirements of 40 CFR parts 60 and 61, requirements within any applicable State Implementation Plan, and any permit requirements established under 40 CFR 52.21 or under 40 CFR 51.18 and 40 CFR 51.24.

*Fluidized bed combustion technology* means combustion of fuel in a bed or

series of beds (including but not limited to bubbling bed units and circulating bed units) of limestone aggregate (or other sorbent materials) in which these materials are forced upward by the flow of combustion air and the gaseous products of combustion.

*Fuel pretreatment* means a process that removes a portion of the sulfur in a fuel before combustion of the fuel in a steam generating unit.

*Full capacity* means operation of the steam generating unit at 90 percent or more of the maximum steady-state design heat input capacity.

*Heat input* means heat derived from combustion of fuel in a steam generating unit and does not include the heat input from preheated combustion air, recirculated flue gases, or exhaust gases from other sources, such as gas turbines, internal combustion engines, kilns, etc.

*Heat release rate* means the steam generating unit design heat input capacity (in MW or Btu/hour) divided by the furnace volume (in cubic meters or cubic feet); the furnace volume is that volume bounded by the front furnace wall where the burner is located, the furnace side waterwall, and extending to the level just below or in front of the first row of convection pass tubes.

*Heat transfer medium* means any material that is used to transfer heat from one point to another point.

*High heat release rate* means a heat release rate greater than  $730,000 \text{ J/sec-m}^3$  ( $70,000 \text{ Btu/hour-ft}^3$ ).

*Lignite* means a type of coal classified as lignite A or lignite B by the American Society of Testing and Materials in ASTM D388-77, 90, 91, 95, or 98a, Standard Specification for Classification of Coals by Rank (IBR—see § 60.17).

*Low heat release rate* means a heat release rate of  $730,000 \text{ J/sec-m}^3$  ( $70,000 \text{ Btu/hour-ft}^3$ ) or less.

*Mass-feed stoker steam generating unit* means a steam generating unit where solid fuel is introduced directly into a retort or is fed directly onto a grate where it is combusted.

*Maximum heat input capacity* means the ability of a steam generating unit to combust a stated maximum amount

of fuel on a steady state basis, as determined by the physical design and characteristics of the steam generating unit.

*Municipal-type solid waste* means refuse, more than 50 percent of which is waste consisting of a mixture of paper, wood, yard wastes, food wastes, plastics, leather, rubber, and other combustible materials, and noncombustible materials such as glass and rock.

*Natural gas* means (1) a naturally occurring mixture of hydrocarbon and nonhydrocarbon gases found in geologic formations beneath the earth's surface, of which the principal constituent is methane; or (2) liquid petroleum gas, as defined by the American Society for Testing and Materials in ASTM D1835-82, 86, 87, 91, or 97, "Standard Specification for Liquid Petroleum Gases" (IBR—see § 60.17).

*Noncontinental area* means the State of Hawaii, the Virgin Islands, Guam, American Samoa, the Commonwealth of Puerto Rico, or the Northern Mariana Islands.

*Oil* means crude oil or petroleum or a liquid fuel derived from crude oil or petroleum, including distillate and residual oil.

*Petroleum refinery* means industrial plants as classified by the Department of Commerce under Standard Industrial Classification (SIC) Code 29.

*Potential sulfur dioxide emission rate* means the theoretical sulfur dioxide emissions (ng/J, lb/million Btu heat input) that would result from combusting fuel in an uncleaned state and without using emission control systems.

*Process heater* means a device that is primarily used to heat a material to initiate or promote a chemical reaction in which the material participates as a reactant or catalyst.

*Pulp and paper mills* means industrial plants which are classified by the Department of Commerce under North American Industry Classification System (NAICS) Code 322 or Standard Industrial Classification (SIC) Code 26.

*Pulverized coal-fired steam generating unit* means a steam generating unit in which pulverized coal is introduced into an air stream that carries the coal to the combustion chamber of the steam generating unit where it is fired

in suspension. This includes both conventional pulverized coal-fired and micropulverized coal-fired steam generating units.

*Residual oil* means crude oil, fuel oil numbers 1 and 2 that have a nitrogen content greater than 0.05 weight percent, and all fuel oil numbers 4, 5 and 6, as defined by the American Society of Testing and Materials in ASTM D396-78, Standard Specifications for Fuel Oils (IBR—see § 60.17).

*Spreader stoker steam generating unit* means a steam generating unit in which solid fuel is introduced to the combustion zone by a mechanism that throws the fuel onto a grate from above. Combustion takes place both in suspension and on the grate.

*Steam generating unit* means a device that combusts any fuel or byproduct/waste to produce steam or to heat water or any other heat transfer medium. This term includes any municipal-type solid waste incinerator with a heat recovery steam generating unit or any steam generating unit that combusts fuel and is part of a cogeneration system or a combined cycle system. This term does not include process heaters as they are defined in this subpart.

*Steam generating unit operating day* means a 24-hour period between 12:00 midnight and the following midnight during which any fuel is combusted at any time in the steam generating unit. It is not necessary for fuel to be combusted continuously for the entire 24-hour period.

*Very low sulfur oil* for units constructed, reconstructed, or modified on or before February 28, 2005, means an oil that contains no more than 0.5 weight percent sulfur or that, when combusted without sulfur dioxide emission control, has a sulfur dioxide emission rate equal to or less than 215 ng/J (0.5 lb/MMBtu) heat input. For units constructed, reconstructed, or modified after February 28, 2005, *very low sulfur oil* means an oil that contains no more than 0.3 weight percent sulfur or that, when combusted without sulfur dioxide emission control, has a sulfur dioxide emission rate equal to or less than 140 ng/J (0.32 lb/MMBtu) heat input.

*Wet flue gas desulfurization technology* means a sulfur dioxide control system

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that is located downstream of the steam generating unit and removes sulfur oxides from the combustion gases of the steam generating unit by contacting the combustion gas with an alkaline slurry or solution and forming a liquid material. This definition applies to devices where the aqueous liquid material product of this contact is subsequently converted to other forms. Alkaline reagents used in wet flue gas desulfurization technology include, but are not limited to, lime, limestone, and sodium.

*Wet scrubber system* means any emission control device that mixes an aqueous stream or slurry with the exhaust gases from a steam generating unit to control emissions of particulate matter or sulfur dioxide.

*Wood* means wood, wood residue, bark, or any derivative fuel or residue thereof, in any form, including, but not limited to, sawdust, sanderdust, wood chips, scraps, slabs, millings, shavings, and processed pellets made from wood or other forest residues.

[52 FR 47842, Dec. 16, 1987, as amended at 54 FR 51819, Dec. 18, 1989; 65 FR 61752, Oct. 17, 2000; 66 FR 49834, Oct. 1, 2001; 71 FR 9881, Feb. 27, 2006]

§ 60.42b Standard for sulfur dioxide.

(a) Except as provided in paragraphs (b), (c), (d), (j), or (k) of this section, on and after the date on which the performance test is completed or required to be completed under § 60.8 of this part, whichever date comes first, no owner or operator of an affected facility that commenced construction, reconstruction, or modification on or before February 28, 2005, that combusts coal or oil shall cause to be discharged into the atmosphere any gases that contain sulfur dioxide in excess of 87 ng/J (0.20 lb/MMBtu) or 10 percent (0.10) of the potential sulfur dioxide emission rate (90 percent reduction) and the emission limit determined according to the following formula:

$$E_s = (K_a H_a + K_b H_b) / (H_a + H_b)$$

where:

$E_s$  is the sulfur dioxide emission limit, in ng/J or lb/million Btu heat input.

$K_a$  is 520 ng/J (or 1.2 lb/million Btu).

$K_b$  is 340 ng/J (or 0.80 lb/million Btu).

$H_a$  is the heat input from the combustion of coal, in J (million Btu).

$H_b$  is the heat input from the combustion of oil, in J (million Btu).

Only the heat input supplied to the affected facility from the combustion of coal and oil is counted under this section. No credit is provided for the heat input to the affected facility from the combustion of natural gas, wood, municipal-type solid waste, or other fuels or heat input to the affected facility from exhaust gases from another source, such as gas turbines, internal combustion engines, kilns, etc.

(b) On and after the date on which the performance test is completed or required to be completed under § 60.8 of this part, whichever date comes first, no owner or operator of an affected facility that commenced construction, reconstruction, or modification on or before February 28, 2005, that combusts coal refuse alone in a fluidized bed combustion steam generating unit shall cause to be discharged into the atmosphere any gases that contain sulfur dioxide in excess of 87 ng/J (0.20 lb/MMBtu) or 20 percent (0.20) of the potential sulfur dioxide emission rate (80 percent reduction) and 520 ng/J (1.2 lb/MMBtu) heat input. If coal or oil is fired with coal refuse, the affected facility is subject to paragraph (a) or (d) of this section, as applicable.

(c) On and after the date on which the performance test is completed or is required to be completed under § 60.8 of this part, whichever comes first, no owner or operator of an affected facility that combusts coal or oil, either alone or in combination with any other fuel, and that uses an emerging technology for the control of sulfur dioxide emissions, shall cause to be discharged into the atmosphere any gases that contain sulfur dioxide in excess of 50 percent of the potential sulfur dioxide emission rate (50 percent reduction) and that contain sulfur dioxide in excess of the emission limit determined according to the following formula:

$$E_s = (K_c H_c + K_d H_d) / (H_c + H_d)$$

where:

$E_s$  is the sulfur dioxide emission limit, expressed in ng/J (lb/million Btu) heat input.

$K_c$  is 260 ng/J (0.60 lb/million Btu).

$K_d$  is 170 ng/J (0.40 lb/million Btu).

$H_c$  is the heat input from the combustion of coal, J (million Btu).

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$H_o$  is the heat input from the combustion of oil, J (million Btu).

Only the heat input supplied to the affected facility from the combustion of coal and oil is counted under this section. No credit is provided for the heat input to the affected facility from the combustion of natural gas, wood, municipal-type solid waste, or other fuels, or from the heat input to the affected facility from exhaust gases from another source, such as gas turbines, internal combustion engines, kilns, etc.

(d) On and after the date on which the performance test is completed or required to be completed under § 60.8 of this part, whichever comes first, no owner or operator of an affected facility listed in paragraphs (d)(1), (2), (3), or (4) of this section shall cause to be discharged into the atmosphere any gases that contain sulfur dioxide in excess of 520 ng/J (1.2 lb/million Btu) heat input if the affected facility combusts coal, or 215 ng/J (0.5 lb/million Btu) heat input if the affected facility combusts oil other than very low sulfur oil. Percent reduction requirements are not applicable to affected facilities under paragraphs (d)(1), (2), (3) or (4).

(1) Affected facilities that have an annual capacity factor for coal and oil of 30 percent (0.30) or less and are subject to a Federally enforceable permit limiting the operation of the affected facility to an annual capacity factor for coal and oil of 30 percent (0.30) or less;

(2) Affected facilities located in a noncontinental area; or

(3) Affected facilities combusting coal or oil, alone or in combination with any fuel, in a duct burner as part of a combined cycle system where 30 percent (0.30) or less of the heat input to the steam generating unit is from combustion of coal and oil in the duct burner and 70 percent (0.70) or more of the heat input to the steam generating unit is from the exhaust gases entering the duct burner; or

(4) The affected facility burns coke oven gas alone or in combination with any other gaseous fuels.

(e) Except as provided in paragraph (f) of this section, compliance with the emission limits, fuel oil sulfur limits, and/or percent reduction requirements

under this section are determined on a 30-day rolling average basis.

(f) Except as provided in paragraph (j)(2) of this section, compliance with the emission limits or fuel oil sulfur limits under this section is determined on a 24-hour average basis for affected facilities that (1) have a Federally enforceable permit limiting the annual capacity factor for oil to 10 percent or less, (2) combust only very low sulfur oil, and (3) do not combust any other fuel.

(g) Except as provided in paragraph (i) of this section, the sulfur dioxide emission limits and percent reduction requirements under this section apply at all times, including periods of start-up, shutdown, and malfunction.

(h) Reductions in the potential sulfur dioxide emission rate through fuel pretreatment are not credited toward the percent reduction requirement under paragraph (c) of this section unless:

(1) Fuel pretreatment results in a 50 percent or greater reduction in potential sulfur dioxide emissions and

(2) Emissions from the pretreated fuel (without combustion or post combustion sulfur dioxide control) are equal to or less than the emission limits specified in paragraph (c) of this section.

(i) An affected facility subject to paragraph (a), (b), or (c) of this section may combust very low sulfur oil or natural gas when the sulfur dioxide control system is not being operated because of malfunction or maintenance of the sulfur dioxide control system.

(j) Percent reduction requirements are not applicable to affected facilities combusting only very low sulfur oil. The owner or operator of an affected facility combusting very low sulfur oil shall demonstrate that the oil meets the definition of very low sulfur oil by: (1) Following the performance testing procedures as described in § 60.45b(c) or § 60.45b(d), and following the monitoring procedures as described in § 60.47b(a) or § 60.47b(b) to determine sulfur dioxide emission rate or fuel oil sulfur content; or (2) maintaining fuel receipts as described in § 60.49b(r).

(k) On or after the date on which the initial performance test is completed or is required to be completed under

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§ 60.8, whichever date comes first, no owner or operator of an affected facility that commences construction or reconstruction after February 28, 2005, and that combusts coal, oil, gas, a mixture of these fuels, or a mixture of these fuels with any other fuels shall cause to be discharged into the atmosphere any gases that contain sulfur dioxide in excess of 87 ng/J (0.20 lb/MMBtu) heat input or 8 percent (0.08) of the potential sulfur dioxide emission rate (92 percent reduction) and 520 ng/J (1.2 lb/MMBtu) heat input, except as provided in paragraphs (k)(1) or (k)(2). Affected facilities subject to this paragraph are also subject to paragraphs (e) through (g) of this section.

(1) Units firing only oil that contains no more than 0.3 weight percent sulfur or any individual fuel with a potential sulfur dioxide emission rates of 140 ng/J (0.32 lb/MMBtu) heat input or less are exempt from all other sulfur dioxide emission limits in this paragraph.

(2) Units that are located in a non-continental area and that combust coal or oil shall not discharge any gases that contain sulfur dioxide in excess of 520 ng/J (1.2 lb/MMBtu) heat input if the affected facility combusts coal, or 230 ng/J (0.54 lb/MMBtu) heat input if the affected facility combusts oil.

[52 FR 47842, Dec. 16, 1987, as amended at 54 FR 51819, Dec. 18, 1989; 65 FR 61752, Oct. 17, 2000; 71 FR 9881, Feb. 27, 2006]

§ 60.43b Standard for particulate matter.

(a) On and after the date on which the initial performance test is completed or is required to be completed under § 60.8 of this part, whichever comes first, no owner or operator of an affected facility which combusts coal or combusts mixtures of coal with other fuels, shall cause to be discharged into the atmosphere from that affected facility any gases that contain particulate matter in excess of the following emission limits:

(1) 22 ng/J (0.051 lb/million Btu) heat input.

(i) If the affected facility combusts only coal, or

(ii) If the affected facility combusts coal and other fuels and has an annual capacity factor for the other fuels of 10 percent (0.10) or less.

(2) 43 ng/J (0.10 lb/million Btu) heat input if the affected facility combusts coal and other fuels and has an annual capacity factor for the other fuels greater than 10 percent (0.10) and is subject to a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor greater than 10 percent (0.10) for fuels other than coal.

(3) 86 ng/J (0.20 lb/million Btu) heat input if the affected facility combusts coal or coal and other fuels and

(i) Has an annual capacity factor for coal or coal and other fuels of 30 percent (0.30) or less,

(ii) Has a maximum heat input capacity of 73 MW (250 million Btu/hour) or less,

(iii) Has a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor of 30 percent (0.30) or less for coal or coal and other solid fuels, and

(iv) Construction of the affected facility commenced after June 19, 1984, and before November 25, 1986.

(b) On and after the date on which the performance test is completed or required to be completed under § 60.8 of this part, whichever date comes first, no owner or operator of an affected facility that combusts oil (or mixtures of oil with other fuels) and uses a conventional or emerging technology to reduce sulfur dioxide emissions shall cause to be discharged into the atmosphere from that affected facility any gases that contain particulate matter in excess of 43 ng/J (0.10 lb/million Btu) heat input.

(c) On and after the date on which the initial performance test is completed or is required to be completed under § 60.8 of this part, whichever date comes first, no owner or operator of an affected facility that combusts wood, or wood with other fuels, except coal, shall cause to be discharged from that affected facility any gases that contain particulate matter in excess of the following emission limits:

(1) 43 ng/J (0.10 lb/million Btu) heat input if the affected facility has an annual capacity factor greater than 30 percent (0.30) for wood.

(2) 86 ng/J (0.20 lb/million Btu) heat input if

(i) The affected facility has an annual capacity factor of 30 percent (0.30) or less for wood,

(ii) Is subject to a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor of 30 percent (0.30) or less for wood, and

(iii) Has a maximum heat input capacity of 73 MW (250 million Btu/hour) or less.

(d) On and after the date on which the initial performance test is completed or is required to be completed under §60.8 of this part, whichever date comes first, no owner or operator of an affected facility that combusts municipal-type solid waste or mixtures of municipal-type solid waste with other fuels, shall cause to be discharged into the atmosphere from that affected facility any gases that contain particulate matter in excess of the following emission limits:

(1) 43 ng/J (0.10 lb/million Btu) heat input,

(i) If the affected facility combusts only municipal-type solid waste, or

(ii) If the affected facility combusts municipal-type solid waste and other fuels and has an annual capacity factor for the other fuels of 10 percent (0.10) or less.

(2) 86 ng/J (0.20 lb/million Btu) heat input if the affected facility combusts municipal-type solid waste or municipal-type solid waste and other fuels; and

(i) Has an annual capacity factor for municipal-type solid waste and other fuels of 30 percent (0.30) or less.

(ii) Has a maximum heat input capacity of 73 MW (250 million Btu/hour) or less,

(iii) Has a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor of 30 percent (0.30) for municipal-type solid waste, or municipal-type solid waste and other fuels, and

(iv) Construction of the affected facility commenced after June 19, 1984, but before November 25, 1986.

(e) For the purposes of this section, the annual capacity factor is determined by dividing the actual heat input to the steam generating unit during the calendar year from the combustion of coal, wood, or municipal-type

solid waste, and other fuels, as applicable, by the potential heat input to the steam generating unit if the steam generating unit had been operated for 8,760 hours at the maximum design heat input capacity.

(f) On and after the date on which the initial performance test is completed or is required to be completed under 60.8 of this part, whichever date comes first, no owner or operator of an affected facility that combusts coal, oil, wood, or mixtures of these fuels with any other fuels shall cause to be discharged into the atmosphere any gases that exhibit greater than 20 percent opacity (6-minute average), except for one 6-minute period per hour of not more than 27 percent opacity.

(g) The particulate matter and opacity standards apply at all times, except during periods of startup, shutdown or malfunction.

(h)(1) On or after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that commences construction, reconstruction, or modification after February 28, 2005, and that combusts coal, oil, gas, wood, a mixture of these fuels, or a mixture of these fuels with any other fuels shall cause to be discharged into the atmosphere from that affected facility any gases that contain particulate matter emissions in excess of 13 ng/J (0.030 lb/MMBtu) heat input, except as provided in paragraphs (h)(2), (h)(3), (h)(4), and (h)(5).

(2) As an alternative to meeting the requirements of paragraph (h)(1) of this section, the owner or operator of an affected facility for which modification commenced after February 28, 2005, may elect to meet the requirements of this paragraph. On and after the date on which the performance test required to be conducted under §60.8 is completed, the owner or operator subject to the provisions of this subpart shall not cause to be discharged into the atmosphere from any affected facility for which modification commenced after February 28, 2005, any gases that contain particulate matter in excess of:

(i) 22 ng/J (0.051 lb/MMBtu) heat input derived from the combustion of coal, oil, gas, wood, a mixture of these fuels,



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or a mixture of these fuels with any other fuels, and

(ii) 0.2 percent of the combustion concentration (99.8 percent reduction) when combusting coal, oil, gas, wood, a mixture of these fuels, or a mixture of these fuels with any other fuels.

(3) On or after the date on which the initial performance test is completed or is required to be completed under § 60.8, whichever date comes first, no owner or operator of an affected facility that commences modification after February 28, 2005, and that combusts over 30 percent wood (by heat input) on an annual basis and has a maximum heat input capacity of 73 MW (250 MMBtu/h) or less shall cause to be discharged into the atmosphere from that affected facility any gases that contain particulate matter emissions in excess of 43 ng/J (0.10 lb/MMBtu) heat input.

(4) On or after the date on which the initial performance test is completed or is required to be completed under § 60.8, whichever date comes first, no owner or operator of an affected facility that commences modification after February 28, 2005, and that combusts over 30 percent wood (by heat input) on an annual basis and has a maximum heat input capacity greater than 73 MW (250 MMBtu/h) shall cause to be discharged into the atmosphere from that affected facility any gases that contain particulate matter emissions in excess of 37 ng/J (0.085 lb/MMBtu) heat input.

(5) On or after the date on which the initial performance test is completed or is required to be completed under § 60.8, whichever date comes first, no owner or operator of an affected facility that commences construction, reconstruction, or modification after February 28, 2005, and that combusts only oil that contains no more than 0.3 weight percent sulfur or other liquid or gaseous fuels with potential sulfur dioxide emission rates of 140 ng/J (0.32 lb/MMBtu) heat input or less is not subject to the PM or opacity limits in this section.

[52 FR 47842, Dec. 16, 1987, as amended at 54 FR 51819, Dec. 18, 1989; 65 FR 61752, Oct. 17, 2000; 71 FR 9882, Feb. 27, 2006]

§ 60.44b Standard for nitrogen oxides.

(a) Except as provided under paragraphs (k) and (l) of this section, on and after the date on which the initial performance test is completed or is required to be completed under § 60.8 of this part, whichever date comes first, no owner or operator of an affected facility that is subject to the provisions of this section and that combusts only coal, oil, or natural gas shall cause to be discharged into the atmosphere from that affected facility any gases that contain nitrogen oxides (expressed as NO<sub>2</sub>) in excess of the following emission limits:

Fuel/Steam generating unit type	Nitrogen oxide emission limits ng/J (lb/million Btu) (expressed as NO <sub>2</sub> ) heat input
(1) Natural gas and distillate oil, except (4):	
(i) Low heat release rate .....	43 (0.10)
(ii) High heat release rate .....	86 (0.20)
(2) Residual oil:	
(i) Low heat release rate .....	130 (0.30)
(ii) High heat release rate .....	170 (0.40)
(3) Coal:	
(i) Mass-feed stoker .....	210 (0.50)
(ii) Spreader stoker and fluidized bed combustion .....	260 (0.60)
(iii) Pulverized coal .....	300 (0.70)
(iv) Lignite, except (v) .....	260 (0.60)
(v) Lignite mined in North Dakota, South Dakota, or Montana and combusted in a slag tap furnace .....	340 (0.80)
(vi) Coal-derived synthetic fuels .....	210 (0.50)
(4) Ouct burner used in a combined cycle system:	
(i) Natural gas and distillate oil .....	86 (0.20)
(ii) Residual oil .....	170 (0.40)

(b) Except as provided under paragraphs (k) and (l) of this section, on and after the date on which the initial performance test is completed or is required to be completed under § 60.8 of this part, whichever date comes first, no owner or operator of an affected facility that simultaneously combusts mixtures of coal, oil, or natural gas shall cause to be discharged into the atmosphere from that affected facility any gases that contain nitrogen oxides in excess of a limit determined by the use of the following formula:

$$E_n = \frac{(EL_{gco} H_{go}) + (EL_{ro} H_{ro}) + (EL_c H_c)}{(H_{go} + H_{ro} + H_c)}$$

where:

E<sub>n</sub> is the nitrogen oxides emission limit (expressed as NO<sub>2</sub>), ng/J (lb/million Btu)

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EL<sub>go</sub> is the appropriate emission limit from paragraph (a)(1) for combustion of natural gas or distillate oil, ng/J (lb/million Btu)

H<sub>go</sub> is the heat input from combustion of natural gas or distillate oil.

EL<sub>ro</sub> is the appropriate emission limit from paragraph (a)(2) for combustion of residual oil.

H<sub>ro</sub> is the heat input from combustion of residual oil.

EL<sub>c</sub> is the appropriate emission limit from paragraph (a)(3) for combustion of coal, and

H<sub>c</sub> is the heat input from combustion of coal.

(c) Except as provided under paragraph (1) of this section, on and after the date on which the initial performance test is completed or is required to be completed under §60.8 of this part, whichever date comes first, no owner or operator of an affected facility that simultaneously combusts coal or oil, or a mixture of these fuels with natural gas, and wood, municipal-type solid waste, or any other fuel shall cause to be discharged into the atmosphere any gases that contain nitrogen oxides in excess of the emission limit for the coal or oil, or mixtures of these fuels with natural gas combusted in the affected facility, as determined pursuant to paragraph (a) or (b) of this section, unless the affected facility has an annual capacity factor for coal or oil, or mixture of these fuels with natural gas of 10 percent (0.10) or less and is subject to a federally enforceable requirement that limits operation of the affected facility to an annual capacity factor of 10 percent (0.10) or less for coal, oil, or a mixture of these fuels with natural gas.

(d) On and after the date on which the initial performance test is completed or is required to be completed under §60.8 of this part, whichever date comes first, no owner or operator of an affected facility that simultaneously combusts natural gas with wood, municipal-type solid waste, or other solid fuel, except coal, shall cause to be discharged into the atmosphere from that affected facility any gases that contain nitrogen oxides in excess of 130 ng/J (0.30 lb/million Btu) heat input unless the affected facility has an annual capacity factor for natural gas of 10 percent (0.10) or less and is subject to a federally enforceable requirement that limits operation of the affected facility

to an annual capacity factor of 10 percent (0.10) or less for natural gas.

(e) Except as provided under paragraph (1) of this section, on and after the date on which the initial performance test is completed or is required to be completed under §60.8 of this part, whichever date comes first, no owner or operator of an affected facility that simultaneously combusts coal, oil, or natural gas with byproduct/waste shall cause to be discharged into the atmosphere any gases that contain nitrogen oxides in excess of the emission limit determined by the following formula unless the affected facility has an annual capacity factor for coal, oil, and natural gas of 10 percent (0.10) or less and is subject to a federally enforceable requirement that limits operation of the affected facility to an annual capacity factor of 10 percent (0.10) or less:

$$E_n = \frac{(EL_{go} H_{go}) + (EL_{ro} H_{ro}) + (EL_c H_c)}{(H_{go} + H_{ro} + H_c)}$$

where:

E<sub>n</sub> is the nitrogen oxides emission limit (expressed as NO<sub>2</sub>), ng/J (lb/million Btu)

EL<sub>go</sub> is the appropriate emission limit from paragraph (a)(1) for combustion of natural gas or distillate oil, ng/J (lb/million Btu).

H<sub>go</sub> is the heat input from combustion of natural gas, distillate oil and gaseous byproduct/waste, ng/J (lb/million Btu).

EL<sub>ro</sub> is the appropriate emission limit from paragraph (a)(2) for combustion of residual oil, ng/J (lb/million Btu)

H<sub>ro</sub> is the heat input from combustion of residual oil and/or liquid byproduct/waste.

EL<sub>c</sub> is the appropriate emission limit from paragraph (a)(3) for combustion of coal, and

H<sub>c</sub> is the heat input from combustion of coal.

(f) Any owner or operator of an affected facility that combusts byproduct/waste with either natural gas or oil may petition the Administrator within 180 days of the initial startup of the affected facility to establish a nitrogen oxides emission limit which shall apply specifically to that affected facility when the byproduct/waste is combusted. The petition shall include sufficient and appropriate data, as determined by the Administrator, such as nitrogen oxides emissions from the affected facility, waste composition (including nitrogen content), and combustion conditions to allow the Administrator to confirm that the affected facility is unable to comply with the

emission limits in paragraph (e) of this section and to determine the appropriate emission limit for the affected facility.

(1) Any owner or operator of an affected facility petitioning for a facility-specific nitrogen oxides emission limit under this section shall:

(i) Demonstrate compliance with the emission limits for natural gas and distillate oil in paragraph (a)(1) of this section or for residual oil in paragraph (a)(2) of this section, as appropriate, by conducting a 30-day performance test as provided in §60.46b(e). During the performance test only natural gas, distillate oil, or residual oil shall be combusted in the affected facility; and

(ii) Demonstrate that the affected facility is unable to comply with the emission limits for natural gas and distillate oil in paragraph (a)(1) of this section or for residual oil in paragraph (a)(2) of this section, as appropriate, when gaseous or liquid byproduct/waste is combusted in the affected facility under the same conditions and using the same technological system of emission reduction applied when demonstrating compliance under paragraph (f)(1)(i) of this section.

(2) The nitrogen oxides emission limits for natural gas or distillate oil in paragraph (a)(1) of this section or for residual oil in paragraph (a)(2) of this section, as appropriate, shall be applicable to the affected facility until and unless the petition is approved by the Administrator. If the petition is approved by the Administrator, a facility-specific nitrogen oxides emission limit will be established at the nitrogen oxides emission level achievable when the affected facility is combusting oil or natural gas and byproduct/waste in a manner that the Administrator determines to be consistent with minimizing nitrogen oxides emissions.

(g) Any owner or operator of an affected facility that combusts hazardous waste (as defined by 40 CFR part 261 or 40 CFR part 761) with natural gas or oil may petition the Administrator within 180 days of the initial startup of the affected facility for a waiver from compliance with the nitrogen oxides emission limit which applies specifically to that affected facility. The petition

must include sufficient and appropriate data, as determined by the Administrator, on nitrogen oxides emissions from the affected facility, waste destruction efficiencies, waste composition (including nitrogen content), the quantity of specific wastes to be combusted and combustion conditions to allow the Administrator to determine if the affected facility is able to comply with the nitrogen oxides emission limits required by this section. The owner or operator of the affected facility shall demonstrate that when hazardous waste is combusted in the affected facility, thermal destruction efficiency requirements for hazardous waste specified in an applicable federally enforceable requirement preclude compliance with the nitrogen oxides emission limits of this section. The nitrogen oxides emission limits for natural gas or distillate oil in paragraph (a)(1) of this section or for residual oil in paragraph (a)(2) of this section, as appropriate, are applicable to the affected facility until and unless the petition is approved by the Administrator. (See 40 CFR 761.70 for regulations applicable to the incineration of materials containing polychlorinated biphenyls (PCB's).)

(h) For purposes of paragraph (i) of this section, the nitrogen oxide standards under this section apply at all times including periods of startup, shutdown, or malfunction.

(i) Except as provided under paragraph (j) of this section, compliance with the emission limits under this section is determined on a 30-day rolling average basis.

(j) Compliance with the emission limits under this section is determined on a 24-hour average basis for the initial performance test and on a 3-hour average basis for subsequent performance tests for any affected facilities that:

(1) Combust, alone or in combination, only natural gas, distillate oil, or residual oil with a nitrogen content of 0.30 weight percent or less;

(2) Have a combined annual capacity factor of 10 percent or less for natural gas, distillate oil, and residual oil with a nitrogen content of 0.30 weight percent or less; and

(3) Are subject to a Federally enforceable requirement limiting operation of the affected facility to the firing of natural gas, distillate oil, and/or residual oil with a nitrogen content of 0.30 weight percent or less and limiting operation of the affected facility to a combined annual capacity factor of 10 percent or less for natural gas, distillate oil, and residual oil and a nitrogen content of 0.30 weight percent or less.

(k) Affected facilities that meet the criteria described in paragraphs (j) (1), (2), and (3) of this section, and that have a heat input capacity of 73 MW (250 million Btu/hour) or less, are not subject to the nitrogen oxides emission limits under this section.

(1) On and after the date on which the initial performance test is completed or is required to be completed under § 60.8, whichever date comes first, no owner or operator of an affected facility which commenced construction or reconstruction after July 9, 1997 shall cause to be discharged into the atmosphere from that affected facility any gases that contain nitrogen oxides (expressed as NO<sub>2</sub>) in excess of the following limits:

(1) If the affected facility combusts coal, oil, or natural gas, or a mixture of these fuels, or with any other fuels: A limit of 86 ng/J<sub>i</sub> (0.20 lb/million Btu) heat input unless the affected facility has an annual capacity factor for coal, oil, and natural gas of 10 percent (0.10) or less and is subject to a federally enforceable requirement that limits operation of the facility to an annual capacity factor of 10 percent (0.10) or less for coal, oil, and natural gas; or

(2) If the affected facility has a low heat release rate and combusts natural gas or distillate oil in excess of 30 percent of the heat input from the combustion of all fuels, a limit determined by use of the following formula:

$$E_n = [(0.10 * H_{go}) + (0.20 * H_r)] / (H_{go} + H_r)$$

Where:

$E_n$  is the NO<sub>x</sub> emission limit. (lb/million Btu),

$H_{go}$  is the heat input from combustion of natural gas or distillate oil, and

$H_r$  is the heat input from combustion of any other fuel.

(3) After February 27, 2006, units may comply with an optional limit of 270

ng/J (2.1 lb/MWh) gross energy output, based on a 30-day rolling average. Units complying with this output-based limit must demonstrate compliance according to the procedures of § 60.46a (i)(1), and must monitor emissions according to § 60.47a(c)(1), (c)(2), (k), and (l).

[52 FR 47842, Dec. 16, 1987, as amended at 54 FR 51825, Dec. 18, 1989; 63 FR 49454, Sept. 16, 1998; 66 FR 42610, Aug. 14, 2001; 71 FR 9882, Feb. 27, 2006]

#### § 60.45b Compliance and performance test methods and procedures for sulfur dioxide.

(a) The sulfur dioxide emission standards under § 60.42b apply at all times.

(b) In conducting the performance tests required under § 60.8, the owner or operator shall use the methods and procedures in appendix A of this part or the methods and procedures as specified in this section, except as provided in § 60.8(b). Section 60.8(f) does not apply to this section. The 30-day notice required in § 60.8(d) applies only to the initial performance test unless otherwise specified by the Administrator.

(c) The owner or operator of an affected facility shall conduct performance tests to determine compliance with the percent of potential sulfur dioxide emission rate (% P<sub>s</sub>) and the sulfur dioxide emission rate (E<sub>s</sub>) pursuant to § 60.42b following the procedures listed below, except as provided under paragraph (d) and (k) of this section.

(1) The initial performance test shall be conducted over the first 30 consecutive operating days of the steam generating unit. Compliance with the sulfur dioxide standards shall be determined using a 30-day average. The first operating day included in the initial performance test shall be scheduled within 30 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of the facility.

(2) If only coal or only oil is combusted, the following procedures are used:

(i) The procedures in Method 19 are used to determine the hourly sulfur dioxide emission rate (E<sub>hso</sub>) and the 30-day average emission rate (E<sub>aso</sub>). The hourly averages used to compute the 30-day

averages are obtained from the continuous emission monitoring system of § 60.47b (a) or (b).

(ii) The percent of potential sulfur dioxide emission rate (%  $P_s$ ) emitted to the atmosphere is computed using the following formula:

$$\% P_s = 100 (1 - \% R_g / 100) (1 - \% R_r / 100)$$

where:

$\% R_r$  is the sulfur dioxide removal efficiency of the control device as determined by Method 19, in percent.

$\% R_g$  is the sulfur dioxide removal efficiency of fuel pretreatment as determined by Method 19, in percent.

(3) If coal or oil is combusted with other fuels, the same procedures required in paragraph (c)(2) of this section are used, except as provided in the following:

(i) An adjusted hourly sulfur dioxide emission rate ( $E_{ho}^o$ ) is used in Equation 19-19 of Method 19 to compute an adjusted 30-day average emission rate ( $E_{ao}^o$ ). The  $E_{ho}$  is computed using the following formula:

$$E_{ho}^o = [E_{ho} - E_w(1 - X_k)] / X_k$$

where:

$E_{ho}^o$  is the adjusted hourly sulfur dioxide emission rate, ng/J (lb/million Btu).

$E_{ho}$  is the hourly sulfur dioxide emission rate, ng/J (lb/million Btu).

$E_w$  is the sulfur dioxide concentration in fuels other than coal and oil combusted in the affected facility, as determined by the fuel sampling and analysis procedures in Method 19, ng/J (lb/million Btu). The value  $E_w$  for each fuel lot is used for each hourly average during the time that the lot is being combusted.

$X_k$  is the fraction of total heat input from fuel combustion derived from coal, oil, or coal and oil, as determined by applicable procedures in Method 19.

(ii) To compute the percent of potential sulfur dioxide emission rate (%  $P_s$ ), an adjusted %  $R_g$  (%  $R_g^o$ ) is computed from the adjusted  $E_{ao}^o$  from paragraph (b)(3)(i) of this section and an adjusted average sulfur dioxide inlet rate ( $E_{ai}^o$ ) using the following formula:

$$\% R_g^o = 100 (1.0 - E_{ao}^o / E_{ai}^o)$$

To compute  $E_{ai}^o$ , an adjusted hourly sulfur dioxide inlet rate ( $E_{hi}^o$ ) is used. The  $E_{hi}^o$  is computed using the following formula:

$$E_{hi}^o = [E_{hi} - E_w(1 - X_k)] / X_k$$

where:

$E_{ho}^o$  is the adjusted hourly sulfur dioxide inlet rate, ng/J (lb/million Btu).

$E_{hi}$  is the hourly sulfur dioxide inlet rate, ng/J (lb/million Btu).

(4) The owner or operator of an affected facility subject to paragraph (b)(3) of this section does not have to measure parameters  $E_w$  or  $X_k$  if the owner or operator elects to assume that  $X_k=1.0$ . Owners or operators of affected facilities who assume  $X_k=1.0$  shall

(i) Determine %  $P_s$ , following the procedures in paragraph (c)(2) of this section, and

(ii) Sulfur dioxide emissions ( $E_s$ ) are considered to be in compliance with sulfur dioxide emission limits under § 60.42b.

(5) The owner or operator of an affected facility that qualifies under the provisions of § 60.42b(d) does not have to measure parameters  $E_w$  or  $X_k$  under paragraph (b)(3) of this section if the owner or operator of the affected facility elects to measure sulfur dioxide emission rates of the coal or oil following the fuel sampling and analysis procedures under Method 19.

(d) Except as provided in paragraph (j), the owner or operator of an affected facility that combusts only very low sulfur oil, has an annual capacity factor for oil of 10 percent (0.10) or less, and is subject to a Federally enforceable requirement limiting operation of the affected facility to an annual capacity factor for oil of 10 percent (0.10) or less shall:

(1) Conduct the initial performance test over 24 consecutive steam generating unit operating hours at full load;

(2) Determine compliance with the standards after the initial performance test based on the arithmetic average of the hourly emissions data during each steam generating unit operating day if a continuous emission measurement system (CEMS) is used, or based on a daily average if Method 6B or fuel sampling and analysis procedures under Method 19 are used.

(e) The owner or operator of an affected facility subject to § 60.42b(d)(1) shall demonstrate the maximum design capacity of the steam generating unit by operating the facility at maximum

capacity for 24 hours. This demonstration will be made during the initial performance test and a subsequent demonstration may be requested at any other time. If the 24-hour average firing rate for the affected facility is less than the maximum design capacity provided by the manufacturer of the affected facility, the 24-hour average firing rate shall be used to determine the capacity utilization rate for the affected facility, otherwise the maximum design capacity provided by the manufacturer is used.

(f) For the initial performance test required under §60.8, compliance with the sulfur dioxide emission limits and percent reduction requirements under §60.42b is based on the average emission rates and the average percent reduction for sulfur dioxide for the first 30 consecutive steam generating unit operating days, except as provided under paragraph (d) of this section. The initial performance test is the only test for which at least 30 days prior notice is required unless otherwise specified by the Administrator. The initial performance test is to be scheduled so that the first steam generating unit operating day of the 30 successive steam generating unit operating days is completed within 30 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of the facility. The boiler load during the 30-day period does not have to be the maximum design load, but must be representative of future operating conditions and include at least one 24-hour period at full load.

(g) After the initial performance test required under §60.8, compliance with the sulfur dioxide emission limits and percent reduction requirements under §60.42b is based on the average emission rates and the average percent reduction for sulfur dioxide for 30 successive steam generating unit operating days, except as provided under paragraph (d). A separate performance test is completed at the end of each steam generating unit operating day after the initial performance test, and a new 30-day average emission rate and percent reduction for sulfur dioxide are cal-

culated to show compliance with the standard.

(h) Except as provided under paragraph (i) of this section, the owner or operator of an affected facility shall use all valid sulfur dioxide emissions data in calculating % P, and  $E_{\text{no}}$  under paragraph (c), of this section whether or not the minimum emissions data requirements under §60.46b are achieved. All valid emissions data, including valid sulfur dioxides emission data collected during periods of startup, shutdown and malfunction, shall be used in calculating % P, and  $E_{\text{no}}$  pursuant to paragraph (c) of this section.

(i) During periods of malfunction or maintenance of the sulfur dioxide control systems when oil is combusted as provided under §60.42b(i), emission data are not used to calculate % P, or  $E_s$  under §60.42b (a), (b) or (c), however, the emissions data are used to determine compliance with the emission limit under §60.42b(i).

(j) The owner or operator of an affected facility that combusts very low sulfur oil is not subject to the compliance and performance testing requirements of this section if the owner or operator obtains fuel receipts as described in §60.49b(r).

(k) Units that burn only oil that contains no more than 0.3 weight percent sulfur or fuels with potential sulfur dioxide emission rates of 140 ng/J (0.32 lb/MMBtu) heat input or less may demonstrate compliance by maintaining records of fuel supplier certifications of sulfur content of the fuels burned.

[52 FR 47842, Dec. 16, 1987, as amended at 54 FR 51820, 51825, Dec. 18, 1989; 71 FR 9883, Feb. 27, 2006]

**§ 60.46b Compliance and performance test methods and procedures for particulate matter and nitrogen oxides.**

(a) The particulate matter emission standards and opacity limits under §60.43b apply at all times except during periods of startup, shutdown, or malfunction, and as specified in paragraphs (i) and (j) of this section. The nitrogen oxides emission standards under §60.44b apply at all times.

(b) Compliance with the particulate matter emission standards under §60.43b shall be determined through

performance testing as described in paragraph (d) of this section, except as provided in paragraph (i) and (j).

(c) Compliance with the nitrogen oxides emission standards under §60.44b shall be determined through performance testing under paragraph (e) or (f), or under paragraphs (g) and (h) of this section, as applicable.

(d) To determine compliance with the particulate matter emission limits and opacity limits under §60.43b, the owner or operator of an affected facility shall conduct an initial performance test as required under §60.8 using the following procedures and reference methods:

(1) Method 3B is used for gas analysis when applying Method 5 or Method 17.

(2) Method 5, Method 5B, or Method 17 shall be used to measure the concentration of particulate matter as follows:

(i) Method 5 shall be used at affected facilities without wet flue gas desulfurization (FGD) systems; and

(ii) Method 17 may be used at facilities with or without wet scrubber systems provided the stack gas temperature does not exceed a temperature of 160 °C (320 °F). The procedures of sections 2.1 and 2.3 of Method 5B may be used in Method 17 only if it is used after a wet FGD system. Do not use Method 17 after wet FGD systems if the effluent is saturated or laden with water droplets.

(iii) Method 5B is to be used only after wet FGD systems.

(3) Method 1 is used to select the sampling site and the number of traverse sampling points. The sampling time for each run is at least 120 minutes and the minimum sampling volume is 1.7 dscm (60 dscf) except that smaller sampling times or volumes may be approved by the Administrator when necessitated by process variables or other factors.

(4) For Method 5, the temperature of the sample gas in the probe and filter holder is monitored and is maintained at 160 ±14 °C (320 ±25 °F).

(5) For determination of particulate matter emissions, the oxygen or carbon dioxide sample is obtained simultaneously with each run of Method 5, Method 5B or Method 17 by traversing

the duct at the same sampling location.

(6) For each run using Method 5, Method 5B or Method 17, the emission rate expressed in nanograms per joule heat input is determined using:

(i) The oxygen or carbon dioxide measurements and particulate matter measurements obtained under this section,

(ii) The dry basis F factor, and

(iii) The dry basis emission rate calculation procedure contained in Method 19.

(7) Method 9 is used for determining the opacity of stack emissions.

(e) To determine compliance with the emission limits for nitrogen oxides required under §60.44b, the owner or operator of an affected facility shall conduct the performance test as required under §60.8 using the continuous system for monitoring nitrogen oxides under §60.48(b).

(1) For the initial compliance test, nitrogen oxides from the steam generating unit are monitored for 30 successive steam generating unit operating days and the 30-day average emission rate is used to determine compliance with the nitrogen oxides emission standards under §60.44b. The 30-day average emission rate is calculated as the average of all hourly emissions data recorded by the monitoring system during the 30-day test period.

(2) Following the date on which the initial performance test is completed or is required to be completed under §60.8 of this part, whichever date comes first, the owner or operator of an affected facility which combusts coal or which combusts residual oil having a nitrogen content greater than 0.30 weight percent shall determine compliance with the nitrogen oxides emission standards under §60.44b on a continuous basis through the use of a 30-day rolling average emission rate. A new 30-day rolling average emission rate is calculated each steam generating unit operating day as the average of all of the hourly nitrogen oxides emission data for the preceding 30 steam generating unit operating days.

(3) Following the date on which the initial performance test is completed or is required to be completed under §60.8 of this part, whichever date comes

first, the owner or operator of an affected facility which has a heat input capacity greater than 73 MW (250 million Btu/hour) and which combusts natural gas, distillate oil, or residual oil having a nitrogen content of 0.30 weight percent or less shall determine compliance with the nitrogen oxides standards under § 60.44b on a continuous basis through the use of a 30-day rolling average emission rate. A new 30-day rolling average emission rate is calculated each steam generating unit operating day as the average of all of the hourly nitrogen oxides emission data for the preceding 30 steam generating unit operating days.

(4) Following the date on which the initial performance test is completed or required to be completed under § 60.8 of this part, whichever date comes first, the owner or operator of an affected facility which has a heat input capacity of 73 MW (250 million Btu/hour) or less and which combusts natural gas, distillate oil, or residual oil having a nitrogen content of 0.30 weight percent or less shall upon request determine compliance with the nitrogen oxides standards under § 60.44b through the use of a 30-day performance test. During periods when performance tests are not requested, nitrogen oxides emissions data collected pursuant to § 60.48b(g)(1) or § 60.48b(g)(2) are used to calculate a 30-day rolling average emission rate on a daily basis and used to prepare excess emission reports, but will not be used to determine compliance with the nitrogen oxides emission standards. A new 30-day rolling average emission rate is calculated each steam generating unit operating day as the average of all of the hourly nitrogen oxides emission data for the preceding 30 steam generating unit operating days.

(5) If the owner or operator of an affected facility which combusts residual oil does not sample and analyze the residual oil for nitrogen content, as specified in § 60.49b(e), the requirements of paragraph (iii) of this section apply and the provisions of paragraph (iv) of this section are inapplicable.

(f) To determine compliance with the emissions limits for NO<sub>x</sub> required by § 60.44b(a)(4) or § 60.44b(1) for duct burners used in combined cycle systems, ei-

ther of the procedures described in paragraph (f)(1) or (2) of this section may be used:

(1) The owner or operator of an affected facility shall conduct the performance test required under § 60.8 as follows:

(i) The emissions rate (E) of NO<sub>x</sub> shall be computed using Equation of 1 this section:

$$E = E_{sg} + (H_g/H_b)(E_{sg} - E_g) \text{ (Eq. 1)}$$

Where:

E = emissions rate of NO<sub>x</sub> from the duct burner, ng/J (lb/million Btu) heat input

E<sub>sg</sub> = combined effluent emissions rate, in ng/J (lb/million Btu) heat input using appropriate F-Factor as described in Method 19

H<sub>g</sub> = heat input rate to the combustion turbine, in Joules/hour (million Btu/hour)

H<sub>b</sub> = heat input rate to the duct burner, in Joules/hour (million Btu/hour)

E<sub>g</sub> = emissions rate from the combustion turbine, in ng/J (lb/million Btu) heat input calculated using appropriate F-Factor as described in Method 19

(ii) Method 7E of appendix A of this part shall be used to determine the NO<sub>x</sub> concentrations. Method 3A or 3B of appendix A of this part shall be used to determine oxygen concentration.

(iii) The owner or operator shall identify and demonstrate to the Administrator's satisfaction suitable methods to determine the average hourly heat input rate to the combustion turbine and the average hourly heat input rate to the affected duct burner.

(iv) Compliance with the emissions limits under § 60.44b (a)(4) or § 60.44b(1) is determined by the three-run average (nominal 1-hour runs) for the initial and subsequent performance tests; or

(2) The owner or operator of an affected facility may elect to determine compliance on a 30-day rolling average basis by using the continuous emission monitoring system specified under § 60.48b for measuring NO<sub>x</sub> and oxygen and meet the requirements of § 60.48b. The sampling site shall be located at the outlet from the steam generating unit. The NO<sub>x</sub> emissions rate at the outlet from the steam generating unit shall constitute the NO<sub>x</sub> emissions rate from the duct burner of the combined cycle system.

(g) The owner or operator of an affected facility described in § 60.44b(j) or



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§ 60.44b(k) shall demonstrate the maximum heat input capacity of the steam generating unit by operating the facility at maximum capacity for 24 hours. The owner or operator of an affected facility shall determine the maximum heat input capacity using the heat loss method described in sections 5 and 7.3 of the ASME *Power Test Codes* 4.1 (see IBR § 60.17(h)). This demonstration of maximum heat input capacity shall be made during the initial performance test for affected facilities that meet the criteria of § 60.44b(j). It shall be made within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial start-up of each facility, for affected facilities meeting the criteria of § 60.44b(k). Subsequent demonstrations may be required by the Administrator at any other time. If this demonstration indicates that the maximum heat input capacity of the affected facility is less than that stated by the manufacturer of the affected facility, the maximum heat input capacity determined during this demonstration shall be used to determine the capacity utilization rate for the affected facility. Otherwise, the maximum heat input capacity provided by the manufacturer is used.

(h) The owner or operator of an affected facility described in § 60.44b(j) that has a heat input capacity greater than 73 MW (250 million Btu/hour) shall:

(1) Conduct an initial performance test as required under § 60.8 over a minimum of 24 consecutive steam generating unit operating hours at maximum heat input capacity to demonstrate compliance with the nitrogen oxides emission standards under § 60.44b using Method 7, 7A, 7E, or other approved reference methods; and

(2) Conduct subsequent performance tests once per calendar year or every 400 hours of operation (whichever comes first) to demonstrate compliance with the nitrogen oxides emission standards under § 60.44b over a minimum of 3 consecutive steam generating unit operating hours at maximum heat input capacity using Method 7, 7A, 7E, or other approved reference methods.

(i) Units burning only oil that contains no more than 0.3 weight percent sulfur or liquid or gaseous fuels with a potential sulfur dioxide emission rates of 140 ng/J (0.32 lb/MMBtu) heat input or less may demonstrate compliance by maintaining fuel supplier certifications of the sulfur content of the fuels burned.

(j) In place of particulate matter testing with EPA Reference Method 5, 5B, or 17, an owner or operator may elect to install, calibrate, maintain, and operate a continuous emission monitoring system for monitoring particulate matter emissions discharged to the atmosphere and record the output of the system. The owner or operator of an affected facility who elects to continuously monitor particulate matter emissions instead of conducting performance testing using EPA Method 5, 5B, or 17 shall comply with the requirements specified in paragraphs (j)(1) through (j)(13) of this section.

(1) Notify the Administrator one month before starting use of the system.

(2) Notify the Administrator one month before stopping use of the system.

(3) The monitor shall be installed, evaluated, and operated in accordance with § 60.13 of subpart A of this part.

(4) The initial performance evaluation shall be completed no later than 180 days after the date of initial start-up of the affected facility, as specified under § 60.8 of subpart A of this part or within 180 days of notification to the Administrator of use of the continuous monitoring system if the owner or operator was previously determining compliance by Method 5, 5B, or 17 performance tests, whichever is later.

(5) The owner or operator of an affected facility shall conduct an initial performance test for particulate matter emissions as required under § 60.8 of subpart A of this part. Compliance with the particulate matter emission limit shall be determined by using the continuous emission monitoring system specified in paragraph (j) of this section to measure particulate matter and calculating a 24-hour block arithmetic average emission concentration using EPA Reference Method 19, section 4.1.

(6) Compliance with the particulate matter emission limit shall be determined based on the 24-hour daily (block) average of the hourly arithmetic average emission concentrations using continuous emission monitoring system outlet data.

(7) At a minimum, valid continuous monitoring system hourly averages shall be obtained as specified in paragraphs (j)(7)(i) of this section for 75 percent of the total operating hours per 30-day rolling average.

(i) At least two data points per hour shall be used to calculate each 1-hour arithmetic average.

(8) The 1-hour arithmetic averages required under paragraph (j)(7) of this section shall be expressed in ng/J or lb/MMBtu heat input and shall be used to calculate the boiler operating day daily arithmetic average emission concentrations. The 1-hour arithmetic averages shall be calculated using the data points required under § 60.13(e)(2) of subpart A of this part.

(9) All valid continuous emission monitoring system data shall be used in calculating average emission concentrations even if the minimum continuous emission monitoring system data requirements of paragraph (j)(7) of this section are not met.

(10) The continuous emission monitoring system shall be operated according to Performance Specification 11 in appendix B of this part.

(11) During the correlation testing runs of the continuous emission monitoring system required by Performance Specification 11 in appendix B of this part, particulate matter and oxygen (or carbon dioxide) data shall be collected concurrently (or within a 30- to 60-minute period) by both the continuous emission monitors and the test methods specified in paragraphs (j)(7)(i) of this section.

(i) For particulate matter, EPA Reference Method 5, 5B, or 17 shall be used.

(ii) For oxygen (or carbon dioxide), EPA reference Method 3, 3A, or 3B, as applicable shall be used.

(12) Quarterly accuracy determinations and daily calibration drift tests shall be performed in accordance with procedure 2 in appendix F of this part. Relative Response Audit's must be per-

formed annually and Response Correlation Audits must be performed every 3 years.

(13) When particulate matter emissions data are not obtained because of continuous emission monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments, emissions data shall be obtained by using other monitoring systems as approved by the Administrator or EPA Reference Method 19 to provide, as necessary, valid emissions data for a minimum of 75 percent of total operating hours per 30-day rolling average.

[52 FR 47842, Dec. 16, 1987, as amended at 54 FR 51820, 51825, Dec. 18, 1989; 55 FR 18876, May 7, 1990; 65 FR 61752, Oct. 17, 2000; 66 FR 18553, Apr. 10, 2001; 71 FR 9883, Feb. 27, 2006]

#### § 60.47b Emission monitoring for sulfur dioxide.

(a) Except as provided in paragraphs (b),(f), and (g) of this section, the owner or operator of an affected facility subject to the sulfur dioxide standards under § 60.42b shall install, calibrate, maintain, and operate continuous emission monitoring systems (CEMS) for measuring sulfur dioxide concentrations and either oxygen (O<sub>2</sub>) or carbon dioxide (CO<sub>2</sub>) concentrations and shall record the output of the systems. The sulfur dioxide and either oxygen or carbon dioxide concentrations shall both be monitored at the inlet and outlet of the sulfur dioxide control device.

(b) As an alternative to operating CEMS as required under paragraph (a) of this section, an owner or operator may elect to determine the average sulfur dioxide emissions and percent reduction by:

(1) Collecting coal or oil samples in an as-fired condition at the inlet to the steam generating unit and analyzing them for sulfur and heat content according to Method 19. Method 19 provides procedures for converting these measurements into the format to be used in calculating the average sulfur dioxide input rate, or

(2) Measuring sulfur dioxide according to Method 6B at the inlet or outlet to the sulfur dioxide control system. An initial stratification test is required to verify the adequacy of the Method 6B sampling location. The stratification test shall consist of three

paired runs of a suitable sulfur dioxide and carbon dioxide measurement train operated at the candidate location and a second similar train operated according to the procedures in section 3.2 and the applicable procedures in section 7 of Performance Specification 2. Method 6B, Method 6A, or a combination of Methods 6 and 3 or 3B or Methods 6C and 3A are suitable measurement techniques. If Method 6B is used for the second train, sampling time and timer operation may be adjusted for the stratification test as long as an adequate sample volume is collected; however, both sampling trains are to be operated similarly. For the location to be adequate for Method 6B 24-hour tests, the mean of the absolute difference between the three paired runs must be less than 10 percent.

(3) A daily sulfur dioxide emission rate,  $E_p$ , shall be determined using the procedure described in Method 6A, section 7.6.2 (Equation 6A-8) and stated in ng/J (lb/million Btu) heat input.

(4) The mean 30-day emission rate is calculated using the daily measured values in ng/J (lb/million Btu) for 30 successive steam generating unit operating days using equation 19-20 of Method 19.

(c) The owner or operator of an affected facility shall obtain emission data for at least 75 percent of the operating hours in at least 22 out of 30 successive boiler operating days. If this minimum data requirement is not met with a single monitoring system, the owner or operator of the affected facility shall supplement the emission data with data collected with other monitoring systems as approved by the Administrator or the reference methods and procedures as described in paragraph (b) of this section.

(d) The 1-hour average sulfur dioxide emission rates measured by the CEMS required by paragraph (a) of this section and required under § 60.13(h) is expressed in ng/J or lb/MMBtu heat input and is used to calculate the average emission rates under § 60.42(b). Each 1-hour average sulfur dioxide emission rate must be based on 30 or more minutes of steam generating unit operation. The hourly averages shall be calculated according to § 60.13(h)(2). Hourly sulfur dioxide emission rates are not

calculated if the affected facility is operated less than 30 minutes in a given clock hour and are not counted toward determination of a steam generating unit operating day.

(e) The procedures under § 60.13 shall be followed for installation, evaluation, and operation of the CEMS.

(1) All CEMS shall be operated in accordance with the applicable procedures under Performance Specifications 1, 2, and 3 (appendix B).

(2) Quarterly accuracy determinations and daily calibration drift tests shall be performed in accordance with Procedure 1 (appendix F).

(3) For affected facilities combusting coal or oil, alone or in combination with other fuels, the span value of the sulfur dioxide CEMS at the inlet to the sulfur dioxide control device is 125 percent of the maximum estimated hourly potential sulfur dioxide emissions of the fuel combusted, and the span value of the CEMS at the outlet to the sulfur dioxide control device is 50 percent of the maximum estimated hourly potential sulfur dioxide emissions of the fuel combusted.

(f) The owner or operator of an affected facility that combusts very low sulfur oil is not subject to the emission monitoring requirements of this section if the owner or operator obtains fuel receipts as described in § 60.49b(r).

(g) Units burning any fuel with a potential sulfur dioxide emission rate of 140 ng/J (0.32 lb/MMBtu) heat input or less are not required to conduct emissions monitoring if they maintain fuel supplier certifications of the sulfur content of the fuels burned.

[52 FR 47842, Dec. 16, 1987, as amended at 54 FR 51820, Dec. 18, 1989; 55 FR 5212, Feb. 14, 1990; 55 FR 18876, May 7, 1990; 71 FR 9883, Feb. 27, 2006]

#### § 60.48b Emission monitoring for particulate matter and nitrogen oxides.

(a) The owner or operator of an affected facility subject to the opacity standard under § 60.43b shall install, calibrate, maintain, and operate a continuous monitoring system for measuring the opacity of emissions discharged to the atmosphere and record the output of the system, except as provided in paragraphs (j) and (k) of this section.

(b) Except as provided under paragraphs (g), (h), and (i) of this section, the owner or operator of an affected facility subject to a nitrogen oxides standard under §60.44b shall comply with either paragraphs (b)(1) or (b)(2) of this section.

(1) Install, calibrate, maintain, and operate a continuous monitoring system, and record the output of the system, for measuring nitrogen oxides emissions discharged to the atmosphere; or

(2) If the owner or operator has installed a nitrogen oxides emission rate continuous emission monitoring system (CEMS) to meet the requirements of part 75 of this chapter and is continuing to meet the ongoing requirements of part 75 of this chapter, that CEMS may be used to meet the requirements of this section, except that the owner or operator shall also meet the requirements of §60.49b. Data reported to meet the requirements of §60.49b shall not include data substituted using the missing data procedures in subpart D of part 75 of this chapter, nor shall the data have been bias adjusted according to the procedures of part 75 of this chapter.

(c) The continuous monitoring systems required under paragraph (b) of this section shall be operated and data recorded during all periods of operation of the affected facility except for continuous monitoring system breakdowns and repairs. Data is recorded during calibration checks, and zero and span adjustments.

(d) The 1-hour average nitrogen oxides emission rates measured by the continuous nitrogen oxides monitor required by paragraph (b) of this section and required under §60.13(h) shall be expressed in ng/J or lb/MMBtu heat input and shall be used to calculate the average emission rates under §60.44b. The 1-hour averages shall be calculated using the data points required under §60.13(h)(2).

(e) The procedures under §60.13 shall be followed for installation, evaluation, and operation of the continuous monitoring systems.

(1) For affected facilities combusting coal, wood or municipal-type solid waste, the span value for a continuous

monitoring system for measuring opacity shall be between 60 and 80 percent.

(2) For affected facilities combusting coal, oil, or natural gas, the span value for nitrogen oxides is determined as follows:

Fuel	Span values for nitrogen oxides (PPM)
Natural gas .....	500
Oil .....	500
Coal .....	1,000
Mixtures .....	$500(x+y)+1,000z$

where:

x is the fraction of total heat input derived from natural gas.

y is the fraction of total heat input derived from oil, and

z is the fraction of total heat input derived from coal.

(3) All span values computed under paragraph (e)(2) of this section for combusting mixtures of regulated fuels are rounded to the nearest 500 ppm.

(f) When nitrogen oxides emission data are not obtained because of continuous monitoring system breakdowns, repairs, calibration checks and zero and span adjustments, emission data will be obtained by using standby monitoring systems, Method 7, Method 7A, or other approved reference methods to provide emission data for a minimum of 75 percent of the operating hours in each steam generating unit operating day, in at least 22 out of 30 successive steam generating unit operating days.

(g) The owner or operator of an affected facility that has a heat input capacity of 73 MW (250 million Btu/hour) or less, and which has an annual capacity factor for residual oil having a nitrogen content of 0.30 weight percent or less, natural gas, distillate oil, or any mixture of these fuels, greater than 10 percent (0.10) shall:

(1) Comply with the provisions of paragraphs (b), (c), (d), (e)(2), (e)(3), and (f) of this section, or

(2) Monitor steam generating unit operating conditions and predict nitrogen oxides emission rates as specified in a plan submitted pursuant to §60.49b(c).

(h) The owner or operator of a duct burner, as described in §60.41b, which is subject to the NO<sub>x</sub> standards of §60.44b(a)(4) or §60.44b(1) is not required

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to install or operate a continuous emissions monitoring system to measure NO<sub>x</sub> emissions.

(i) The owner or operator of an affected facility described in § 60.44b(j) or § 60.44b(k) is not required to install or operate a continuous monitoring system for measuring nitrogen oxides emissions.

(j) Units that burn only oil that contains no more than 0.3 weight percent sulfur or liquid or gaseous fuels with potential sulfur dioxide emission rates of 140 ng/J (0.32 lb/MMBtu) heat input or less are not required to conduct PM emissions monitoring if they maintain fuel supplier certifications of the sulfur content of the fuels burned.

(k) Owners or operators complying with the PM emission limit by using a PM CEMs monitor instead of monitoring opacity must calibrate, maintain, and operate a continuous monitoring system, and record the output of the system, for PM emissions discharged to the atmosphere as specified in § 60.46b(j). The continuous monitoring systems specified in paragraph § 60.46b(j) shall be operated and data recorded during all periods of operation of the affected facility except for continuous monitoring system breakdowns and repairs. Data is recorded during calibration checks, and zero and span adjustments.

[52 FR 47842, Dec. 16, 1987, as amended at 54 FR 51825, Dec. 18, 1989; 63 FR 49455, Sept. 16, 1998; 66 FR 18553, Apr. 10, 2001; 71 FR 9884, Feb. 27, 2006]

**§ 60.49b Reporting and recordkeeping requirements.**

(a) The owner or operator of each affected facility shall submit notification of the date of initial startup, as provided by § 60.7. This notification shall include:

(1) The design heat input capacity of the affected facility and identification of the fuels to be combusted in the affected facility.

(2) If applicable, a copy of any Federally enforceable requirement that limits the annual capacity factor for any fuel or mixture of fuels under §§ 60.42b(d)(1), 60.43b(a)(2), (a)(3)(iii), (c)(2)(ii), (d)(2)(iii), 60.44b(c), (d), (e), (i), (j), (k), 60.45b(d), (g), 60.46b(h), or 60.48b(i).

(3) The annual capacity factor at which the owner or operator anticipates operating the facility based on all fuels fired and based on each individual fuel fired, and,

(4) Notification that an emerging technology will be used for controlling emissions of sulfur dioxide. The Administrator will examine the description of the emerging technology and will determine whether the technology qualifies as an emerging technology. In making this determination, the Administrator may require the owner or operator of the affected facility to submit additional information concerning the control device. The affected facility is subject to the provisions of § 60.42b(a) unless and until this determination is made by the Administrator.

(b) The owner or operator of each affected facility subject to the sulfur dioxide, particulate matter, and/or nitrogen oxides emission limits under §§ 60.42b, 60.43b, and 60.44b shall submit to the Administrator the performance test data from the initial performance test and the performance evaluation of the CEMS using the applicable performance specifications in appendix B. The owner or operator of each affected facility described in § 60.44b(j) or § 60.44b(k) shall submit to the Administrator the maximum heat input capacity data from the demonstration of the maximum heat input capacity of the affected facility.

(c) The owner or operator of each affected facility subject to the nitrogen oxides standard of § 60.44b who seeks to demonstrate compliance with those standards through the monitoring of steam generating unit operating conditions under the provisions of § 60.48b(g)(2) shall submit to the Administrator for approval a plan that identifies the operating conditions to be monitored under § 60.48b(g)(2) and the records to be maintained under § 60.49b(j). This plan shall be submitted to the Administrator for approval within 360 days of the initial startup of the affected facility. The plan shall:

(1) Identify the specific operating conditions to be monitored and the relationship between these operating conditions and nitrogen oxides emission rates (i.e., ng/J or lbs/million Btu

heat input). Steam generating unit operating conditions include, but are not limited to, the degree of staged combustion (i.e., the ratio of primary air to secondary and/or tertiary air) and the level of excess air (i.e., flue gas oxygen level);

(2) Include the data and information that the owner or operator used to identify the relationship between nitrogen oxides emission rates and these operating conditions;

(3) Identify how these operating conditions, including steam generating unit load, will be monitored under §60.48b(g) on an hourly basis by the owner or operator during the period of operation of the affected facility; the quality assurance procedures or practices that will be employed to ensure that the data generated by monitoring these operating conditions will be representative and accurate; and the type and format of the records of these operating conditions, including steam generating unit load, that will be maintained by the owner or operator under §60.49b(j).

If the plan is approved, the owner or operator shall maintain records of predicted nitrogen oxide emission rates and the monitored operating conditions, including steam generating unit load, identified in the plan.

(d) The owner or operator of an affected facility shall record and maintain records of the amounts of each fuel combusted during each day and calculate the annual capacity factor individually for coal, distillate oil, residual oil, natural gas, wood, and municipal-type solid waste for the reporting period. The annual capacity factor is determined on a 12-month rolling average basis with a new annual capacity factor calculated at the end of each calendar month.

(e) For an affected facility that combusts residual oil and meets the criteria under §§60.46b(e)(4), 60.44b (j), or (k), the owner or operator shall maintain records of the nitrogen content of the residual oil combusted in the affected facility and calculate the average fuel nitrogen content for the reporting period. The nitrogen content shall be determined using ASTM Method D3431-80, Test Method for Trace Nitrogen in Liquid Petroleum Hydro-

carbons (IBR-see §60.17), or fuel suppliers. If residual oil blends are being combusted, fuel nitrogen specifications may be prorated based on the ratio of residual oils of different nitrogen content in the fuel blend.

(f) For facilities subject to the opacity standard under §60.43b, the owner or operator shall maintain records of opacity.

(g) Except as provided under paragraph (p) of this section, the owner or operator of an affected facility subject to the nitrogen oxides standards under §60.44b shall maintain records of the following information for each steam generating unit operating day:

(1) Calendar date.

(2) The average hourly nitrogen oxides emission rates (expressed as NO<sub>2</sub>) (ng/J or lb/million Btu heat input) measured or predicted.

(3) The 30-day average nitrogen oxides emission rates (ng/J or lb/million Btu heat input) calculated at the end of each steam generating unit operating day from the measured or predicted hourly nitrogen oxide emission rates for the preceding 30 steam generating unit operating days.

(4) Identification of the steam generating unit operating days when the calculated 30-day average nitrogen oxides emission rates are in excess of the nitrogen oxides emissions standards under §60.44b, with the reasons for such excess emissions as well as a description of corrective actions taken.

(5) Identification of the steam generating unit operating days for which pollutant data have not been obtained, including reasons for not obtaining sufficient data and a description of corrective actions taken.

(6) Identification of the times when emission data have been excluded from the calculation of average emission rates and the reasons for excluding data.

(7) Identification of "F" factor used for calculations, method of determination, and type of fuel combusted.

(8) Identification of the times when the pollutant concentration exceeded full span of the continuous monitoring system.

(9) Description of any modifications to the continuous monitoring system

that could affect the ability of the continuous monitoring system to comply with Performance Specification 2 or 3.

(10) Results of daily CEMS drift tests and quarterly accuracy assessments as required under appendix F, Procedure 1.

(h) The owner or operator of any affected facility in any category listed in paragraphs (h) (1) or (2) of this section is required to submit excess emission reports for any excess emissions which occurred during the reporting period.

(1) Any affected facility subject to the opacity standards under § 60.43b(e) or to the operating parameter monitoring requirements under § 60.13(1)(1).

(2) Any affected facility that is subject to the nitrogen oxides standard of § 60.44b, and that

(i) Combusts natural gas, distillate oil, or residual oil with a nitrogen content of 0.3 weight percent or less, or

(ii) Has a heat input capacity of 73 MW (250 million Btu/hour) or less and is required to monitor nitrogen oxides emissions on a continuous basis under § 60.48b(g)(1) or steam generating unit operating conditions under § 60.48b(g)(2).

(3) For the purpose of § 60.43b, excess emissions are defined as all 6-minute periods during which the average opacity exceeds the opacity standards under § 60.43b(f).

(4) For purposes of § 60.48b(g)(1), excess emissions are defined as any calculated 30-day rolling average nitrogen oxides emission rate, as determined under § 60.46b(e), which exceeds the applicable emission limits in § 60.44b.

(i) The owner or operator of any affected facility subject to the continuous monitoring requirements for nitrogen oxides under § 60.48(b) shall submit reports containing the information recorded under paragraph (g) of this section.

(j) The owner or operator of any affected facility subject to the sulfur dioxide standards under § 60.42b shall submit reports.

(k) For each affected facility subject to the compliance and performance testing requirements of § 60.45b and the reporting requirement in paragraph (j) of this section, the following information shall be reported to the Administrator:

(1) Calendar dates covered in the reporting period.

(2) Each 30-day average sulfur dioxide emission rate (ng/J or lb/million Btu heat input) measured during the reporting period, ending with the last 30-day period; reasons for noncompliance with the emission standards; and a description of corrective actions taken.

(3) Each 30-day average percent reduction in sulfur dioxide emissions calculated during the reporting period, ending with the last 30-day period; reasons for noncompliance with the emission standards; and a description of corrective actions taken.

(4) Identification of the steam generating unit operating days that coal or oil was combusted and for which sulfur dioxide or diluent (oxygen or carbon dioxide) data have not been obtained by an approved method for at least 75 percent of the operating hours in the steam generating unit operating day; justification for not obtaining sufficient data; and description of corrective action taken.

(5) Identification of the times when emissions data have been excluded from the calculation of average emission rates; justification for excluding data; and description of corrective action taken if data have been excluded for periods other than those during which coal or oil were not combusted in the steam generating unit.

(6) Identification of "F" factor used for calculations, method of determination, and type of fuel combusted.

(7) Identification of times when hourly averages have been obtained based on manual sampling methods.

(8) Identification of the times when the pollutant concentration exceeded full span of the CEMS.

(9) Description of any modifications to the CEMS that could affect the ability of the CEMS to comply with Performance Specification 2 or 3.

(10) Results of daily CEMS drift tests and quarterly accuracy assessments as required under appendix F, Procedure 1.

(11) The annual capacity factor of each fired as provided under paragraph (d) of this section.

(1) For each affected facility subject to the compliance and performance testing requirements of § 60.45b(d) and

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the reporting requirements of paragraph (j) of this section, the following information shall be reported to the Administrator:

(1) Calendar dates when the facility was in operation during the reporting period;

(2) The 24-hour average sulfur dioxide emission rate measured for each steam generating unit operating day during the reporting period that coal or oil was combusted, ending in the last 24-hour period in the quarter; reasons for noncompliance with the emission standards; and a description of corrective actions taken;

(3) Identification of the steam generating unit operating days that coal or oil was combusted for which sulfur dioxide or diluent (oxygen or carbon dioxide) data have not been obtained by an approved method for at least 75 percent of the operating hours; justification for not obtaining sufficient data; and description of corrective action taken.

(4) Identification of the times when emissions data have been excluded from the calculation of average emission rates; justification for excluding data; and description of corrective action taken if data have been excluded for periods other than those during which coal or oil were not combusted in the steam generating unit.

(5) Identification of "F" factor used for calculations, method of determination, and type of fuel combusted.

(6) Identification of times when hourly averages have been obtained based on manual sampling methods.

(7) Identification of the times when the pollutant concentration exceeded full span of the CEMS.

(8) Description of any modifications to the CEMS which could affect the ability of the CEMS to comply with Performance Specification 2 or 3.

(9) Results of daily CEMS drift tests and quarterly accuracy assessments as required under appendix F, Procedure 1.

(m) For each affected facility subject to the sulfur dioxide standards under § 60.42(b) for which the minimum amount of data required under § 60.47b(f) were not obtained during the reporting period, the following information is reported to the Adminis-

trator in addition to that required under paragraph (k) of this section:

(1) The number of hourly averages available for outlet emission rates and inlet emission rates.

(2) The standard deviation of hourly averages for outlet emission rates and inlet emission rates, as determined in Method 19, section 7.

(3) The lower confidence limit for the mean outlet emission rate and the upper confidence limit for the mean inlet emission rate, as calculated in Method 19, section 7.

(4) The ratio of the lower confidence limit for the mean outlet emission rate and the allowable emission rate, as determined in Method 19, section 7.

(n) If a percent removal efficiency by fuel pretreatment (i.e., %  $R_f$ ) is used to determine the overall percent reduction (i.e., %  $R_o$ ) under § 60.45b, the owner or operator of the affected facility shall submit a signed statement with the report.

(1) Indicating what removal efficiency by fuel pretreatment (i.e., %  $R_f$ ) was credited during the reporting period:

(2) Listing the quantity, heat content, and date each pre-treated fuel shipment was received during the reporting period, the name and location of the fuel pretreatment facility; and the total quantity and total heat content of all fuels received at the affected facility during the reporting period.

(3) Documenting the transport of the fuel from the fuel pretreatment facility to the steam generating unit.

(4) Including a signed statement from the owner or operator of the fuel pretreatment facility certifying that the percent removal efficiency achieved by fuel pretreatment was determined in accordance with the provisions of Method 19 (appendix A) and listing the heat content and sulfur content of each fuel before and after fuel pretreatment.

(o) All records required under this section shall be maintained by the owner or operator of the affected facility for a period of 2 years following the date of such record.

(p) The owner or operator of an affected facility described in § 60.44b(j) or



(k) shall maintain records of the following information for each steam generating unit operating day:

(1) Calendar date,  
(2) The number of hours of operation, and

(3) A record of the hourly steam load.

(q) The owner or operator of an affected facility described in § 60.44b(j) or § 60.44b(k) shall submit to the Administrator a report containing:

(1) The annual capacity factor over the previous 12 months;

(2) The average fuel nitrogen content during the reporting period, if residual oil was fired; and

(3) If the affected facility meets the criteria described in § 60.44b(j), the results of any nitrogen oxides emission tests required during the reporting period, the hours of operation during the reporting period, and the hours of operation since the last nitrogen oxides emission test.

(r) The owner or operator of an affected facility who elects to demonstrate that the affected facility combusts only very low sulfur oil under § 60.42b(j)(2) shall obtain and maintain at the affected facility fuel receipts from the fuel supplier which certify that the oil meets the definition of distillate oil as defined in § 60.41b. For the purposes of this section, the oil need not meet the fuel nitrogen content specification in the definition of distillate oil. Reports shall be submitted to the Administrator certifying that only very low sulfur oil meeting this definition was combusted in the affected facility during the reporting period.

(s) Facility specific nitrogen oxides standard for Cytec Industries Fortier Plant's C.AOG incinerator located in Westwego, Louisiana:

(1) *Definitions.*

*Oxidation zone* is defined as the portion of the C.AOG incinerator that extends from the inlet of the oxidizing zone combustion air to the outlet gas stack.

*Reducing zone* is defined as the portion of the C.AOG incinerator that extends from the burner section to the inlet of the oxidizing zone combustion air.

*Total inlet air* is defined as the total amount of air introduced into the

C.AOG incinerator for combustion of natural gas and chemical by-product waste and is equal to the sum of the air flow into the reducing zone and the air flow into the oxidation zone.

(2) *Standard for nitrogen oxides.* (i) When fossil fuel alone is combusted, the nitrogen oxides emission limit for fossil fuel in § 60.44b(a) applies.

(ii) When natural gas and chemical by-product waste are simultaneously combusted, the nitrogen oxides emission limit is 289 ng/J (0.67 lb/million Btu) and a maximum of 81 percent of the total inlet air provided for combustion shall be provided to the reducing zone of the C.AOG incinerator.

(3) *Emission monitoring.* (i) The percent of total inlet air provided to the reducing zone shall be determined at least every 15 minutes by measuring the air flow of all the air entering the reducing zone and the air flow of all the air entering the oxidation zone, and compliance with the percentage of total inlet air that is provided to the reducing zone shall be determined on a 3-hour average basis.

(ii) The nitrogen oxides emission limit shall be determined by the compliance and performance test methods and procedures for nitrogen oxides in § 60.46b(i).

(iii) The monitoring of the nitrogen oxides emission limit shall be performed in accordance with § 60.48b.

(4) *Reporting and recordkeeping requirements.* (i) The owner or operator of the C.AOG incinerator shall submit a report on any excursions from the limits required by paragraph (a)(2) of this section to the Administrator with the quarterly report required by paragraph (i) of this section.

(ii) The owner or operator of the C.AOG incinerator shall keep records of the monitoring required by paragraph (a)(3) of this section for a period of 2 years following the date of such record.

(iii) The owner or operator of the C.AOG incinerator shall perform all the applicable reporting and recordkeeping requirements of this section.

(t) Facility-specific nitrogen oxides standard for Rohm and Haas Kentucky Incorporated's Boiler No. 100 located in Louisville, Kentucky:

(1) *Definitions.*

*Air ratio control damper* is defined as the part of the low nitrogen oxides burner that is adjusted to control the split of total combustion air delivered to the reducing and oxidation portions of the combustion flame.

*Flue gas recirculation line* is defined as the part of Boiler No. 100 that recirculates a portion of the boiler flue gas back into the combustion air.

(2) *Standard for nitrogen oxides.* (i) When fossil fuel alone is combusted, the nitrogen oxides emission limit for fossil fuel in §60.44b(a) applies.

(ii) When fossil fuel and chemical by-product waste are simultaneously combusted, the nitrogen oxides emission limit is 473 ng/J (1.1 lb/million Btu), and the air ratio control damper tee handle shall be at a minimum of 5 inches (12.7 centimeters) out of the boiler, and the flue gas recirculation line shall be operated at a minimum of 10 percent open as indicated by its valve opening position indicator.

(3) *Emission monitoring for nitrogen oxides.* (i) The air ratio control damper tee handle setting and the flue gas recirculation line valve opening position indicator setting shall be recorded during each 8-hour operating shift.

(ii) The nitrogen oxides emission limit shall be determined by the compliance and performance test methods and procedures for nitrogen oxides in §60.46b.

(iii) The monitoring of the nitrogen oxides emission limit shall be performed in accordance with §60.48b.

(4) *Reporting and recordkeeping requirements.* (i) The owner or operator of Boiler No. 100 shall submit a report on any excursions from the limits required by paragraph (b)(2) of this section to the Administrator with the quarterly report required by §60.49b(i).

(ii) The owner or operator of Boiler No. 100 shall keep records of the monitoring required by paragraph (b)(3) of this section for a period of 2 years following the date of such record.

(iii) The owner or operator of Boiler No. 100 shall perform all the applicable reporting and recordkeeping requirements of §60.49b.

(u) *Site-specific standard for Merck & Co., Inc.'s Stonewall Plant in Elkton, Virginia.* (1) This paragraph applies only to the pharmaceutical manufacturing fa-

cility, commonly referred to as the Stonewall Plant, located at Route 340 South, in Elkton, Virginia ("site") and only to the natural gas-fired boilers installed as part of the powerhouse conversion required pursuant to 40 CFR 52.2454(g). The requirements of this paragraph shall apply, and the requirements of §§60.40b through 60.49b(t) shall not apply, to the natural gas-fired boilers installed pursuant to 40 CFR 52.2454(g).

(i) The site shall equip the natural gas-fired boilers with low nitrogen oxide (NO<sub>x</sub>) technology.

(ii) The site shall install, calibrate, maintain, and operate a continuous monitoring and recording system for measuring NO<sub>x</sub> emissions discharged to the atmosphere and opacity using a continuous emissions monitoring system or a predictive emissions monitoring system.

(iii) Within 180 days of the completion of the powerhouse conversion, as required by 40 CFR 52.2454, the site shall perform a stack test to quantify criteria pollutant emissions.

(2) [Reserved]

(v) The owner or operator of an affected facility may submit electronic quarterly reports for SO<sub>2</sub> and/or NO<sub>x</sub> and/or opacity in lieu of submitting the written reports required under paragraphs (h), (i), (j), (k) or (l) of this section. The format of each quarterly electronic report shall be coordinated with the permitting authority. The electronic report(s) shall be submitted no later than 30 days after the end of the calendar quarter and shall be accompanied by a certification statement from the owner or operator, indicating whether compliance with the applicable emission standards and minimum data requirements of this subpart was achieved during the reporting period. Before submitting reports in the electronic format, the owner or operator shall coordinate with the permitting authority to obtain their agreement to submit reports in this alternative format.

(w) The reporting period for the reports required under this subpart is each 6 month period. All reports shall be submitted to the Administrator and shall be postmarked by the 30th day

following the end of the reporting period.

(x) Facility-specific nitrogen oxides standard for Weyerhaeuser Company's No. 2 Power Boiler located in New Bern, North Carolina:

(1) *Standard for nitrogen oxides.* (i) When fossil fuel alone is combusted, the nitrogen oxides emission limit for fossil fuel in § 60.44b(a) applies.

(ii) When fossil fuel and chemical by-product waste are simultaneously combusted, the nitrogen oxides emission limit is 215 ng/J (0.5 lb/million Btu).

(2) *Emission monitoring for nitrogen oxides.* (i) The nitrogen oxides emissions shall be determined by the compliance and performance test methods and procedures for nitrogen oxides in § 60.46b.

(ii) The monitoring of the nitrogen oxides emissions shall be performed in accordance with § 60.48b.

(3) *Reporting and recordkeeping requirements.* (i) The owner or operator of the No. 2 Power Boiler shall submit a report on any excursions from the limits required by paragraph (x)(2) of this section to the Administrator with the quarterly report required by § 60.49b(i).

(ii) The owner or operator of the No. 2 Power Boiler shall keep records of the monitoring required by paragraph (x)(3) of this section for a period of 2 years following the date of such record.

(iii) The owner or operator of the No. 2 Power Boiler shall perform all the applicable reporting and recordkeeping requirements of § 60.49b.

[52 FR 47842, Dec. 16, 1987, as amended at 54 FR 51820, 51825, Dec. 18, 1989; 60 FR 28062, May 30, 1995; 61 FR 14031, Mar. 29, 1996; 62 FR 52641, Oct. 8, 1997; 63 FR 49455, Sept. 16, 1998; 64 FR 7464, Feb. 12, 1999; 65 FR 13243, Mar. 13, 2000; 69 FR 40773, July 7, 2004]

#### Subpart Dc—Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units

SOURCE: 55 FR 37683, Sept. 12, 1990, unless otherwise noted.

##### § 60.40c Applicability and delegation of authority.

(a) Except as provided in paragraph (d) of this section, the affected facility to which this subpart applies is each steam generating unit for which con-

struction, modification, or reconstruction is commenced after June 9, 1989 and that has a maximum design heat input capacity of 29 megawatts (MW) (100 million Btu per hour (Btu/hr)) or less, but greater than or equal to 2.9 MW (10 million Btu/hr).

(b) In delegating implementation and enforcement authority to a State under section 111(c) of the Clean Air Act, § 60.48c(a)(4) shall be retained by the Administrator and not transferred to a State.

(c) Steam generating units which meet the applicability requirements in paragraph (a) of this section are not subject to the sulfur dioxide (SO<sub>2</sub>) or particulate matter (PM) emission limits, performance testing requirements, or monitoring requirements under this subpart (§§ 60.42c, 60.43c, 60.44c, 60.45c, 60.46c, or 60.47c) during periods of combustion research, as defined in § 60.41c.

(d) Any temporary change to an existing steam generating unit for the purpose of conducting combustion research is not considered a modification under § 60.14.

(e) Heat recovery steam generators that are associated with combined cycle gas turbines and meet the applicability requirements of subpart KKKK of this part are not subject to this subpart. This subpart will continue to apply to all other heat recovery steam generators that are capable of combusting more than or equal to 2.9 MW (10 MMBtu/h) heat input of fossil fuel but less than or equal to 29 MW (100 MMBtu/h) heat input of fossil fuel. If the heat recovery steam generator is subject to this subpart, only emissions resulting from combustion of fuels in the steam generating unit are subject to this subpart. (The gas turbine emissions are subject to subpart GG or KKKK, as applicable, of this part).

(f) Any facility covered by subpart AAAA of this part is not covered by this subpart.

(g) Any facility covered by an EPA approved State or Federal section 111(d)/129 plan implementing subpart BBBB of this part is not covered by this subpart.

[55 FR 37683, Sept. 12, 1990, as amended at 61 FR 20736, May 8, 1996; 71 FR 9884, Feb. 27, 2006]



true vapor pressure is greater than 6.9 kPa (1.0 psia).

(d) The following are exempt from the requirements of this section:

(1) Each owner or operator of each storage vessel storing a petroleum liquid with a Reid vapor pressure of less than 6.9 kPa (1.0 psia) provided the maximum true vapor pressure does not exceed 6.9 kPa (1.0 psia).

(2) The owner or operator of each storage vessel equipped with a vapor recovery and return or disposal system in accordance with the requirements of § 60.112a(a)(3) and (b), or a closed vent system and control device meeting the specifications of 40 CFR 65.42(b)(4), (b)(5), or (c).

[45 FR 23379, Apr. 4, 1980, as amended at 65 FR 78275, Dec. 14, 2000]

**Subpart Kb—Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984**

SOURCE: 52 FR 11429, Apr. 8, 1987, unless otherwise noted.

**§ 60.110b Applicability and designation of affected facility.**

(a) Except as provided in paragraph (b) of this section, the affected facility to which this subpart applies is each storage vessel with a capacity greater than or equal to 75 cubic meters (m<sup>3</sup>) that is used to store volatile organic liquids (VOL) for which construction, reconstruction, or modification is commenced after July 23, 1984.

(b) This subpart does not apply to storage vessels with a capacity greater than or equal to 151 m<sup>3</sup> storing a liquid with a maximum true vapor pressure less than 3.5 kilopascals (kPa) or with a capacity greater than or equal to 75 m<sup>3</sup> but less than 151 m<sup>3</sup> storing a liquid with a maximum true vapor pressure less than 15.0 kPa.

(c) [Reserved]

(d) This subpart does not apply to the following:

(1) Vessels at coke oven by-product plants.

(2) Pressure vessels designed to operate in excess of 204.9 kPa and without emissions to the atmosphere.

(3) Vessels permanently attached to mobile vehicles such as trucks, railcars, barges, or ships.

(4) Vessels with a design capacity less than or equal to 1,589.874 m<sup>3</sup> used for petroleum or condensate stored, processed, or treated prior to custody transfer.

(5) Vessels located at bulk gasoline plants.

(6) Storage vessels located at gasoline service stations.

(7) Vessels used to store beverage alcohol.

(8) Vessels subject to subpart GGGG of 40 CFR part 63.

(e) *Alternative means of compliance*—(1) *Option to comply with part 65.* Owners or operators may choose to comply with 40 CFR part 65, subpart C, to satisfy the requirements of §§ 60.112b through 60.117b for storage vessels that are subject to this subpart that meet the specifications in paragraphs (e)(1)(i) and (ii) of this section. When choosing to comply with 40 CFR part 65, subpart C, the monitoring requirements of § 60.116b(c), (e), (f)(1), and (g) still apply. Other provisions applying to owners or operators who choose to comply with 40 CFR part 65 are provided in 40 CFR 65.1.

(i) A storage vessel with a design capacity greater than or equal to 151 m<sup>3</sup> containing a VOL that, as stored, has a maximum true vapor pressure equal to or greater than 5.2 kPa; or

(ii) A storage vessel with a design capacity greater than 75 m<sup>3</sup> but less than 151 m<sup>3</sup> containing a VOL that, as stored, has a maximum true vapor pressure equal to or greater than 27.6 kPa.

(2) *Part 60, subpart A.* Owners or operators who choose to comply with 40 CFR part 65, subpart C, must also comply with §§ 60.1, 60.2, 60.5, 60.6, 60.7(a)(1) and (4), 60.14, 60.15, and 60.16 for those storage vessels. All sections and paragraphs of subpart A of this part that are not mentioned in this paragraph (e)(2) do not apply to owners or operators of storage vessels complying with 40 CFR part 65, subpart C, except that provisions required to be met prior to implementing 40 CFR part 65 still apply. Owners and operators who

choose to comply with 40 CFR part 65, subpart C, must comply with 40 CFR part 65, subpart A.

(3) *Internal floating roof report.* If an owner or operator installs an internal floating roof and, at initial startup, chooses to comply with 40 CFR part 65, subpart C, a report shall be furnished to the Administrator stating that the control equipment meets the specifications of 40 CFR 65.43. This report shall be an attachment to the notification required by 40 CFR 65.5(b).

(4) *External floating roof report.* If an owner or operator installs an external floating roof and, at initial startup, chooses to comply with 40 CFR part 65, subpart C, a report shall be furnished to the Administrator stating that the control equipment meets the specifications of 40 CFR 65.44. This report shall be an attachment to the notification required by 40 CFR 65.5(b).

[52 FR 11429, Apr. 8, 1987, as amended at 54 FR 32973, Aug. 11, 1989; 65 FR 78275, Dec. 14, 2000; 68 FR 59332, Oct. 15, 2003]

#### §60.111b Definitions.

Terms used in this subpart are defined in the Act, in subpart A of this part, or in this subpart as follows:

*Bulk gasoline plant* means any gasoline distribution facility that has a gasoline throughput less than or equal to 75,700 liters per day. Gasoline throughput shall be the maximum calculated design throughput as may be limited by compliance with an enforceable condition under Federal requirement or Federal, State or local law, and discoverable by the Administrator and any other person.

*Condensate* means hydrocarbon liquid separated from natural gas that condenses due to changes in the temperature or pressure, or both, and remains liquid at standard conditions.

*Custody transfer* means the transfer of produced petroleum and/or condensate, after processing and/or treatment in the producing operations, from storage vessels or automatic transfer facilities to pipelines or any other forms of transportation.

*Fill* means the introduction of VOL into a storage vessel but not necessarily to complete capacity.

*Gasoline service station* means any site where gasoline is dispensed to motor

vehicle fuel tanks from stationary storage tanks.

*Maximum true vapor pressure* means the equilibrium partial pressure exerted by the volatile organic compounds (as defined in 40 CFR 51.100) in the stored VOL at the temperature equal to the highest calendar-month average of the VOL storage temperature for VOL's stored above or below the ambient temperature or at the local maximum monthly average temperature as reported by the National Weather Service for VOL's stored at the ambient temperature, as determined:

(1) In accordance with methods described in American Petroleum Institute Bulletin 2517, Evaporation Loss From External Floating Roof Tanks, (incorporated by reference—see §60.17); or

(2) As obtained from standard reference texts; or

(3) As determined by ASTM D2879-83, 96, or 97 (incorporated by reference—see §60.17);

(4) Any other method approved by the Administrator.

*Petroleum* means the crude oil removed from the earth and the oils derived from tar sands, shale, and coal.

*Petroleum liquids* means petroleum, condensate, and any finished or intermediate products manufactured in a petroleum refinery.

*Process tank* means a tank that is used within a process (including a solvent or raw material recovery process) to collect material discharged from a feedstock storage vessel or equipment within the process before the material is transferred to other equipment within the process, to a product or by-product storage vessel, or to a vessel used to store recovered solvent or raw material. In many process tanks, unit operations such as reactions and blending are conducted. Other process tanks, such as surge control vessels and bottoms receivers, however, may not involve unit operations.

*Reid vapor pressure* means the absolute vapor pressure of volatile crude oil and volatile nonviscous petroleum liquids except liquified petroleum gases, as determined by ASTM D323-82 or 94 (incorporated by reference—see §60.17).

*Storage vessel* means each tank, reservoir, or container used for the storage of volatile organic liquids but does not include:

- (1) Frames, housing, auxiliary supports, or other components that are not directly involved in the containment of liquids or vapors;
- (2) Subsurface caverns or porous rock reservoirs; or
- (3) Process tanks.

*Volatile organic liquid (VOL)* means any organic liquid which can emit volatile organic compounds (as defined in 40 CFR 51.100) into the atmosphere.

*Waste* means any liquid resulting from industrial, commercial, mining or agricultural operations, or from community activities that is discarded or is being accumulated, stored, or physically, chemically, or biologically treated prior to being discarded or recycled.

[52 FR 11429, Apr. 8, 1987, as amended at 54 FR 32973, Aug. 11, 1989; 65 FR 61756, Oct. 17, 2000; 68 FR 59333, Oct. 15, 2003]

**§ 60.112b Standard for volatile organic compounds (VOC).**

(a) The owner or operator of each storage vessel either with a design capacity greater than or equal to 151 m<sup>3</sup> containing a VOL that, as stored, has a maximum true vapor pressure equal to or greater than 5.2 kPa but less than 76.6 kPa or with a design capacity greater than or equal to 75 m<sup>3</sup> but less than 151 m<sup>3</sup> containing a VOL that, as stored, has a maximum true vapor pressure equal to or greater than 27.6 kPa but less than 76.6 kPa, shall equip each storage vessel with one of the following:

(1) A fixed roof in combination with an internal floating roof meeting the following specifications:

(i) The internal floating roof shall rest or float on the liquid surface (but not necessarily in complete contact with it) inside a storage vessel that has a fixed roof. The internal floating roof shall be floating on the liquid surface at all times, except during initial fill and during those intervals when the storage vessel is completely emptied or subsequently emptied and refilled. When the roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and

shall be accomplished as rapidly as possible.

(ii) Each internal floating roof shall be equipped with one of the following closure devices between the wall of the storage vessel and the edge of the internal floating roof:

(A) A foam- or liquid-filled seal mounted in contact with the liquid (liquid-mounted seal). A liquid-mounted seal means a foam- or liquid-filled seal mounted in contact with the liquid between the wall of the storage vessel and the floating roof continuously around the circumference of the tank.

(B) Two seals mounted one above the other so that each forms a continuous closure that completely covers the space between the wall of the storage vessel and the edge of the internal floating roof. The lower seal may be vapor-mounted, but both must be continuous.

(C) A mechanical shoe seal. A mechanical shoe seal is a metal sheet held vertically against the wall of the storage vessel by springs or weighted levers and is connected by braces to the floating roof. A flexible coated fabric (envelope) spans the annular space between the metal sheet and the floating roof.

(iii) Each opening in a noncontact internal floating roof except for automatic bleeder vents (vacuum breaker vents) and the rim space vents is to provide a projection below the liquid surface.

(iv) Each opening in the internal floating roof except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains is to be equipped with a cover or lid which is to be maintained in a closed position at all times (i.e., no visible gap) except when the device is in actual use. The cover or lid shall be equipped with a gasket. Covers on each access hatch and automatic gauge float well shall be bolted except when they are in use.

(v) Automatic bleeder vents shall be equipped with a gasket and are to be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the roof leg supports.

(vi) Rim space vents shall be equipped with a gasket and are to be set to open only when the internal

floating roof is not floating or at the manufacturer's recommended setting.

(vii) Each penetration of the internal floating roof for the purpose of sampling shall be a sample well. The sample well shall have a slit fabric cover that covers at least 90 percent of the opening.

(viii) Each penetration of the internal floating roof that allows for passage of a column supporting the fixed roof shall have a flexible fabric sleeve seal or a gasketed sliding cover.

(ix) Each penetration of the internal floating roof that allows for passage of a ladder shall have a gasketed sliding cover.

(2) An external floating roof. An external floating roof means a pontoon-type or double-deck type cover that rests on the liquid surface in a vessel with no fixed roof. Each external floating roof must meet the following specifications:

(i) Each external floating roof shall be equipped with a closure device between the wall of the storage vessel and the roof edge. The closure device is to consist of two seals, one above the other. The lower seal is referred to as the primary seal, and the upper seal is referred to as the secondary seal.

(A) The primary seal shall be either a mechanical shoe seal or a liquid-mounted seal. Except as provided in § 60.113b(b)(4), the seal shall completely cover the annular space between the edge of the floating roof and tank wall.

(B) The secondary seal shall completely cover the annular space between the external floating roof and the wall of the storage vessel in a continuous fashion except as allowed in § 60.113b(b)(4).

(ii) Except for automatic bleeder vents and rim space vents, each opening in a noncontact external floating roof shall provide a projection below the liquid surface. Except for automatic bleeder vents, rim space vents, roof drains, and leg sleeves, each opening in the roof is to be equipped with a gasketed cover, seal, or lid that is to be maintained in a closed position at all times (i.e., no visible gap) except when the device is in actual use. Automatic bleeder vents are to be closed at all times when the roof is floating except when the roof is being floated off or is

being landed on the roof leg supports. Rim vents are to be set to open when the roof is being floated off the roof legs supports or at the manufacturer's recommended setting. Automatic bleeder vents and rim space vents are to be gasketed. Each emergency roof drain is to be provided with a slotted membrane fabric cover that covers at least 90 percent of the area of the opening.

(iii) The roof shall be floating on the liquid at all times (i.e., off the roof leg supports) except during initial fill until the roof is lifted off leg supports and when the tank is completely emptied and subsequently refilled. The process of filling, emptying, or refilling when the roof is resting on the leg supports shall be continuous and shall be accomplished as rapidly as possible.

(3) A closed vent system and control device meeting the following specifications:

(i) The closed vent system shall be designed to collect all VOC vapors and gases discharged from the storage vessel and operated with no detectable emissions as indicated by an instrument reading of less than 500 ppm above background and visual inspections, as determined in part 60, subpart VV, § 60.485(b).

(ii) The control device shall be designed and operated to reduce inlet VOC emissions by 95 percent or greater. If a flare is used as the control device, it shall meet the specifications described in the general control device requirements (§ 60.18) of the General Provisions.

(4) A system equivalent to those described in paragraphs (a)(1), (a)(2), or (a)(3) of this section as provided in § 60.114b of this subpart.

(b) The owner or operator of each storage vessel with a design capacity greater than or equal to 75 m<sup>3</sup> which contains a VOL that, as stored, has a maximum true vapor pressure greater than or equal to 76.6 kPa shall equip each storage vessel with one of the following:

(1) A closed vent system and control device as specified in § 60.112b(a)(3).

(2) A system equivalent to that described in paragraph (b)(1) as provided in § 60.114b of this subpart.



(c) *Site-specific standard for Merck & Co., Inc.'s Stonewall Plant in Elkton, Virginia.* This paragraph applies only to the pharmaceutical manufacturing facility, commonly referred to as the Stonewall Plant, located at Route 340 South, in Elkton, Virginia ("site").

(1) For any storage vessel that otherwise would be subject to the control technology requirements of paragraphs (a) or (b) of this section, the site shall have the option of either complying directly with the requirements of this subpart, or reducing the site-wide total criteria pollutant emissions cap (total emissions cap) in accordance with the procedures set forth in a permit issued pursuant to 40 CFR 52.2454. If the site chooses the option of reducing the total emissions cap in accordance with the procedures set forth in such permit, the requirements of such permit shall apply in lieu of the otherwise applicable requirements of this subpart for such storage vessel.

(2) For any storage vessel at the site not subject to the requirements of 40 CFR 60.112b (a) or (b), the requirements of 40 CFR 60.116b (b) and (c) and the General Provisions (subpart A of this part) shall not apply.

[52 FR 11429, Apr. 8, 1987, as amended at 62 FR 52641, Oct. 8, 1997]

#### § 60.113b Testing and procedures.

The owner or operator of each storage vessel as specified in § 60.112b(a) shall meet the requirements of paragraph (a), (b), or (c) of this section. The applicable paragraph for a particular storage vessel depends on the control equipment installed to meet the requirements of § 60.112b.

(a) After installing the control equipment required to meet § 60.112b(a)(1) (permanently affixed roof and internal floating roof), each owner or operator shall:

(1) Visually inspect the internal floating roof, the primary seal, and the secondary seal (if one is in service), prior to filling the storage vessel with VOL. If there are holes, tears, or other openings in the primary seal, the secondary seal, or the seal fabric or defects in the internal floating roof, or both, the owner or operator shall repair the items before filling the storage vessel.

(2) For Vessels equipped with a liquid-mounted or mechanical shoe primary seal, visually inspect the internal floating roof and the primary seal or the secondary seal (if one is in service) through manholes and roof hatches on the fixed roof at least once every 12 months after initial fill. If the internal floating roof is not resting on the surface of the VOL inside the storage vessel, or there is liquid accumulated on the roof, or the seal is detached, or there are holes or tears in the seal fabric, the owner or operator shall repair the items or empty and remove the storage vessel from service within 45 days. If a failure that is detected during inspections required in this paragraph cannot be repaired within 45 days and if the vessel cannot be emptied within 45 days, a 30-day extension may be requested from the Administrator in the inspection report required in § 60.115b(a)(3). Such a request for an extension must document that alternate storage capacity is unavailable and specify a schedule of actions the company will take that will assure that the control equipment will be repaired or the vessel will be emptied as soon as possible.

(3) For vessels equipped with a double-seal system as specified in § 60.112b(a)(1)(ii)(B):

(i) Visually inspect the vessel as specified in paragraph (a)(4) of this section at least every 5 years; or

(ii) Visually inspect the vessel as specified in paragraph (a)(2) of this section.

(4) Visually inspect the internal floating roof, the primary seal, the secondary seal (if one is in service), gaskets, slotted membranes and sleeve seals (if any) each time the storage vessel is emptied and degassed. If the internal floating roof has defects, the primary seal has holes, tears, or other openings in the seal or the seal fabric, or the secondary seal has holes, tears, or other openings in the seal or the seal fabric, or the gaskets no longer close off the liquid surfaces from the atmosphere, or the slotted membrane has more than 10 percent open area, the owner or operator shall repair the items as necessary so that none of the conditions specified in this paragraph exist before refilling the storage vessel

with VOL. In no event shall inspections conducted in accordance with this provision occur at intervals greater than 10 years in the case of vessels conducting the annual visual inspection as specified in paragraphs (a)(2) and (a)(3)(ii) of this section and at intervals no greater than 5 years in the case of vessels specified in paragraph (a)(3)(i) of this section.

(5) Notify the Administrator in writing at least 30 days prior to the filling or refilling of each storage vessel for which an inspection is required by paragraphs (a)(1) and (a)(4) of this section to afford the Administrator the opportunity to have an observer present. If the inspection required by paragraph (a)(4) of this section is not planned and the owner or operator could not have known about the inspection 30 days in advance or refilling the tank, the owner or operator shall notify the Administrator at least 7 days prior to the refilling of the storage vessel. Notification shall be made by telephone immediately followed by written documentation demonstrating why the inspection was unplanned. Alternatively, this notification including the written documentation may be made in writing and sent by express mail so that it is received by the Administrator at least 7 days prior to the refilling.

(b) After installing the control equipment required to meet § 60.112b(a)(2) (external floating roof), the owner or operator shall:

(1) Determine the gap areas and maximum gap widths, between the primary seal and the wall of the storage vessel and between the secondary seal and the wall of the storage vessel according to the following frequency.

(i) Measurements of gaps between the tank wall and the primary seal (seal gaps) shall be performed during the hydrostatic testing of the vessel or within 60 days of the initial fill with VOL and at least once every 5 years thereafter.

(ii) Measurements of gaps between the tank wall and the secondary seal shall be performed within 60 days of the initial fill with VOL and at least once per year thereafter.

(iii) If any source ceases to store VOL for a period of 1 year or more, subsequent introduction of VOL into the

vessel shall be considered an initial fill for the purposes of paragraphs (b)(1)(i) and (b)(1)(ii) of this section.

(2) Determine gap widths and areas in the primary and secondary seals individually by the following procedures:

(i) Measure seal gaps, if any, at one or more floating roof levels when the roof is floating off the roof leg supports.

(ii) Measure seal gaps around the entire circumference of the tank in each place where a 0.32-cm diameter uniform probe passes freely (without forcing or binding against seal) between the seal and the wall of the storage vessel and measure the circumferential distance of each such location.

(iii) The total surface area of each gap described in paragraph (b)(2)(ii) of this section shall be determined by using probes of various widths to measure accurately the actual distance from the tank wall to the seal and multiplying each such width by its respective circumferential distance.

(3) Add the gap surface area of each gap location for the primary seal and the secondary seal individually and divide the sum for each seal by the nominal diameter of the tank and compare each ratio to the respective standards in paragraph (b)(4) of this section.

(4) Make necessary repairs or empty the storage vessel within 45 days of identification in any inspection for seals not meeting the requirements listed in (b)(4) (i) and (ii) of this section:

(i) The accumulated area of gaps between the tank wall and the mechanical shoe or liquid-mounted primary seal shall not exceed 212 Cm<sup>2</sup> per meter of tank diameter, and the width of any portion of any gap shall not exceed 3.81 cm.

(A) One end of the mechanical shoe is to extend into the stored liquid, and the other end is to extend a minimum vertical distance of 61 cm above the stored liquid surface.

(B) There are to be no holes, tears, or other openings in the shoe, seal fabric, or seal envelope.

(ii) The secondary seal is to meet the following requirements:

(A) The secondary seal is to be installed above the primary seal so that it completely covers the space between

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the roof edge and the tank wall except as provided in paragraph (b)(2)(iii) of this section.

(B) The accumulated area of gaps between the tank wall and the secondary seal shall not exceed 21.2 cm<sup>2</sup> per meter of tank diameter, and the width of any portion of any gap shall not exceed 1.27 cm.

(C) There are to be no holes, tears, or other openings in the seal or seal fabric.

(iii) If a failure that is detected during inspections required in paragraph (b)(1) of § 60.113b(b) cannot be repaired within 45 days and if the vessel cannot be emptied within 45 days, a 30-day extension may be requested from the Administrator in the inspection report required in § 60.115b(b)(4). Such extension request must include a demonstration of unavailability of alternate storage capacity and a specification of a schedule that will assure that the control equipment will be repaired or the vessel will be emptied as soon as possible.

(5) Notify the Administrator 30 days in advance of any gap measurements required by paragraph (b)(1) of this section to afford the Administrator the opportunity to have an observer present.

(6) Visually inspect the external floating roof, the primary seal, secondary seal, and fittings each time the vessel is emptied and degassed.

(i) If the external floating roof has defects, the primary seal has holes, tears, or other openings in the seal or the seal fabric, or the secondary seal has holes, tears, or other openings in the seal or the seal fabric, the owner or operator shall repair the items as necessary so that none of the conditions specified in this paragraph exist before filling or refilling the storage vessel with VOL.

(ii) For all the inspections required by paragraph (b)(6) of this section, the owner or operator shall notify the Administrator in writing at least 30 days prior to the filling or refilling of each storage vessel to afford the Administrator the opportunity to inspect the storage vessel prior to refilling. If the inspection required by paragraph (b)(6) of this section is not planned and the owner or operator could not have known about the inspection 30 days in

advance of refilling the tank, the owner or operator shall notify the Administrator at least 7 days prior to the refilling of the storage vessel. Notification shall be made by telephone immediately followed by written documentation demonstrating why the inspection was unplanned. Alternatively, this notification including the written documentation may be made in writing and sent by express mail so that it is received by the Administrator at least 7 days prior to the refilling.

(c) The owner or operator of each source that is equipped with a closed vent system and control device as required in § 60.112b (a)(3) or (b)(2) (other than a flare) is exempt from § 60.8 of the General Provisions and shall meet the following requirements.

(1) Submit for approval by the Administrator as an attachment to the notification required by § 60.7(a)(1) or, if the facility is exempt from § 60.7(a)(1), as an attachment to the notification required by § 60.7(a)(2), an operating plan containing the information listed below.

(i) Documentation demonstrating that the control device will achieve the required control efficiency during maximum loading conditions. This documentation is to include a description of the gas stream which enters the control device, including flow and VOC content under varying liquid level conditions (dynamic and static) and manufacturer's design specifications for the control device. If the control device or the closed vent capture system receives vapors, gases, or liquids other than fuels from sources that are not designated sources under this subpart, the efficiency demonstration is to include consideration of all vapors, gases, and liquids received by the closed vent capture system and control device. If an enclosed combustion device with a minimum residence time of 0.75 seconds and a minimum temperature of 816 °C is used to meet the 95 percent requirement, documentation that those conditions will exist is sufficient to meet the requirements of this paragraph.

(ii) A description of the parameter or parameters to be monitored to ensure that the control device will be operated in conformance with its design and an

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explanation of the criteria used for selection of that parameter (or parameters).

(2) Operate the closed vent system and control device and monitor the parameters of the closed vent system and control device in accordance with the operating plan submitted to the Administrator in accordance with paragraph (c)(1) of this section, unless the plan was modified by the Administrator during the review process. In this case, the modified plan applies.

(d) The owner or operator of each source that is equipped with a closed vent system and a flare to meet the requirements in § 60.112b (a)(3) or (b)(2) shall meet the requirements as specified in the general control device requirements, § 60.18 (e) and (f).

[52 FR 11429, Apr. 8, 1987, as amended at 54 FR 32973, Aug. 11, 1989]

## § 60.114b Alternative means of emission limitation.

(a) If, in the Administrator's judgment, an alternative means of emission limitation will achieve a reduction in emissions at least equivalent to the reduction in emissions achieved by any requirement in § 60.112b, the Administrator will publish in the FEDERAL REGISTER a notice permitting the use of the alternative means for purposes of compliance with that requirement.

(b) Any notice under paragraph (a) of this section will be published only after notice and an opportunity for a hearing.

(c) Any person seeking permission under this section shall submit to the Administrator a written application including:

(1) An actual emissions test that uses a full-sized or scale-model storage vessel that accurately collects and measures all VOC emissions from a given control device and that accurately simulates wind and accounts for other emission variables such as temperature and barometric pressure.

(2) An engineering evaluation that the Administrator determines is an accurate method of determining equivalence.

(d) The Administrator may condition the permission on requirements that may be necessary to ensure operation and maintenance to achieve the same

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emissions reduction as specified in § 60.112b.

## § 60.115b Reporting and recordkeeping requirements.

The owner or operator of each storage vessel as specified in § 60.112b(a) shall keep records and furnish reports as required by paragraphs (a), (b), or (c) of this section depending upon the control equipment installed to meet the requirements of § 60.112b. The owner or operator shall keep copies of all reports and records required by this section, except for the record required by (c)(1), for at least 2 years. The record required by (c)(1) will be kept for the life of the control equipment.

(a) After installing control equipment in accordance with § 60.112b(a)(1) (fixed roof and internal floating roof), the owner or operator shall meet the following requirements.

(1) Furnish the Administrator with a report that describes the control equipment and certifies that the control equipment meets the specifications of § 60.112b(a)(1) and § 60.113b(a)(1). This report shall be an attachment to the notification required by § 60.7(a)(3).

(2) Keep a record of each inspection performed as required by § 60.113b (a)(1), (a)(2), (a)(3), and (a)(4). Each record shall identify the storage vessel on which the inspection was performed and shall contain the date the vessel was inspected and the observed condition of each component of the control equipment (seals, internal floating roof, and fittings).

(3) If any of the conditions described in § 60.113b(a)(2) are detected during the annual visual inspection required by § 60.113b(a)(2), a report shall be furnished to the Administrator within 30 days of the inspection. Each report shall identify the storage vessel, the nature of the defects, and the date the storage vessel was emptied or the nature of and date the repair was made.

(4) After each inspection required by § 60.113b(a)(3) that finds holes or tears in the seal or seal fabric, or defects in the internal floating roof, or other control equipment defects listed in § 60.113b(a)(3)(ii), a report shall be furnished to the Administrator within 30 days of the inspection. The report shall

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identify the storage vessel and the reason it did not meet the specifications of § 61.112b(a)(1) or § 60.113b(a)(3) and list each repair made.

(b) After installing control equipment in accordance with § 61.112b(a)(2) (external floating roof), the owner or operator shall meet the following requirements.

(1) Furnish the Administrator with a report that describes the control equipment and certifies that the control equipment meets the specifications of § 60.112b(a)(2) and § 60.113b(b)(2), (b)(3), and (b)(4). This report shall be an attachment to the notification required by § 60.7(a)(3).

(2) Within 60 days of performing the seal gap measurements required by § 60.113b(b)(1), furnish the Administrator with a report that contains:

(i) The date of measurement.

(ii) The raw data obtained in the measurement.

(iii) The calculations described in § 60.113b (b)(2) and (b)(3).

(3) Keep a record of each gap measurement performed as required by § 60.113b(b). Each record shall identify the storage vessel in which the measurement was performed and shall contain:

(i) The date of measurement.

(ii) The raw data obtained in the measurement.

(iii) The calculations described in § 60.113b (b)(2) and (b)(3).

(4) After each seal gap measurement that detects gaps exceeding the limitations specified by § 60.113b(b)(4), submit a report to the Administrator within 30 days of the inspection. The report will identify the vessel and contain the information specified in paragraph (b)(2) of this section and the date the vessel was emptied or the repairs made and date of repair.

(c) After installing control equipment in accordance with § 60.112b (a)(3) or (b)(1) (closed vent system and control device other than a flare), the owner or operator shall keep the following records.

(1) A copy of the operating plan.

(2) A record of the measured values of the parameters monitored in accordance with § 60.113b(c)(2).

(d) After installing a closed vent system and flare to comply with § 60.112b,

the owner or operator shall meet the following requirements.

(1) A report containing the measurements required by § 60.18(f) (1), (2), (3), (4), (5), and (6) shall be furnished to the Administrator as required by § 60.8 of the General Provisions. This report shall be submitted within 6 months of the initial start-up date.

(2) Records shall be kept of all periods of operation during which the flare pilot flame is absent.

(3) Semiannual reports of all periods recorded under § 60.115b(d)(2) in which the pilot flame was absent shall be furnished to the Administrator.

### § 60.116b Monitoring of operations.

(a) The owner or operator shall keep copies of all records required by this section, except for the record required by paragraph (b) of this section, for at least 2 years. The record required by paragraph (b) of this section will be kept for the life of the source.

(b) The owner or operator of each storage vessel as specified in § 60.110b(a) shall keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel.

(c) Except as provided in paragraphs (f) and (g) of this section, the owner or operator of each storage vessel either with a design capacity greater than or equal to 151 m<sup>3</sup> storing a liquid with a maximum true vapor pressure greater than or equal to 3.5 kPa or with a design capacity greater than or equal to 75 m<sup>3</sup> but less than 151 m<sup>3</sup> storing a liquid with a maximum true vapor pressure greater than or equal to 15.0 kPa shall maintain a record of the VOL stored, the period of storage, and the maximum true vapor pressure of that VOL during the respective storage period.

(d) Except as provided in paragraph (g) of this section, the owner or operator of each storage vessel either with a design capacity greater than or equal to 151 m<sup>3</sup> storing a liquid with a maximum true vapor pressure that is normally less than 5.2 kPa or with a design capacity greater than or equal to 75 m<sup>3</sup> but less than 151 m<sup>3</sup> storing a liquid with a maximum true vapor pressure that is normally less than 27.6 kPa shall notify the Administrator within

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30 days when the maximum true vapor pressure of the liquid exceeds the respective maximum true vapor pressure values for each volume range.

(e) Available data on the storage temperature may be used to determine the maximum true vapor pressure as determined below.

(1) For vessels operated above or below ambient temperatures, the maximum true vapor pressure is calculated based upon the highest expected calendar-month average of the storage temperature. For vessels operated at ambient temperatures, the maximum true vapor pressure is calculated based upon the maximum local monthly average ambient temperature as reported by the National Weather Service.

(2) For crude oil or refined petroleum products the vapor pressure may be obtained by the following:

(i) Available data on the Reid vapor pressure and the maximum expected storage temperature based on the highest expected calendar-month average temperature of the stored product may be used to determine the maximum true vapor pressure from nomographs contained in API Bulletin 2517 (incorporated by reference—see §60.17), unless the Administrator specifically requests that the liquid be sampled, the actual storage temperature determined, and the Reid vapor pressure determined from the sample(s).

(ii) The true vapor pressure of each type of crude oil with a Reid vapor pressure less than 13.8 kPa or with physical properties that preclude determination by the recommended method is to be determined from available data and recorded if the estimated maximum true vapor pressure is greater than 3.5 kPa.

(3) For other liquids, the vapor pressure:

(i) May be obtained from standard reference texts, or

(ii) Determined by ASTM D2879-83, 96, or 97 (incorporated by reference—see §60.17); or

(iii) Measured by an appropriate method approved by the Administrator; or

(iv) Calculated by an appropriate method approved by the Administrator.

(f) The owner or operator of each vessel storing a waste mixture of indeterminate or variable composition shall be subject to the following requirements.

(1) Prior to the initial filling of the vessel, the highest maximum true vapor pressure for the range of anticipated liquid compositions to be stored will be determined using the methods described in paragraph (e) of this section.

(2) For vessels in which the vapor pressure of the anticipated liquid composition is above the cutoff for monitoring but below the cutoff for controls as defined in §60.112b(a), an initial physical test of the vapor pressure is required; and a physical test at least once every 6 months thereafter is required as determined by the following methods:

(i) ASTM D2879-83, 96, or 97 (incorporated by reference—see §60.17); or

(ii) ASTM D323-82 or 94 (incorporated by reference—see §60.17); or

(iii) As measured by an appropriate method as approved by the Administrator.

(g) The owner or operator of each vessel equipped with a closed vent system and control device meeting the specification of §60.112b or with emissions reductions equipment as specified in 40 CFR 65.42(b)(4), (b)(5), (b)(6), or (c) is exempt from the requirements of paragraphs (c) and (d) of this section.

[52 FR 11429, Apr. 8, 1987, as amended at 65 FR 61756, Oct. 17, 2000; 65 FR 78276, Dec. 14, 2000; 68 FR 59333, Oct. 15, 2003]

§60.117b Delegation of authority.

(a) In delegating implementation and enforcement authority to a State under section 111(c) of the Act, the authorities contained in paragraph (b) of this section shall be retained by the Administrator and not transferred to a State.

(b) Authorities which will not be delegated to States: §§60.111b(f)(4), 60.114b, 60.116b(e)(3)(iii), 60.116b(e)(3)(iv), and 60.116b(f)(2)(iii).

[52 FR 11429, Apr. 8, 1987, as amended at 52 FR 22780, June 16, 1987]

shall be at least 60 minutes and 0.85 dscm (30 dscf).

(3) The equivalent  $P_2O_5$  feed rate (P) shall be computed for each run using the following equation:

$$P = M_p R_p$$

where:

$M_p$  = amount of product in storage, Mg (ton).  
 $R_p$  =  $P_2O_5$  content of product in storage, weight fraction.

(i) The accountability system of § 60.243(a) shall be used to determine the amount of product ( $M_p$ ) in storage.

(ii) The Association of Official Analytical Chemists (AOAC) Method 9 (incorporated by reference—see § 60.17) shall be used to determine the  $P_2O_5$  content ( $R_p$ ) of the product in storage.

[54 FR 6671, Feb. 14, 1989, as amended at 62 FR 18280, Apr. 15, 1997; 65 FR 61757, Oct. 17, 2000]

EDITORIAL NOTE: At 65 FR 61757, Oct. 17, 2000, § 60.244 (c)(1) was amended. However, the instruction, which read in part, "revising the words "metric ton" the words "(453,600 mg/lb)" in the definition of the term "K" to read "(7,000 gr/lb)." . . . " could not be incorporated because of inaccurate amendatory language.

### Subpart Y—Standards of Performance for Coal Preparation Plants

#### § 60.250 Applicability and designation of affected facility.

(a) The provisions of this subpart are applicable to any of the following affected facilities in coal preparation plants which process more than 181 Mg (200 tons) per day: Thermal dryers, pneumatic coal-cleaning equipment (air tables), coal processing and conveying equipment (including breakers and crushers), coal storage systems, and coal transfer and loading systems.

(b) Any facility under paragraph (a) of this section that commences construction or modification after October 24, 1974, is subject to the requirements of this subpart.

[42 FR 37938, July 25, 1977; 42 FR 44812, Sept. 7, 1977, as amended at 65 FR 61757, Oct. 17, 2000]

#### § 60.251 Definitions.

As used in this subpart, all terms not defined herein have the meaning given

them in the Act and in subpart A of this part.

(a) *Coal preparation plant* means any facility (excluding underground mining operations) which prepares coal by one or more of the following processes: breaking, crushing, screening, wet or dry cleaning, and thermal drying.

(b) *Bituminous coal* means solid fossil fuel classified as bituminous coal by ASTM Designation D388-77, 90, 91, 95, or 98a (incorporated by reference—see § 60.17).

(c) *Coal* means all solid fossil fuels classified as anthracite, bituminous, subbituminous, or lignite by ASTM Designation D388-77, 90, 91, 95, or 98a (incorporated by reference—see § 60.17).

(d) *Cyclonic flow* means a spiraling movement of exhaust gases within a duct or stack.

(e) *Thermal dryer* means any facility in which the moisture content of bituminous coal is reduced by contact with a heated gas stream which is exhausted to the atmosphere.

(f) *Pneumatic coal-cleaning equipment* means any facility which classifies bituminous coal by size or separates bituminous coal from refuse by application of air stream(s).

(g) *Coal processing and conveying equipment* means any machinery used to reduce the size of coal or to separate coal from refuse, and the equipment used to convey coal to or remove coal and refuse from the machinery. This includes, but is not limited to, breakers, crushers, screens, and conveyor belts.

(h) *Coal storage system* means any facility used to store coal except for open storage piles.

(i) *Transfer and loading system* means any facility used to transfer and load coal for shipment.

[41 FR 2234, Jan. 15, 1976, as amended at 48 FR 3738, Jan. 27, 1983; 65 FR 61757, Oct. 17, 2000]

#### § 60.252 Standards for particulate matter.

(a) On and after the date on which the performance test required to be conducted by § 60.8 is completed, an owner or operator subject to the provisions of this subpart shall not cause to be discharged into the atmosphere from any thermal dryer gases which:

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(1) Contain particulate matter in excess of 0.070 g/dscm (0.031 gr/dscf).

(2) Exhibit 20 percent opacity or greater.

(b) On and after the date on which the performance test required to be conducted by § 60.8 is completed, an owner or operator subject to the provisions of this subpart shall not cause to be discharged into the atmosphere from any pneumatic coal cleaning equipment, gases which:

(1) Contain particulate matter in excess of 0.040 g/dscm (0.017 gr/dscf).

(2) Exhibit 10 percent opacity or greater.

(c) On and after the date on which the performance test required to be conducted by § 60.8 is completed, an owner or operator subject to the provisions of this subpart shall not cause to be discharged into the atmosphere from any coal processing and conveying equipment, coal storage system, or coal transfer and loading system processing coal, gases which exhibit 20 percent opacity or greater.

[41 FR 2234, Jan. 15, 1976, as amended at 65 FR 61757, Oct. 17, 2000]

### § 60.253 Monitoring of operations.

(a) The owner or operator of any thermal dryer shall install, calibrate, maintain, and continuously operate monitoring devices as follows:

(1) A monitoring device for the measurement of the temperature of the gas stream at the exit of the thermal dryer on a continuous basis. The monitoring device is to be certified by the manufacturer to be accurate within  $\pm 1.7$  °C ( $\pm 3$  °F).

(2) For affected facilities that use venturi scrubber emission control equipment:

(i) A monitoring device for the continuous measurement of the pressure loss through the venturi constriction of the control equipment. The monitoring device is to be certified by the manufacturer to be accurate within  $\pm 1$  inch water gauge.

(ii) A monitoring device for the continuous measurement of the water supply pressure to the control equipment. The monitoring device is to be certified by the manufacturer to be accurate within  $\pm 5$  percent of design water supply pressure. The pressure sensor or

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tap must be located close to the water discharge point. The Administrator may be consulted for approval of alternative locations.

(b) All monitoring devices under paragraph (a) of this section are to be recalibrated annually in accordance with procedures under § 60.13(b).

[41 FR 2234, Jan. 15, 1976, as amended at 54 FR 6671, Feb. 14, 1989; 65 FR 61757, Oct. 17, 2000]

### § 60.254 Test methods and procedures.

(a) In conducting the performance tests required in § 60.8, the owner or operator shall use as reference methods and procedures the test methods in appendix A of this part or other methods and procedures as specified in this section, except as provided in § 60.8(b).

(b) The owner or operator shall determine compliance with the particulate matter standards in § 60.252 as follows:

(1) Method 5 shall be used to determine the particulate matter concentration. The sampling time and sample volume for each run shall be at least 60 minutes and 0.85 dscm (30 dscf). Sampling shall begin no less than 30 minutes after startup and shall terminate before shutdown procedures begin.

(2) Method 9 and the procedures in § 60.11 shall be used to determine opacity.

[54 FR 6671, Feb. 14, 1989]

### Subpart Z—Standards of Performance for Ferroalloy Production Facilities

SOURCE: 41 FR 18501, May 4, 1976, unless otherwise noted.

### § 60.260 Applicability and designation of affected facility.

(a) The provisions of this subpart are applicable to the following affected facilities: Electric submerged arc furnaces which produce silicon metal, ferrosilicon, calcium silicon, silicomanganese zirconium, ferrochrome silicon, silvery iron, high-carbon ferrochrome, charge chrome, standard ferromanganese, silicomanganese, ferromanganese silicon, or calcium carbide; and dust-handling equipment.



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where:

P=asphalt charging rate to blowing still, Mg/hr (ton/hr).

V=volume of asphalt charged, m<sup>3</sup> (ft<sup>3</sup>).

d=density of asphalt, kg/m<sup>3</sup> (lb/ft<sup>3</sup>).

K=conversion factor, 1000 kg/Mg (2000 lb/ton).

θ=duration of test run, hr.

(i) The volume (V) of asphalt charged shall be measured by any means accurate to within 10 percent.

(ii) The density (d) of the asphalt shall be computed using the following equation:

$$d = K_1 - K_2 T_i$$

Where:

d = Density of the asphalt, kg/m<sup>3</sup> (lb/ft<sup>3</sup>)

K<sub>1</sub> = 1056.1 kg/m<sup>3</sup> (metric units)

= 64.70 lb/ft<sup>3</sup> (English Units)

K<sub>2</sub> = 0.6176 kg/(m<sup>3</sup> °C) (metric units)

= 0.0694 lb/(ft<sup>3</sup> °F) (English Units)

T<sub>i</sub> = temperature at the start of the blow, °C (°F)

(5) Method 9 and the procedures in §60.11 shall be used to determine opacity.

(d) The Administrator will determine compliance with the standards in §60.472(a)(3) by using Method 22, modified so that readings are recorded every 15 seconds for a period of consecutive observations during representative conditions (in accordance with §60.8(c)) totaling 60 minutes. A performance test shall consist of one run.

(e) The owner or operator shall use the monitoring device in §60.473 (a) or (b) to monitor and record continuously the temperature during the particulate matter run and shall report the results to the Administrator with the performance test results.

(f) If at a later date the owner or operator believes that the emission limits in §60.472(a) and (b) are being met even though one of the conditions listed in this paragraph exist, he may submit a written request to the Administrator to repeat the performance test and procedure outlined in paragraph (c) of this section.

(1) The temperature measured in accordance with §60.473(a) is exceeding that measured during the performance test.

(2) The temperature measured in accordance with §60.473(b) is lower than

that measured during the performance test.

(g) If fuel oil is to be used to fire an afterburner used to control emissions from a blowing still, the owner or operator may petition the Administrator in accordance with §60.11(e) of the General Provisions to establish an opacity standard for the blowing still that will be the opacity standard when fuel oil is used to fire the afterburner. To obtain this opacity standard, the owner or operator must request the Administrator to determine opacity during an initial, or subsequent, performance test when fuel oil is used to fire the afterburner. Upon receipt of the results of the performance test, the Administrator will make a finding concerning compliance with the mass standard for the blowing still. If the Administrator finds that the facility was in compliance with the mass standard during the performance test but failed to meet the zero opacity standard, the Administrator will establish and promulgate in the FEDERAL REGISTER an opacity standard for the blowing still that will be the opacity standard when fuel oil is used to fire the afterburner. When the afterburner is fired with natural gas, the zero percent opacity remains the applicable opacity standard.

[54 FR 6677, Feb. 14, 1989, as amended 54 FR 27016, June 27, 1989; 65 FR 61762, Oct. 17, 2000]

**Subpart VV—Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry**

SOURCE: 48 FR 48335, Oct. 18, 1983, unless otherwise noted.

**§ 60.480 Applicability and designation of affected facility.**

(a)(1) The provisions of this subpart apply to affected facilities in the synthetic organic chemicals manufacturing industry.

(2) The group of all equipment (defined in §60.481) within a process unit is an affected facility.

(b) Any affected facility under paragraph (a) of this section that commences construction or modification

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after January 5, 1981, shall be subject to the requirements of this subpart.

(c) Addition or replacement of equipment for the purpose of process improvement which is accomplished without a capital expenditure shall not by itself be considered a modification under this subpart.

(d)(1) If an owner or operator applies for one or more of the exemptions in this paragraph, then the owner or operator shall maintain records as required in § 60.486(i).

(2) Any affected facility that has the design capacity to produce less than 1,000 Mg/yr (1,102 ton/yr) is exempt from § 60.482.

(3) If an affected facility produces heavy liquid chemicals only from heavy liquid feed or raw materials, then it is exempt from § 60.482.

(4) Any affected facility that produces beverage alcohol is exempt from § 60.482.

(5) Any affected facility that has no equipment in VOC service is exempt from § 60.482.

(e) *Alternative means of compliance*—(1) *Option to comply with part 65.* Owners or operators may choose to comply with the provisions of 40 CFR part 65, subpart F, to satisfy the requirements of §§ 60.482 through 60.487 for an affected facility. When choosing to comply with 40 CFR part 65, subpart F, the requirements of § 60.485(d), (e), and (f), and § 60.486(i) and (j) still apply. Other provisions applying to an owner or operator who chooses to comply with 40 CFR part 65 are provided in 40 CFR 65.1.

(2) *Part 60, subpart A.* Owners or operators who choose to comply with 40 CFR part 65, subpart F must also comply with §§ 60.1, 60.2, 60.5, 60.6, 60.7(a)(1) and (4), 60.14, 60.15, and 60.16 for that equipment. All sections and paragraphs of subpart A of this part that are not mentioned in this paragraph (e)(2) do not apply to owners or operators of equipment subject to this subpart complying with 40 CFR part 65, subpart F, except that provisions required to be met prior to implementing 40 CFR part 65 still apply. Owners and operators who choose to comply with 40 CFR part

65, subpart F, must comply with 40 CFR part 65, subpart A.

[48 FR 48335, Oct. 18, 1983, as amended at 49 FR 22607, May 30, 1984; 65 FR 61762, Oct. 17, 2000; 65 FR 78276, Dec. 14, 2000]

**§ 60.481 Definitions.**

As used in this subpart, all terms not defined herein shall have the meaning given them in the Act or in subpart A of part 60, and the following terms shall have the specific meanings given them.

*Capital expenditure* means, in addition to the definition in 40 CFR 60.2, an expenditure for a physical or operational change to an existing facility that:

(a) Exceeds P, the product of the facility's replacement cost, R, and an adjusted annual asset guideline repair allowance, A, as reflected by the following equation:  $P = R \times A$ , where

(1) The adjusted annual asset guideline repair allowance, A, is the product of the percent of the replacement cost, Y, and the applicable basic annual asset guideline repair allowance, B, divided by 100 as reflected by the following equation:

$$A = Y \times (B \div 100);$$

(2) The percent Y is determined from the following equation:  $Y = 1.0 - 0.575 \log X$ , where X is 1982 minus the year of construction; and

(3) The applicable basic annual asset guideline repair allowance, B, is selected from the following table consistent with the applicable subpart:

TABLE FOR DETERMINING APPLICABLE FOR B

Subpart applicable to facility	Value of B to be used in equation
VV .....	12.5
DDD .....	12.5
GGG .....	7.0
KKK .....	4.5

*Closed vent system* means a system that is not open to the atmosphere and that is composed of hard-piping, ductwork, connections, and, if necessary, flow-inducing devices that transport gas or vapor from a piece or pieces of equipment to a control device or back to a process.

*Connector* means flanged, screwed, welded, or other joined fittings used to

connect two pipe lines or a pipe line and a piece of process equipment.

*Control device* means an enclosed combustion device, vapor recovery system, or flare.

*Distance piece* means an open or enclosed casing through which the piston rod travels, separating the compressor cylinder from the crankcase.

*Double block and bleed system* means two block valves connected in series with a bleed valve or line that can vent the line between the two block valves.

*Duct work* means a conveyance system such as those commonly used for heating and ventilation systems. It is often made of sheet metal and often has sections connected by screws or crimping. Hard-piping is not ductwork.

*Equipment* means each pump, compressor, pressure relief device, sampling connection system, open-ended valve or line, valve, and flange or other connector in VOC service and any devices or systems required by this subpart.

*First attempt at repair* means to take rapid action for the purpose of stopping or reducing leakage of organic material to atmosphere using best practices.

*Fuel gas* means gases that are combusted to derive useful work or heat.

*Fuel gas system* means the offsite and onsite piping and flow and pressure control system that gathers gaseous stream(s) generated by onsite operations, may blend them with other sources of gas, and transports the gaseous stream for use as fuel gas in combustion devices or in-process combustion equipment, such as furnaces and gas turbines, either singly or in combination.

*Hard-piping* means pipe or tubing that is manufactured and properly installed using good engineering judgment and standards such as ASME B31.3, Process Piping (available from the American Society of Mechanical Engineers, PO Box 2900, Fairfield, NJ 07007-2900).

*In gas/vapor service* means that the piece of equipment contains process fluid that is in the gaseous state at operating conditions.

*In heavy liquid service* means that the piece of equipment is not in gas/vapor service or in light liquid service.

*In light liquid service* means that the piece of equipment contains a liquid that meets the conditions specified in § 60.485(e).

*In-situ sampling systems* means non-extractive samplers or in-line samplers.

*In vacuum service* means that equipment is operating at an internal pressure which is at least 5 kilopascals (kPa)(0.7 psia) below ambient pressure.

*In VOC service* means that the piece of equipment contains or contacts a process fluid that is at least 10 percent VOC by weight. (The provisions of § 60.485(d) specify how to determine that a piece of equipment is not in VOC service.)

*Liquids dripping* means any visible leakage from the seal including spraying, misting, clouding, and ice formation.

*Open-ended valve or line* means any valve, except safety relief valves, having one side of the valve seat in contact with process fluid and one side open to the atmosphere, either directly or through open piping.

*Pressure release* means the emission of materials resulting from system pressure being greater than set pressure of the pressure relief device.

*Process improvement* means routine changes made for safety and occupational health requirements, for energy savings, for better utility, for ease of maintenance and operation, for correction of design deficiencies, for bottleneck removal, for changing product requirements, or for environmental control.

*Process unit* means components assembled to produce, as intermediate or final products, one or more of the chemicals listed in § 60.489 of this part. A process unit can operate independently if supplied with sufficient feed or raw materials and sufficient storage facilities for the product.

*Process unit shutdown* means a work practice or operational procedure that stops production from a process unit or part of a process unit. An unscheduled work practice or operational procedure that stops production from a process unit or part of a process unit for less than 24 hours is not a process unit shutdown. The use of spare equipment and technically feasible bypassing of

equipment without stopping production are not process unit shutdowns.

*Quarter* means a 3-month period; the first quarter concludes on the last day of the last full month during the 180 days following initial startup.

*Repaired* means that equipment is adjusted, or otherwise altered, in order to eliminate a leak as indicated by one of the following: an instrument reading of 10,000 ppm or greater, indication of liquids dripping, or indication by a sensor that a seal or barrier fluid system has failed.

*Replacement cost* means the capital needed to purchase all the depreciable components in a facility.

*Sampling connection system* means an assembly of equipment within a process unit used during periods of representative operation to take samples of the process fluid. Equipment used to take nonroutine grab samples is not considered a sampling connection system.

*Sensor* means a device that measures a physical quantity or the change in a physical quantity such as temperature, pressure, flow rate, pH, or liquid level.

*Synthetic organic chemicals manufacturing industry* means the industry that produces, as intermediates or final products, one or more of the chemicals listed in § 60.489.

*Volatile organic compounds* or VOC means, for the purposes of this subpart, any reactive organic compounds as defined in § 60.2 Definitions.

[48 FR 48335, Oct. 18, 1983, as amended at 49 FR 22607, May 30, 1984; 49 FR 26738, June 29, 1984; 60 FR 43258, Aug. 18, 1995; 65 FR 61762, Oct. 17, 2000; 65 FR 78276, Dec. 14, 2000]

#### § 60.482-1 Standards: General.

(a) Each owner or operator subject to the provisions of this subpart shall demonstrate compliance with the requirements of §§ 60.482-1 through 60.482-10 or § 60.480(e) for all equipment within 180 days of initial startup.

(b) Compliance with §§ 60.482-1 to 60.482-10 will be determined by review of records and reports, review of performance test results, and inspection using the methods and procedures specified in § 60.485.

(c)(1) An owner or operator may request a determination of equivalence of a means of emission limitation to the

requirements of §§ 60.482-2, 60.482-3, 60.482-5, 60.482-6, 60.482-7, 60.482-8, and 60.482-10 as provided in § 60.484.

(2) If the Administrator makes a determination that a means of emission limitation is at least equivalent to the requirements of §§ 60.482-2, 60.482-3, 60.482-5, 60.482-6, 60.482-7, 60.482-8, or 60.482-10, an owner or operator shall comply with the requirements of that determination.

(d) Equipment that is in vacuum service is excluded from the requirements of §§ 60.482-2 to 60.482-10 if it is identified as required in § 60.486(e)(5).

[48 FR 48335, Oct. 18, 1983, as amended at 49 FR 22608, May 30, 1984; 65 FR 78276, Dec. 14, 2000]

#### § 60.482-2 Standards: Pumps in light liquid service.

(a)(1) Each pump in light liquid service shall be monitored monthly to detect leaks by the methods specified in § 60.485(b), except as provided in § 60.482-1(c) and paragraphs (d), (e), and (f) of this section.

(2) Each pump in light liquid service shall be checked by visual inspection each calendar week for indications of liquids dripping from the pump seal.

(b)(1) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(2) If there are indications of liquids dripping from the pump seal, a leak is detected.

(c)(1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in § 60.482-9.

(2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(d) Each pump equipped with a dual mechanical seal system that includes a barrier fluid system is exempt from the requirements of paragraph (a), *Provided* the following requirements are met:

(1) Each dual mechanical seal system is—

(i) Operated with the barrier fluid at a pressure that is at all times greater than the pump stuffing box pressure; or

(ii) Equipment with a barrier fluid degassing reservoir that is routed to a process or fuel gas system or connected by a closed vent system to a control

device that complies with the requirements of § 60.482-10; or

(iii) Equipped with a system that purges the barrier fluid into a process stream with zero VOC emissions to the atmosphere.

(2) The barrier fluid system is in heavy liquid service or is not in VOC service.

(3) Each barrier fluid system is equipped with a sensor that will detect failure of the seal system, the barrier fluid system, or both.

(4) Each pump is checked by visual inspection, each calendar week, for indications of liquids dripping from the pump seals.

(5)(i) Each sensor as described in paragraph (d)(3) is checked daily or is equipped with an audible alarm, and

(ii) The owner or operator determines, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both.

(6)(i) If there are indications of liquids dripping from the pump seal or the sensor indicates failure of the seal system, the barrier fluid system, or both based on the criterion determined in paragraph (d)(5)(ii), a leak is detected.

(ii) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in § 60.482-9.

(iii) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(e) Any pump that is designated, as described in § 60.486(e)(1) and (2), for no detectable emission, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of paragraphs (a), (c), and (d) of this section if the pump:

(1) Has no externally actuated shaft penetrating the pump housing,

(2) Is demonstrated to be operating with no detectable emissions as indicated by an instrument reading of less than 500 ppm above background as measured by the methods specified in § 60.485(c), and

(3) Is tested for compliance with paragraph (e)(2) of this section initially upon designation, annually, and at other times requested by the Administrator.

(f) If any pump is equipped with a closed vent system capable of capturing and transporting any leakage from the seal or seals to a process or to a fuel gas system or to a control device that complies with the requirements of § 60.482-10, it is exempt from paragraphs (a) through (e) of this section.

(g) Any pump that is designated, as described in § 60.486(f)(1), as an unsafe-to-monitor pump is exempt from the monitoring and inspection requirements of paragraphs (a) and (d)(4) through (6) of this section if:

(1) The owner or operator of the pump demonstrates that the pump is unsafe-to-monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with paragraph (a) of this section; and

(2) The owner or operator of the pump has a written plan that requires monitoring of the pump as frequently as practicable during safe-to-monitor times but not more frequently than the periodic monitoring schedule otherwise applicable, and repair of the equipment according to the procedures in paragraph (c) of this section if a leak is detected.

(h) Any pump that is located within the boundary of an unmanned plant site is exempt from the weekly visual inspection requirement of paragraphs (a)(2) and (d)(4) of this section, and the daily requirements of paragraph (d)(5) of this section, provided that each pump is visually inspected as often as practicable and at least monthly.

[48 FR 48335, Oct. 18, 1983, as amended at 65 FR 61762, Oct. 17, 2000; 65 FR 78276, Dec. 14, 2000]

**§ 60.482-3 Standards: Compressors.**

(a) Each compressor shall be equipped with a seal system that includes a barrier fluid system and that prevents leakage of VOC to the atmosphere, except as provided in § 60.482-1(c) and paragraph (h) and (i) of this section.

(b) Each compressor seal system as required in paragraph (a) shall be:

(1) Operated with the barrier fluid at a pressure that is greater than the compressor stuffing box pressure; or

(2) Equipped with a barrier fluid system degassing reservoir that is routed

to a process or fuel gas system or connected by a closed vent system to a control device that complies with the requirements of §60.482-10; or

(3) Equipped with a system that purges the barrier fluid into a process stream with zero VOC emissions to the atmosphere.

(c) The barrier fluid system shall be in heavy liquid service or shall not be in VOC service.

(d) Each barrier fluid system as described in paragraph (a) shall be equipped with a sensor that will detect failure of the seal system, barrier fluid system, or both.

(e)(1) Each sensor as required in paragraph (d) shall be checked daily or shall be equipped with an audible alarm.

(2) The owner or operator shall determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both.

(f) If the sensor indicates failure of the seal system, the barrier system, or both based on the criterion determined under paragraph (e)(2), a leak is detected.

(g)(1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in §60.482-9.

(2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(h) A compressor is exempt from the requirements of paragraphs (a) and (b) of this section, if it is equipped with a closed vent system to capture and transport leakage from the compressor drive shaft back to a process or fuel gas system or to a control device that complies with the requirements of §60.482-10, except as provided in paragraph (i) of this section.

(i) Any compressor that is designated, as described in §60.486(e) (1) and (2), for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of paragraphs (a)-(h) if the compressor:

(1) Is demonstrated to be operating with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as

measured by the methods specified in §60.485(c); and

(2) Is tested for compliance with paragraph (i)(1) of this section initially upon designation, annually, and at other times requested by the Administrator.

(j) Any existing reciprocating compressor in a process unit which becomes an affected facility under provisions of §60.14 or §60.15 is exempt from §60.482(a), (b), (c), (d), (e), and (h), provided the owner or operator demonstrates that recasting the distance piece or replacing the compressor are the only options available to bring the compressor into compliance with the provisions of paragraphs (a) through (e) and (h) of this section.

[48 FR 48335, Oct. 18, 1983, as amended at 65 FR 61762, Oct. 17, 2000; 65 FR 78277, Dec. 14, 2000]

**§ 60.482-4 Standards: Pressure relief devices in gas/vapor service.**

(a) Except during pressure releases, each pressure relief device in gas/vapor service shall be operated with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as determined by the methods specified in §60.485(c).

(b)(1) After each pressure release, the pressure relief device shall be returned to a condition of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as soon as practicable, but no later than 5 calendar days after the pressure release, except as provided in §60.482-9.

(2) No later than 5 calendar days after the pressure release, the pressure relief device shall be monitored to confirm the conditions of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, by the methods specified in §60.485(c).

(c) Any pressure relief device that is routed to a process or fuel gas system or equipped with a closed vent system capable of capturing and transporting leakage through the pressure relief device to a control device as described in §60.482-10 is exempted from the requirements of paragraphs (a) and (b) of this section.

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(d)(1) Any pressure relief device that is equipped with a rupture disk upstream of the pressure relief device is exempt from the requirements of paragraphs (a) and (b) of this section, provided the owner or operator complies with the requirements in paragraph (d)(2) of this section.

(2) After each pressure release, a new rupture disk shall be installed upstream of the pressure relief device as soon as practicable, but no later than 5 calendar days after each pressure release, except as provided in § 60.482-9.

[48 FR 48335, Oct. 18, 1983, as amended at 65 FR 61762, Oct. 17, 2000; 65 FR 78277, Dec. 14, 2000]

**§ 60.482-5 Standards: Sampling connection systems.**

(a) Each sampling connection system shall be equipped with a closed-purged, closed-loop, or closed-vent system, except as provided in § 60.482-1(c). Gases displaced during filling of the sample container are not required to be collected or captured.

(b) Each closed-purge, closed-loop, or closed-vent system as required in paragraph (a) of this section shall comply with the requirements specified in paragraphs (b)(1) through (4) of this section:

(1) Return the purged process fluid directly to the process line; or

(2) Collect and recycle the purged process fluid to a process; or

(3) Be designed and operated to capture and transport all the purged process fluid to a control device that complies with the requirements of § 60.482-10; or

(4) Collect, store, and transport the purged process fluid to any of the following systems or facilities:

(i) A waste management unit as defined in 40 CFR 63.111, if the waste management unit is subject to, and operated in compliance with the provisions of 40 CFR part 63, subpart G, applicable to Group 1 wastewater streams;

(ii) A treatment, storage, or disposal facility subject to regulation under 40 CFR part 262, 264, 265, or 266; or

(iii) A facility permitted, licensed, or registered by a State to manage municipal or industrial solid waste, if the

process fluids are not hazardous waste as defined in 40 CFR part 261.

(c) In situ sampling systems and sampling systems without purges are exempt from the requirements of paragraphs (a) and (b) of this section.

[60 FR 43258, Aug. 18, 1995, as amended at 65 FR 61762, Oct. 17, 2000; 65 FR 78277, Dec. 14, 2000]

**§ 60.482-6 Standards: Open-ended valves or lines.**

(a)(1) Each open-ended valve or line shall be equipped with a cap, blind flange, plug, or a second valve, except as provided in § 60.482-1(c).

(2) The cap, blind flange, plug, or second valve shall seal the open end at all times except during operations requiring process fluid flow through the open-ended valve or line.

(b) Each open-ended valve or line equipped with a second valve shall be operated in a manner such that the valve on the process fluid end is closed before the second valve is closed.

(c) When a double block-and-bleed system is being used, the bleed valve or line may remain open during operations that require venting the line between the block valves but shall comply with paragraph (a) at all other times.

(d) Open-ended valves or lines in an emergency shutdown system which are designed to open automatically in the event of a process upset are exempt from the requirements of paragraphs (a), (b) and (c) of this section.

(e) Open-ended valves or lines containing materials which would autocatalytically polymerize or would present an explosion, serious overpressure, or other safety hazard if capped or equipped with a double block and bleed system as specified in paragraphs (a) through (c) of this section are exempt from the requirements of paragraphs (a) through (c) of this section.

[48 FR 48335, Oct. 18, 1983, as amended at 49 FR 22607, May 30, 1984; 65 FR 78277, Dec. 14, 2000]

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**§ 60.482-7 Standards: Valves in gas/vapor service and in light liquid service.**

(a) Each valve shall be monitored monthly to detect leaks by the methods specified in § 60.485(b) and shall comply with paragraphs (b) through (e), except as provided in paragraphs (f), (g), and (h), § 60.483-1, 2, and § 60.482-1(c).

(b) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(c)(1) Any valve for which a leak is not detected for 2 successive months may be monitored the first month of every quarter, beginning with the next quarter, until a leak is detected.

(2) If a leak is detected, the valve shall be monitored monthly until a leak is not detected for 2 successive months.

(d)(1) When a leak is detected, it shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected, except as provided in § 60.482-9.

(2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(e) First attempts at repair include, but are not limited to, the following best practices where practicable:

- (1) Tightening of bonnet bolts;
- (2) Replacement of bonnet bolts;
- (3) Tightening of packing gland nuts;
- (4) Injection of lubricant into lubricated packing.

(f) Any valve that is designated, as described in § 60.486(e)(2), for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of paragraph (a) if the valve:

- (1) Has no external actuating mechanism in contact with the process fluid,
- (2) Is operated with emissions less than 500 ppm above background as determined by the method specified in § 60.485(c), and
- (3) Is tested for compliance with paragraph (f)(2) of this section initially upon designation, annually, and at other times requested by the Administrator.

(g) Any valve that is designated, as described in § 60.486(f)(1), as an unsafe-

to-monitor valve is exempt from the requirements of paragraph (a) if:

(1) The owner or operator of the valve demonstrates that the valve is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with paragraph (a), and

(2) The owner or operator of the valve adheres to a written plan that requires monitoring of the valve as frequently as practicable during safe-to-monitor times.

(h) Any valve that is designated, as described in § 60.486(f)(2), as a difficult-to-monitor valve is exempt from the requirements of paragraph (a) if:

(1) The owner or operator of the valve demonstrates that the valve cannot be monitored without elevating the monitoring personnel more than 2 meters above a support surface.

(2) The process unit within which the valve is located either becomes an affected facility through § 60.14 or § 60.15 or the owner or operator designates less than 3.0 percent of the total number of valves as difficult-to-monitor, and

(3) The owner or operator of the valve follows a written plan that requires monitoring of the valve at least once per calendar year.

[48 FR 48335, Oct. 18, 1983, as amended at 49 FR 22608, May 30, 1984; 65 FR 61762, Oct. 17, 2000]

**§ 60.482-8 Standards: Pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and connectors.**

(a) If evidence of a potential leak is found by visual, audible, olfactory, or any other detection method at pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and connectors, the owner or operator shall follow either one of the following procedures:

(1) The owner or operator shall monitor the equipment within 5 days by the method specified in § 60.485(b) and shall comply with the requirements of paragraphs (b) through (d) of this section.

(2) The owner or operator shall eliminate the visual, audible, olfactory, or other indication of a potential leak.



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(b) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(c)(1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in § 60.482-9.

(2) The first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(d) First attempts at repair include, but are not limited to, the best practices described under § 60.482-7(e).

[48 CFR 48335, Oct. 18, 1983, as amended at 65 FR 78277, Dec. 14, 2000]

**§ 60.482-9 Standards: Delay of repair.**

(a) Delay of repair of equipment for which leaks have been detected will be allowed if repair within 15 days is technically infeasible without a process unit shutdown. Repair of this equipment shall occur before the end of the next process unit shutdown.

(b) Delay of repair of equipment will be allowed for equipment which is isolated from the process and which does not remain in VOC service.

(c) Delay of repair for valves will be allowed if:

(1) The owner or operator demonstrates that emissions of purged material resulting from immediate repair are greater than the fugitive emissions likely to result from delay of repair, and

(2) When repair procedures are effected, the purged material is collected and destroyed or recovered in a control device complying with § 60.482-10.

(d) Delay of repair for pumps will be allowed if:

(1) Repair requires the use of a dual mechanical seal system that includes a barrier fluid system, and

(2) Repair is completed as soon as practicable, but not later than 6 months after the leak was detected.

(e) Delay of repair beyond a process unit shutdown will be allowed for a valve, if valve assembly replacement is necessary during the process unit shutdown, valve assembly supplies have been depleted, and valve assembly supplies had been sufficiently stocked before the supplies were depleted. Delay of repair beyond the next process unit shutdown will not be allowed unless

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the next process unit shutdown occurs sooner than 6 months after the first process unit shutdown.

[48 FR 48335, Oct. 18, 1983, as amended at 65 FR 78277, Dec. 14, 2000]

**§ 60.482-10 Standards: Closed vent systems and control devices.**

(a) Owners or operators of closed vent systems and control devices used to comply with provisions of this subpart shall comply with the provisions of this section.

(b) Vapor recovery systems (for example, condensers and absorbers) shall be designed and operated to recover the VOC emissions vented to them with an efficiency of 95 percent or greater, or to an exit concentration of 20 parts per million by volume, whichever is less stringent.

(c) Enclosed combustion devices shall be designed and operated to reduce the VOC emissions vented to them with an efficiency of 95 percent or greater, or to an exit concentration of 20 parts per million by volume, on a dry basis, corrected to 3 percent oxygen, whichever is less stringent or to provide a minimum residence time of 0.75 seconds at a minimum temperature of 816 °C.

(d) Flares used to comply with this subpart shall comply with the requirements of § 60.18.

(e) Owners or operators of control devices used to comply with the provisions of this subpart shall monitor these control devices to ensure that they are operated and maintained in conformance with their designs.

(f) Except as provided in paragraphs (i) through (k) of this section, each closed vent system shall be inspected according to the procedures and schedule specified in paragraphs (f)(1) and (f)(2) of this section.

(1) If the vapor collection system or closed vent system is constructed of hard-piping, the owner or operator shall comply with the requirements specified in paragraphs (f)(1)(i) and (f)(1)(ii) of this section:

(i) Conduct an initial inspection according to the procedures in § 60.485(b); and

(ii) Conduct annual visual inspections for visible, audible, or olfactory indications of leaks.

(2) If the vapor collection system or closed vent system is constructed of ductwork, the owner or operator shall:

(i) Conduct an initial inspection according to the procedures in § 60.485(b); and

(ii) Conduct annual inspections according to the procedures in § 60.485(b).

(g) Leaks, as indicated by an instrument reading greater than 500 parts per million by volume above background or by visual inspections, shall be repaired as soon as practicable except as provided in paragraph (h) of this section.

(1) A first attempt at repair shall be made no later than 5 calendar days after the leak is detected.

(2) Repair shall be completed no later than 15 calendar days after the leak is detected.

(h) Delay of repair of a closed vent system for which leaks have been detected is allowed if the repair is technically infeasible without a process unit shutdown or if the owner or operator determines that emissions resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair. Repair of such equipment shall be complete by the end of the next process unit shutdown.

(i) If a vapor collection system or closed vent system is operated under a vacuum, it is exempt from the inspection requirements of paragraphs (f)(1)(i) and (f)(2) of this section.

(j) Any parts of the closed vent system that are designated, as described in paragraph (1)(1) of this section, as unsafe to inspect are exempt from the inspection requirements of paragraphs (f)(1)(i) and (f)(2) of this section if they comply with the requirements specified in paragraphs (j)(1) and (j)(2) of this section:

(1) The owner or operator determines that the equipment is unsafe to inspect because inspecting personnel would be exposed to an imminent or potential danger as a consequence of complying with paragraphs (f)(1)(i) or (f)(2) of this section; and

(2) The owner or operator has a written plan that requires inspection of the equipment as frequently as practicable during safe-to-inspect times.

(k) Any parts of the closed vent system that are designated, as described in paragraph (1)(2) of this section, as difficult to inspect are exempt from the inspection requirements of paragraphs (f)(1)(i) and (f)(2) of this section if they comply with the requirements specified in paragraphs (k)(1) through (k)(3) of this section:

(1) The owner or operator determines that the equipment cannot be inspected without elevating the inspecting personnel more than 2 meters above a support surface; and

(2) The process unit within which the closed vent system is located becomes an affected facility through §§ 60.14 or 60.15, or the owner or operator designates less than 3.0 percent of the total number of closed vent system equipment as difficult to inspect; and

(3) The owner or operator has a written plan that requires inspection of the equipment at least once every 5 years. A closed vent system is exempt from inspection if it is operated under a vacuum.

(1) The owner or operator shall record the information specified in paragraphs (1)(1) through (1)(5) of this section.

(1) Identification of all parts of the closed vent system that are designated as unsafe to inspect, an explanation of why the equipment is unsafe to inspect, and the plan for inspecting the equipment.

(2) Identification of all parts of the closed vent system that are designated as difficult to inspect, an explanation of why the equipment is difficult to inspect, and the plan for inspecting the equipment.

(3) For each inspection during which a leak is detected, a record of the information specified in § 60.486(c).

(4) For each inspection conducted in accordance with § 60.485(b) during which no leaks are detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected.

(5) For each visual inspection conducted in accordance with paragraph (f)(1)(ii) of this section during which no leaks are detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected.

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(m) Closed vent systems and control devices used to comply with provisions of this subpart shall be operated at all times when emissions may be vented to them.

[48 FR 48335, Oct. 18, 1983, as amended at 51 FR 2702, Jan. 21, 1986; 60 FR 43258, Aug. 18, 1995; 61 FR 29878, June 12, 1996; 65 FR 78277, Dec. 14, 2000]

**§ 60.483-1 Alternative standards for valves—allowable percentage of valves leaking.**

(a) An owner or operator may elect to comply with an allowable percentage of valves leaking of equal to or less than 2.0 percent.

(b) The following requirements shall be met if an owner or operator wishes to comply with an allowable percentage of valves leaking:

(1) An owner or operator must notify the Administrator that the owner or operator has elected to comply with the allowable percentage of valves leaking before implementing this alternative standard, as specified in § 60.487(d).

(2) A performance test as specified in paragraph (c) of this section shall be conducted initially upon designation, annually, and at other times requested by the Administrator.

(3) If a valve leak is detected, it shall be repaired in accordance with § 60.482-7(d) and (e).

(c) Performance tests shall be conducted in the following manner:

(1) All valves in gas/vapor and light liquid service within the affected facility shall be monitored within 1 week by the methods specified in § 60.485(b).

(2) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(3) The leak percentage shall be determined by dividing the number of valves for which leaks are detected by the number of valves in gas/vapor and light liquid service within the affected facility.

(d) Owners and operators who elect to comply with this alternative standard shall not have an affected facility with a leak percentage greater than 2.0 percent.

[48 FR 48335, Oct. 18, 1983, as amended at 65 FR 61762, Oct. 17, 2000; 65 FR 78278, Dec. 14, 2000]

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**§ 60.483-2 Alternative standards for valves—skip period leak detection and repair.**

(a)(1) An owner or operator may elect to comply with one of the alternative work practices specified in paragraphs (b)(2) and (3) of this section.

(2) An owner or operator must notify the Administrator before implementing one of the alternative work practices, as specified in § 60.487(d).

(b)(1) An owner or operator shall comply initially with the requirements for valves in gas/vapor service and valves in light liquid service, as described in § 60.482-7.

(2) After 2 consecutive quarterly leak detection periods with the percent of valves leaking equal to or less than 2.0, an owner or operator may begin to skip 1 of the quarterly leak detection periods for the valves in gas/vapor and light liquid service.

(3) After 5 consecutive quarterly leak detection periods with the percent of valves leaking equal to or less than 2.0, an owner or operator may begin to skip 3 of the quarterly leak detection periods for the valves in gas/vapor and light liquid service.

(4) If the percent of valves leaking is greater than 2.0, the owner or operator shall comply with the requirements as described in § 60.482-7 but can again elect to use this section.

(5) The percent of valves leaking shall be determined by dividing the sum of valves found leaking during current monitoring and valves for which repair has been delayed by the total number of valves subject to the requirements of this section.

(6) An owner or operator must keep a record of the percent of valves found leaking during each leak detection period.

[48 FR 48335, Oct. 18, 1983, as amended at 65 FR 61762, Oct. 17, 2000; 65 FR 78278, Dec. 14, 2000]

**§ 60.484 Equivalence of means of emission limitation.**

(a) Each owner or operator subject to the provisions of this subpart may apply to the Administrator for determination of equivalence for any means of emission limitation that achieves a reduction in emissions of VOC at least

equivalent to the reduction in emissions of VOC achieved by the controls required in this subpart.

(b) Determination of equivalence to the equipment, design, and operational requirements of this subpart will be evaluated by the following guidelines:

(1) Each owner or operator applying for an equivalence determination shall be responsible for collecting and verifying test data to demonstrate equivalence of means of emission limitation.

(2) The Administrator will compare test data for the means of emission limitation to test data for the equipment, design, and operational requirements.

(3) The Administrator may condition the approval of equivalence on requirements that may be necessary to assure operation and maintenance to achieve the same emission reduction as the equipment, design, and operational requirements.

(c) Determination of equivalence to the required work practices in this subpart will be evaluated by the following guidelines:

(1) Each owner or operator applying for a determination of equivalence shall be responsible for collecting and verifying test data to demonstrate equivalence of an equivalent means of emission limitation.

(2) For each affected facility for which a determination of equivalence is requested, the emission reduction achieved by the required work practice shall be demonstrated.

(3) For each affected facility, for which a determination of equivalence is requested, the emission reduction achieved by the equivalent means of emission limitation shall be demonstrated.

(4) Each owner or operator applying for a determination of equivalence shall commit in writing to work practice(s) that provide for emission reductions equal to or greater than the emission reductions achieved by the required work practice.

(5) The Administrator will compare the demonstrated emission reduction for the equivalent means of emission limitation to the demonstrated emission reduction for the required work

practices and will consider the commitment in paragraph (c)(4).

(6) The Administrator may condition the approval of equivalence on requirements that may be necessary to assure operation and maintenance to achieve the same emission reduction as the required work practice.

(d) An owner or operator may offer a unique approach to demonstrate the equivalence of any equivalent means of emission limitation.

(e)(1) After a request for determination of equivalence is received, the Administrator will publish a notice in the FEDERAL REGISTER and provide the opportunity for public hearing if the Administrator judges that the request may be approved.

(2) After notice and opportunity for public hearing, the Administrator will determine the equivalence of a means of emission limitation and will publish the determination in the FEDERAL REGISTER.

(3) Any equivalent means of emission limitations approved under this section shall constitute a required work practice, equipment, design, or operational standard within the meaning of section 111(h)(1) of the Clean Air Act.

(f)(1) Manufacturers of equipment used to control equipment leaks of VOC may apply to the Administrator for determination of equivalence for any equivalent means of emission limitation that achieves a reduction in emissions of VOC achieved by the equipment, design, and operational requirements of this subpart.

(2) The Administrator will make an equivalence determination according to the provisions of paragraphs (b), (c), (d), and (e) of this section.

[48 FR 48335, Oct. 18, 1983, as amended at 65 FR 61762, Oct. 17, 2000]

#### § 60.485 Test methods and procedures.

(a) In conducting the performance tests required in § 60.8, the owner or operator shall use as reference methods and procedures the test methods in appendix A of this part or other methods and procedures as specified in this section, except as provided in § 60.8(b).

(b) The owner or operator shall determine compliance with the standards in §§ 60.482, 60.483, and 60.484 as follows:

(1) Method 21 shall be used to determine the presence of leaking sources. The instrument shall be calibrated before use each day of its use by the procedures specified in Method 21. The following calibration gases shall be used:

(i) Zero air (less than 10 ppm of hydrocarbon in air); and

(ii) A mixture of methane or n-hexane and air at a concentration of about, but less than, 10,000 ppm methane or n-hexane.

(c) The owner or operator shall determine compliance with the no detectable emission standards in §§ 60.482-2(e), 60.482-3(i), 60.482-4, 60.482-7(f), and 60.482-10(e) as follows:

(1) The requirements of paragraph (b) shall apply.

(2) Method 21 shall be used to determine the background level. All potential leak interfaces shall be traversed as close to the interface as possible. The arithmetic difference between the maximum concentration indicated by the instrument and the background level is compared with 500 ppm for determining compliance.

(d) The owner or operator shall test each piece of equipment unless he demonstrates that a process unit is not in VOC service, i.e., that the VOC content would never be reasonably expected to exceed 10 percent by weight. For purposes of this demonstration, the following methods and procedures shall be used:

(1) Procedures that conform to the general methods in ASTM E260-73, 91, or 96, E168-67, 77, or 92, E169-63, 77, or 93 (incorporated by reference—see § 60.17) shall be used to determine the percent VOC content in the process fluid that is contained in or contacts a piece of equipment.

(2) Organic compounds that are considered by the Administrator to have negligible photochemical reactivity may be excluded from the total quantity of organic compounds in determining the VOC content of the process fluid.

(3) Engineering judgment may be used to estimate the VOC content, if a piece of equipment had not been shown previously to be in service. If the Administrator disagrees with the judgment, paragraphs (d) (1) and (2) of this

section shall be used to resolve the disagreement.

(e) The owner or operator shall demonstrate that an equipment is in light liquid service by showing that all the following conditions apply:

(1) The vapor pressure of one or more of the components is greater than 0.3 kPa at 20 °C (1.2 in. H<sub>2</sub>O at 68 °F). Standard reference texts or ASTM D2879-83, 96, or 97 (incorporated by reference—see § 60.17) shall be used to determine the vapor pressures.

(2) The total concentration of the pure components having a vapor pressure greater than 0.3 kPa at 20 °C (1.2 in. H<sub>2</sub>O at 68 °F) is equal to or greater than 20 percent by weight.

(3) The fluid is a liquid at operating conditions.

(f) Samples used in conjunction with paragraphs (d), (e), and (g) of this section shall be representative of the process fluid that is contained in or contacts the equipment or the gas being combusted in the flare.

(g) The owner or operator shall determine compliance with the standards of flares as follows:

(1) Method 22 shall be used to determine visible emissions.

(2) A thermocouple or any other equivalent device shall be used to monitor the presence of a pilot flame in the flare.

(3) The maximum permitted velocity for air assisted flares shall be computed using the following equation:

$$V_{\max} = K_1 + K_2 H_T$$

Where:

$V_{\max}$  = Maximum permitted velocity, m/sec (ft/sec)

$H_T$  = Net heating value of the gas being combusted, MJ/scm (Btu/scf).

$K_1$  = 8.706 m/sec (metric units)

= 28.56 ft/sec (English units)

$K_2$  = 0.7084 m<sup>4</sup>/(MJ-sec) (metric units)

= 0.087 ft<sup>4</sup>/(Btu-sec) (English units)

(4) The net heating value (HT) of the gas being combusted in a flare shall be computed using the following equation:

$$H_T = K \sum_{i=1}^n C_i H_i$$

Where:

$K$  = Conversion constant, 1.740 × 10<sup>7</sup> (g-mole)/(MJ) (ppm-scm-kcal) (metric units)

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= 4.674 × 10<sup>8</sup> [(g-mole)(Btu)/(ppm-scf-kcal)]  
(English units)

C<sub>i</sub> = Concentration of sample component "i,"  
ppm

H<sub>i</sub> = net heat of combustion of sample component "i" at 25 °C and 760 mm Hg (77 °F and 14.7 psi), kcal/g-mole

(5) Method 18 and ASTM D2504-67, 77, or 88 (Reapproved 1993) (incorporated by reference—see §60.17) shall be used to determine the concentration of sample component "i."

(6) ASTM D2382-76 or 88 or D4809-95 (incorporated by reference—see §60.17) shall be used to determine the net heat of combustion of component "i" if published values are not available or cannot be calculated.

(7) Method 2, 2A, 2C, or 2D, as appropriate, shall be used to determine the actual exit velocity of a flare. If needed, the unobstructed (free) cross-sectional area of the flare tip shall be used.

[54 FR 6678, Feb. 14, 1989, as amended at 54 FR 27016, June 27, 1989; 65 FR 61763, Oct. 17, 2000]

§ 60.486 Recordkeeping requirements.

(a)(1) Each owner or operator subject to the provisions of this subpart shall comply with the recordkeeping requirements of this section.

(2) An owner or operator of more than one affected facility subject to the provisions of this subpart may comply with the recordkeeping requirements for these facilities in one recordkeeping system if the system identifies each record by each facility.

(b) When each leak is detected as specified in §§60.482-2, 60.482-3, 60.482-7, 60.482-8, and 60.483-2, the following requirements apply:

(1) A weatherproof and readily visible identification, marked with the equipment identification number, shall be attached to the leaking equipment.

(2) The identification on a valve may be removed after it has been monitored for 2 successive months as specified in §60.482-7(c) and no leak has been detected during those 2 months.

(3) The identification on equipment except on a valve, may be removed after it has been repaired.

(c) When each leak is detected as specified in §§60.482-2, 60.482-3, 60.482-7, 60.482-8, and 60.483-2, the following in-

formation shall be recorded in a log and shall be kept for 2 years in a readily accessible location:

(1) The instrument and operator identification numbers and the equipment identification number.

(2) The date the leak was detected and the dates of each attempt to repair the leak.

(3) Repair methods applied in each attempt to repair the leak.

(4) "Above 10,000" if the maximum instrument reading measured by the methods specified in §60.485(a) after each repair attempt is equal to or greater than 10,000 ppm.

(5) "Repair delayed" and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.

(6) The signature of the owner or operator (or designate) whose decision it was that repair could not be effected without a process shutdown.

(7) The expected date of successful repair of the leak if a leak is not repaired within 15 days.

(8) Dates of process unit shutdowns that occur while the equipment is unrepaired.

(9) The date of successful repair of the leak.

(d) The following information pertaining to the design requirements for closed vent systems and control devices described in §60.482-10 shall be recorded and kept in a readily accessible location:

(1) Detailed schematics, design specifications, and piping and instrumentation diagrams.

(2) The dates and descriptions of any changes in the design specifications.

(3) A description of the parameter or parameters monitored, as required in §60.482-10(e), to ensure that control devices are operated and maintained in conformance with their design and an explanation of why that parameter (or parameters) was selected for the monitoring.

(4) Periods when the closed vent systems and control devices required in §§60.482-2, 60.482-3, 60.482-4, and 60.482-5 are not operated as designed, including periods when a flare pilot light does not have a flame.

(5) Dates of startups and shutdowns of the closed vent systems and control

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devices required in §§ 60.482-2, 60.482-3, 60.482-4, and 60.482-5.

(e) The following information pertaining to all equipment subject to the requirements in §§ 60.482-1 to 60.482-10 shall be recorded in a log that is kept in a readily accessible location:

(1) A list of identification numbers for equipment subject to the requirements of this subpart.

(2)(i) A list of identification numbers for equipment that are designated for no detectable emissions under the provisions of §§ 60.482-2(e), 60.482-3(i) and 60.482-7(f).

(ii) The designation of equipment as subject to the requirements of § 60.482-2(e), § 60.482-3(i), or § 60.482-7(f) shall be signed by the owner or operator.

(3) A list of equipment identification numbers for pressure relief devices required to comply with § 60.482-4.

(4)(i) The dates of each compliance test as required in §§ 60.482-2(e), 60.482-3(i), 60.482-4, and 60.482-7(f).

(ii) The background level measured during each compliance test.

(iii) The maximum instrument reading measured at the equipment during each compliance test.

(5) A list of identification numbers for equipment in vacuum service.

(f) The following information pertaining to all valves subject to the requirements of § 60.482-7(g) and (h) and to all pumps subject to the requirements of § 60.482-2(g) shall be recorded in a log that is kept in a readily accessible location:

(1) A list of identification numbers for valves and pumps that are designated as unsafe-to-monitor, an explanation for each valve or pump stating why the valve or pump is unsafe-to-monitor, and the plan for monitoring each valve or pump.

(2) A list of identification numbers for valves that are designated as difficult-to-monitor, an explanation for each valve stating why the valve is difficult-to-monitor, and the schedule for monitoring each valve.

(g) The following information shall be recorded for valves complying with § 60.483-2:

(1) A schedule of monitoring.

(2) The percent of valves found leaking during each monitoring period.

(h) The following information shall be recorded in a log that is kept in a readily accessible location:

(1) Design criterion required in §§ 60.482-2(d)(5) and 60.482-3(e)(2) and explanation of the design criterion; and

(2) Any changes to this criterion and the reasons for the changes.

(i) The following information shall be recorded in a log that is kept in a readily accessible location for use in determining exemptions as provided in § 60.480(d):

(1) An analysis demonstrating the design capacity of the affected facility.

(2) A statement listing the feed or raw materials and products from the affected facilities and an analysis demonstrating whether these chemicals are heavy liquids or beverage alcohol, and

(3) An analysis demonstrating that equipment is not in VOC service.

(j) Information and data used to demonstrate that a piece of equipment is not in VOC service shall be recorded in a log that is kept in a readily accessible location.

(k) The provisions of § 60.7 (b) and (d) do not apply to affected facilities subject to this subpart.

[48 FR 48335, Oct. 18, 1983, as amended at 65 FR 61763, Oct. 17, 2000; 65 FR 78278, Dec. 14, 2000]

**§ 60.487 Reporting requirements.**

(a) Each owner or operator subject to the provisions of this subpart shall submit semiannual reports to the Administrator beginning six months after the initial startup date.

(b) The initial semiannual report to the Administrator shall include the following information:

(1) Process unit identification.

(2) Number of valves subject to the requirements of § 60.482-7, excluding those valves designated for no detectable emissions under the provisions of § 60.482-7(f).

(3) Number of pumps subject to the requirements of § 60.482-2, excluding those pumps designated for no detectable emissions under the provisions of § 60.482-2(e) and those pumps complying with § 60.482-2(f).

(4) Number of compressors subject to the requirements of § 60.482-3, excluding those compressors designated for no detectable emissions under the provisions

of § 60.482-3(i) and those compressors complying with § 60.482-3(h).

(c) All semiannual reports to the Administrator shall include the following information, summarized from the information in § 60.486:

(1) Process unit identification.

(2) For each month during the semiannual reporting period,

(i) Number of valves for which leaks were detected as described in § 60.482(7)(b) or § 60.483-2,

(ii) Number of valves for which leaks were not repaired as required in § 60.482-7(d)(1),

(iii) Number of pumps for which leaks were detected as described in § 60.482-2(b) and (d)(6)(i),

(iv) Number of pumps for which leaks were not repaired as required in § 60.482-2(c)(1) and (d)(6)(ii),

(v) Number of compressors for which leaks were detected as described in § 60.482-3(f),

(vi) Number of compressors for which leaks were not repaired as required in § 60.482-3(g)(1), and

(vii) The facts that explain each delay of repair and, where appropriate, why a process unit shutdown was technically infeasible.

(3) Dates of process unit shutdowns which occurred within the semiannual reporting period.

(4) Revisions to items reported according to paragraph (b) if changes have occurred since the initial report or subsequent revisions to the initial report.

(d) An owner or operator electing to comply with the provisions of §§ 60.483-1 or 60.483-2 shall notify the Administrator of the alternative standard selected 90 days before implementing either of the provisions.

(e) An owner or operator shall report the results of all performance tests in accordance with § 60.8 of the General Provisions. The provisions of § 60.8(d) do not apply to affected facilities subject to the provisions of this subpart except that an owner or operator must notify the Administrator of the schedule for the initial performance tests at least 30 days before the initial performance tests.

(f) The requirements of paragraphs (a) through (c) of this section remain in force until and unless EPA, in dele-

gating enforcement authority to a State under section 111(c) of the Act, approves reporting requirements or an alternative means of compliance surveillance adopted by such State. In that event, affected sources within the State will be relieved of the obligation to comply with the requirements of paragraphs (a) through (c) of this section, provided that they comply with the requirements established by the State.

[48 FR 48335, Oct. 18, 1983, as amended at 49 FR 22608, May 30, 1984; 65 FR 61763, Oct. 17, 2000]

#### § 60.488 Reconstruction.

For the purposes of this subpart:

(a) The cost of the following frequently replaced components of the facility shall not be considered in calculating either the "fixed capital cost of the new components" or the "fixed capital costs that would be required to construct a comparable new facility" under § 60.15: pump seals, nuts and bolts, rupture disks, and packings.

(b) Under § 60.15, the "fixed capital cost of new components" includes the fixed capital cost of all depreciable components (except components specified in § 60.488 (a)) which are or will be replaced pursuant to all continuous programs of component replacement which are commenced within any 2-year period following the applicability date for the appropriate subpart. (See the "Applicability and designation of affected facility" section of the appropriate subpart.) For purposes of this paragraph, "commenced" means that an owner or operator has undertaken a continuous program of component replacement or that an owner or operator has entered into a contractual obligation to undertake and complete, within a reasonable time, a continuous program of component replacement.

[49 FR 22608, May 30, 1984]

#### § 60.489 List of chemicals produced by affected facilities.

The following chemicals are produced, as intermediates or final products, by process units covered under this subpart. The applicability date for process units producing one or more of these chemicals is January 5, 1981.



CAS No. *	Chemical	CAS No. *	Chemical
105-57-7	Acetal.	106-31-0	Butyric anhydride.
75-07-0	Acetaldehyde.	109-74-0	Butyronitrile.
107-89-1	Acetaldoi.	105-60-2	Caprolactam.
60-35-5	Acetamide.	75-1-50	Carbon disulfide.
103-84-4	Acetanilide.	558-13-4	Carbon tetrabromide.
64-19-7	Acetic acid.	56-23-5	Carbon tetrachloride.
108-24-7	Acetic anhydride.	9004-35-7	Cellulose acetate.
67-64-1	Acetone.	79-11-8	Chloroacetic acid.
75-86-5	Acetone cyanohydrin.	108-42-9	m-chloroaniline.
75-05-8	Acetonitrile.	95-51-2	o-chloroaniline.
98-86-2	Acetophenone.	106-47-8	p-chloroaniline.
75-36-5	Acetyl chloride.	35913-09-8	Chlorobenzaldehyde.
74-86-2	Acetylene.	108-90-7	Chlorobenzene.
107-02-8	Acrolein.	118-91-2, 535-80-8, 74-11-3 <sup>c</sup> .	Chlorobenzoic acid.
79-06-1	Acrylamide.	2136-81-4,	
79-10-7	Acrylic acid.	2136-89-2,	Chlorobenzotrichloride.
107-13-1	Acrylonitrile.	5216-25-1 <sup>c</sup> .	
124-04-9	Adipic acid.	1321-03-5	Chlorobenzoyl chloride.
111-69-3	Adiponitrile.	25497-29-4	Chlorodifluoromethane.
( <sup>b</sup> )	Alkyl naphthalenes.	75-45-6	Chlorodifluoroethane.
107-18-6	Allyl alcohol.	67-66-3	Chloroform.
107-05-1	Allyl chloride.	25586-43-0	Chloronaphthalene.
1321-11-5	Aminobenzoic acid.	88-73-3	o-chloronitrobenzene.
111-41-1	Aminoethylethanolamine.	100-00-5	p-chloronitrobenzene.
123-30-8	p-Aminophenol.	25167-80-0	Chlorophenols.
628-63-7, 123-92-2.	Amyl acetates.	126-99-8	Chloroprene.
71-41-0 <sup>c</sup>	Amyl alcohols.	7790-94-5	Chlorosulfonic acid.
110-59-7	Amyl amine.	108-41-8	m-chlorotoluene.
543-59-9	Amyl chloride.	95-49-8	o-chlorotoluene.
110-66-7 <sup>c</sup>	Amyl mercaptans.	106-43-4	p-chlorotoluene.
1322-06-1	Amyl phenol.	75-72-9	Chlorotrifluoromethane.
62-53-3	Aniline.	108-39-4	m-cresol.
142-04-1	Aniline hydrochloride.	95-48-7	o-cresol.
29191-52-4	Anisidine.	106-44-5	p-cresol.
100-66-3	Anisole.	1319-77-3	Mixed cresols.
118-92-3	Anthranilic acid.	1319-77-3	Cresylic acid.
84-65-1	Anthraquinone.	4170-30-0	Crotonaldehyde.
100-52-7	Benzaldehyde.	3724-65-0	Crotonic acid.
55-21-0	Benzamide.	98-82-8	Cumene.
71-43-2	Benzene.	80-15-9	Cumene hydroperoxide.
98-48-6	Benzenedisulfonic acid.	372-09-8	Cyanoacetic acid.
98-11-3	Benzenesulfonic acid.	506-77-4	Cyanogen chloride.
134-81-6	Benzil.	108-80-5	Cyanuric acid.
76-93-7	Benzilic acid.	108-77-0	Cyanuric chloride.
65-85-0	Benzoic acid.	110-82-7	Cyclohexane.
119-53-9	Benzoic acid.	108-93-0	Cyclohexanol.
100-47-0	Benzonitrile.	108-94-1	Cyclohexanone.
119-61-9	Benzophenone.	110-83-8	Cyclohexene.
98-07-7	Benzotrachloride.	108-91-8	Cyclohexylamine.
98-88-4	Benzoyl chloride.	111-78-4	Cyclooctadiene.
100-51-6	Benzyl alcohol.	112-30-1	Decanol.
100-46-9	Benzylamine.	123-42-2	Diacetone alcohol.
120-51-4	Benzyl benzoate.	27576-04-1	Diaminobenzoic acid.
100-44-7	Benzyl chloride.	95-76-1, 95-82-9, 554-00-7,	Dichloroaniline.
98-87-3	Benzyl dichloride.	608-27-5,	
92-52-4	Biphenyl.	608-31-1,	
80-05-7	Bisphenol A.	626-43-7,	
10-86-1	Bromobenzene.	27134-27-6,	
27497-51-4	Bromonaphthalene.	57311-92-9 <sup>c</sup> .	
106-89-0	Butadiene.	541-73-1	m-dichlorobenzene.
106-98-9	1-butene.	95-50-1	o-dichlorobenzene.
123-86-4	n-butyl acetate.	106-46-7	p-dichlorobenzene.
141-32-2	n-butyl acrylate.	75-71-8	Dichlorodifluoromethane.
71-36-3	n-butyl alcohol.	111-44-4	Dichloroethyl ether.
78-92-2	s-butyl alcohol.	107-06-2	1,2-dichloroethane (EDC).
75-65-0	t-butyl alcohol.	96-23-1	Dichlorohydrin.
109-73-9	n-butylamine.	26952-23-8	Dichloropropene.
13952-84-6	s-butylamine.	101-83-7	Dicyclohexylamine.
75-64-9	t-butylamine.	109-89-7	Diethylamine.
98-73-7	p-tert-butyl benzoic acid.	111-46-6	Diethylene glycol.
107-88-0	1,3-butylene glycol.	112-36-7	Diethylene glycol diethyl ether.
123-72-8	n-butylaldehyde.		
107-92-6	Butyric acid.		

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CAS No. *	Chemical	CAS No. *	Chemical
111-96-6	Diethylene glycol dimethyl ether.	110-17-8	Fumaric acid.
112-34-5	Diethylene glycol monobutyl ether.	98-01-1	Furfural.
124-17-4	Diethylene glycol monobutyl ether acetate.	56-81-5	Glycerol.
111-90-0	Diethylene glycol monoethyl ether.	26545-73-7	Glycerol dichlorohydrin.
112-15-2	Diethylene glycol monoethyl ether acetate.	25791-96-2	Glycerol triether.
111-77-3	Diethylene glycol monomethyl ether.	56-40-6	Glycine.
64-67-5	Diethyl sulfate.	107-22-2	Glyoxal.
75-37-6	Diffuoroethane.	118-74-1	Hexachlorobenzene.
25167-70-8	Diisobutylene.	67-72-1	Hexachloroethane.
26761-40-0	Diisodocyl phthalate.	36653-82-4	Hexadecyl alcohol.
27554-26-3	Diisooctyl phthalate.	124-09-4	Hexamethylenediamine.
674-82-8	Diketene.	629-11-8	Hexamethylene glycol.
124-40-3	Dimethylamine.	100-97-0	Hexamethylenetetramine.
121-69-7	N,N-dimethylaniline.	74-90-8	Hydrogen cyanide.
115-10-6	N,N-dimethyl ether.	123-31-9	Hydroquinone.
68-12-2	N,N-dimethylformamide.	99-96-7	p-hydroxybenzoic acid.
57-14-7	Dimethylhydrazine.	26760-64-5	Isoamylene.
77-78-1	Dimethyl sulfate.	78-83-1	Isobutanol.
75-18-3	Dimethyl sulfide.	110-19-0	Isobutyl acetate.
67-68-5	Dimethyl sulfoxide.	115-11-7	Isobutylene.
120-61-6	Dimethyl terephthalate.	78-84-2	Isobutyraldehyde.
99-34-3	3,5-dinitrobenzoic acid.	79-31-2	Isobutyric acid.
51-28-5	Dinitrophenol.	25339-17-7	Isodecanol.
25321-14-6	Dinitrotoluene.	26952-21-6	Isooctyl alcohol.
123-91-1	Dioxane.	78-78-4	Isopentane.
646-06-0	Dioxilane.	78-59-1	Isophorone.
122-39-4	Diphenylamine.	121-91-5	Isophthalic acid.
101-84-8	Diphenyl oxide.	78-79-5	Isoprene.
102-08-9	Diphenyl thiourea.	67-63-0	Isopropanol.
25265-71-8	Dipropylene glycol.	108-21-4	Isopropyl acetate.
25378-22-7	Dodecene.	75-31-0	Isopropylamine.
28675-17-4	Dodecylaniline.	75-29-6	Isopropyl chloride.
27193-86-8	Dodecylphenol.	25168-06-3	Isopropylphenol.
106-89-8	Epichlorohydrin.	463-51-4	Ketene.
64-17-5	Ethanol.	(*)	Linear alkyl sulfonate.
141-43-5	Ethanolamines.	123-01-3	Linear alkylbenzene (linear dodecylbenzene).
141-78-6	Ethyl acetate.	110-16-7	Maleic acid.
141-97-9	Ethyl acetoacetate.	108-31-6	Maleic anhydride.
140-88-5	Ethyl acrylate.	6915-15-7	Malic acid.
75-04-7	Ethylamine.	141-79-7	Mesityl oxide.
100-41-4	Ethylbenzene.	121-47-1	Metanilic acid.
74-96-4	Ethyl bromide.	79-41-4	Methacrylic acid.
9004-57-3	Ethylcellulose.	563-47-3	Methallyl chloride.
75-00-3	Ethyl chloride.	67-56-1	Methanol.
105-39-5	Ethyl chloroacetate.	79-20-9	Methyl acetate.
105-56-6	Ethylcyanoacetate.	105-45-3	Methyl acetoacetate.
74-85-1	Ethylene.	74-89-5	Methylamine.
96-49-1	Ethylene carbonate.	100-61-8	n-methylaniline.
107-07-3	Ethylene chlorohydrin.	74-83-9	Methyl bromide.
107-15-3	Ethylenediamine.	37365-71-2	Methyl butynol.
106-93-4	Ethylene dibromide.	74-87-3	Methyl chloride.
107-21-1	Ethylene glycol.	108-87-2	Methylcyclohexane.
111-55-7	Ethylene glycol diacetate.	1331-22-2	Methylcyclohexanone.
110-71-4	Ethylene glycol dimethyl ether.	75-09-2	Methylene chloride.
111-76-2	Ethylene glycol monobutyl ether.	101-77-9	Methylene dianiline.
112-07-2	Ethylene glycol monobutyl ether acetate.	101-68-8	Methylene diphenyl diisocyanate.
110-80-5	Ethylene glycol monoethyl ether.	78-93-3	Methyl ethyl ketone.
111-15-9	Ethylene glycol monomethyl ether acetate.	107-31-3	Methyl formate.
109-86-4	Ethylene glycol monomethyl ether.	108-11-2	Methyl isobutyl carbinol.
110-49-6	Ethylene glycol monomethyl ether acetate.	108-10-1	Methyl isobutyl ketone.
122-99-6	Ethylene glycol monophenyl ether.	80-62-6	Methyl methacrylate.
2807-30-9	Ethylene glycol monopropyl ether.	77-75-8	Methylpentynol.
75-21-8	Ethylene oxide.	98-83-9	a-methylstyrene.
60-29-7	Ethyl ether.	110-91-8	Morpholine.
104-76-7	2-ethylhexanol.	85-47-2	a-naphthalene sulfonic acid.
122-51-0	Ethyl orthoformate.	120-18-3	b-naphthalene sulfonic acid.
95-92-1	Ethyl oxalate.	90-15-3	a-naphthol.
41892-71-1	Ethyl sodium oxalacetate.	135-19-3	b-naphthol.
50-00-0	Formaldehyde.	75-98-9	Neopentanoic acid.
75-12-7	Formamide.	88-74-4	o-nitroaniline.
64-18-6	Formic acid.	100-01-6	p-nitroaniline.
		91-23-6	o-nitroanisole.
		100-17-4	p-nitroanisole.

CAS No. <sup>a</sup>	Chemical	CAS No. <sup>a</sup>	Chemical
98-95-3	Nitrobenzene.	1333-07-9	Toluenesulfonamide.
27178-83-2 <sup>c</sup>	Nitrobenzoic acid (o,m, and p).	104-15-4 <sup>c</sup>	Toluenesulfonic acids.
79-24-3	Nitroethane.	98-59-9	Toluenesulfonyl chloride.
75-52-5	Nitromethane.	26915-12-8	Toluidines.
88-75-5	2-Nitrophenol.	87-61-6, 108-70-3, 120-82-1 <sup>c</sup>	Trichlorobenzenes.
25322-01-4	Nitropropane.		
1321-12-6	Nitrotoluene.		
27215-95-8	Nonene.	71-55-6	1,1,1-trichloroethane.
25154-52-3	Nonylphenol.	79-00-5	1,1,2-trichloroethane.
27193-28-8	Octylphenol.	79-01-6	Trichloroethylene.
123-63-7	Paraldehyde.	75-69-4	Trichlorofluoromethane.
115-77-5	Pentaerythritol.	96-18-4	1,2,3-trichloropropane.
109-66-0	n-pentane.	76-13-1	1,1,2-trichloro-1,2,2-trifluoroethane.
109-67-1	1-pentene	121-44-8	Triethylamine.
127-18-4	Perchloroethylene.	112-27-6	Triethylene glycol.
594-42-3	Perchloromethyl mercaptan.	112-49-2	Triethylene glycol dimethyl ether.
94-70-2	o-phenetidine.	7756-94-7	Trisobutylene.
156-43-4	p-phenetidine.	75-50-3	Trimethylamine.
108-95-2	Phenol.	57-13-6	Urea.
98-67-9, 585-38-6, 609-46-1, 1333-39-7 <sup>c</sup>	Phenolsulfonic acids.	108-05-4	Vinyl acetate.
91-40-7	Phenyl anthranilic acid.	75-01-4	Vinyl chloride.
( <sup>b</sup> )	Phenylenediamine.	75-35-4	Vinylidene chloride.
75-44-5	Phosgene.	25013-15-4	Vinyl toluene.
85-44-9	Phthalic anhydride.	1330-20-7	Xylenes (mixed).
85-41-6	Phthalimide.	95-47-6	o-xylene.
108-99-6	p-picoline.	106-42-3	p-xylene.
110-85-0	Piperazine.	1300-71-6	Xylenol.
9003-29-6, 25036-29-7 <sup>c</sup>	Polybutenes.	1300-73-8	Xylidine.
25322-68-3	Polyethylene glycol.		
25322-69-4	Polypropylene glycol.		
123-38-6	Propionaldehyde.		
79-09-4	Propionic acid.		
71-23-8	n-propyl alcohol.		
107-10-8	Propylamine.		
540-54-5	Propyl chloride.		
115-07-1	Propylene.		
127-00-4	Propylene chlorohydrin.		
78-87-5	Propylene dichloride.		
57-55-6	Propylene glycol.		
75-56-9	Propylene oxide.		
110-86-1	Pyridine.		
106-51-4	Quinone.		
108-46-3	Resorcinol.		
27138-57-4	Resorcylic acid.		
69-72-7	Salicylic acid.		
127-09-3	Sodium acetate.		
532-32-1	Sodium benzoate.		
9004-32-4	Sodium carboxymethyl cellulose.		
3926-62-3	Sodium chloroacetate.		
141-53-7	Sodium formate.		
139-02-6	Sodium phenate.		
110-44-1	Sorbic acid.		
100-42-5	Styrene.		
110-15-6	Succinic acid.		
110-61-2	Succinonitrile.		
121-57-3	Sulfanilic acid.		
126-33-0	Sulfolane.		
1401-55-4	Tannic acid.		
100-21-0	Terephthalic acid.		
79-34-5 <sup>c</sup>	Tetrachloroethanes.		
117-08-8	Tetrachlorophthalic anhydride.		
78-00-2	Tetraethyl lead.		
119-64-2	Tetrahydronaphthalene.		
85-43-8	Tetrahydrophthalic anhydride.		
75-74-1	Tetramethyl lead.		
110-60-1	Tetramethylenediamine.		
110-18-9	Tetramethylethylenediamine.		
108-88-3	Toluene.		
95-80-7	Toluene-2,4-diamine.		
584-84-9	Toluene-2,4-diisocyanate.		
26471-62-5	Toluene diisocyanates (mixture).		

<sup>a</sup>CAS numbers refer to the Chemical Abstracts Registry numbers assigned to specific chemicals, isomers, or mixtures of chemicals. Some isomers or mixtures that are covered by the standards do not have CAS numbers assigned to them. The standards apply to all of the chemicals listed, whether CAS numbers have been assigned or not.  
<sup>b</sup>No CAS number(s) have been assigned to this chemical, its isomers, or mixtures containing these chemicals.  
<sup>c</sup>CAS numbers for some of the isomers are listed; the standards apply to all of the isomers and mixtures, even if CAS numbers have not been assigned.

[48 FR 48335, Oct. 18, 1983, as amended at 65 FR 61763, Oct. 17, 2000]

**Subpart WW—Standards of Performance for the Beverage Can Surface Coating Industry**

SOURCE: 48 FR 38737, Aug. 25, 1983, unless otherwise noted.

**§ 60.490 Applicability and designation of affected facility.**

(a) The provisions of this subpart apply to the following affected facilities in beverage can surface coating lines: each exterior base coat operation, each overvarnish coating operation, and each inside spray coating operation.

(b) The provisions of this subpart apply to each affected facility which is identified in paragraph (a) of this section and commences construction, modification, or reconstruction after November 26, 1980.



(f) Greater sensitivity can be attained if a 500 ml capacity Tutwiler burette is used with a more dilute (0.001N) iodine solution. Concentrations less than 1.0 grains per 100 cubic foot can be determined in this way. Usually, the starch-iodine end point is much less distinct, and a blank determination of end point, with H<sub>2</sub>S-free gas or air, is required.

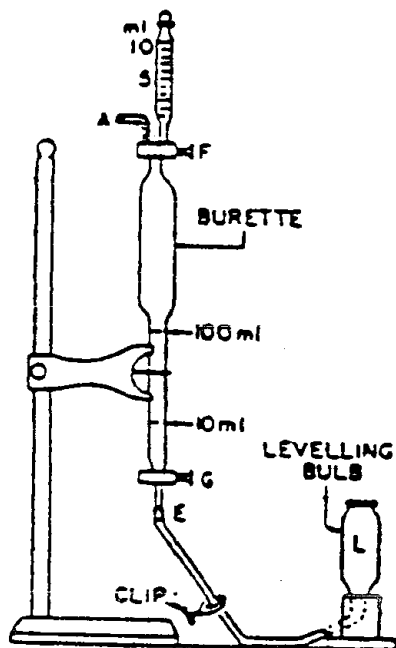


FIGURE 1. TUTWILER BURETTE (LETTERED ITEMS MENTIONED IN TEXT)

#### Subpart MMM [Reserved]

#### Subpart NNN—Standards of Performance for Volatile Organic Compound (VOC) Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations

SOURCE: 55 FR 26942, June 29, 1990, unless otherwise noted.

#### § 60.660 Applicability and designation of affected facility.

(a) The provisions of this subpart apply to each affected facility designated in paragraph (b) of this section that is part of a process unit that produces any of the chemicals listed in § 60.667 as a product, co-product, by-product, or intermediate, except as provided in paragraph (c).

(b) The affected facility is any of the following for which construction, modification, or reconstruction commenced after December 30, 1983:

(1) Each distillation unit not discharging its vent stream into a recovery system.

(2) Each combination of a distillation unit and the recovery system into which its vent stream is discharged.

(3) Each combination of two or more distillation units and the common recovery system into which their vent streams are discharged.

(c) Exemptions from the provisions of paragraph (a) of this section are as follows:

(1) Any distillation unit operating as part of a process unit which produces coal tar or beverage alcohols, or which uses, contains, and produces no VOC is not an affected facility.

(2) Any distillation unit that is subject to the provisions of Subpart DDD is not an affected facility.

(3) Any distillation unit that is designed and operated as a batch operation is not an affected facility.

(4) Each affected facility that has a total resource effectiveness (TRE) index value greater than 8.0 is exempt from all provisions of this subpart except for §§ 60.662; 60.664 (d), (e), and (f); and 60.665 (h) and (l).

(5) Each affected facility in a process unit with a total design capacity for all chemicals produced within that unit of less than one gigagram per year is exempt from all provisions of this subpart except for the recordkeeping and reporting requirements in paragraphs (j), (l)(6), and (n) of § 60.665.

(6) Each affected facility operated with a vent stream flow rate less than 0.008 scm/min is exempt from all provisions of this subpart except for the test method and procedure and the recordkeeping and reporting requirements in

## § 60.661

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§ 60.664(g) and paragraphs (i), (1)(5), and (o) of § 60.665.

(d) *Alternative means of compliance—*

(1) *Option to comply with part 65.* Owners or operators of process vents that are subject to this subpart may choose to comply with the provisions of 40 CFR part 65, subpart D, to satisfy the requirements of §§ 60.662 through 60.665 and 60.668. The provisions of 40 CFR part 65 also satisfy the criteria of paragraphs (c)(4) and (6) of this section. Other provisions applying to an owner or operator who chooses to comply with 40 CFR part 65 are provided in 40 CFR 65.1.

(2) *Part 60, subpart A.* Owners or operators who choose to comply with 40 CFR part 65, subpart D, must also comply with §§ 60.1, 60.2, 60.5, 60.6, 60.7(a)(1) and (4), 60.14, 60.15, and 60.16 for those process vents. All sections and paragraphs of subpart A of this part that are not mentioned in this paragraph (d)(2) do not apply to owners or operators of process vents complying with 40 CFR part 65, subpart D, except that provisions required to be met prior to implementing 40 CFR part 65 still apply. Owners and operators who choose to comply with 40 CFR part 65, subpart D, must comply with 40 CFR part 65, subpart A.

(3) *Compliance date.* Owners or operators who choose to comply with 40 CFR part 65, subpart D, at initial startup shall comply with paragraphs (d)(1) and (2) of this section for each vent stream on and after the date on which the initial performance test is completed, but not later than 60 days after achieving the maximum production rate at which the affected facility will be operated, or 180 days after the initial startup, whichever date comes first.

(4) *Initial startup notification.* Each owner or operator subject to the provisions of this subpart that chooses to comply with 40 CFR part 65, subpart D, at initial startup shall notify the Administrator of the specific provisions of 40 CFR 65.63(a)(1), (2), or (3), with which the owner or operator has elected to comply. Notification shall be submitted with the notifications of initial startup required by 40 CFR 65.5(b).

[NOTE: The intent of these standards is to minimize the emissions of VOC through the application of best demonstrated technology

(BDT). The numerical emission limits in these standards are expressed in terms of total organic compounds (TOC), measured as TOC less methane and ethane. This emission limit reflects the performance of BDT.]

[55 FR 26942, June 29, 2000, as amended at 65 FR 78279, Dec. 14, 2000]

### § 60.661 Definitions.

As used in this subpart, all terms not defined here shall have the meaning given them in the Act and in subpart A of part 60, and the following terms shall have the specific meanings given them.

*Batch distillation operation* means a noncontinuous distillation operation in which a discrete quantity or batch of liquid feed is charged into a distillation unit and distilled at one time. After the initial charging of the liquid feed, no additional liquid is added during the distillation operation.

*Boiler* means any enclosed combustion device that extracts useful energy in the form of steam.

*By compound* means by individual stream components, not carbon equivalents.

*Continuous recorder* means a data recording device recording an instantaneous data value at least once every 15 minutes.

*Distillation operation* means an operation separating one or more feed stream(s) into two or more exit stream(s), each exit stream having component concentrations different from those in the feed stream(s). The separation is achieved by the redistribution of the components between the liquid and vapor-phase as they approach equilibrium within the distillation unit.

*Distillation unit* means a device or vessel in which distillation operations occur, including all associated internals (such as trays or packing) and accessories (such as reboiler, condenser, vacuum pump, steam jet, etc.), plus any associated recovery system.

*Flame zone* means the portion of the combustion chamber in a boiler occupied by the flame envelope.

*Flow indicator* means a device which indicates whether gas flow is present in a vent stream.

*Halogenated vent stream* means any vent stream determined to have a total

concentration (by volume) of compounds containing halogens of 20 ppmv (by compound) or greater.

*Incinerator* means any enclosed combustion device that is used for destroying organic compounds and does not extract energy in the form of steam or process heat.

*Process heater* means a device that transfers heat liberated by burning fuel to fluids contained in tubes, including all fluids except water that is heated to produce steam.

*Process unit* means equipment assembled and connected by pipes or ducts to produce, as intermediates or final products, one or more of the chemicals in § 60.667. A process unit can operate independently if supplied with sufficient fuel or raw materials and sufficient product storage facilities.

*Product* means any compound or chemical listed in § 60.667 that is produced for sale as a final product as that chemical, or for use in the production of other chemicals or compounds. By-products, co-products, and intermediates are considered to be products.

*Recovery device* means an individual unit of equipment, such as an absorber, carbon adsorber, or condenser, capable of and used for the purpose of recovering chemicals for use, reuse, or sale.

*Recovery system* means an individual recovery device or series of such devices applied to the same vent stream.

*Total organic compounds (TOC)* means those compounds measured according to the procedures in § 60.664(b)(4). For the purposes of measuring molar composition as required in § 60.664(d)(2)(i); hourly emissions rate as required in § 60.664(d)(5) and § 60.664(e); and TOC concentration as required in § 60.665(b)(4) and § 60.665(g)(4), those compounds which the Administrator has determined do not contribute appreciably to the formation of ozone are to be excluded. The compounds to be excluded are identified in Environmental Protection Agency's statements on ozone abatement policy for State Implementation Plans (SIP) revisions (42 FR 35314; 44 FR 32042; 45 FR 32424; 45 FR 48942).

*TRE index value* means a measure of the supplemental total resource requirement per unit reduction of TOC associated with an individual distilla-

tion vent stream, based on vent stream flow rate, emission rate of TOC net heating value, and corrosion properties (whether or not the vent stream is halogenated), as quantified by the equation given under § 60.664(e).

*Vent stream* means any gas stream discharged directly from a distillation facility to the atmosphere or indirectly to the atmosphere after diversion through other process equipment. The vent stream excludes relief valve discharges and equipment leaks including, but not limited to, pumps, compressors, and valves.

#### § 60.662 Standards.

Each owner or operator of any affected facility shall comply with paragraph (a), (b), or (c) of this section for each vent stream on and after the date on which the initial performance test required by § 60.8 and § 60.664 is completed, but not later than 60 days after achieving the maximum production rate at which the affected facility will be operated, or 180 days after the initial start-up, whichever date comes first. Each owner or operator shall either:

(a) Reduce emissions of TOC (less methane and ethane) by 98 weight-percent, or to a TOC (less methane and ethane) concentration of 20 ppmv, on a dry basis corrected to 3 percent oxygen, whichever is less stringent. If a boiler or process heater is used to comply with this paragraph, then the vent stream shall be introduced into the flame zone of the boiler or process heater; or

(b) Combust the emissions in a flare that meets the requirements of § 60.18; or

(c) Maintain a TRE index value greater than 1.0 without use of VOC emission control devices.

#### § 60.663 Monitoring of emissions and operations.

(a) The owner or operator of an affected facility that uses an incinerator to seek to comply with the TOC emission limit specified under § 60.662(a) shall install, calibrate, maintain, and operate according to manufacturer's specifications the following equipment:

(1) A temperature monitoring device equipped with a continuous recorder

and having an accuracy of  $\pm 1$  percent of the temperature being monitored expressed in degrees Celsius or  $\pm 0.5$  °C, whichever is greater.

(i) Where an incinerator other than a catalytic incinerator is used, a temperature monitoring device shall be installed in the firebox.

(ii) Where a catalytic incinerator is used, temperature monitoring devices shall be installed in the gas stream immediately before and after the catalyst bed.

(2) A flow indicator that provides a record of vent stream flow to the incinerator at least once every hour for each affected facility. The flow indicator shall be installed in the vent stream from each affected facility at a point closest to the inlet of each incinerator and before being joined with any other vent stream.

(b) The owner or operator of an affected facility that uses a flare to seek to comply with § 60.662(b) shall install, calibrate, maintain and operate according to manufacturer's specifications the following equipment:

(1) A heat sensing device, such as an ultra-violet beam sensor or thermocouple, at the pilot light to indicate the continuous presence of a flame.

(2) A flow indicator that provides a record of vent stream flow to the flare at least once every hour for each affected facility. The flow indicator shall be installed in the vent stream from each affected facility at a point closest to the flare and before being joined with any other vent stream.

(c) The owner or operator of an affected facility that uses a boiler or process heater to seek to comply with § 60.662(a) shall install, calibrate, maintain and operate according to the manufacturer's specifications the following equipment:

(1) A flow indicator that provides a record of vent stream flow to the boiler or process heater at least once every hour for each affected facility. The flow indicator shall be installed in the vent stream from each distillation unit within an affected facility at a point closest to the inlet of each boiler or process heater and before being joined with any other vent stream.

(2) A temperature monitoring device in the firebox equipped with a contin-

uous recorder and having an accuracy of  $\pm 1$  percent of the temperature being measured expressed in degrees Celsius or  $\pm 0.5$  °C, whichever is greater, for boilers or process heaters of less than 44 MW (150 million Btu/hr) heat input design capacity.

(d) Monitor and record the periods of operation of the boiler or process heater if the design heat input capacity of the boiler or process heater is 44 MW (150 million Btu/hr) or greater. The records must be readily available for inspection.

(e) The owner or operator of an affected facility that seeks to comply with the TRE index value limit specified under § 60.662(c) shall install, calibrate, maintain, and operate according to manufacturer's specifications the following equipment, unless alternative monitoring procedures or requirements are approved for that facility by the Administrator:

(1) Where an absorber is the final recovery device in the recovery system:

(i) A scrubbing liquid temperature monitoring device having an accuracy of  $\pm 1$  percent of the temperature being monitored expressed in degrees Celsius or  $\pm 0.5$  °C, whichever is greater, and a specific gravity monitoring device having an accuracy of  $\pm 0.02$  specific gravity units, each equipped with a continuous recorder, or

(ii) An organic monitoring device used to indicate the concentration level of organic compounds exiting the recovery device based on a detection principle such as infrared, photoionization, or thermal conductivity, each equipped with a continuous recorder.

(2) Where a condenser is the final recovery device in the recovery system:

(i) A condenser exit (product side) temperature monitoring device equipped with a continuous recorder and having an accuracy of  $\pm 1$  percent of the temperature being monitored expressed in degrees Celsius or  $\pm 0.5$  °C, whichever is greater, or

(ii) An organic monitoring device used to monitor organic compounds exiting the recovery device based on a detection principle such as infra-red, photoionization, or thermal conductivity, each equipped with a continuous recorder.



(3) Where a carbon adsorber is the final recovery device unit in the recovery system:

(i) An integrating steam flow monitoring device having an accuracy of  $\pm 10$  percent, and a carbon bed temperature monitoring device having an accuracy of  $\pm 1$  percent of the temperature being monitored expressed in degrees Celsius or  $\pm 0.5$  °C, whichever is greater, both equipped with a continuous recorder, or

(ii) An organic monitoring device used to indicate the concentration level of organic compounds exiting the recovery device based on a detection principle such as infra-red, photoionization, or thermal conductivity, each equipped with a continuous recorder.

(f) An owner or operator of an affected facility seeking to demonstrate compliance with the standards specified under § 60.662 with control devices other than incinerator, boiler, process heater, or flare; or recovery device other than an absorber, condenser, or carbon adsorber shall provide to the Administrator information describing the operation of the control device or recovery device and the process parameter(s) which would indicate proper operation and maintenance of the device. The Administrator may request further information and will specify appropriate monitoring procedures or requirements.

[55 FR 26942, June 29, 1990, as amended at 65 FR 61774, Oct. 17, 2000]

#### § 60.664 Test methods and procedures.

(a) For the purpose of demonstrating compliance with § 60.662, all affected facilities shall be run at full operating conditions and flow rates during any performance test.

(b) The following methods in appendix A to this part, except as provided under § 60.8(b), shall be used as reference methods to determine compliance with the emission limit or percent reduction efficiency specified under § 60.662(a).

(1) Method 1 or 1A, as appropriate, for selection of the sampling sites. The control device inlet sampling site for determination of vent stream molar composition or TOC (less methane and ethane) reduction efficiency shall be

prior to the inlet of the control device and after the recovery system.

(2) Method 2, 2A, 2C, or 2D, as appropriate, for determination of the gas volumetric flow rates.

(3) The emission rate correction factor, integrated sampling and analysis procedure of Method 3 shall be used to determine the oxygen concentration (%O<sub>2d</sub>) for the purposes of determining compliance with the 20 ppmv limit. The sampling site shall be the same as that of the TOC samples, and the samples shall be taken during the same time that the TOC samples are taken.

The TOC concentration corrected to 3 percent O<sub>2</sub> (C<sub>c</sub>) shall be computed using the following equation:

$$C_c = C_{\text{TOC}} \frac{17.9}{20.9 - \%O_{2d}}$$

where:

C<sub>c</sub>=Concentration of TOC corrected to 3 percent O<sub>2</sub>, dry basis, ppm by volume.

C<sub>TOC</sub>=Concentration of TOC (minus methane and ethane), dry basis, ppm by volume.

%O<sub>2d</sub>=Concentration of O<sub>2</sub>, dry basis, percent by volume.

(4) Method 18 to determine the concentration of TOC in the control device outlet and the concentration of TOC in the inlet when the reduction efficiency of the control device is to be determined.

(i) The sampling time for each run shall be 1 hour in which either an integrated sample or four grab samples shall be taken. If grab sampling is used then the samples shall be taken at 15-minute intervals.

(ii) The emission reduction (R) of TOC (minus methane and ethane) shall be determined using the following equation:

$$R = \frac{E_i - E_o}{E_i} \times 100$$

where:

R=Emission reduction, percent by weight.

E<sub>i</sub>=Mass rate of TOC entering the control device, kg/hr (lb/hr).

E<sub>o</sub>=Mass rate of TOC discharged to the atmosphere, kg/hr (lb/hr).

(iii) The mass rates of TOC (E<sub>i</sub>, E<sub>o</sub>) shall be computed using the following equations:

$$E_i = K_2 \left( \sum_{j=1}^n C_{ij} M_{ij} \right) Q_i$$

$$E_o = K_2 \left( \sum_{j=1}^n C_{oj} M_{oj} \right) Q_o$$

where:

$C_{ij}$ ,  $C_{oj}$ =Concentration of sample component "j" of the gas stream at the inlet and outlet of the control device, respectively, dry basis, ppm by volume.

$M_{ij}$ ,  $M_{oj}$ =Molecular weight of sample component "j" of the gas stream at the inlet and outlet of the control device, respectively, g/g-mole (lb/lb-mole).

$Q_i$ ,  $Q_o$ =Flow rate of gas stream at the inlet and outlet of the control device, respectively, dscm/min (dscf/min).

$K_2 = 2.494 \times 10^{-6}$  (1/ppm)(g-mole/scm) (kg/g) (min/hr) (metric units), where standard temperature for (g-mole/scm) is 20 °C.  
 $= 1.557 \times 10^{-7}$  (1/ppm) (lb-mole/scf) (min/hr) (English units), where standard temperature for (lb-mole/scf) is 68 °F.

(iv) The TOC concentration ( $C_{TOC}$ ) is the sum of the individual components and shall be computed for each run using the following equation:

$$C_{TOC} = \sum_{j=1}^n C_j$$

where:

$C_{TOC}$ =Concentration of TOC (minus methane and ethane), dry basis, ppm by volume.

$C_j$ =Concentration of sample components "j", dry basis, ppm by volume.

$n$ =Number of components in the sample.

(c) When a boiler or process heater with a design heat input capacity of 44 MW (150 million Btu/hour) or greater is used to seek to comply with § 60.662(a), the requirement for an initial performance test is waived, in accordance with § 60.8(b). However, the Administrator reserves the option to require testing at such other times as may be required, as provided for in section 114 of the Act.

(d) When a flare is used to seek to comply with § 60.662(b), the flare shall comply with the requirements of § 60.18.

(e) The following test methods in appendix A to this part, except as provided under § 60.8(b), shall be used for determining the net heating value of the gas combusted to determine com-

pliance under § 60.662(b) and for determining the process vent stream TRE index value to determine compliance under § 60.662(c).

(1)(i) Method 1 or 1A, as appropriate, for selection of the sampling site. The sampling site for the vent stream flow rate and molar composition determination prescribed in § 60.664(e)(2) and (3) shall be, except for the situations outlined in paragraph (e)(1)(ii) of this section, prior to the inlet of any control device, prior to any post-distillation dilution of the stream with air, and prior to any post-distillation introduction of halogenated compounds into the process vent stream. No transverse site selection method is needed for vents smaller than 10 centimeters (4 inches) in diameter.

(ii) If any gas stream other than the distillation vent stream from the affected facility is normally conducted through the final recovery device.

(A) The sampling site for vent stream flow rate and molar composition shall be prior to the final recovery device and prior to the point at which the nondistillation stream is introduced.

(B) The efficiency of the final recovery device is determined by measuring the TOC concentration using Method 18 at the inlet to the final recovery device after the introduction of any nondistillation vent stream and at the outlet of the final recovery device.

(C) This efficiency is applied to the TOC concentration measured prior to the final recovery device and prior to the introduction of the nondistillation stream to determine the concentration of TOC in the distillation vent stream from the final recovery device. This concentration of TOC is then used to perform the calculations outlined in § 60.664(e)(4) and (5).

(2) The molar composition of the process vent stream shall be determined as follows:

(i) Method 18 to measure the concentration of TOC including those containing halogens.

(ii) ASTM D1946-77 or 90 (Reapproved 1994) (incorporation by reference as specified in § 60.17 of this part) to measure the concentration of carbon monoxide and hydrogen.

(iii) Method 4 to measure the content of water vapor.

(3) The volumetric flow rate shall be determined using Method 2, 2A, 2C, or 2D, as appropriate.

(4) The net heating value of the vent stream shall be calculated using the following equation:

$$H_T = K_1 \left( \sum_{j=1}^n C_j H_j \right)$$

where:

$H_T$  = Net heating value of the sample, MJ/scm (Btu/scf), where the net enthalpy per mole of vent stream is based on combustion at 25 °C and 760 mm Hg (77 °F and 30 in. Hg), but the standard temperature for determining the volume corresponding to one mole is 20 °C (68 °F).

$K_1 = 1.74 \times 10^{-7}$  (1/ppm) (g-mole/scm) (MJ/kcal) (metric units), where standard temperature for (g-mole/scm) is 20 °C.

$= 1.03 \times 10^{-11}$  (1/ppm) (lb-mole/scf) (Btu/kcal) (English units) where standard temperature for (lb-mole/scf) is 68 °F.

$C_j$  = Concentration on a wet basis of compound  $j$  in ppm, as measured for organics by Method 18 and measured for hydrogen and carbon monoxide by ASTM D1946-77 or 90 (Reapproved 1994) (incorporation by reference as specified in §60.17 of this part) as indicated in §60.664(e)(2).

$H_j$  = Net heat of combustion of compound  $j$ , kcal/(g-mole) [kcal/(lb-mole)], based on combustion at 25 °C and 760 mm Hg (77 °F and 30 in. Hg).

The heats of combustion of vent stream components would be required to be determined using ASTM D2382-76 (incorporation by reference as specified in §60.17 of this part) if published values are not available or cannot be calculated.

(5) The emission rate of TOC in the vent stream shall be calculated using the following equation:

$$E_{\text{TOC}} = \frac{1}{E_{\text{TOC}}} \left[ a + b(Q_s) + c(Q_s)^{0.88} + d(Q_s)(H_T) + e(Q_s)^{0.88}(H_T)^{0.88} + f(Y_s)^{0.5} \right]$$

(i) Where for a vent stream flow rate that is greater than or equal to 14.2 scm/min (501 scf/min) at a standard temperature of 20 °C (68 °F):

TRE = TRE index value.

$$E_{\text{TOC}} = K_2 \left[ \sum_{j=1}^n C_j M_j \right] Q_s$$

where:

$E_{\text{TOC}}$  = Measured emission rate of TOC, kg/hr (lb/hr).

$K_2 = 2.494 \times 10^{-6}$  (1/ppm) (g-mole/scm) (kg/g) (min/hr) (metric units), where standard temperature for (g-mole/scm) is 20 °C.

$= 1.557 \times 10^{-7}$  (1/ppm) (lb-mole/scf) (min/hr) (English units), where standard temperature for (lb-mole/scf) is 68 °F.

$C_j$  = Concentration on a wet basis of compound  $j$  in ppm, as measured by Method 18 as indicated in §60.664(e)(2).

$M_j$  = Molecular weight of sample  $j$ , g/g-mole (lb/lb-mole).

$Q_s$  = Vent stream flow rate, scm/min (scf/min), at a temperature of 20 °C (68 °F).

(6) The total process vent stream concentration (by volume) of compounds containing halogens (ppmv, by compound) shall be summed from the individual concentrations of compounds containing halogens which were measured by Method 18.

(f) For purposes of complying with §60.662(c) the owner or operator of a facility affected by this subpart shall calculate the TRE index value of the vent stream using the equation for incineration in paragraph (e)(1) of this section for halogenated vent streams. The owner or operator of an affected facility with a nonhalogenated vent stream shall determine the TRE index value by calculating values using both the incinerator equation in (e)(1) and the flare equation in (e)(2) of this section and selecting the lower of the two values.

(1) The equation for calculating the TRE index value of a vent stream controlled by an incinerator is as follows:

$Q_s$  = Vent stream flow rate, scm/min (scf/min), at a temperature of 20 °C (68 °F).

$H_T$  = Vent stream net heating value, MJ/scm (Btu/scf), where the net enthalpy per mole of vent stream is based on combustion at 25 °C and 760 mm Hg (68 °F and 30 in. Hg).

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but the standard temperature for determining the volume corresponding to one mole is 20 °C (68 °F) as in the definition of  $Q_s$ .

$Y_s = Q_s$  for all vent stream categories listed in Table 1 except for Category E vent streams where  $Y_s = Q_s H_T / 3.6$ .

$E_{TOC}$  = Hourly emissions of TOC, kg/hr (lb/hr).

a, b, c, d, e, and f are coefficients.

The set of coefficients that apply to a vent stream can be obtained from Table 1.

TABLE 1. DISTILLATION NSPS TRE COEFFICIENTS FOR VENT STREAMS CONTROLLED BY AN INCINERATOR

DESIGN CATEGORY A1. FOR HALOGENATED PROCESS VENT STREAMS, IF 0 ≤ NET HEATING VALUE (MJ/scm) ≤ 3.5 OR IF 0 ≤ NET HEATING VALUE (Btu/scf) ≤ 94:

$Q_s$ = Vent Stream Flow rate scm/min (scf/min)	a	b	c	d	e	f
14.2 ≤ $Q_s$ ≤ 18.8	18.84466	0.26742	-0.20044	0	0	0.01025
(50.1 ≤ $Q_s$ ≤ 664)	(41.54494)	(0.016696)	(-0.019194)	(0)	(0)	(0.003803)
18.8 < $Q_s$ ≤ 699	19.66658	0.26742	-0.25332	0	0	0.01025
(664 < $Q_s$ ≤ 24,700)	(43.35694)	(0.016696)	(-0.024258)	(0)	(0)	(0.003803)
699 < $Q_s$ ≤ 1400	39.19213	0.29062	-0.25332	0	0	0.01449
(24,700 < $Q_s$ ≤ 49,000)	(66.40297)	(0.018145)	(-0.024258)	(0)	(0)	(0.005376)
1400 < $Q_s$ ≤ 2100	58.71768	0.30511	-0.25332	0	0	0.01775
(49,000 < $Q_s$ ≤ 74,000)	(129.4490)	(0.019050)	(-0.024258)	(0)	(0)	(0.006585)
2100 < $Q_s$ ≤ 2800	78.24323	0.31582	-0.25332	0	0	0.02049
(74,000 < $Q_s$ ≤ 99,000)	(172.4950)	(0.019718)	(-0.024258)	(0)	(0)	(0.007602)
2800 < $Q_s$ ≤ 3500	97.76679	0.32439	-0.25332	0	0	0.02291
(99,000 < $Q_s$ ≤ 120,000)	(215.5411)	(0.020253)	(-0.024258)	(0)	(0)	(0.008500)

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DESIGN CATEGORY A2. FOR HALOGENATED PROCESS VENT STREAMS, IF NET HEATING VALUE < 3.5 (MJ/scm)  
OR IF NET HEATING VALUE < 94 (Btu/scf):

Q <sub>s</sub> = Vent Stream Flow rate scm/min(scf/min)	a	b	c	d	e	f
14.2 ≤ Q <sub>s</sub> ≤ 18.8 (501 ≤ Q <sub>s</sub> ≤ 664)	18.84466 (41.54494)	0.26742 (0.016696)	-0.20044 (-0.019194)	0 (0)	0 (0)	0.01025 (0.003803)
18.8 < Q <sub>s</sub> ≤ 699 (664 < Q <sub>s</sub> ≤ 24,700)	19.66658 (43.35694)	0.26742 (0.016696)	-0.25332 (-0.024258)	0 (0)	0 (0)	0.01025 (0.003803)
699 < Q <sub>s</sub> ≤ 1400 (24,700 < Q <sub>s</sub> ≤ 49,000)	39.19213 (86.40297)	0.29062 (0.018145)	-0.25332 (-0.024258)	0 (0)	0 (0)	0.01449 (0.005376)
1400 < Q <sub>s</sub> ≤ 2100 (49,000 < Q <sub>s</sub> ≤ 74,000)	58.71768 (129.4490)	0.30511 (0.019050)	-0.25332 (-0.024258)	0 (0)	0 (0)	0.01775 (0.006585)
2100 < Q <sub>s</sub> ≤ 2800 (74,000 < Q <sub>s</sub> ≤ 99,000)	78.24323 (172.4950)	0.31582 (0.019718)	-0.25332 (-0.024258)	0 (0)	0 (0)	0.02049 (0.007602)
2800 < Q <sub>s</sub> ≤ 3500 (99,000 < Q <sub>s</sub> ≤ 120,000)	97.76879 (215.5411)	0.32439 (0.020253)	-0.25332 (-0.024258)	0 (0)	0 (0)	0.02291 (0.008500)

DESIGN CATEGORY B. FOR NONHALOGENATED PROCESS VENT STREAMS, IF 0 ≤ NET HEATING VALUE (MJ/scm) ≤ 0.48  
OR IF 0 ≤ NET HEATING VALUE (Btu/scf) ≤ 13:

Q <sub>s</sub> = Vent Stream Flow rate scm/min(scf/min)	a	b	c	d	e	f
14.2 ≤ Q <sub>s</sub> ≤ 1340 (501 ≤ Q <sub>s</sub> ≤ 47,300)	8.54245 (18.83268)	0.10555 (0.0065901)	0.09030 (0.008647)	-0.17109 (-0.00039762)	0 (0)	0.01025 (0.003803)
1340 < Q <sub>s</sub> ≤ 2690 (47,300 < Q <sub>s</sub> ≤ 95,000)	16.94386 (37.35443)	0.11470 (0.0071614)	0.09030 (0.008647)	-0.17109 (-0.00039762)	0 (0)	0.01449 (0.005376)
2690 < Q <sub>s</sub> ≤ 4040 (95,000 < Q <sub>s</sub> ≤ 143,000)	25.34528 (55.87620)	0.12042 (0.0075185)	0.09030 (0.008647)	-0.17109 (-0.00039762)	0 (0)	0.01775 (0.006585)

DESIGN CATEGORY C. FOR NONHALOGENATED PROCESS VENT STREAMS, IF  $0.48 < \text{NET HEATING VALUE (MJ/scm)} < 1.9$   
OR IF  $13 < \text{NET HEATING VALUE (Btu/scf)} < 51$ :

$Q_s$ = Vent Stream Flow rate scm/min(scf/min)	a	b	c	d	e	f
$14.2 \leq Q_s \leq 1340$ ( $501 \leq Q_s \leq 47,300$ )	9.25233 (20.39769)	0.06105 (0.003812)	0.31937 (0.030582)	-0.16181 (-0.00037605)	0 (0)	0.01025 (0.003803)
$1340 < Q_s \leq 2690$ ( $47,300 < Q_s \leq 95,000$ )	18.36363 (40.48446)	0.06635 (0.004143)	0.31937 (0.030582)	-0.16181 (-0.00037605)	0 (0)	0.01449 (0.005376)
$2690 < Q_s \leq 4040$ ( $95,000 < Q_s \leq 143,000$ )	27.47492 (60.57121)	0.06965 (0.004349)	0.31937 (0.030582)	-0.16181 (-0.00037605)	0 (0)	0.01775 (0.006585)

DESIGN CATEGORY D. FOR NONHALOGENATED PROCESS VENT STREAMS, IF  $1.9 < \text{NET HEATING VALUE (MJ/scm)} < 3.6$   
OR IF  $51 < \text{NET HEATING VALUE (Btu/scf)} < 97$ :

$Q_s$ = Vent Stream Flow rate scm/min(scf/min)	a	b	c	d	e	f
$14.2 \leq Q_s \leq 1180$ ( $501 \leq Q_s \leq 41,700$ )	6.67868 (14.72382)	0.06943 (0.004335)	0.02582 (0.002472)	0 (0)	0 (0)	0.01025 (0.003803)
$1180 < Q_s \leq 2370$ ( $41,700 < Q_s \leq 83,700$ )	13.21633 (29.13672)	0.07546 (0.004711)	0.02582 (0.002472)	0 (0)	0 (0)	0.01449 (0.005376)
$2370 < Q_s \leq 3550$ ( $83,700 < Q_s \leq 125,000$ )	19.75398 (43.54962)	0.07922 (0.004946)	0.02582 (0.002472)	0 (0)	0 (0)	0.01775 (0.006585)

DESIGN CATEGORY E. FOR NONHALOGENATED PROCESS VENT STREAMS, IF  $\text{NET HEATING VALUE} > 3.6 \text{ MJ/scm}$   
OR IF  $\text{NET HEATING VALUE} > 97 \text{ (Btu/scf)}$ :

$Q_s$ = Vent Stream Flow rate scm/min(scf/min)	a	b	c	d	e	f
$14.2 \leq Y_s \leq 1180$ ( $501 \leq Y_s \leq 41,700$ )	6.67868 (14.72382)	0 (0)	0 (0)	-0.00707 (-0.0000164)	0.02220 (0.0001174)	0.01025 (0.003803)
$1180 < Y_s \leq 2370$ ( $41,700 < Y_s \leq 83,700$ )	13.21633 (29.13672)	0 (0)	0 (0)	-0.00707 (-0.0000164)	0.02412 (0.0001276)	0.01449 (0.005376)
$2370 < Y_s \leq 3550$ ( $83,700 < Y_s \leq 125,000$ )	19.75398 (43.54962)	0 (0)	0 (0)	-0.00707 (-0.0000164)	0.02533 (0.0001340)	0.01775 (0.006585)

(ii) Where for a vent stream flow rate that is less than 14.2 scm/min (501 scf/min) at a standard temperature of 20 °C (68 °F):

TRE = TRE index value.

$Q_s$  = 14.2 scm/min (501 scf/min).

$H_T$  = (FLOW) (HVAL)/ $Q_s$ .

Where the following inputs are used:

FLOW = Vent stream flow rate, scm/min (scf/min), at a temperature of 20 °C (68 °F).

HVAL = Vent stream net heating value, MJ/scm (Btu/scf), where the net enthalpy per mole of vent stream is based on combustion at 25 °C and 760 mm Hg (68 °F and 30

in. Hg), but the standard temperature for determining the volume corresponding to one mole is 20 °C (68 °F) as in the definition of  $Q_s$ .

$Y_s$  =  $Q_s$  for all vent stream categories listed in Table 1 except for Category E vent streams where  $Y_s = Q_s H_T / 3.6$ .

$E_{\text{TOC}}$  = Hourly emissions of TOC, kg/hr (lb/hr).

a, b, c, d, e, and f are coefficients

The set of coefficients that apply to a vent stream can be obtained from Table 1.

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(2) The equation for calculating the TRE index value of a vent stream controlled by a flare is as follows:

$$TRE = \frac{1}{E_{TOC}} \left[ a(Q_s) + b(Q_s)^{0.8} + c(Q_s)(H_T) + d(E_{TOC}) + e \right]$$

where:

TRE = TRE index value.

E<sub>TOC</sub> = Hourly emissions of TOC, kg/hr (lb/hr).

Q<sub>s</sub> = Vent stream flow rate, scm/min (scf/min), at a standard temperature of 20 °C (68 °F).

H<sub>T</sub> = Vent stream net heating value, MJ/scm (Btu/scf), where the net enthalpy per mole of vent stream is based on combustion at

25 °C and 760 mm Hg (68 °F and 30 in. Hg), but the standard temperature for determining the volume corresponding to one mole is 20 °C (68 °F) as in the definition of Q<sub>s</sub>.

a, b, c, d, and e are coefficients.

The set of coefficients that apply to a vent stream shall be obtained from Table 2.

TABLE 2—DISTILLATION NSPS TRE COEFFICIENTS FOR VENT STREAMS CONTROLLED BY A FLARE

	a	b	c	d	e
H <sub>T</sub> < 11.2 MJ/scm	2.25	0.288	-0.193	-0.0051	2.08
(H <sub>T</sub> < 301 Btu/scf)	(0.140)	(0.0367)	(-0.000448)	(-0.0051)	(4.59)
H <sub>T</sub> ≥ 11.2 MJ/scm	0.309	0.0619	-0.0043	-0.0034	2.08
(H <sub>T</sub> ≥ 301 Btu/scf)	(0.0193)	(0.00788)	(-0.0000010)	(-0.0034)	(4.59)

(g) Each owner or operator of an affected facility seeking to comply with § 60.660(c)(4) or § 60.662(c) shall recalculate the TRE index value for that affected facility whenever process changes are made. Examples of process changes include changes in production capacity, feedstock type, or catalyst type, or whenever there is replacement, removal, or addition of recovery equipment. The TRE index value shall be recalculated based on test data, or on best engineering estimates of the effects of the change to the recovery system.

(1) Where the recalculated TRE index value is less than or equal to 1.0, the owner or operator shall notify the Administrator within 1 week of the recalculation and shall conduct a performance test according to the methods and procedures required by § 60.664 in order to determine compliance with § 60.662(a). Performance tests must be conducted as soon as possible after the process change but no later than 180 days from the time of the process change.

(2) Where the initial TRE index value is greater than 8.0 and the recalculated

TRE index value is less than or equal to 8.0 but greater than 1.0, the owner or operator shall conduct a performance test in accordance with §§ 60.8 and 60.664 and shall comply with §§ 60.663, 60.664 and 60.665. Performance tests must be conducted as soon as possible after the process change but no later than 180 days from the time of the process change.

(h) Any owner or operator subject to the provisions of this subpart seeking to demonstrate compliance with § 60.660(c)(6) shall use Method 2, 2A, 2C, or 2D as appropriate, for determination of volumetric flow rate.

[55 FR 26942, June 29, 1990, as amended at 65 FR 61774, Oct. 17, 2000]

**§ 60.665 Reporting and recordkeeping requirements.**

(a) Each owner or operator subject to § 60.662 shall notify the Administrator of the specific provisions of § 60.662 (§ 60.662 (a), (b), or (c)) with which the owner or operator has elected to comply. Notification shall be submitted with the notification of initial start-up required by § 60.7(a)(3). If an owner or operator elects at a later date to use an

alternative provision of § 60.662 with which he or she will comply, then the Administrator shall be notified by the owner or operator 90 days before implementing the change and, upon implementing the change, a performance test shall be performed as specified by § 60.664 within 180 days.

(b) Each owner or operator subject to the provisions of this subpart shall keep an up-to-date, readily accessible record of the following data measured during each performance test, and also include the following data in the report of the initial performance test required under § 60.8. Where a boiler or process heater with a design heat input capacity of 44 MW (150 million Btu/hour) or greater is used to comply with § 60.662(a), a report containing performance test data need not be submitted, but a report containing the information in § 60.665(b)(2)(i) is required. The same data specified in this section shall be submitted in the reports of all subsequently required performance tests where either the emission control efficiency of a control device, outlet concentration of TOC, or the TRE index value of a vent stream from a recovery system is determined.

(1) Where an owner or operator subject to the provisions of this subpart seeks to demonstrate compliance with § 60.662(a) through use of either a thermal or catalytic incinerator:

(i) The average firebox temperature of the incinerator (or the average temperature upstream and downstream of the catalyst bed for a catalytic incinerator), measured at least every 15 minutes and averaged over the same time period of the performance testing, and

(ii) The percent reduction of TOC determined as specified in § 60.664(b) achieved by the incinerator, or the concentration of TOC (ppmv, by compound) determined as specified in § 60.664(b) at the outlet of the control device on a dry basis corrected to 3 percent oxygen.

(2) Where an owner or operator subject to the provisions of this subpart seeks to demonstrate compliance with § 60.662(a) through use of a boiler or process heater:

(i) A description of the location at which the vent stream is introduced into the boiler or process heater, and

(ii) The average combustion temperature of the boiler or process heater with a design heat input capacity of less than 44 MW (150 million Btu/hr) measured at least every 15 minutes and averaged over the same time period of the performance testing.

(3) Where an owner or operator subject to the provisions of this subpart seeks to demonstrate compliance with § 60.662(b) through use of a smokeless flare, flare design (i.e., steam-assisted, air-assisted or nonassisted), all visible emission readings, heat content determinations, flow rate measurements, and exit velocity determinations made during the performance test, continuous records of the flare pilot flame monitoring, and records of all periods of operations during which the pilot flame is absent.

(4) Where an owner or operator subject to the provisions of this subpart seeks to demonstrate compliance with § 60.662(c):

(i) Where an absorber is the final recovery device in the recovery system, the exit specific gravity (or alternative parameter which is a measure of the degree of absorbing liquid saturation, if approved by the Administrator), and average exit temperature, of the absorbing liquid measured at least every 15 minutes and averaged over the same time period of the performance testing (both measured while the vent stream is normally routed and constituted), or

(ii) Where a condenser is the final recovery device in the recovery system, the average exit (product side) temperature measured at least every 15 minutes and averaged over the same time period of the performance testing while the vent stream is routed and constituted normally, or

(iii) Where a carbon adsorber is the final recovery device in the recovery system, the total steam mass flow measured at least every 15 minutes and averaged over the same time period of the performance test (full carbon bed cycle), temperature of the carbon bed after regeneration (and within 15 minutes of completion of any cooling cycle(s)), and duration of the carbon bed steaming cycle (all measured while the vent stream is routed and constituted normally), or



(iv) As an alternative to § 60.665(b)(4) ((i), (ii) or (iii)), the concentration level or reading indicated by the organics monitoring device at the outlet of the absorber, condenser, or carbon adsorber, measured at least every 15 minutes and averaged over the same time period of the performance testing while the vent stream is normally routed and constituted.

(v) All measurements and calculations performed to determine the TRE index value of the vent stream.

(c) Each owner or operator subject to the provisions of this subpart shall keep up-to-date, readily accessible continuous records of the equipment operating parameters specified to be monitored under § 60.663 (a) and (c) as well as up-to-date, readily accessible records of periods of operation during which the parameter boundaries established during the most recent performance test are exceeded. The Administrator may at any time require a report of these data. Where a combustion device is used to comply with § 60.662(a), periods of operation during which the parameter boundaries established during the most recent performance tests are exceeded are defined as follows:

(1) For thermal incinerators, all 3-hour periods of operation during which the average combustion temperature was more than 28 °C (50 °F) below the average combustion temperature during the most recent performance test at which compliance with § 60.662(a) was determined.

(2) For catalytic incinerators, all 3-hour periods of operation during which the average temperature of the vent stream immediately before the catalyst bed is more than 28 °C (50 °F) below the average temperature of the vent stream during the most recent performance test at which compliance with § 60.662(a) was determined. The owner or operator also shall record all 3-hour periods of operation during which the average temperature difference across the catalyst bed is less than 80 percent of the average temperature difference of the device during the most recent performance test at which compliance with § 60.662(a) was determined.

(3) All 3-hour periods of operation during which the average combustion temperature was more than 28 °C (50 °F) below the average combustion temperature during the most recent performance test at which compliance with § 60.662(a) was determined for boilers or process heaters with a design heat input capacity of less than 44 MW (150 million Btu/hr).

(4) For boilers or process heaters, whenever there is a change in the location at which the vent stream is introduced into the flame zone as required under § 60.662(a).

(d) Each owner or operator subject to the provisions of this subpart shall keep up to date, readily accessible continuous records of the flow indication specified under § 60.663(a)(2), § 60.663(b)(2) and § 60.663(c)(1), as well as up-to-date, readily accessible records of all periods when the vent stream is diverted from the control device or has no flow rate.

(e) Each owner or operator subject to the provisions of this subpart who uses a boiler or process heater with a design heat input capacity of 44 MW (150 million Btu/hour) or greater to comply with § 60.662(a) shall keep an up-to-date, readily accessible record of all periods of operation of the boiler or process heater. (Examples of such records could include records of steam use, fuel use, or monitoring data collected pursuant to other State or Federal regulatory requirements.)

(f) Each owner or operator subject to the provisions of this subpart shall keep up-to-date, readily accessible continuous records of the flare pilot flame monitoring specified under § 60.663(b), as well as up-to-date, readily accessible records of all periods of operations in which the pilot flame is absent.

(g) Each owner or operator subject to the provisions of this subpart shall keep up-to-date, readily accessible continuous records of the equipment operating parameters specified to be monitored under § 60.663(e), as well as up-to-date, readily accessible records of periods of operation during which the parameter boundaries established during the most recent performance test are exceeded. The Administrator may at any time require a report of these data. Where an owner or operator seeks to

comply with § 60.662(c), periods of operation during which the parameter boundaries established during the most recent performance tests are exceeded are defined as follows:

(1) Where an absorber is the final recovery device in a recovery system, and where an organic compound monitoring device is not used:

(i) All 3-hour periods of operation during which the average absorbing liquid temperature was more than 11 °C (20 °F) above the average absorbing liquid temperature during the most recent performance test, or

(ii) All 3-hour periods of operation during which the average absorbing liquid specific gravity was more than 0.1 unit above, or more than 0.1 unit below, the average absorbing liquid specific gravity during the most recent performance test (unless monitoring of an alternative parameter, which is a measure of the degree of absorbing liquid saturation, is approved by the Administrator, in which case he will define appropriate parameter boundaries and periods of operation during which they are exceeded).

(2) Where a condenser is the final recovery device in a system, and where an organic compound monitoring device is not used, all 3-hour periods of operation during which the average exit (product side) condenser operating temperature was more than 6 °C (11 °F) above the average exit (product side) operating temperature during the most recent performance test.

(3) Where a carbon adsorber is the final recovery device in a system, and where an organic compound monitoring device is not used:

(i) All carbon bed regeneration cycles during which the total mass steam flow was more than 10 percent below the total mass steam flow during the most recent performance test, or

(ii) All carbon bed regeneration cycles during which the temperature of the carbon bed after regeneration (and after completion of any cooling cycle(s)) was more than 10 percent greater than the carbon bed temperature (in degrees Celsius) during the most recent performance test.

(4) Where an absorber, condenser, or carbon adsorber is the final recovery device in the recovery system and

where an organic compound monitoring device is used, all 3-hour periods of operation during which the average organic compound concentration level or reading of organic compounds in the exhaust gases is more than 20 percent greater than the exhaust gas organic compound concentration level or reading measured by the monitoring device during the most recent performance test.

(h) Each owner or operator of an affected facility subject to the provisions of this subpart and seeking to demonstrate compliance with § 60.662(c) shall keep up-to-date, readily accessible records of:

(1) Any changes in production capacity, feedstock type, or catalyst type, or of any replacement, removal or addition of recovery equipment or a distillation unit;

(2) Any recalculation of the TRE index value performed pursuant to § 60.664(f); and

(3) The results of any performance test performed pursuant to the methods and procedures required by § 60.664(d).

(i) Each owner or operator of an affected facility that seeks to comply with the requirements of this subpart by complying with the flow rate cutoff in § 60.660(c)(6) shall keep up-to-date, readily accessible records to indicate that the vent stream flow rate is less than 0.008 scm/min (0.3 scf/min) and of any change in equipment or process operation that increases the operating vent stream flow rate, including a measurement of the new vent stream flow rate.

(j) Each owner or operator of an affected facility that seeks to comply with the requirements of this subpart by complying with the design production capacity provision in § 60.660(c)(5) shall keep up-to-date, readily accessible records of any change in equipment or process operation that increases the design production capacity of the process unit in which the affected facility is located.

(k) Each owner and operator subject to the provisions of this subpart is exempt from the quarterly reporting requirements contained in § 60.7(c) of the General Provisions.

(1) Each owner or operator that seeks to comply with the requirements of this subpart by complying with the requirements of § 60.660 (c)(4), (c)(5), or (c)(6) or § 60.662 shall submit to the Administrator semiannual reports of the following recorded information. The initial report shall be submitted within 6 months after the initial start-up date.

(1) Exceedances of monitored parameters recorded under § 60.665 (c) and (g).

(2) All periods recorded under § 60.665(d) when the vent stream is diverted from the control device or has no flow rate.

(3) All periods recorded under § 60.665(e) when the boiler or process heater was not operating.

(4) All periods recorded under § 60.665(f) in which the pilot flame of the flare was absent.

(5) Any change in equipment or process operation that increases the operating vent stream flow rate above the low flow exemption level in § 60.660(c)(6), including a measurement of the new vent stream flow rate, as recorded under § 60.665(i). These must be reported as soon as possible after the change and no later than 180 days after the change. These reports may be submitted either in conjunction with semiannual reports or as a single separate report. A performance test must be completed with the same time period to verify the recalculated flow value and to obtain the vent stream characteristics of heating value and  $E_{roc}$ . The performance test is subject to the requirements of § 60.8 of the General Provisions. Unless the facility qualifies for an exemption under the low capacity exemption status in § 60.660(c)(5), the facility must begin compliance with the requirements set forth in § 60.662.

(6) Any change in equipment or process operation, as recorded under paragraph (j) of this section, that increases the design production capacity above the low capacity exemption level in § 60.660(c)(5) and the new capacity resulting from the change for the distillation process unit containing the affected facility. These must be reported as soon as possible after the change and no later than 180 days after the change. These reports may be sub-

mitted either in conjunction with semiannual reports or as a single separate report. A performance test must be completed within the same time period to obtain the vent stream flow rate, heating value, and  $E_{roc}$ . The performance test is subject to the requirements of § 60.8. The facility must begin compliance with the requirements set forth in § 60.660(d) or § 60.662. If the facility chooses to comply with § 60.662, the facility may qualify for an exemption in § 60.660(c)(4) or (6).

(7) Any recalculation of the TRE index value, as recorded under § 60.665(h).

(m) The requirements of § 60.665(l) remain in force until and unless EPA, in delegating enforcement authority to a State under section 111(c) of the Act, approves reporting requirements or an alternative means of compliance surveillance adopted by such State. In that event, affected sources within the State will be relieved of the obligation to comply with § 60.665(l), provided that they comply with the requirements established by the State.

(n) Each owner or operator that seeks to demonstrate compliance with § 60.660(c)(5) must submit to the Administrator an initial report detailing the design production capacity of the process unit.

(o) Each owner or operator that seeks to demonstrate compliance with § 60.660(c)(6) must submit to the Administrator an initial report including a flow rate measurement using the test methods specified in § 60.664.

(p) The Administrator will specify appropriate reporting and record-keeping requirements where the owner or operator of an affected facility complies with the standards specified under § 60.662 other than as provided under § 60.663(a), (b), (c) and (d).

[55 FR 26922, June 29, 1990; 55 FR 36932, Sept. 7, 1990, as amended at 60 FR 58237, Nov. 27, 1995; 65 FR 61778, Oct. 17, 2000; 65 FR 78279, Dec. 14, 2000]

#### § 60.666 Reconstruction.

For purposes of this subpart "fixed capital cost of the new components," as used in § 60.15, includes the fixed capital cost of all depreciable components which are or will be replaced pursuant

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to all continuous programs of component replacement which are commenced within any 2-year period following December 30, 1983. For purposes of this paragraph, "commenced" means that an owner or operator has undertaken a continuous program of component replacement or that an owner or operator has entered into a contractual obligation to undertake and complete, within a reasonable time, a continuous program of component replacement.

§ 60.667 Chemicals affected by subpart NNN.

Chemical name	CAS No.*
Acetaldehyde	75-07-0
Acetaldol	107-89-1
Acetic acid	64-19-7
Acetic anhydride	108-24-7
Acetone	67-64-1
Acetone cyanohydrin	75-86-5
Acetylene	74-86-2
Acrylic acid	79-10-7
Acrylonitrile	107-13-1
Adipic acid	124-04-9
Adiponitrile	111-69-3
Alcohols, C-11 or lower, mixtures.	
Alcohols, C-12 or higher, mixtures.	
Allyl chloride	107-05-1
Amylene	513-35-9
Amylenes, mixed.	
Aniline	62-53-3
Benzene	71-43-2
Benzenesulfonic acid	98-11-3
Benzenesulfonic acid C <sub>11-16</sub> -alkyl derivatives, sodium salts	68081-81-2
Benzoic acid, tech	65-85-0
Benzyl chloride	100-44-7
Biphenyl	92-52-4
Bisphenol A	80-05-7
Brometone	76-08-4
1,3-Butadiene	106-99-0
Butadiene and butene fractions.	
n-Butane	106-97-8
1,4-Butanediol	110-63-4
Butanes, mixed.	
1-Butene	106-98-9
2-Butene	25167-67-3
Butenes, mixed.	
n-Butyl acetate	123-86-4
Butyl acrylate	141-32-2
n-Butyl alcohol	71-36-3
sec-Butyl alcohol	78-92-2
tert-Butyl alcohol	75-65-0
Butylbenzyl phthalate	85-68-7
Butylene glycol	107-88-0
tert-Butyl hydroperoxide	75-91-2
2-Butyne-1,4-diol	110-65-6
Butyraldehyde	123-72-8
Butyric anhydride	106-31-0
Caproactiam	105-60-2
Carbon disulfide	75-15-0
Carbon tetrabromide	558-13-4
Carbon tetrachloride	56-23-5
Chlorobenzene	108-90-7
2-Chloro-4-(ethylamino)-6-(isopropylamino)-s-triazine	1912-24-9
Chloroform	67-66-3
p-Chloronitrobenzene	100-00-5
Chloroprene	126-99-8

Chemical name	CAS No.*
Citric acid	77-92-9
Crotonaldehyde	4170-30-0
Crotonic acid	3724-65-0
Cumene	98-82-8
Cumene hydroperoxide	80-15-9
Cyanuric chloride	108-77-0
Cyclohexane	110-82-7
Cyclohexane, oxidized	68512-15-2
Cyclohexanol	108-93-0
Cyclohexanone	108-94-1
Cyclohexanone oxime	100-64-1
Cyclohexene	110-83-8
1,3-Cyclopentadiene	542-92-7
Cyclopropane	75-19-4
Diacetone alcohol	123-42-2
Dibutanized aromatic concentrate.	
1,4-Dichlorobutene	110-57-6
3,4-Dichloro-1-butene	64037-54-3
Dichlorodifluoromethane	75-71-8
Dichlorodimethylsilane	75-78-5
Dichlorodifluoromethane	75-43-4
-Dichlorohydrin	96-23-1
Diethanolamine	111-42-2
Diethylbenzene	25340-17-4
Diethylene glycol	111-46-6
Di-n-heptyl-n-nonyl undecyl phthalate	85-68-7
Di-isodecyl phthalate	26761-40-0
Diisononyl phthalate	28553-12-0
Dimethylamine	124-40-3
Dimethyl terephthalate	120-61-6
2,4-Dinitrotoluene	121-14-2
2,4-(and 2,6)-dinitrotoluene	121-14-2
Diocetyl phthalate	606-20-2
Dodecene	117-81-7
Dodecylbenzene, non linear.	25378-22-7
Dodecylbenzenesulfonic acid	27176-87-0
Dodecylbenzenesulfonic acid, sodium salt	25155-30-0
Epichlorohydrin	106-89-8
Ethanol	64-17-5
Ethanolamine	141-43-5
Ethyl acetate	141-78-6
Ethyl acrylate	140-88-5
Ethylbenzene	100-41-4
Ethyl chloride	75-00-3
Ethyl cyanide	107-12-0
Ethylene	74-85-1
Ethylene dibromide	106-93-4
Ethylene dichloride	107-06-2
Ethylene glycol	107-21-1
Ethylene glycol monobutyl	111-76-2
Ethylene glycol monoethyl ether	110-80-5
Ethylene glycol monoethyl ether acetate	111-15-9
Ethylene glycol monomethyl ether	109-86-4
Ethylene oxide	75-21-8
2-Ethylhexanal	26266-68-2
2-Ethylhexyl alcohol	104-76-7
(2-Ethylhexyl) amine	104-75-6
Ethylmethylbenzene	25550-14-5
6-Ethyl-1,2,3,4-tetrahydroanthracenedione	9,10-15547-17-8
Formaldehyde	50-00-0
Glycerol	56-81-5
n-Heptane	142-82-5
Heptenes (mixed).	
Hexadecyl chloride.	
Hexamethylene diamine	124-09-4
Hexamethylene diamine adipate	3323-53-3
Hexamethylenetetramine	100-97-0
Hexane	110-54-3
2-Hexenedinitrile	13042-02-9
3-Hexenedinitrile	1119-85-3
Hydrogen cyanide	74-90-8
Isobutane	75-28-5

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Chemical name	CAS No.*
Isobutanol	78-83-1
Isobutylene	115-11-7
Isobutyraldehyde	78-84-2
Isodecyl alcohol	25339-17-7
Isooctyl alcohol	26952-21-6
Isopentane	78-78-4
Isophthalic acid	121-91-5
Isoprene	78-79-5
Isopropanol	67-63-0
Kelene	463-51-4
Linear alcohols, ethoxylated, mixed.	
Linear alcohols, ethoxylated, and sulfated, sodium salt, mixed.	
Linear alcohols, sulfated, sodium salt, mixed.	
Linear alkylbenzene	123-01-3
Magnesium acetate	142-72-3
Maleic anhydride	108-31-6
Melamine	108-78-1
Mesityl oxide	141-79-7
Methacrylonitrile	126-98-7
Methanol	67-56-1
Methylamine	74-89-5
ar-Methylbenzenediamine	25376-45-8
Methyl chloride	74-87-3
Methylene chloride	75-09-2
Methyl ethyl ketone	78-93-3
Methyl iodide	74-88-4
Methyl isobutyl ketone	108-10-1
Methyl methacrylate	80-62-6
2-Methylpentane	107-83-5
1-Methyl-2-pyrrolidone	872-50-4
Methyl tert-butyl ether.	
Naphthalene	91-20-3
Nitrobenzene	98-95-3
1-Nonene	27215-95-8
Nonyl alcohol	143-08-8
Nonylphenol	25154-52-3
Nonylphenol, ethoxylated	9016-45-9
Octene	25377-83-7
Oil-soluble petroleum sulfonate, calcium salt.	
Oil-soluble petroleum sulfonate, sodium salt.	
Pentaerythritol	115-77-5
n-Pentane	109-66-0
3-Pentenenitrile	4635-87-4
Pentenes, mixed	109-67-1
Perchloroethylene	127-18-4
Phenol	108-95-2
1-Phenylethyl hydroperoxide	3071-32-7
Phenylpropane	103-65-1
Phosgene	75-44-5
Phthalic anhydride	85-44-9
Propane	74-98-6
Propionaldehyde	123-38-6
Propionic acid	79-09-4
Propyl alcohol	71-23-8
Propylene	115-07-1
Propylene chlorohydrin	78-89-7
Propylene glycol	57-55-6
Propylene oxide	75-56-9
Sodium cyanide	143-33-9
Sorbitol	50-70-4
Styrene	100-42-5
Terephthalic acid	100-21-0
1,1,2,2-Tetrachloroethane	79-34-5
Tetraethyl lead	78-00-2
Tetrahydrofuran	109-99-9
Tetra (methyl-ethyl) lead.	
Tetramethyl lead	75-74-1
Toluene	108-88-3
Toluene-2,4-diamine	95-80-7
Toluene-2,4 (and, 2,6)-diisocyanate (80/20 mixture)	26471-62-5
Tribromomethane	75-25-2
1,1,1-Trichloroethane	71-55-6

Chemical name	CAS No.*
1,1,2-Trichloroethane	79-00-5
Trichloroethylene	79-01-6
Trichlorofluoromethane	75-69-4
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1
Triethanolamine	102-71-6
Triethylene glycol	112-27-6
Vinyl acetate	108-05-4
Vinyl chloride	75-01-4
Vinylidene chloride	75-35-4
m-Xylene	108-38-3
o-Xylene	95-47-6
p-Xylene	106-42-3
Xylenes (mixed)	1330-20-7
m-Xylenol	576-26-1

\*CAS numbers refer to the Chemical Abstracts Registry numbers assigned to specific chemicals, isomers, or mixtures of chemicals. Some isomers or mixtures that are covered by the standards do not have CAS numbers assigned to them. The standards apply to all of the chemicals listed, whether CAS numbers have been assigned or not.

[55 FR 26942, June 29, 1990, as amended at 60 FR 58237, 58238, Nov. 27, 1995]

§ 60.668 Delegation of authority.

(a) In delegating implementation and enforcement authority to a State under § 111(c) of the Act, the authorities contained in paragraph (b) of this section shall be retained by the Administrator and not transferred to a State.

(b) Authorities which will not be delegated to States: § 60.663(e).

Subpart 000—Standards of Performance for Nonmetallic Mineral Processing Plants

SOURCE: 51 FR 31337, Aug. 1, 1985, unless otherwise noted.

§ 60.670 Applicability and designation of affected facility.

(a)(1) Except as provided in paragraphs (a)(2), (b), (c), and (d) of this section, the provisions of this subpart are applicable to the following affected facilities in fixed or portable nonmetallic mineral processing plants: each crusher, grinding mill, screening operation, bucket elevator, belt conveyor, bagging operation, storage bin, enclosed truck or railcar loading station. Also, crushers and grinding mills at hot mix asphalt facilities that reduce the size of nonmetallic minerals embedded in recycled asphalt pavement and subsequent affected facilities up to, but not including, the first storage silo or bin are subject to the provisions of this subpart.



quantities that could cause an effective dose equivalent in excess of 1% of the standard. All radionuclides that could contribute greater than 10% of the potential effective dose equivalent for a release point shall be measured. With prior EPA approval, DOE may determine these emissions through alternative procedures. For other release points that have a potential to release radionuclides into the air, periodic confirmatory measurements shall be made to verify the low emissions.

(g) To determine whether a release point is subject to the emission measurement requirements of paragraph (b) or (d) of this section, it is necessary to evaluate the potential for radionuclide emissions for that release point. In evaluating the potential of a release point to discharge radionuclides into the air for the purposes of this section, the estimated radionuclide release rates shall be based on the discharge of the effluent stream that would result if all pollution control equipment did not exist, but the facilities operations were otherwise normal.

(h) Environmental measurements of radionuclide air concentrations at critical receptor locations may be used as an alternative to air dispersion calculations in demonstrating compliance with the standard if the owner or operator meets the following criteria:

(1) The air at the point of measurement shall be continuously sampled for collection of radionuclides.

(2) Those radionuclides released from the facility that are the major contributors to the effective dose equivalent must be collected and measured as part of the environmental measurement program.

(3) Radionuclide concentrations that would cause an effective dose equivalent of 10% of the standard shall be readily detectable and distinguishable from background.

(4) Net measured radionuclide concentrations shall be compared to the concentration levels in Table 2 of appendix E of this part to determine compliance with the standard. In the case of multiple radionuclides being released from a facility, compliance shall be demonstrated if the value for all radionuclides is less than the concentration level in Table 2 of appendix

E of this part, and the sum of the fractions that result when each measured concentration value is divided by the value in Table 2 of appendix E of this part for each radionuclide is less than 1.

(5) A quality assurance program shall be conducted that meets the performance requirements described in appendix B, Method 114 of this part.

(6) Use of environmental measurements to demonstrate compliance with the standard is subject to prior approval of EPA. Applications for approval shall include a detailed description of the sampling and analytical methodology and show how the above criteria will be met.

[54 FR 51697, Dec. 15, 1989, as amended at 61 FR 46212, Sept. 5, 1995; 61 FR 68981, Dec. 30, 1996; 65 FR 62156, Oct. 17, 2000; 67 FR 57167, Sept. 9, 2002]

**§ 61.108 Exemption from the reporting and testing requirements of 40 CFR 61.10.**

All facilities designated under this subpart are exempt from the reporting requirements of 40 CFR 61.10.

**Subpart J—National Emission Standard for Equipment Leaks (Fugitive Emission Sources) of Benzene**

SOURCE: 49 FR 23513, June 6, 1984, unless otherwise noted.

**§ 61.110 Applicability and designation of sources.**

(a) The provisions of this subpart apply to each of the following sources that are intended to operate in benzene service: pumps, compressors, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, connectors, surge control vessels, bottoms receivers, and control devices or systems required by this subpart.

(b) The provisions of this subpart do not apply to sources located in coke by-product plants.

(c)(1) If an owner or operator applies for one of the exemptions in this paragraph, then the owner or operator shall maintain records as required in § 61.246(i).

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(2) Any equipment in benzene service that is located at a plant site designed to produce or use less than 1,000 megagrams (1,102 tons) of benzene per year is exempt from the requirements of § 61.112.

(3) Any process unit (defined in § 61.241) that has no equipment in benzene service is exempt from the requirements of § 61.112.

(d) While the provisions of this subpart are effective, a source to which this subpart applies that is also subject to the provisions of 40 CFR part 60 only will be required to comply with the provisions of this subpart.

[49 FR 23513, June 6, 1984, as amended at 65 FR 62156, Oct. 17, 2000; 65 FR 78280, Dec. 14, 2000]

#### § 61.111 Definitions.

As used in this subpart, all terms not defined herein shall have the meaning given them in the Act, in subpart A of part 61, or in subpart V of part 61, and the following terms shall have the specific meanings given them:

*In benzene service* means that a piece of equipment either contains or contacts a fluid (Liquid or gas) that is at least 10 percent benzene by weight as determined according to the provisions of § 61.245(d). The provisions of § 61.245(d) also specify how to determine that a piece of equipment is not in benzene service.

*Semiannual* means a 6-month period; the first semiannual period concludes on the last day of the last month during the 180 days following initial start-up for new sources; and the first semiannual period concludes on the last day of the last full month during the 180 days after June 6, 1984 for existing sources.

#### § 61.112 Standards.

(a) Each owner or operator subject to the provisions of this subpart shall comply with the requirements of subpart V of this part.

(b) An owner or operator may elect to comply with the requirements of §§ 61.243-1 and 61.243-2.

(c) An owner or operator may apply to the Administrator for a determination of an alternative means of emission limitation that achieves a reduction in emissions of benzene at least

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equivalent to the reduction in emissions of benzene achieved by the controls required in this subpart. In doing so, the owner or operator shall comply with requirements of § 61.244.

## Subpart K—National Emission Standards for Radionuclide Emissions From Elemental Phosphorus Plants

SOURCE: 54 FR 51699, Dec. 15, 1989, unless otherwise noted.

#### § 61.120 Applicability.

The provisions of this subpart are applicable to owners or operators of calciners and nodulizing kilns at elemental phosphorus plants.

#### § 61.121 Definitions.

(a) *Elemental phosphorus plant or plant* means any facility that processes phosphate rock to produce elemental phosphorus. A plant includes all buildings, structures, operations, calciners and nodulizing kilns on one contiguous site.

(b) *Calcliner or Nodulizing kiln* means a unit in which phosphate rock is heated to high temperatures to remove organic material and/or to convert it to a nodular form. For the purpose of this subpart, calciners and nodulizing kilns are considered to be similar units.

#### § 61.122 Emission standard.

Emissions of polonium-210 to the ambient air from all calciners and nodulizing kilns at an elemental phosphorus plant shall not exceed a total of 2 curies a year; except that compliance with this standard may be conclusively shown if the elemental phosphorus plant:

(a) Installs a Hydro-Sonic® Tandem Nozzle Fixed Throat Free-Jet Scrubber System including four scrubber units,

(b) All four scrubber units are operated continuously with a minimum average over any 6-hour period of 40 inches (water column) of pressure drop across each scrubber during calcining of phosphate shale,

(c) The system is used to scrub emissions from all calciners and/or nodulizing kilns at the plant, and



§ 61.226(c) the Administrator may issue a finding that reinstatement of this subpart is not appropriate if the Administrator finds:

(i) NRC and the affected Agreement States are on a programmatic basis implementing and enforcing, in significant part, the regulations governing the disposal of uranium mill tailings promulgated by EPA and NRC or the tailings closure plan (radon) (i.e., contained in the license) requirements establishing milestones for the purpose of emplacing a permanent radon barrier that will achieve compliance with the 20 pCi/m<sup>2</sup>-s flux standard; or

(ii) NRC or an affected Agreement State are on a site-specific basis, in significant part, achieving compliance by the operator of the site or sites with applicable license requirements, regulations, or standards implemented by NRC and the affected Agreement States.

(b) *Procedures to petition for reconsideration of rescission of this subpart.* (1) A person may petition the Administrator to reconsider the rescission and seek reinstatement of this subpart under § 61.226(a).

(2) EPA shall summarily dismiss a petition to reconsider rescission and seek reinstatement of this subpart under § 61.226(a)(1) (programmatic basis), without prejudice, unless the petitioner demonstrates that written notice of the alleged failure(s) was provided to NRC at least 60 days before filing the petition with EPA. This notification shall include a statement of the grounds for such a petition and this notice requirement may be satisfied by, but is not limited to, submissions or pleadings submitted to NRC during a proceeding conducted by NRC.

(3) EPA shall summarily dismiss a petition to reconsider rescission and seek reinstatement of this subpart under § 61.226(a)(2) (site-specific basis), without prejudice, unless the petitioner demonstrates that a written request was made to NRC or an affected Agreement State for enforcement or other relief at least 60 days before filing its petition with EPA, and unless the petitioner alleges that NRC or the affected Agreement State failed to respond to such request by taking action, as necessary, to assure timely imple-

mentation and enforcement of the 20 pCi/m<sup>2</sup>-s flux standard.

(4) Upon receipt of a petition under § 61.226(b)(1) that is not dismissed under § 61.226(b)(2) or (b)(3), EPA will propose to grant or deny an authorized petition to reconsider, take comments on the Agency's proposed action, and take final action granting or denying such petition to reconsider within 300 days of receipt.

(c) *Reconsideration of rescission of this subpart initiated by the Administrator.* (1) The Administrator may initiate reconsideration of the rescission and reinstatement of this subpart as applied to owners and operators of non-operational uranium mill tailings disposal sites if EPA has reason to believe that NRC or an affected Agreement State has failed to implement and enforce, in significant part, the regulations governing the disposal of uranium mill tailings promulgated by EPA and NRC or the tailings closure plan (radon) requirements establishing milestones for the purpose of emplacing a permanent radon barrier that will achieve compliance with the 20 pCi/m<sup>2</sup>-s flux standard.

(2) Before the Administrator initiates reconsideration of the rescission and reinstatement of this subpart under § 61.226(c)(1), EPA shall consult with NRC to address EPA's concerns and if the consultation does not resolve the concerns, EPA shall provide NRC with 60 days notice of the Agency's intent to initiate rulemaking to reinstate this subpart.

[59 FR 36302, July 15, 1994]

### Subpart U [Reserved]

### Subpart V—National Emission Standard for Equipment Leaks (Fugitive Emission Sources)

SOURCE: 49 FR 23513, June 6, 1984, unless otherwise noted.

#### § 61.240 Applicability and designation of sources.

(a) The provisions of this subpart apply to each of the following sources that are intended to operate in volatile hazardous air pollutant (VHAP) service: pumps, compressors, pressure relief

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devices, sampling connection systems, open-ended valves or lines, valves, connectors, surge control vessels, bottoms receivers, and control devices or systems required by this subpart.

(b) The provisions of this subpart apply to the sources listed in paragraph (a) after the date of promulgation of a specific subpart in part 61.

(c) While the provisions of this subpart are effective, a source to which this subpart applies that is also subject to the provisions of 40 CFR part 60 only will be required to comply with the provisions of this subpart.

(d) *Alternative means of compliance—*

(1) *Option to comply with part 65.* Owners or operators may choose to comply with 40 CFR part 65 to satisfy the requirements of §§ 61.242-1 through 61.247 for equipment that is subject to this subpart and that is part of the same process unit. When choosing to comply with 40 CFR part 65, the requirements of §§ 61.245(d) and 61.246(i) and (j) still apply. Other provisions applying to owners or operators who choose to comply with 40 CFR part 65 are provided in 40 CFR 65.1.

(2) *Part 65, subpart C or F.* For owners or operators choosing to comply with 40 CFR part 65, each surge control vessel and bottoms receiver subject to this subpart that meets the conditions specified in table 1 or table 2 of this subpart shall meet the requirements for storage vessels in 40 CFR part 65, subpart C; all other equipment subject to this subpart shall meet the requirements in 40 CFR part 65, subpart F.

(3) *Part 61, subpart A.* Owners or operators who choose to comply with 40 CFR part 65, subpart C or F, must also comply with §§ 61.01, 61.02, 61.05 through 61.08, 61.10(b) through (d), 61.11, and 61.15 for that equipment. All sections and paragraphs of subpart A of this part that are not mentioned in this paragraph (d)(3) do not apply to owners or operators of equipment subject to this subpart complying with 40 CFR part 65, subpart C or F, except that provisions required to be met prior to implementing 40 CFR part 65 still apply. Owners and operators who choose to comply with 40 CFR part 65, subpart C or F, must comply with 40 CFR part 65, subpart A.

(4) *Rules referencing this subpart.* Owners or operators referenced to this subpart from subpart F or J of this part may choose to comply with 40 CFR part 65 for all equipment listed in paragraph (a) of this section.

[49 FR 23513, June 6, 1984, as amended at 65 FR 78280, Dec. 14, 2000]

§ 61.241 Definitions.

As used in this subpart, all terms not defined herein shall have the meaning given them in the Act, in subpart A of part 61, or in specific subparts of part 61; and the following terms shall have specific meaning given them:

*Bottoms receiver* means a tank that collects distillation bottoms before the stream is sent for storage or for further downstream processing.

*Closed-vent system* means a system that is not open to atmosphere and that is composed of hard-piping, ductwork, connections, and, if necessary, flow-inducing devices that transport gas or vapor from a piece or pieces of equipment to a control device or back to a process.

*Connector* means flanged, screwed, welded, or other joined fittings used to connect two pipe lines or a pipe line and a piece of equipment. For the purpose of reporting and recordkeeping, connector means flanged fittings that are not covered by insulation or other materials that prevent location of the fittings.

*Control device* means an enclosed combustion device, vapor recovery system, or flare.

*Double block and bleed system* means two block valves connected in series with a bleed valve or line that can vent the line between the two block valves.

*Duct work* means a conveyance system such as those commonly used for heating and ventilation systems. It is often made of sheet metal and often has sections connected by screws or crimping. Hard-piping is not ductwork.

*Equipment* means each pump, compressor, pressure relief device, sampling connection system, open-ended valve or line, valve, connector, surge control vessel, bottoms receiver in VHAP service, and any control devices or systems required by this subpart.

*First attempt at repair* means to take rapid action for the purpose of stopping

or reducing leakage of organic material to atmosphere using best practices.

*In gas/vapor service* means that a piece of equipment contains process fluid that is in the gaseous state at operating conditions.

*Fuel gas* means gases that are combusted to derive useful work or heat.

*Fuel gas system* means the offsite and onsite piping and flow and pressure control system that gathers gaseous stream(s) generated by onsite operations, may blend them with other sources of gas, and transports the gaseous stream for use as fuel gas in combustion devices or in-process combustion equipment, such as furnaces and gas turbines, either singly or in combination.

*Hard-piping* means pipe or tubing that is manufactured and properly installed using good engineering judgment and standards such as ASME B31.3, Process Piping (available from the American Society of Mechanical Engineers, PO Box 2900, Fairfield, NJ 07007-2900).

*In liquid service* means that a piece of equipment is not in gas/vapor service.

*In-situ* sampling systems means non-extractive samplers or in-line samplers.

*In vacuum service* means that equipment is operating at an internal pressure which is at least 5 kilopascals (kPa) (0.7 psia) below ambient pressure.

*In VHAP service* means that a piece of equipment either contains or contacts a fluid (liquid or gas) that is at least 10 percent by weight a volatile hazardous air pollutant (VHAP) as determined according to the provisions of § 61.245(d). The provisions of § 61.245(d) also specify how to determine that a piece of equipment is not in VHAP service.

*In VOC service* means, for the purposes of this subpart, that (a) the piece of equipment contains or contacts a process fluid that is at least 10 percent VOC by weight (see 40 CFR 60.2 for the definition of volatile organic compound or VOC and 40 CFR 60.485(d) to determine whether a piece of equipment is not in VOC service) and (b) the piece of equipment is not in heavy liquid service as defined in 40 CFR 60.481.

*Maximum true vapor pressure* means the equilibrium partial pressure exerted by the total VHAP in the stored

or transferred liquid at the temperature equal to the highest calendar-month average of the liquid storage or transfer temperature for liquids stored or transferred above or below the ambient temperature or at the local maximum monthly average temperature as reported by the National Weather Service for liquids stored or transferred at the ambient temperature, as determined:

(1) In accordance with methods described in American Petroleum Institute Publication 2517, Evaporative Loss From External Floating-Roof Tanks (incorporated by reference as specified in § 61.18); or

(2) As obtained from standard reference texts; or

(3) As determined by the American Society for Testing and Materials Method D2879-83, Standard Test Method for Vapor Pressure-Temperature Relationship and Initial Decomposition Temperature of Liquids by Isoteniscope (incorporated by reference as specified in § 61.18); or

(4) Any other method approved by the Administrator.

*Open-ended valve or line* means any valve, except pressure relief valves, having one side of the valve seat in contact with process fluid and one side open to atmosphere, either directly or through open piping.

*Pressure release* means the emission of materials resulting from the system pressure being greater than the set pressure of the pressure relief device.

*Process unit* means equipment assembled to produce a VHAP or its derivatives as intermediates or final products, or equipment assembled to use a VHAP in the production of a product. A process unit can operate independently if supplied with sufficient feed or raw materials and sufficient product storage facilities.

*Process unit shutdown* means a work practice or operational procedure that stops production from a process unit or part of a process unit. An unscheduled work practice or operational procedure that stops production from a process unit or part of a process unit for less than 24 hours is not a process unit shutdown. The use of spare equipment and technically feasible bypassing of

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equipment without stopping production are not process unit shutdowns.

*Repaired* means that equipment is adjusted, or otherwise altered, to eliminate a leak.

*Sampling connection system* means an assembly of equipment within a process unit used during periods of representative operation to take samples of the process fluid. Equipment used to take non-routine grab samples is not considered a sampling connection system.

*Semiannual* means a 6-month period; the first semiannual period concludes on the last day of the last month during the 180 days following initial start-up for new sources; and the first semiannual period concludes on the last day of the last full month during the 180 days after the effective date of a specific subpart that references this subpart for existing sources.

*Sensor* means a device that measures a physical quantity or the change in a physical quantity, such as temperature, pressure, flow rate, pH, or liquid level.

*Stuffing box pressure* means the fluid (liquid or gas) pressure inside the casing or housing of a piece of equipment, on the process side of the inboard seal.

*Surge control vessel* means feed drums, recycle drums, and intermediate vessels. Surge control vessels are used within a process unit when in-process storage, mixing, or management of flow rates of volumes is needed on a recurring or ongoing basis to assist in production of a product.

*Volatile hazardous air pollutant or VHAP* means a substance regulated under this part for which a standard for equipment leaks of the substance has been proposed and promulgated. Benzene is a VHAP. Vinyl chloride is a VHAP.

[49 FR 23513, June 6, 1984; 49 FR 38946, Oct. 2, 1984, as amended at 51 FR 34915, Sept. 30, 1986; 54 FR 38076, Sept. 14, 1989; 65 FR 62158, Oct. 17, 2000; 65 FR 78280, Dec. 14, 2000]

### § 61.242-1 Standards: General.

(a) Each owner or operator subject to the provisions of this subpart shall demonstrate compliance with the requirements of §§ 61.242-1 to 61.242-11 for each new and existing source as re-

quired in 40 CFR 61.05, except as provided in §§ 61.243 and 61.244.

(b) Compliance with this subpart will be determined by review of records, review of performance test results, and inspection using the methods and procedures specified in § 61.245.

(c)(1) An owner or operator may request a determination of alternative means of emission limitation to the requirements of §§ 61.242-2, 61.242-3, 61.242-5, 61.242-6, 61.242-7, 61.242-8, 61.242-9 and 61.242-11 as provided in § 61.244.

(2) If the Administrator makes a determination that a means of emission limitation is at least a permissible alternative to the requirements of § 61.242-2, 61.242-3, 61.242-5, 61.242-6, 61.242-7, 61.242-8, 61.242-9 or 61.242-11, an owner or operator shall comply with the requirements of that determination.

(d) Each piece of equipment to which this subpart applies shall be marked in such a manner that it can be distinguished readily from other pieces of equipment.

(e) Equipment that is in vacuum service is excluded from the requirements of § 61.242-2, to § 61.242-11 if it is identified as required in § 61.246(e)(5).

[49 FR 23513, June 6, 1984; 49 FR 38946, Oct. 2, 1984]

### § 61.242-2 Standards: Pumps.

(a)(1) Each pump shall be monitored monthly to detect leaks by the methods specified in § 61.245(b), except as provided in § 61.242-1(c) and paragraphs (d), (e), (f) and (g) of this section.

(2) Each pump shall be checked by visual inspection each calendar week for indications of liquids dripping from the pump seal.

(b)(1) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(2) If there are indications of liquids dripping from the pump seal, a leak is detected.

(c)(1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in § 61.242-10.

(2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(d) Each pump equipped with a dual mechanical seal system that includes a barrier fluid system is exempt from the requirements of paragraphs (a) and (b) of this section, provided the following requirements are met:

(1) Each dual mechanical seal system is:

(i) Operated with the barrier fluid at a pressure that is at all times greater than the pump stuffing box pressure; or

(ii) Equipped with a barrier fluid degassing reservoir that is routed to a process or fuel gas system or connected by a closed-vent system to a control device that complies with the requirements of § 61.242-11; or

(iii) Equipped with a system that purges the barrier fluid into a process stream with zero VHAP emissions to atmosphere.

(2) The barrier fluid is not in VHAP service and, if the pump is covered by standards under 40 CFR part 60, is not in VOC service.

(3) Each barrier fluid system is equipped with a sensor that will detect failure of the seal system, the barrier fluid system, or both.

(4) Each pump is checked by visual inspection each calendar week for indications of liquids dripping from the pump seal.

(i) If there are indications of liquid dripping from the pump seal at the time of the weekly inspection, the pump shall be monitored as specified in § 61.245 to determine the presence of VOC and VHAP in the barrier fluid.

(ii) If the monitor reading (taking into account any background readings) indicates the presence of VHAP, a leak is detected. For the purpose of this paragraph, the monitor may be calibrated with VHAP, or may employ a gas chromatography column to limit the response of the monitor to VHAP, at the option of the owner or operator.

(iii) If an instrument reading of 10,000 ppm or greater (total VOC) is measured, a leak is detected.

(5) Each sensor as described in paragraph (d)(3) of this section is checked daily or is equipped with an audible alarm.

(6)(i) The owner or operator determines, based on design considerations and operating experience, criteria applicable to the presence and frequency

of drips and to the sensor that indicates failure of the seal system, the barrier fluid system, or both.

(ii) If indications of liquids dripping from the pump seal exceed the criteria established in paragraph (d)(6)(i) of this section, or if, based on the criteria established in paragraph (d)(6)(i) of this section, the sensor indicates failure of the seal system, the barrier fluid system, or both, a leak is detected.

(iii) When a leak is detected, it shall be repaired as soon as practicable, but no later than 15 calendar days after it is detected, except as provided in § 61.242-10.

(iv) A first attempt at repair shall be made no later than five calendar days after each leak is detected.

(e) Any pump that is designated, as described in § 61.246(e)(2), for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of paragraphs (a), (c), and (d) if the pump:

(1) Has no externally actuated shaft penetrating the pump housing,

(2) Is demonstrated to be operating with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as measured by the method specified in § 61.245(c), and

(3) Is tested for compliance with paragraph (e)(2) initially upon designation, annually, and at other times requested by the Administrator.

(f) If any pump is equipped with a closed-vent system capable of capturing and transporting any leakage from the seal or seals to a process or fuel gas system or to a control device that complies with the requirements of § 61.242-11, it is exempt from the requirements of paragraphs (a) through (e) of this section.

(g) Any pump that is designated, as described in § 61.246(f)(1), as an unsafe-to-monitor pump is exempt from the monitoring and inspection requirements of paragraphs (a) and (d)(4) through (6) of this section if:

(1) The owner or operator of the pump demonstrates that the pump is unsafe-to-monitor because monitoring personnel would be exposed to an immediate danger as a consequence of

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complying with paragraph (a) of this section; and

(2) The owner or operator of the pump has a written plan that requires monitoring of the pump as frequently as practicable during safe-to-monitor times but not more frequently than the periodic monitoring schedule otherwise applicable, and repair of the equipment according to the procedures in paragraph (c) of this section if a leak is detected.

(h) Any pump that is located within the boundary of an unmanned plant site is exempt from the weekly visual inspection requirement of paragraphs (a)(2) and (d)(4) of this section, and the daily requirements of paragraph (d)(5) of this section, provided that each pump is visually inspected as often as practicable and at least monthly.

[49 FR 23513, June 6, 1984, as amended at 49 FR 38946, Oct. 2, 1984; 55 FR 28349, July 10, 1990; 65 FR 78281, Dec. 14, 2000]

§ 61.242-3 Standards: Compressors.

(a) Each compressor shall be equipped with a seal system that includes a barrier fluid system and that prevents leakage of process fluid to atmosphere, except as provided in § 61.242-1(c) and paragraphs (h) and (i) of this section.

(b) Each compressor seal system as required in paragraph (a) shall be:

(1) Operated with the barrier fluid at a pressure that is greater than the compressor stuffing box pressure; or

(2) Equipped with a barrier fluid system degassing reservoir that is routed to a process or fuel gas system or connected by a closed-vent system to a control device that complies with the requirements of § 61.242-11; or

(3) Equipped with a system that purges the barrier fluid into a process stream with zero VHAP emissions to atmosphere.

(c) The barrier fluid shall not be in VHAP service and, if the compressor is covered by standards under 40 CFR part 60, shall not be in VOC service.

(d) Each barrier fluid system as described in paragraphs (a)-(c) of this section shall be equipped with a sensor that will detect failure of the seal system, barrier fluid system, or both.

(e)(1) Each sensor as required in paragraph (d) of this section shall be

checked daily or shall be equipped with an audible alarm unless the compressor is located within the boundary of an unmanned plant site.

(2) The owner or operator shall determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both.

(f) If the sensor indicates failure of the seal system, the barrier fluid system, or both based on the criterion determined under paragraph (e)(2) of this section, a leak is detected.

(g)(1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in § 61.242-10.

(2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(h) A compressor is exempt from the requirements of paragraphs (a) and (b) of this section if it is equipped with a closed-vent system to capture and transport leakage from the compressor drive shaft back to a process or fuel gas system or to a control device that complies with the requirements of § 61.242-11, except as provided in paragraph (i) of this section.

(i) Any Compressor that is designated, as described in § 61.246(e)(2), for no detectable emission as indicated by an instrument reading of less than 500 ppm above background is exempt from the requirements of paragraphs (a)-(h) if the compressor:

(1) Is demonstrated to be operating with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as measured by the method specified in § 61.245(c); and

(2) Is tested for compliance with paragraph (i)(1) initially upon designation, annually, and at other times requested by the Administrator.

[49 FR 23513, June 6, 1984; 49 FR 38946, Oct. 2, 1984, as amended at 65 FR 78281, Dec. 14, 2000]

§ 61.242-4 Standards: Pressure relief devices in gas/vapor service.

(a) Except during pressure releases, each pressure relief device in gas/vapor service shall be operated with no detectable emissions, as indicated by an instrument reading of less than 500

ppm above background, as measured by the method specified in § 61.245(c).

(b)(1) After each pressure release, the pressure relief device shall be returned to a condition of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as soon as practicable, but no later than 5 calendar days after each pressure release, except as provided in § 61.242-10.

(2) No later than 5 calendar days after the pressure release, the pressure relief device shall be monitored to confirm the condition of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as measured by the method specified in § 61.245(c).

(c) Any pressure relief device that is routed to a process or fuel gas system or equipped with a closed-vent system capable of capturing and transporting leakage from the pressure relief device to a control device as described in § 61.242-11 is exempt from the requirements of paragraphs (a) and (b) of this section.

(d)(1) Any pressure relief device that is equipped with a rupture disk upstream of the pressure relief device is exempt from the requirements of paragraphs (a) and (b) of this section, provided the owner or operator complies with the requirements in paragraph (d)(2) of this section.

(2) After each pressure release, a new rupture disk shall be installed upstream of the pressure relief device as soon as practicable, but no later than 5 calendar days after each pressure release, except as provided in § 61.242-10.

[49 FR 23513, June 6, 1984; 49 FR 38946, Oct. 2, 1984, as amended at 65 FR 78281, Dec. 14, 2000]

**§ 61.242-5 Standards: Sampling connecting systems.**

(a) Each sampling connection system shall be equipped with a closed-purge, closed-loop, or closed vent system, except as provided in § 61.242-1(c). Gases displaced during filling of the sample container are not required to be collected or captured.

(b) Each closed-purge, closed-loop, or closed vent system as required in paragraph (a) of this section shall comply with the requirements specified in

paragraphs (b)(1) through (4) of this section:

(1) Return the purged process fluid directly to the process line; or

(2) Collect and recycle the purged process fluid; or

(3) Be designed and operated to capture and transport all the purged process fluid to a control device that complies with the requirements of § 61.242-11; or

(4) Collect, store, and transport the purged process fluid to any of the following systems or facilities:

(i) A waste management unit as defined in 40 CFR 63.111 if the waste management unit is subject to and operated in compliance with the provisions of 40 CFR part 63, subpart G, applicable to Group I wastewater streams; or

(ii) A treatment, storage, or disposal facility subject to regulation under 40 CFR part 262, 264, 265, or 266; or

(iii) A facility permitted, licensed, or registered by a State to manage municipal or industrial solid waste, if the process fluids are not hazardous waste as defined in 40 CFR part 261.

(c) In-situ sampling systems and sampling systems without purges are exempt from the requirements of paragraphs (a) and (b) of this section.

[65 FR 78281, Dec. 14, 2000]

**§ 61.242-6 Standards: Open-ended valves or lines.**

(a)(1) Each open-ended valve or line shall be equipped with a cap, blind flange, plug, or a second valve, except as provided in § 61.242-1(c).

(2) The cap, blind flange, plug, or second valve shall seal the open end at all times except during operations requiring process fluid flow through the open-ended valve or line.

(b) Each open-ended valve or line equipped with a second valve shall be operated in a manner such that the valve on the process fluid end is closed before the second valve is closed.

(c) When a double block and bleed system is being used, the bleed valve or line may remain open during operations that require venting the line between the block valves but shall comply with paragraph (a) at all other times.

(d) Open-ended valves or lines in an emergency shutdown system which are

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designed to open automatically in the event of a process upset are exempt from the requirements of paragraphs (a), (b) and (c) of this section.

(e) Open-ended valves or lines containing materials which would autocatalytically polymerize or would present an explosion, serious overpressure, or other safety hazard if capped or equipped with a double block and bleed system as specified in paragraphs (a) through (c) of this section are exempt from the requirements of paragraphs (a) through (c) of this section.

[49 FR 23513, June 6, 1984, as amended at 65 FR 78282, Dec. 14, 2000]

§ 61.242-7 Standards: Valves.

(a) Each valve shall be monitored monthly to detect leaks by the method specified in § 61.245(b) and shall comply with paragraphs (b)-(e), except as provided in paragraphs (f), (g), and (h) of this section, § 61.243-1 or § 61.243-2, and § 61.242-1(c).

(b) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(c)(1) Any valve for which a leak is not detected for 2 successive months may be monitored the first month of every quarter, beginning with the next quarter, until a leak is detected.

(2) If a leak is detected, the valve shall be monitored monthly until a leak is not detected for 2 successive months.

(d)(1) When a leak is detected, it shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected, except as provided in § 61.242-10.

(2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(e) First attempts at repair include, but are not limited to, the following best practices where practicable:

- (1) Tightening of bonnet bolts;
  - (2) Replacement of bonnet bolts;
  - (3) Tightening of packing gland nuts;
- and

(4) Injection of lubricant into lubricated packing.

(f) Any valve that is designated, as described in § 61.246(e)(2), for no detectable emissions, as indicated by an instrument reading of less than 500 ppm

above background, is exempt from the requirements of paragraph (a) if the valve:

(1) Has no external actuating mechanism in contact with the process fluid;

(2) Is operated with emissions less than 500 ppm above background, as measured by the method specified in § 61.245(c); and

(3) Is tested for compliance with paragraph (f)(2) initially upon designation, annually, and at other times requested by the Administrator.

(g) Any valve that is designated, as described in § 61.246(f)(1), as an unsafe-to-monitor valve is exempt from the requirements of paragraph (a) if:

(1) The owner or operator of the valve demonstrates that the valve is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with paragraph (a); and

(2) The owner or operator of the valve has a written plan that requires monitoring of the valve as frequent as practicable during safe-to-monitor times.

(h) Any valve that is designated, as described in § 61.246(f)(2), as a difficult-to-monitor valve is exempt from the requirements of paragraph (a) if:

(1) The owner or operator of the valve demonstrates that the valve cannot be monitored without elevating the monitoring personnel more than 2 meters above a support surface;

(2) The process unit within which the valve is located is an existing process unit; and

(3) The owner or operator of the valve follows a written plan that requires monitoring of the valve at least once per calendar year.

§ 61.242-8 Standards: Pressure relief services in liquid service and connectors.

(a) If evidence of a potential leak is found by visual, audible, olfactory, or any other detection method at pressure relief devices in liquid service and connectors, the owner or operator shall follow either one of the following procedures, except as provided in § 61.242-1(c):

(1) The owner or operator shall monitor the equipment within 5 days by the method specified in § 61.245(b) and shall comply with the requirements of



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paragraphs (b) through (d) of this section.

(2) The owner or operator shall eliminate the visual, audible, olfactory, or other indication of a potential leak.

(b) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(c)(1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in § 61.242-10.

(2) The first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(d) First attempts at repair include, but are not limited to, the best practices described under § 61.242-7(e).

[49 FR 23513, June 6, 1984; 49 FR 38946, Oct. 2, 1984, as amended at 65 FR 78282, Dec. 14, 2000]

**§ 61.242-9 Standards: Surge control vessels and bottoms receivers.**

Each surge control vessel or bottoms receiver that is not routed back to the process and that meets the conditions specified in table 1 or table 2 of this subpart shall be equipped with a closed-vent system capable of capturing and transporting any leakage from the vessel back to the process or to a control device as described in § 61.242-11, except as provided in § 61.242-1(c); or comply with the requirements of 40 CFR 63.119(b) or (c).

[65 FR 78282, Dec. 14, 2000]

**§ 61.242-10 Standards: Delay of repair.**

(a) Delay of repair of equipment for which leaks have been detected will be allowed if repair within 15 days is technically infeasible without a process unit shutdown. Repair of this equipment shall occur before the end of the next process unit shutdown.

(b) Delay of repair of equipment for which leaks have been detected will be allowed for equipment that is isolated from the process and that does not remain in VHAP service.

(c) Delay of repair for valves will be allowed if:

(1) The owner or operator demonstrates that emissions of purged material resulting from immediate repair are greater than the fugitive emissions

likely to result from delay of repair, and

(2) When repair procedures are effected, the purged material is collected and destroyed or recovered in a control device complying with § 61.242-11.

(d) Delay of repair for pumps will be allowed if:

(1) Repair requires the use of a dual mechanical seal system that includes a barrier fluid system, and

(2) Repair is completed as soon as practicable, but not later than 6 months after the leak was detected.

(e) Delay of repair beyond a process unit shutdown will be allowed for a valve if valve assembly replacement is necessary during the process unit shutdown, valve assembly supplies have been depleted, and valve assembly supplies had been sufficiently stocked before the supplies were depleted. Delay of repair beyond the next process unit shutdown will not be allowed unless the next process unit shutdown occurs sooner than 6 months after the first process unit shutdown.

[49 FR 23513, June 6, 1984, as amended at 65 FR 78282, Dec. 14, 2000]

**§ 61.242-11 Standards: Closed-vent systems and control devices.**

(a) Owners or operators of closed-vent systems and control devices used to comply with provisions of this subpart shall comply with the provisions of this section, except as provided in § 61.242-1(c).

(b) Vapor recovery systems (for example, condensers and absorbers) shall be designed and operated to recover the organic vapors vented to them with an efficiency of 95 percent or greater, or to an exit concentration of 20 parts per million by volume, whichever is less stringent.

(c) Enclosed combustion devices shall be designed and operated to reduce the VHAP emissions vented to them with an efficiency of 95 percent or greater, or to an exit concentration of 20 parts per million by volume, on a dry basis, corrected to 3 percent oxygen, whichever is less stringent, or to provide a minimum residence time of 0.50 seconds at a minimum temperature of 760 °C.

(d) Flares shall be used to comply with this subpart shall comply with the requirements of § 60.18.

(e) Owners or operators of control devices that are used to comply with the provisions of this subpart shall monitor these control devices to ensure that they are operated and maintained in conformance with their design.

(f) Except as provided in paragraphs (i) through (k) of this section, each closed vent system shall be inspected according to the procedures and schedule specified in paragraph (f)(1) or (2) of this section, as applicable.

(1) If the vapor collection system or closed vent system is constructed of hard-piping, the owner or operator shall comply with the following requirements:

(i) Conduct an initial inspection according to the procedures in § 61.245(b); and

(ii) Conduct annual visual inspections for visible, audible, or olfactory indications of leaks.

(2) If the vapor collection system or closed vent system is constructed of ductwork, the owner or operator shall:

(i) Conduct an initial inspection according to the procedures in § 61.245(b); and

(ii) Conduct annual inspections according to the procedures in § 61.245(b).

(g) Leaks, as indicated by an instrument reading greater than 500 parts per million by volume above background or by visual inspections, shall be repaired as soon as practicable except as provided in paragraph (h) of this section.

(1) A first attempt at repair shall be made no later than 5 calendar days after the leak is detected.

(2) Repair shall be completed no later than 15 calendar days after the leak is detected.

(h) Delay of repair of a closed vent system for which leaks have been detected is allowed if the repair is technically infeasible without a process unit shutdown, or if the owner or operator determines that emissions resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair. Repair of such equipment shall be complete by the end of the next process unit shutdown.

(i) If a vapor collection system or closed vent system is operated under a vacuum, it is exempt from the inspection requirements of paragraphs (f)(1)(i) and (2) of this section.

(j) Any parts of the closed vent system that are designated, as described in paragraph (1)(1) of this section, as unsafe-to-inspect are exempt from the inspection requirements of paragraphs (f)(1)(i) and (2) of this section if they comply with the following requirements:

(1) The owner or operator determines that the equipment is unsafe-to-inspect because inspecting personnel would be exposed to an imminent or potential danger as a consequence of complying with paragraph (f)(1)(i) or (2) of this section; and

(2) The owner or operator has a written plan that requires inspection of the equipment as frequently as practicable during safe-to-inspect times.

(k) Any parts of the closed vent system that are designated, as described in paragraph (1)(2) of this section, as difficult-to-inspect are exempt from the inspection requirements of paragraphs (f)(1)(i) and (2) of this section if they comply with the following requirements:

(1) The owner or operator determines that the equipment cannot be inspected without elevating the inspecting personnel more than 2 meters above a support surface; and

(2) The owner or operator has a written plan that requires inspection of the equipment at least once every 5 years. A closed vent system is exempt from inspection if it is operated under a vacuum.

(1) The owner or operator shall record the following information:

(1) Identification of all parts of the closed vent system that are designated as unsafe-to-inspect, an explanation of why the equipment is unsafe-to-inspect, and the plan for inspecting the equipment.

(2) Identification of all parts of the closed vent system that are designated as difficult-to-inspect, an explanation of why the equipment is difficult-to-inspect, and the plan for inspecting the equipment.

(3) For each inspection during which a leak is detected, a record of the information specified in § 61.246(c).

(4) For each inspection conducted in accordance with § 61.245(b) during which no leaks are detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected.

(5) For each visual inspection conducted in accordance with paragraph (f)(1)(ii) of this section during which no leaks are detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected.

(m) Closed vent systems and control devices used to comply with provisions of this subpart shall be operated at all times when emissions may be vented to them.

[49 FR 23513, June 6, 1984; 49 FR 38946, Oct. 2, 1984, as amended at 51 FR 2702, Jan. 21, 1986; 65 FR 62158, Oct. 17, 2000; 65 FR 78282, Dec. 14, 2000]

**§ 61.243-1 Alternative standards for valves in VHAP service—allowable percentage of valves leaking.**

(a) An owner or operator may elect to have all valves within a process unit to comply with an allowable percentage of valves leaking of equal to or less than 2.0 percent.

(b) The following requirements shall be met if an owner or operator decides to comply with an allowable percentage of valves leaking:

(1) An owner or operator must notify the Administrator that the owner or operator has elected to have all valves within a process unit to comply with the allowable percentage of valves leaking before implementing this alternative standard, as specified in § 61.247(d).

(2) A performance test as specified in paragraph (c) of this section shall be conducted initially upon designation, annually, and at other times requested by the Administrator.

(3) If a valve leak is detected, it shall be repaired in accordance with § 61.242-7(d) and (e).

(c) Performance tests shall be conducted in the following manner:

(1) All valves in VHAP service within the process unit shall be monitored

within 1 week by the methods specified in § 61.245(b).

(2) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(3) The leak percentage shall be determined by dividing the number of valves in VHAP service for which leaks are detected by the number of valves in VHAP service within the process unit.

(d) Owner or operators who elect to have all valves comply with this alternative standard shall not have a process unit with a leak percentage greater than 2.0 percent.

(e) If an owner or operator decides no longer to comply with § 61.243-1, the owner or operator must notify the Administrator in writing that the work practice standard described in § 61.242-7(a)-(e) will be followed.

**§ 61.243-2 Alternative standards for valves in VHAP service—skip period leak detection and repair.**

(a)(1) An owner or operator may elect for all valves within a process unit to comply with one of the alternative work practices specified in paragraphs (b)(2) and (3) of this section.

(2) An owner or operator must notify the Administrator before implementing one of the alternative work practices, as specified in § 61.247(d).

(b)(1) An owner or operator shall comply initially with the requirements for valves, as described in § 61.242-7.

(2) After 2 consecutive quarterly leak detection periods with the percentage of valves leaking equal to or less than 2.0, an owner or operator may begin to skip one of the quarterly leak detection periods for the valves in VHAP service.

(3) After five consecutive quarterly leak detection periods with the percentage of valves leaking equal to or less than 2.0, an owner or operator may begin to skip three of the quarterly leak detection periods for the valves in VHAP service.

(4) If the percentage of valves leaking is greater than 2.0, the owner or operator shall comply with the requirements as described in § 61.242-7 but may again elect to use this section.

[49 FR 23513, June 6, 1984, as amended at 65 FR 62158, Oct. 17, 2000]

**§ 61.244 Alternative means of emission limitation.**

(a) Permission to use an alternative means of emission limitation under section 112(e)(3) of the Clean Air Act shall be governed by the following procedures:

(b) Where the standard is an equipment, design, or operational requirement:

(1) Each owner or operator applying for permission shall be responsible for collecting and verifying test data for an alternative means of emission limitation to test data for the equipment, design, and operational requirements.

(2) The Administrator may condition the permission on requirements that may be necessary to assure operation and maintenance to achieve the same emission reduction as the equipment, design, and operational requirements.

(c) Where the standard is a work practice:

(1) Each owner or operator applying for permission shall be responsible for collecting and verifying test data for an alternative means of emission limitation.

(2) For each source for which permission is requested, the emission reduction achieved by the required work practices shall be demonstrated for a minimum period of 12 months.

(3) For each source for which permission is requested, the emission reduction achieved by the alternative means of emission limitation shall be demonstrated.

(4) Each owner or operator applying for permission shall commit in writing each source to work practices that provide for emission reductions equal to or greater than the emission reductions achieved by the required work practices.

(5) The Administrator will compare the demonstrated emission reduction for the alternative means of emission limitation to the demonstrated emission reduction for the required work practices and will consider the commitment in paragraph (c)(4).

(6) The Administrator may condition the permission on requirements that may be necessary to assure operation and maintenance to achieve the same emission reduction as the required work practices of this subpart.

(d) An owner or operator may offer a unique approach to demonstrate the alternative means of emission limitation.

(e)(1) Manufacturers of equipment used to control equipment leaks of a VHAP may apply to the Administrator for permission for an alternative means of emission limitation that achieves a reduction in emissions of the VHAP achieved by the equipment, design, and operational requirements of this subpart.

(2) The Administrator will grant permission according to the provisions of paragraphs (b), (c), and (d).

[49 FR 23513, June 6, 1984, as amended at 65 FR 62158, Oct. 17, 2000]

**§ 61.245 Test methods and procedures.**

(a) Each owner or operator subject to the provisions of this subpart shall comply with the test methods and procedures requirements provided in this section.

(b) Monitoring, as required in §§ 61.242, 61.243, 61.244, and 61.135, shall comply with the following requirements:

(1) Monitoring shall comply with Method 21 of appendix A of 40 CFR part 60.

(2) The detection instrument shall meet the performance criteria of Method 21.

(3) The instrument shall be calibrated before use on each day of its use by the procedures specified in Method 21.

(4) Calibration gases shall be:

(i) Zero air (less than 10 ppm of hydrocarbon in air); and

(ii) A mixture of methane or n-hexane and air at a concentration of approximately, but less than, 10,000 ppm methane or n-hexane.

(5) The instrument probe shall be traversed around all potential leak interfaces as close to the interface as possible as described in Method 21.

(c) When equipment is tested for compliance with or monitored for no detectable emissions, the owner or operator shall comply with the following requirements:

(1) The requirements of paragraphs (b) (1) through (4) shall apply.

(2) The background level shall be determined, as set forth in Method 21.

(3) The instrument probe shall be traversed around all potential leak interfaces as close to the interface as possible as described in Method 21.

(4) The arithmetic difference between the maximum concentration indicated by the instrument and the background level is compared with 500 ppm for determining compliance.

(d)(1) Each piece of equipment within a process unit that can conceivably contain equipment in VHAP service is presumed to be in VHAP service unless an owner or operator demonstrates that the piece of equipment is not in VHAP service. For a piece of equipment to be considered not in VHAP service, it must be determined that the percent VHAP content can be reasonably expected never to exceed 10 percent by weight. For purposes of determining the percent VHAP content of the process fluid that is contained in or contacts equipment, procedures that conform to the methods described in ASTM Method D-2267 (incorporated by the reference as specified in § 61.18) shall be used.

(2)(i) An owner or operator may use engineering judgment rather than the procedures in paragraph (d)(1) of this section to demonstrate that the percent VHAP content does not exceed 10 percent by weight, provided that the engineering judgment demonstrates that the VHAP content clearly does not exceed 10 percent by weight. When an owner or operator and the Administrator do not agree on whether a piece of equipment is not in VHAP service, however, the procedures in paragraph (d)(1) of this section shall be used to resolve the disagreement.

(ii) If an owner or operator determines that a piece of equipment is in VHAP service, the determination can be revised only after following the procedures in paragraph (d)(1) of this section.

(3) Samples used in determining the percent VHAP content shall be representative of the process fluid that is contained in or contacts the equipment or the gas being combusted in the flare.

(e)(1) Method 22 of appendix A of 40 CFR part 60 shall be used to determine compliance of flares with the visible emission provisions of this subpart.

(2) The presence of a flare pilot flame shall be monitored using a thermocouple or any other equivalent device to detect the presence of a flame.

(3) The net heating value of the gas being combusted in a flare shall be calculated using the following equation:

$$H_T = K \left( \sum_{i=1}^n C_i H_i \right)$$

Where:

$H_T$  = Net heating value of the sample, MJ/scm (BTU/scf); where the net enthalpy per mole of offgas is based on combustion at 25 °C and 760 mm Hg (77 °F and 14.7 psi), but the standard temperature for determining the volume corresponding to one mole is 20 °C (68 °F).

$K$  = conversion constant,  $1.740 \times 10^7$  (g-mole) (MJ)/(ppm-scm-kcal) (metric units); or  $4.674 \times 10^8$  ((g-mole) (Btu)/(ppm-scf-kcal)) (English units)

$C_i$  = Concentration of sample component "i" in ppm, as measured by Method 18 of appendix A to 40 CFR part 60 and ASTM D2504-67, 77, or 88 (Reapproved 1993) (incorporated by reference as specified in § 61.18).

$H_i$  = net heat of combustion of sample component "i" at 25 °C and 760 mm Hg (77 °F and 14.7 psi), kcal/g-mole. The heats of combustion may be determined using ASTM D2382-76 or 88 or D4809-95 (incorporated by reference as specified in § 61.18) if published values are not available or cannot be calculated.

(4) The actual exit velocity of a flare shall be determined by dividing the volumetric flowrate (in units of standard temperature and pressure), as determined by Method 2, 2A, 2C, or 2D, as appropriate, by the unobstructed (free) cross section area of the flare tip.

(5) The maximum permitted velocity,  $V_{max}$ , for air-assisted flares shall be determined by the following equation:

$$V_{max} = K_1 + K_2 H_T$$

Where:

$V_{max}$  = Maximum permitted velocity, m/sec (ft/sec).

$H_T$  = Net heating value of the gas being combusted, as determined in paragraph (e)(3) of this section, MJ/scm (Btu/scf).

$K_1$  = 8.706 m/sec (metric units)  
= 28.56 ft/sec (English units)

$K_2$  = 0.7084 m<sup>4</sup>/(MJ-sec) (metric units)

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= 0.087 ft<sup>3</sup>/(Btu-sec) (English units)

[49 FR 23513, June 6, 1984, as amended at 49 FR 38946, Oct. 2, 1984; 49 FR 43647, Oct. 31, 1984; 53 FR 36972, Sept. 23, 1988; 54 FR 38077, Sept. 14, 1989; 65 FR 62158, Oct. 17, 2000]

**§ 61.246 Recordkeeping requirements.**

(a)(1) Each owner or operator subject to the provisions of this subpart shall comply with the recordkeeping requirements of this section.

(2) An owner or operator of more than one process unit subject to the provisions of this subpart may comply with the recordkeeping requirements for these process units in one recordkeeping system if the system identifies each record by each process unit.

(b) When each leak is detected as specified in §§ 61.242-2, 61.242-3, 61.242-7, 61.242-8, and 61.135, the following requirements apply:

(1) A weatherproof and readily visible identification, marked with the equipment identification number, shall be attached to the leaking equipment.

(2) The identification on a valve may be removed after it has been monitored for 2 successive months as specified in § 61.242-7(c) and no leak has been detected during those 2 months.

(3) The identification on equipment, except on a valve, may be removed after it has been repaired.

(c) When each leak is detected as specified in §§ 61.242-2, 61.242-3, 61.242-7, 61.242-8, and 61.135, the following information shall be recorded in a log and shall be kept for 2 years in a readily accessible location:

(1) The instrument and operator identification numbers and the equipment identification number.

(2) The date the leak was detected and the dates of each attempt to repair the leak.

(3) Repair methods applied in each attempt to repair the leak.

(4) "Above 10,000" if the maximum instrument reading measured by the methods specified in § 61.245(a) after each repair attempt is equal to or greater than 10,000 ppm.

(5) "Repair delayed" and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.

(6) The signature of the owner or operator (or designate) whose decision it

was that repair could not be effected without a process shutdown.

(7) The expected date of successful repair of the leak if a leak is not repaired within 15 calendar days.

(8) Dates of process unit shutdowns that occur while the equipment is unrepaired.

(9) The date of successful repair of the leak.

(d) The following information pertaining to the design requirements for closed-vent systems and control devices described in § 61.242-11 shall be recorded and kept in a readily accessible location:

(1) Detailed schematics, design specifications, and piping and instrumentation diagrams.

(2) The dates and descriptions of any changes in the design specifications.

(3) A description of the parameter or parameters monitored, as required in § 61.242-11(e), to ensure that control devices are operated and maintained in conformance with their design and an explanation of why that parameter (or parameters) was selected for the monitoring.

(4) Periods when the closed-vent systems and control devices required in §§ 61.242-2, 61.242-3, 61.242-4, 61.242-5 and 61.242-9 are not operated as designed, including periods when a flare pilot light does not have a flame.

(5) Dates of startups and shutdowns of the closed-vent systems and control devices required in §§ 61.242-2, 61.242-3, 61.242-4, 61.242-5 and 61.242-9.

(e) The following information pertaining to all equipment to which a standard applies shall be recorded in a log that is kept in a readily accessible location:

(1) A list of identification numbers for equipment (except welded fittings) subject to the requirements of this subpart.

(2)(i) A list of identification numbers for equipment that the owner or operator elects to designate for no detectable emissions as indicated by an instrument reading of less than 500 ppm above background.

(ii) The designation of this equipment for no detectable emissions shall be signed by the owner or operator.

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(3) A list of equipment identification numbers for pressure relief devices required to comply with § 61.242-4(a).

(4)(i) The dates of each compliance test required in §§ 61.242-2(e), 61.242-3(i), 61.242-4, 61.242-7(f), and 61.135(g).

(ii) The background level measured during each compliance test.

(iii) The maximum instrument reading measured at the equipment during each compliance test.

(5) A list of identification numbers for equipment in vacuum service.

(f) The following information pertaining to all valves subject to the requirements of § 61.242-7(g) and (h) and to all pumps subject to the requirements of § 61.242-2(g) shall be recorded in a log that is kept in a readily accessible location:

(1) A list of identification numbers for valves and pumps that are designated as unsafe to monitor, an explanation for each valve or pump stating why the valve or pump is unsafe to monitor, and the plan for monitoring each valve or pump.

(2) A list of identification numbers for valves that are designated as difficult to monitor, an explanation for each valve stating why the valve is difficult to monitor, and the planned schedule for monitoring each valve.

(g) The following information shall be recorded for valves complying with § 61.243-2:

(1) A schedule of monitoring.

(2) The percent of valves found leaking during each monitoring period.

(h) The following information shall be recorded in a log that is kept in a readily accessible location:

(1) Design criterion required in §§ 61.242-2(d)(5), 61.242-3(e)(2), and 61.135(e)(4) and an explanation of the design criterion; and

(2) Any changes to this criterion and the reasons for the changes.

(i) The following information shall be recorded in a log that is kept in a readily accessible location for use in determining exemptions as provided in the applicability section of this subpart and other specific subparts:

(1) An analysis demonstrating the design capacity of the process unit, and

(2) An analysis demonstrating that equipment is not in VHAP service.

(j) Information and data used to demonstrate that a piece of equipment is not in VHAP service shall be recorded in a log that is kept in a readily accessible location.

[49 FR 23513, June 6, 1984, as amended at 49 FR 38946, Oct. 2, 1984; 54 FR 38077, Sept. 14, 1989; 65 FR 78283, Dec. 14, 2000]

§ 61.247 Reporting requirements.

(a)(1) An owner or operator of any piece of equipment to which this subpart applies shall submit a statement in writing notifying the Administrator that the requirements of §§ 61.242, 61.245, 61.246, and 61.247 are being implemented.

(2) In the case of an existing source or a new source which has an initial startup date preceding the effective date, the statement is to be submitted within 90 days of the effective date, unless a waiver of compliance is granted under § 61.11, along with the information required under § 61.10. If a waiver of compliance is granted, the statement is to be submitted on a date scheduled by the Administrator.

(3) In the case of new sources which did not have an initial startup date preceding December 14, 2000, the statement required under paragraph (a)(1) of this section shall be submitted with the application for approval of construction, as described in § 61.07.

(4) For owners and operators complying with 40 CFR part 65, subpart C or F, the statement required under paragraph (a)(1) of this section shall notify the Administrator that the requirements of 40 CFR part 65, subpart C or F, are being implemented.

(5) The statement is to contain the following information for each source:

(i) Equipment identification number and process unit identification.

(ii) Type of equipment (for example, a pump or pipeline valve).

(iii) Percent by weight VHAP in the fluid at the equipment.

(iv) Process fluid state at the equipment (gas/vapor or liquid).

(v) Method of compliance with the standard (for example, "monthly leak detection and repair" or "equipped with dual mechanical seals").

(b) A report shall be submitted to the Administrator semiannually starting 6 months after the initial report required

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in paragraph (a) of this section, that includes the following information:

- (1) Process unit identification.
- (2) For each month during the semi-annual reporting period,
  - (i) Number of valves for which leaks were detected as described in §61.242-7(b) of §61.243-2.
  - (ii) Number of valves for which leaks were not repaired as required in §61.242-7(d).
  - (iii) Number of pumps for which leaks were detected as described in §61.242-2 (b) and (d)(6).
  - (iv) Number of pumps for which leaks were not repaired as required in §61.242-2 (c) and (d)(6).
  - (v) Number of compressors for which leaks were detected as described in §61.242-3(f).
  - (vi) Number of compressors for which leaks were not repaired as required in §61.242-3(g).
  - (vii) The facts that explain any delay of repairs and, where appropriate, why a process unit shutdown was technically infeasible.
- (3) Dates of process unit shutdowns which occurred within the semiannual reporting period.
- (4) Revisions to items reported according to paragraph (a) if changes have occurred since the initial report or subsequent revisions to the initial report.

NOTE: Compliance with the requirements of §61.10(c) is not required for revisions documented under this paragraph.

- (5) The results of all performance tests and monitoring to determine compliance with no detectable emissions and with §§61.243-1 and 61.243-2 conducted within the semiannual reporting period.

(c) In the first report submitted as required in paragraph (a) of this section, the report shall include a reporting schedule stating the months that semiannual reports shall be submitted. Subsequent reports shall be submitted according to that schedule, unless a revised schedule has been submitted in a previous semiannual report.

(d) An owner or operator electing to comply with the provisions of §§61.243-1 and 61.243-2 shall notify the Administrator of the alternative standard selected 90 days before implementing either of the provisions.

(e) An application for approval of construction or modification, §§61.05(a) and 61.07, will not be required if—

- (1) The new source complies with the standard, §61.242;
- (2) The new source is not part of the construction of a process unit; and
- (3) In the next semiannual report required by paragraph (b) of this section, the information in paragraph (a)(5) of this section is reported.

(f) For owners or operators choosing to comply with 40 CFR part 65, subpart C or F, an application for approval of construction or modification, as required under §§61.05 and 61.07 will not be required if:

- (1) The new source complies with 40 CFR 65.106 through 65.115 and with 40 CFR part 65, subpart C, for surge control vessels and bottoms receivers;
- (2) The new source is not part of the construction of a process unit; and
- (3) In the next semiannual report required by 40 CFR 65.120(b) and 65.48(b), the information in paragraph (a)(5) of this section is reported.

[49 FR 23513, June 6, 1984, as amended at 49 FR 38947, Oct. 2, 1984; 54 FR 38077, Sept. 14, 1989; 65 FR 78283, Dec. 14, 2000]

TABLE 1 TO PART 61, SUBPART V—SURGE CONTROL VESSELS AND BOTTOMS RECEIVERS AT EXISTING SOURCES

Vessel capacity (cubic meters)	Vapor pressure <sup>1</sup> (kilopascals)
75 ≤ capacity < 151	≥ 13.1
151 ≤ capacity	≥ 5.2

<sup>1</sup>Maximum true vapor pressure as defined in §61.241.

[65 FR 78283, Dec. 14, 2000]

TABLE 2 TO PART 61, SUBPART V—SURGE CONTROL VESSELS AND BOTTOMS RECEIVERS AT NEW SOURCES

Vessel capacity (cubic meters)	Vapor pressure <sup>1</sup> (kilopascals)
38 ≤ capacity < 151	≥ 13.1
151 ≤ capacity	≥ 0.7

<sup>1</sup>Maximum true vapor pressure as defined in §61.241.

[65 FR 78283, Dec. 14, 2000]



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prior to any emissions test so that EPA may, at its option, observe the test.

### § 61.254 Annual reporting requirements.

(a) The owners or operators of operating existing mill impoundments shall report the results of the compliance calculations required in § 61.253 and the input parameters used in making the calculation for each calendar year shall be sent to EPA by March 31 of the following year. Each report shall also include the following information:

- (1) The name and location of the mill.
- (2) The name of the person responsible for the operation of the facility and the name of the person preparing the report (if different).
- (3) The results of the testing conducted, including the results of each measurement.
- (4) Each report shall be signed and dated by a corporate officer in charge of the facility and contain the following declaration immediately above the signature line: "I certify under penalty of law that I have personally examined and am familiar with the information submitted herein and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment. See, 18 U.S.C. 1001."

(b) If the facility is not in compliance with the emission limits of § 61.252 in the calendar year covered by the report, then the facility must commence reporting to the Administrator on a monthly basis the information listed in paragraph (a) of this section, for the preceding month. These reports will start the month immediately following the submittal of the annual report for the year in noncompliance and will be due 30 days following the end of each month. This increased level of reporting will continue until the Administrator has determined that the monthly reports are no longer necessary. In addition to all the information required in paragraph (a) of this section, monthly reports shall also include the following information:

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(1) All controls or other changes in operation of the facility that will be or are being installed to bring the facility into compliance.

(2) If the facility is under a judicial or administrative enforcement decree, the report will describe the facilities performance under the terms of the decree.

(c) The first report will cover the emissions of calendar year 1990.

### § 61.255 Recordkeeping requirements.

The owner or operator of the mill must maintain records documenting the source of input parameters including the results of all measurements upon which they are based, the calculations and/or analytical methods used to derive values for input parameters, and the procedure used to determine compliance. In addition, the documentation should be sufficient to allow an independent auditor to verify the accuracy of the determination made concerning the facility's compliance with the standard. These records must be kept at the mill for at least five years and upon request be made available for inspection by the Administrator, or his authorized representative.

### § 61.256 Exemption from the reporting and testing requirements of 40 CFR 61.10.

All facilities designated under this subpart are exempt from the reporting requirements of 40 CFR 61.10.

## Subpart X [Reserved]

## Subpart Y—National Emission Standard for Benzene Emissions From Benzene Storage Vessels

SOURCE: 54 FR 38077, Sept. 14, 1989, unless otherwise noted.

### § 61.270 Applicability and designation of sources.

(a) The source to which this subpart applies is each storage vessel that is storing benzene having a specific gravity within the range of specific gravities specified in ASTM D836-84 for Industrial Grade Benzene, ASTM D835-85 for Refined Benzene-485, ASTM

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D2359-85a or 93 for Refined Benzene-535, and ASTM D4734-87 or 96 for Refined Benzene-545. These specifications are incorporated by reference as specified in § 61.18. See § 61.18 for acceptable versions of these methods.

(b) Except for paragraph (b) in § 61.276, storage vessels with a design storage capacity less than 38 cubic meters (10,000 gallons) are exempt from the provisions of this subpart.

(c) This subpart does not apply to storage vessels used for storing benzene at coke by-product facilities.

(d) This subpart does not apply to vessels permanently attached to motor vehicles such as trucks, rail cars, barges, or ships.

(e) This subpart does not apply to pressure vessels designed to operate in excess of 204.9 kPa (29.72 psia) and without emissions to the atmosphere.

(f) A designated source subject to the provisions of this subpart that is also subject to applicable provisions of 40 CFR part 60 subparts K, Ka, and Kb shall be required to comply only with the subpart that contains the most stringent requirements for that source.

(g) *Alternative means of compliance—*

(1) *Option to comply with part 65.* Owners or operators may choose to comply with 40 CFR part 65, subpart C, to satisfy the requirements of §§ 61.271 through 61.277, except for §§ 61.271(d)(2) and 61.274(a) for storage vessels that are subject to this subpart. Other provisions applying to owners or operators who choose to comply with 40 CFR part 65 are provided in 40 CFR 65.1.

(2) *Part 61, subpart A.* Owners or operators who choose to comply with 40 CFR part 65, subpart C, must also comply with §§ 61.01, 61.02, 61.05 through 61.08, 61.10(b) through (d), 61.11, and 61.15 for those storage vessels. All sections and paragraphs of subpart A of this part that are not mentioned in this paragraph (g)(2) do not apply for storage vessels complying with 40 CFR part 65, subpart C, except that provisions required to be met prior to implementing 40 CFR part 65 still apply. Owners and operators who choose to comply with 40 CFR part 65, subpart C,

must comply with 40 CFR part 65, subpart A.

[54 FR 38077, Sept. 14, 1989, as amended at 65 FR 62159, Oct. 17, 2000; 65 FR 78283, Dec. 14, 2000]

§ 61.271 Emission standard.

The owner or operator of each storage vessel with a design storage capacity greater than or equal to 38 cubic meters (10,000 gallons) to which this subpart applies shall comply with the requirements in paragraph (d) of this section and with the requirements either in paragraph (a), (b), or (c) of this section, or equivalent as provided in § 61.273.

(a) The storage vessel shall be equipped with a fixed roof and an internal floating roof.

(1) An internal floating roof means a cover that rests on the liquid surface (but not necessarily in complete contact with it) inside a storage vessel that has a permanently affixed roof. The internal floating roof shall be floating on the liquid surface at all times, except during initial fill and during those intervals when the storage vessel is completely emptied or subsequently emptied and refilled. When the roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be accomplished as rapidly as possible.

(2) Each internal floating roof shall be equipped with one of the closure devices listed in paragraphs (a)(2) (i), (ii), or (iii) of this section between the wall of the storage vessel and the edge of the internal floating roof. This requirement does not apply to each existing storage vessel for which construction of an internal floating roof equipped with a continuous seal commenced on or before July 28, 1988. A continuous seal means a seal that forms a continuous closure that completely covers the space between the wall of the storage vessel and the edge of the internal floating roof.

(i) A foam- or liquid-filled seal mounted in contact with the liquid (liquid-mounted seal). A liquid-mounted seal means a foam- or liquid-filled seal mounted in contact with the liquid between the wall of the storage vessel

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and the floating roof continuously around the circumference of the vessel.

(ii) Two seals mounted one above the other so that each forms a continuous closure that completely covers the space between the wall of the storage vessel and the edge of the internal floating roof. The lower seal may be vapor-mounted, but both must be continuous.

(iii) A metallic shoe seal. A metallic shoe seal (also referred to as a mechanical shoe seal) is, but is not limited to, a metal sheet held vertically against the wall of the storage vessel by springs or weighted levers and is connected by braces to the floating roof. A flexible coated fabric (envelope) spans the annular space between the metal sheet and the floating roof.

(3) Automatic bleeder vents are to be closed at all times when the roof is floating, except when the roof is being floated off or is being landed on the roof leg supports.

(4) Each opening in a noncontact internal floating roof except for automatic bleeder vents (vacuum breaker vents) and the rim space vents is to provide a projection below the liquid surface.

(5) Each internal floating roof shall meet the specifications listed below. If an existing storage vessel had an internal floating roof with a continuous seal as of July 28, 1988, the requirements listed below do not have to be met until the first time after September 14, 1989, the vessel is emptied and degassed or September 14, 1999, whichever occurs first.

(1) Each opening in the internal floating roof except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains is to be equipped with a cover or lid. The cover or lid shall be equipped with a gasket. Covers on each access hatch and automatic gauge float well shall be bolted.

(ii) Each penetration of the internal floating roof for the purposes of sampling shall be a sample well. Each sample well shall have a slit fabric cover that covers at least 90 percent of the opening.

(iii) Each automatic bleeder vent shall be gasketed.

(iv) Rim space vents shall be equipped with a gasket.

(v) Each penetration of the internal floating roof that allows for passage of a ladder shall have a gasketed sliding cover.

(vi) Each penetration of the internal floating roof that allows for passage of a column supporting the fixed roof shall have a flexible fabric sleeve seal or a gasketed sliding cover.

(6) Each cover or lid on any opening in the internal floating roof shall be closed (i.e., no visible gaps), except when a device is in actual use. Covers on each access hatch and each automatic gauge float well which are equipped with bolts shall be bolted when they are not in use. Rim space vents are to be set to open only when the internal floating roof is not floating or at the manufacturer's recommended setting.

(b) The storage vessel shall have an external floating roof.

(1) An external floating roof means a pontoon-type or double-deck-type cover that rests on the liquid surface in a vessel with no fixed roof.

(2) Each external floating roof shall be equipped with a closure device between the wall of the storage vessel and the roof edge. Except as provided in paragraph (b)(5) of this section, the closure device is to consist of two seals, one above the other. The lower seal is referred to as the primary seal and the upper seal is referred to as the secondary seal.

(i) The primary seal shall be either a metallic shoe seal or a liquid-mounted seal. A liquid-mounted seal means a foam- or liquid-filled seal mounted in contact with the liquid between the wall of the storage vessel and the floating roof continuously around the circumference of the vessel. A metallic shoe seal (which can also be referred to as a mechanical shoe seal) is, but is not limited to, a metal sheet held vertically against the wall of the storage vessel by springs or weighted levers and is connected by braces to the floating roof. A flexible coated fabric (envelope) spans the annular space between the metal sheet and the floating roof. Except as provided in §61.272(b)(4), the primary seal shall completely cover

the annular space between the edge of the floating roof and the vessel wall.

(ii) The secondary seal shall completely cover the annular space between the external floating roof and the wall of the storage vessel in a continuous fashion except as allowed in § 61.272(b)(4).

(3) Except for automatic bleeder vents and rim space vents, each opening in the noncontact external floating roof shall provide a projection below the liquid surface. Except for automatic bleeder vents, rim space vents, roof drains, and leg sleeves, each opening in the roof is to be equipped with a gasketed cover, seal or lid which is to be maintained in a closed position at all times (i.e., no visible gap) except when the device is in actual use. Automatic bleeder vents are to be closed at all times when the roof is floating, except when the roof is being floated off or is being landed on the roof leg supports. Rim vents are to be set to open when the roof is being floated off the roof leg supports or at the manufacturer's recommended setting. Automatic bleeder vents and rim space vents are to be gasketed. Each emergency roof drain is to be provided with a slotted membrane fabric cover that covers at least 90 percent of the area of the opening.

(4) The roof shall be floating on the liquid at all times (i.e., off the roof leg supports) except during initial fill until the roof is lifted off leg supports and when the vessel is completely emptied and subsequently refilled. The process of emptying and refilling when the roof is resting on the leg supports shall be continuous and shall be accomplished as rapidly as possible.

(5) The requirement for a secondary seal does not apply to each existing storage vessel that was equipped with a liquid-mounted primary seal as of July 28, 1988, until after the first time after September 14, 1989, when the vessel is emptied and degassed or 10 years from September 14, 1989, whichever occurs first.

(c) The storage vessel shall be equipped with a closed vent system and a control device.

(1) The closed vent system shall be designed to collect all benzene vapors and gases discharged from the storage

vessel and operated with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background and visual inspections, as determined in § 61.242-11 (subpart V).

(2) The control device shall be designed and operated to reduce inlet benzene emissions by 95 percent or greater. If a flare is used as the control device, it shall meet the specifications described in the general control device requirements of 40 CFR 60.18.

(3) The specifications and requirements listed in paragraphs (c)(1) and (c)(2) of this section for closed vent systems and control devices do not apply during periods of routine maintenance. During periods of routine maintenance, the benzene level in the storage vessel(s) serviced by the control device subject to the provisions of § 61.271(c) may be lowered but not raised. Periods of routine maintenance shall not exceed 72 hours as outlined in the maintenance plan required by § 61.272(c)(1)(iii).

(4) The specifications and requirements listed in paragraphs (c)(1) and (c)(2) of this section for closed vents and control devices do not apply during a control system malfunction. A control system malfunction means any sudden and unavoidable failure of air pollution control equipment. A failure caused entirely or in part by design deficiencies, poor maintenance, careless operation, or other preventable upset condition or equipment breakdown is not considered a malfunction.

(d) The owner or operator of each affected storage vessel shall meet the requirements of paragraph (a), (b), or (c) of this section or § 61.270(g) as follows:

(1) The owner or operator of each existing benzene storage vessel shall meet the requirements of paragraph (a), (b), or (c) of this section no later than 90 days after September 14, 1989, with the exceptions noted in paragraphs (a)(5) and (b)(5), unless a waiver of compliance has been approved by the Administrator in accordance with § 61.11.

(2) The owner or operator of each benzene storage vessel upon which construction commenced after September 14, 1989 shall meet the requirements of paragraph (a), (b), or (c) of this section

or § 61.270(g) prior to filling (i.e., roof is lifted off leg supports) the storage vessel with benzene.

(3) The owner or operator of each benzene storage vessel upon which construction commenced on or after July 28, 1988, and before September 14, 1989, shall meet the requirements of paragraph (a), (b), or (c) of this section on September 14, 1989.

[54 FR 38077, Sept. 14, 1989; 54 FR 50887, Dec. 11, 1989, as amended at 65 FR 78284, Dec. 14, 2000]

**§ 61.272 Compliance provisions.**

(a) For each vessel complying with § 61.271(a) (fixed roof and internal floating roof) each owner or operator shall:

(1) After installing the control equipment required to comply with § 61.271(a), visually inspect the internal floating roof, the primary seal, and the secondary seal (if one is in service), prior to filling the storage vessel with benzene. If there are holes, tears or other openings in the primary seal, the secondary seal, or the seal fabric, or defects in the internal floating roof, the owner or operator shall repair the items before filling the storage vessel.

(2) Visually inspect the internal floating roof and the primary seal or the secondary seal (if one is in service) through manholes and roof hatches on the fixed roof at least once every 12 months after initial fill, or at least once every 12 months after September 14, 1989, except as provided in paragraph (a)(4)(i) of this section. If the internal floating roof is not resting on the surface of the benzene liquid inside the storage vessel, or there is liquid on the roof, or the seal is detached, or there are holes or tears in the seal fabric, the owner or operator shall repair the items or empty and remove the storage vessel from service within 45 days. If a failure that is detected during inspections required in this paragraph cannot be repaired within 45 days and if the vessel cannot be emptied within 45 days, an extension of up to 30 additional days may be requested from the Administrator in the inspection report required in § 61.275(a). Such a request for an extension must document that alternate storage capacity is unavailable and specify a schedule of actions the company will take

that will ensure that the control equipment will be repaired or the vessel will be emptied as soon as possible.

(3) Visually inspect the internal floating roof, the primary seal, the secondary seal (if one is in service), gaskets, slotted membranes and sleeve seals (if any) each time the storage vessel is emptied and degassed. In no event shall inspections conducted in accordance with this provision occur at intervals greater than 10 years in the case of vessels conducting the annual visual inspections as specified in paragraph (a)(2) of this section and at intervals greater than 5 years in the case of vessels specified in paragraph (a)(4)(i) of this section.

(i) For all the inspections required by paragraphs (a)(1) and (a)(3) of this section, the owner or operator shall notify the Administrator in writing at least 30 days prior to the refilling of each storage vessel to afford the Administrator the opportunity to have an observer present. If the inspection required by paragraph (a)(3) of this section is not planned and the owner or operator could not have known about the inspection 30 days in advance of refilling the vessel, the owner or operator shall notify the Administrator at least 7 days prior to the refilling of the storage vessel. Notification shall be made by telephone immediately followed by written documentation demonstrating why the inspection was unplanned. Alternatively, the notification including the written documentation may be made in writing and sent by express mail so that it is received by the Administrator at least 7 days prior to refilling.

(ii) If the internal floating roof has defects, the primary seal has holes, tears, or other openings in the seal or the seal fabric, or the secondary seal has holes, tears, or other openings in the seal or the seal fabric, or the gaskets no longer close off the liquid surfaces from the atmosphere, or the slotted membrane has more than 10 percent open area, the owner or operator shall repair the items as necessary so that none of the conditions specified in this paragraph exist before refilling the storage vessel with benzene.

(4) For vessels equipped with a double-seal system as specified in § 61.271(a)(2)(ii):

(i) Visually inspect the vessel as specified in paragraph (a)(3) of this section at least every 5 years; or

(ii) Visually inspect the vessel annually as specified in paragraph (a)(2) of this section, and at least every 10 years as specified in paragraph (a)(3) of this section.

(b) For each vessel complying with § 61.271(b) (external floating roof) the owner or operator shall:

(1) Determine the gap areas and maximum gap widths between the primary seal and the wall of the storage vessel, and the secondary seal and the wall of the storage vessel according to the following frequency.

(i) For an external floating roof vessel equipped with primary and secondary seals, measurements of gaps between the vessel wall and the primary seal (seal gaps) shall be performed during the hydrostatic testing of the vessel or within 90 days of the initial fill with benzene or within 90 days of September 14, 1989, whichever occurs last, and at least once every 5 years thereafter, except as provided in paragraph (b)(1)(ii) of this section.

(ii) For an external floating roof vessel equipped with a liquid-mounted primary seal and without a secondary seal as provided for in § 61.271(b)(5), measurement of gaps between the vessel wall and the primary seal (seal gaps) shall be performed within 90 days of September 14, 1989, and at least once per year thereafter. When a secondary seal is installed over the primary seal, measurement of primary seal gaps shall be performed within 90 days of installation and at least once every 5 years thereafter.

(iii) For an external floating roof vessel equipped with primary and secondary seals, measurements of gaps between the vessel wall and the secondary seal shall be performed within 90 days of the initial fill with benzene, within 90 days of installation of the secondary seal, or within 90 days after September 14, 1989, whichever occurs last, and at least once per year thereafter.

(iv) If any source ceases to store benzene for a period of 1 year or more, sub-

sequent introduction of benzene into the vessel shall be considered an initial fill for the purposes of paragraphs (b)(1)(i), (b)(1)(ii), and (b)(1)(iii) of this section.

(2) Determine gap widths and areas in the primary and secondary seals individually by the following procedures:

(i) Measure seal gaps, if any, at one or more floating roof levels when the roof is floating off the roof leg supports.

(ii) Measure seal gaps around the entire circumference of the vessel in each place where a 0.32 centimeter (cm) (1/8 in) diameter uniform probe passes freely (without forcing or binding against the seal) between the seal and the wall of the storage vessel and measure the circumferential distance of each such location.

(iii) The total surface area of each gap described in paragraph (b)(2)(ii) of this section shall be determined by using probes of various widths to measure accurately the actual distance from the vessel wall to the seal and multiplying each such width by its respective circumferential distance.

(3) Add the gap surface area of each gap location for the primary seal and the secondary seal individually. Divide the sum for each seal by the nominal diameter of the vessel and compare each ratio to the respective standards in § 61.272(b)(4) and § 61.272(b)(5).

(4) Repair conditions that do not meet requirements listed in paragraph (b)(4) (i) and (ii) within 45 days of identification in any inspection or empty and remove the storage vessel from service within 45 days.

(i) The accumulated area of gaps between the vessel wall and the metallic shoe seal or the liquid-mounted primary seal shall not exceed 212 cm<sup>2</sup> per meter of vessel diameter (10.0 in<sup>2</sup> per foot of vessel diameter) and the width of any portion of any gap shall not exceed 3.81 cm (1½ in).

(A) One end of the metallic shoe is to extend into the stored liquid and the other end is to extend a minimum vertical distance of 61 cm (24 in) above the stored liquid surface.

(B) There are to be no holes, tears, or other openings in the shoe, seal fabric, or seal envelope.

(ii) The secondary seal is to meet the following requirements:

(A) The secondary seal is to be installed above the primary seal so that it completely covers the space between the roof edge and the vessel wall except as provided in paragraph (b)(4)(ii)(B) of this section.

(B) The accumulated area of gaps between the vessel wall and the secondary seal shall not exceed 21.2 cm<sup>2</sup> per meter of vessel diameter (1.0 in<sup>2</sup> per foot of vessel diameter) or the width of any portion of any gap shall not exceed 1.27 cm (½ in). These seal gap requirements may be exceeded during the measurement of primary seal gaps as required by paragraph (b)(1)(i) or (b)(1)(ii) of this section.

(C) There are to be no holes, tears, or other openings in the seal or seal fabric.

(iii) If a failure that is detected during inspections required in this paragraph cannot be repaired within 45 days and if the vessel cannot be emptied within 45 days, an extension of up to 30 additional days may be requested from the Administrator in the inspection report required in §61.275(d). Such extension request must include a demonstration of unavailability of alternate storage capacity and a specification of a schedule that will assure that the control equipment will be repaired or the vessel will be emptied as soon as possible.

(5) The owner or operator shall notify the Administrator 30 days in advance of any gap measurements required by paragraph (b)(1) of this section to afford the Administrator the opportunity to have an observer present.

(6) Visually inspect the external floating roof, the primary seal, secondary seal, and fittings each time the vessel is emptied and degassed.

(i) If the external floating roof has defects, the primary seal has holes, tears, or other openings in the seal or the seal fabric, or the secondary seal has holes, tears, or other openings in the seal or the seal fabric, the owner or operator shall repair the items as necessary so that none of the conditions specified in this paragraph exist before filling or refilling the storage vessel with benzene.

(ii) For all the inspections required by paragraph (b)(6) of this section, the owner or operator shall notify the Administrator in writing at least 30 days prior to filling or refilling of each storage vessel to afford the Administrator the opportunity to inspect the storage vessel prior to refilling. If the inspection required by paragraph (b)(6) of this section is not planned and the owner or operator could not have known about the inspection 30 days in advance of refilling the vessel, the owner or operator shall notify the Administrator at least 7 days prior to refilling of the storage vessel. Notification shall be made by telephone immediately followed by written documentation demonstrating why the inspection was unplanned. Alternatively, this notification including the written documentation may be made in writing and sent by express mail so that it is received by the Administrator at least 7 days prior to the refilling.

(c) The owner or operator of each source that is equipped with a closed vent system and control device as required in §60.271(c), other than a flare, shall meet the following requirements.

(1) Within 90 days after initial fill or after September 14, 1989, whichever comes last, submit for approval by the Administrator, an operating plan containing the information listed below.

(i) Documentation demonstrating that the control device being used achieves the required control efficiency during reasonably expected maximum loading conditions. This documentation is to include a description of the gas stream which enters the control device, including flow and benzene content under varying liquid level conditions (dynamic and static) and manufacturer's design specifications for the control device. If the control device or the closed vent capture system receives vapors, gases or liquids, other than fuels, from sources that are not designated sources under this subpart, the efficiency demonstration is to include consideration of all vapors, gases and liquids received by the closed vent capture system and control device. If an enclosed combustion device with a minimum residence time of 0.75 seconds and a minimum temperature of 816 °C (1,500 °F) is used to meet the 95

percent requirement, documentation that those conditions exist is sufficient to meet the requirements of this paragraph.

(ii) A description of the parameter or parameters to be monitored to ensure that the control device is operated and maintained in conformance with its design and an explanation of the criteria used for selection of that parameter (or parameters).

(iii) A maintenance plan for the system including the type of maintenance necessary, planned frequency of maintenance, and lengths of maintenance periods for those operations that would require the closed vent system or the control device to be out of compliance with § 61.271(c). The maintenance plan shall require that the system be out of compliance with § 61.271(c) for no more than 72 hours per year.

(2) Operate, monitor the parameters, and maintain the closed vent system and control device in accordance with the operating plan submitted to the Administrator in accordance with paragraph (c)(1) of this section, unless the plan was modified by the Administrator during the approval process. In this case, the modified plan applies.

(d) The owner or operator of each source that is equipped with a closed vent system and a flare to meet the requirements in § 61.271(c) shall meet the requirements as specified in the general control device requirements in 40 CFR 60.18 (e) and (f).

[54 FR 38077, Sept. 14, 1989, as amended at 65 FR 62159, Oct. 17, 2000]

**§ 61.273 Alternative means of emission limitation.**

(a) Upon written application from any person, the Administrator may approve the use of alternative means of emission limitation which have been demonstrated to his satisfaction to achieve a reduction in benzene emissions at least equivalent to the reduction in emissions achieved by any requirement in § 61.271 (a), (b), or (c) of this subpart.

(b) Determination of equivalence to the reduction in emissions achieved by the requirements of § 61.271 (a), (b), or (c) will be evaluated using the following information to be included in

the written application to the Administrator:

(1) Actual emissions tests that use full-size or scale-model storage vessels that accurately collect and measure all benzene emissions from a given control device, and that accurately simulate wind and account for other emission variables such as temperature and barometric pressure.

(2) An engineering evaluation that the Administrator determines is an accurate method of determining equivalence.

(c) The Administrator may condition approval of equivalency on requirements that may be necessary to ensure operation and maintenance to achieve the same emission reduction as the requirements of § 61.271 (a), (b), or (c).

(d) If, in the Administrator's judgment, an application for equivalence may be approvable, the Administrator will publish a notice of preliminary determination in the FEDERAL REGISTER and provide the opportunity for public hearing. After notice and opportunity for public hearing, the Administrator will determine the equivalence of the alternative means of emission limitation and will publish the final determination in the FEDERAL REGISTER.

**§ 61.274 Initial report.**

(a) The owner or operator of each storage vessel to which this subpart applies and which has a design capacity greater than or equal to 38 cubic meters (10,000 gallons) shall submit an initial report describing the controls which will be applied to meet the equipment requirements of § 61.271 or § 61.270(g). For an existing storage vessel or a new storage vessel for which construction and operation commenced prior to September 14, 1989, this report shall be submitted within 90 days of September 14, 1989 and can be combined with the report required by § 61.10. For a new storage vessel for which construction or operation commenced on or after September 14, 1989, the report shall be combined with the report required by § 61.07 or 40 CFR 65.5(b). In the case where the owner or operator seeks to comply with § 61.271(c), with a control device other than a flare, this information may consist of the information required by § 61.272(c)(1).



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(b) The owner or operator of each storage vessel seeking to comply with § 61.271(c) with a flare, shall submit a report containing the measurements required by 40 CFR 60.18(f) (1), (2), (3), (4), (5), and (6). For the owner or operator of an existing storage vessel not seeking to obtain a waiver or a new storage vessel for which construction and operation commenced prior to September 14, 1989, this report shall be combined with the report required by paragraph (a) of this section. For the owner or operator of an existing storage vessel seeking to obtain a waiver, the reporting date will be established in the response to the waiver request. For the owner or operator of a new storage vessel for which construction or operation commenced after September 14, 1989, the report shall be submitted within 90 days of the date the vessel is initially filled (or partially filled) with benzene.

[54 FR 38077, Sept. 14, 1989, as amended at 65 FR 78284, Dec. 14, 2000]

### § 61.275 Periodic report.

(a) The owner or operator of each storage vessel to which this subpart applies after installing control equipment in accordance with § 61.271(a) (fixed roof and internal floating roof) shall submit a report describing the results of each inspection conducted in accordance with § 61.272(a). For vessels for which annual inspections are required under § 61.272(a)(2), the first report is to be submitted no more than 12 months after the initial report submitted in accordance with § 61.274, and each report is to be submitted within 60 days of each annual inspection.

(1) Each report shall include the date of the inspection of each storage vessel and identify each storage vessel in which:

(i) The internal floating roof is not resting on the surface of the benzene liquid inside the storage vessel, or there is liquid on the roof, or the seal is detached from the internal floating roof, or there are holes, tears or other openings in the seal or seal fabric; or

(ii) There are visible gaps between the seal and the wall of the storage vessel.

(2) Where an annual report identifies any condition in paragraph (a)(1) of

this section the annual report shall describe the nature of the defect, the date the storage vessel was emptied, and the nature of and date the repair was made, except as provided in paragraph (a)(3) of this section.

(3) If an extension is requested in an annual periodic report in accordance with § 61.272(a)(2), a supplemental periodic report shall be submitted within 15 days of repair. The supplemental periodic report shall identify the vessel and describe the date the storage vessel was emptied and the nature of and date the repair was made.

(b) The owner or operator of each storage vessel to which this subpart applies after installing control equipment in accordance with § 61.271(a) (fixed roof and internal floating roof) shall submit a report describing the results of each inspection conducted in accordance with § 61.272(a) (3) or (4).

(1) The report is to be submitted within 60 days of conducting each inspection required by § 61.272(a) (3) or (4).

(2) Each report shall identify each storage vessel in which the owner or operator finds that the internal floating roof has defects, the primary seal has holes, tears, or other openings in the seal or the seal fabric, or the secondary seal (if one has been installed) has holes, tears, or other openings in the seal or the seal fabric, or the gaskets no longer close off the liquid surfaces from the atmosphere, or the slotted membrane has more than 10 percent open area. The report shall also describe the nature of the defect, the date the storage vessel was emptied, and the nature of and date the repair was made.

(c) Any owner or operator of an existing storage vessel which had an internal floating roof with a continuous seal as of July 28, 1988, and which seeks to comply with the requirements of § 61.271(a)(5) during the first time after September 14, 1989, when the vessel is emptied and degassed but no later than 10 years from September 14, 1989, shall notify the Administrator 30 days prior to the completion of the installation of such controls and the date of refilling of the vessel so the Administrator has an opportunity to have an observer present to inspect the storage vessel before it is refilled. This report can be

combined with the one required by § 61.275(b).

(d) The owner or operator of each storage vessel to which this subpart applies after installing control equipment in accordance with § 61.271(b) (external floating roof) shall submit a report describing the results of each seal gap measurement made in accordance with § 61.272(b). The first report is to be submitted no more than 12 months after the initial report submitted in accordance with § 61.274(a), and each annual periodic report is to be submitted within 60 days of each annual inspection.

(1) Each report shall include the date of the measurement, the raw data obtained in the measurement, and the calculations described in § 61.272(b) (2) and (3), and shall identify each storage vessel which does not meet the gap specifications of § 61.272(b). Where an annual report identifies any vessel not meeting the seal gap specifications of § 61.272(b) the report shall describe the date the storage vessel was emptied, the measures used to correct the condition and the date the storage vessel was brought into compliance.

(2) If an extension is requested in an annual periodic report in accordance with § 61.272(b)(4)(iii), a supplemental periodic report shall be submitted within 15 days of repair. The supplemental periodic report shall identify the vessel and describe the date the vessel was emptied and the nature of and date the repair was made.

(e) Excess emission report.

(1) The owner or operator of each source seeking to comply with § 61.271(c) (vessels equipped with closed vent systems with control devices) shall submit a quarterly report informing the Administrator of each occurrence that results in excess emissions. Excess emissions are emissions that occur at any time when compliance with the specifications and requirements of § 61.271(c) are not achieved, as evidenced by the parameters being measured in accordance with § 61.272(c)(1)(ii) if a control device other than a flare is used, or by the measurements required in § 61.272(d) and the general control device requirements in 40 CFR 60.18(f) (1) and (2) if a flare is used.

(2) The owner or operator shall submit the following information as a minimum in the report required by (e)(1) of this section:

(i) Identify the stack and other emission points where the excess emissions occurred;

(ii) A statement of whether or not the owner or operator believes a control system malfunction has occurred.

(3) If the owner or operator states that a control system malfunction has occurred, the following information as a minimum is also to be included in the report required under paragraph (e)(1) of this section:

(i) Time and duration of the control system malfunction as determined by continuous monitoring data (if any), or the inspections or monitoring done in accordance with the operating plan required by § 61.272(c).

(ii) Cause of excess emissions.

#### § 61.276 Recordkeeping.

(a) Each owner or operator with a storage vessel subject to this subpart shall keep copies of all the reports and records required by this subpart for at least 2 years, except as specified in paragraphs (b) and (c)(1) of this section.

(b) Each owner or operator with a storage vessel, including any vessel which has a design storage capacity less than 38 cubic meters (10,000 gallons), shall keep readily accessible records showing the dimensions of the storage vessel and an analysis showing the capacity of the storage vessel. This record shall be kept as long as the storage vessel is in operation. Each storage vessel with a design capacity of less than 38 cubic meters (10,000 gallons) is subject to no provisions of this subpart other than those required by this paragraph.

(c) The following information pertaining to closed vent system and control devices shall be kept in a readily accessible location.

(1) A copy of the operating plan. This record shall be kept as long as the closed vent system and control device is in use.

(2) A record of the measured values of the parameters monitored in accordance with § 61.272(c)(1)(ii) and § 61.272(c)(2).

(3) A record of the maintenance performed in accordance with § 61.272(c)(1)(iii) of the operating plan, including the following:

(i) The duration of each time the closed vent system and control device does not meet the specifications of § 61.271(c) due to maintenance, including the following:

(A) The first time of day and date the requirements of § 61.271(c) were not met at the beginning of maintenance.

(B) The first time of day and date the requirements of § 61.271(c) were met at the conclusion of maintenance.

(C) A continuous record of the liquid level in each storage vessel that the closed vent system and control device receive vapors from during the interval between the times specified by (c)(3)(i)(A) and (c)(3)(i)(B). Pumping records (simultaneous input and output) may be substituted for records of the liquid level.

#### § 61.277 Delegation of authority.

(a) In delegating implementation and enforcement authority to a State under section 112(d) of the Act, the authorities contained in paragraph (b) of this section shall be retained by the Administrator and not transferred to a State.

(b) Authorities which will not be delegated to States: § 61.273.

#### Subparts Z-AA [Reserved]

#### Subpart BB—National Emission Standard for Benzene Emissions From Benzene Transfer Operations

SOURCE: 55 FR 8341, Mar. 7, 1990, unless otherwise noted.

#### § 61.300 Applicability.

(a) The affected facility to which this subpart applies is the total of all loading racks at which benzene is loaded into tank trucks, railcars, or marine vessels at each benzene production facility and each bulk terminal. However, specifically exempted from this regulation are loading racks at which only the following are loaded: Benzene-laden waste (covered under subpart FF of this part), gasoline, crude oil, nat-

ural gas liquids, petroleum distillates (e.g., fuel oil, diesel, or kerosene), or benzene-laden liquid from coke by-product recovery plants.

(b) Any affected facility under paragraph (a) of this section which loads only liquid containing less than 70 weight-percent benzene is exempt from the requirements of this subpart, except for the recordkeeping and reporting requirements in § 61.305(i).

(c) *Comply with standards at each loading rack.* Any affected facility under paragraph (a) of this section shall comply with the standards in § 61.302 or as specified in paragraph (f) of this section, if applicable, at each loading rack that is handling a liquid containing 70 weight-percent or more benzene.

(d) Any affected facility under paragraph (a) of this section whose annual benzene loading is less than 1.3 million liters of 70 weight-percent or more benzene is exempt from the requirements of this subpart, except for the recordkeeping and reporting requirements in § 61.305(i).

(e) The owner or operator of an affected facility, as defined in § 61.300(a) that loads a marine vessel shall be in compliance with the provisions of this subpart on and after July 23, 1991. If an affected facility that loads a marine vessel also loads a tank truck or railcar, the marine vessel loading racks shall be in compliance with the provisions of this subpart on and after July 23, 1991, while the tank truck loading racks and the railcar loading racks shall be in compliance as required by § 61.12.

(f) *Alternative means of compliance—(1) Option to comply with part 65.* Owners or operators may choose to comply with 40 CFR part 65, subpart E, to satisfy the requirements of §§ 61.302 through 61.306 for all tank truck or railcar loading racks that are subject to this subpart. Loading racks are referred to as transfer racks in 40 CFR part 65, subpart E. Other provisions applying to owners or operators who choose to comply with 40 CFR part 65 are provided in 40 CFR 65.1. All marine vessel loading racks shall comply with the provisions in §§ 61.302 through 61.306.

(2) *Part 61, subpart A.* Owners or operators who choose to comply with 40



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for a source that has an initial startup date after the effective date.

(1) Periods of operation where there were exceedances of monitored parameters recorded under § 61.305(b).

(2) All periods recorded under § 61.305(c)(1) when the vent stream is diverted from the control device.

(3) All periods recorded under § 61.305(d) when the steam generating unit or process heater was not operating.

(4) All periods recorded under § 61.305(e) in which the pilot flame of the flare was absent.

(5) All times recorded under § 61.305(c)(2) when maintenance is performed on car-sealed valves, when the car seal is broken, and when the valve position is changed.

(g) The owner or operator of an affected facility shall keep the vapor-tightness documentation required under § 61.302 (d) and (e) on file at the affected facility in a permanent form available for inspection.

(h) The owner or operator of an affected facility shall update the documentation file required under § 61.302 (d) and (e) for each tank truck, railcar, or marine vessel at least once per year to reflect current test results as determined by the appropriate method. The owner or operator shall include, as a minimum, the following information in this documentation:

- (1) Test title;
- (2) Tank truck, railcar, or marine vessel owner and address;
- (3) Tank truck, railcar, or marine vessel identification number;
- (4) Testing location;
- (5) Date of test;
- (6) Tester name and signature;
- (7) Witnessing inspector: name, signature, and affiliation; and
- (8) Test results, including, for railcars and tank trucks, the initial pressure up to which the tank was pressured at the start of the test.

(i) Each owner or operator of an affected facility complying with § 61.300(b) or § 61.300(d) shall record the following information. The first year after promulgation the owner or operator shall submit a report containing the requested information to the Director of the Emission Standards Division, (MD-13), U.S. Environmental Protec-

tion Agency, Research Triangle Park, North Carolina 27711. After the first year, the owner or operator shall continue to record; however, no reporting is required. The information shall be made available if requested. The information shall include, as a minimum:

- (1) The affected facility's name and address;
- (2) The weight percent of the benzene loaded;
- (3) The type of vessel loaded (i.e., tank truck, railcar, or marine vessel); and
- (4) The annual amount of benzene loaded into each type of vessel.

[55 FR 8341, Mar. 7, 1990, as amended at 65 FR 62159, Oct. 17, 2000]

### § 61.306 Delegation of authority.

(a) In delegating implementation and enforcement authority to a State under section 112(d) of the Act, the authorities contained in paragraph (b) of this section shall be retained by the Administrator and not transferred to a State.

(b) Authorities which will not be delegated to States: No restrictions.

### Subparts CC-EE [Reserved]

### Subpart FF—National Emission Standard for Benzene Waste Operations

SOURCE: 55 FR 8346, Mar. 7, 1990, unless otherwise noted.

### § 61.340 Applicability.

(a) The provisions of this subpart apply to owners and operators of chemical manufacturing plants, coke by-product recovery plants, and petroleum refineries.

(b) The provisions of this subpart apply to owners and operators of hazardous waste treatment, storage, and disposal facilities that treat, store, or dispose of hazardous waste generated by any facility listed in paragraph (a) of this section. The waste streams at hazardous waste treatment, storage, and disposal facilities subject to the provisions of this subpart are the benzene-containing hazardous waste from any facility listed in paragraph (a) of

this section. A hazardous waste treatment, storage, and disposal facility is a facility that must obtain a hazardous waste management permit under subtitle C of the Solid Waste Disposal Act.

(c) At each facility identified in paragraph (a) or (b) of this section, the following waste is exempt from the requirements of this subpart:

(1) Waste in the form of gases or vapors that is emitted from process fluids:

(2) Waste that is contained in a segregated stormwater sewer system.

(d) At each facility identified in paragraph (a) or (b) of this section, any gaseous stream from a waste management unit, treatment process, or wastewater treatment system routed to a fuel gas system, as defined in § 61.341, is exempt from this subpart. No testing, monitoring, recordkeeping, or reporting is required under this subpart for any gaseous stream from a waste management unit, treatment process, or wastewater treatment unit routed to a fuel gas system.

[55 FR 8346, Mar. 7, 1990, as amended at 55 FR 37231, Sept. 10, 1990; 58 FR 3095, Jan. 7, 1993; 67 FR 68531, Nov. 12, 2002]

#### § 61.341 Definitions.

*Benzene concentration* means the fraction by weight of benzene in a waste as determined in accordance with the procedures specified in § 61.355 of this subpart.

*Car-seal* means a seal that is placed on a device that is used to change the position of a valve (e.g., from opened to closed) in such a way that the position of the valve cannot be changed without breaking the seal.

*Chemical manufacturing plant* means any facility engaged in the production of chemicals by chemical, thermal, physical, or biological processes for use as a product, co-product, by-product, or intermediate including but not limited to industrial organic chemicals, organic pesticide products, pharmaceutical preparations, paint and allied products, fertilizers, and agricultural chemicals. Examples of chemical manufacturing plants include facilities at which process units are operated to produce one or more of the following chemicals: benzenesulfonic acid, benzene, chlorobenzene, cumene,

cyclohexane, ethylene, ethylbenzene, hydroquinone, linear alkylbenzene, nitrobenzene, resorcinol, sulfolane, or styrene.

*Closed-vent system* means a system that is not open to the atmosphere and is composed of piping, ductwork, connections, and, if necessary, flow inducing devices that transport gas or vapor from an emission source to a control device.

*Coke by-product recovery plant* means any facility designed and operated for the separation and recovery of coal tar derivatives (by-products) evolved from coal during the coking process of a coke oven battery.

*Container* means any portable waste management unit in which a material is stored, transported, treated, or otherwise handled. Examples of containers are drums, barrels, tank trucks, barges, dumpsters, tank cars, dump trucks, and ships.

*Control device* means an enclosed combustion device, vapor recovery system, or flare.

*Cover* means a device or system which is placed on or over a waste placed in a waste management unit so that the entire waste surface area is enclosed and sealed to minimize air emissions. A cover may have openings necessary for operation, inspection, and maintenance of the waste management unit such as access hatches, sampling ports, and gauge wells provided that each opening is closed and sealed when not in use. Example of covers include a fixed roof installed on a tank, a lid installed on a container, and an air-supported enclosure installed over a waste management unit.

*External floating roof* means a pontoon-type or double-deck type cover with certain rim sealing mechanisms that rests on the liquid surface in a waste management unit with no fixed roof.

*Facility* means all process units and product tanks that generate waste within a stationary source, and all waste management units that are used for waste treatment, storage, or disposal within a stationary source.

*Fixed roof* means a cover that is mounted on a waste management unit in a stationary manner and that does

not move with fluctuations in liquid level.

*Floating roof* means a cover with certain rim sealing mechanisms consisting of a double deck, pontoon single deck, internal floating cover or covered floating roof, which rests upon and is supported by the liquid being contained, and is equipped with a closure seal or seals to close the space between the roof edge and unit wall.

*Flow indicator* means a device which indicates whether gas flow is present in a line or vent system.

*Fuel gas system* means the offsite and onsite piping and control system that gathers gaseous streams generated by facility operations, may blend them with sources of gas, if available, and transports the blended gaseous fuel at suitable pressures for use as fuel in heaters, furnaces, boilers, incinerators, gas turbines, and other combustion devices located within or outside the facility. The fuel is piped directly to each individual combustion device, and the system typically operates at pressures over atmospheric.

*Individual drain system* means the system used to convey waste from a process unit, product storage tank, or waste management unit to a waste management unit. The term includes all process drains and common junction boxes, together with their associated sewer lines and other junction boxes, down to the receiving waste management unit.

*Internal floating roof* means a cover that rests or floats on the liquid surface inside a waste management unit that has a fixed roof.

*Liquid-mounted seal* means a foam or liquid-filled primary seal mounted in contact with the liquid between the waste management unit wall and the floating roof continuously around the circumference.

*Loading* means the introduction of waste into a waste management unit but not necessarily to complete capacity (also referred to as filling).

*Maximum organic vapor pressure* means the equilibrium partial pressure exerted by the waste at the temperature equal to the highest calendar-month average of the waste storage temperature for waste stored above or below the ambient temperature or at

the local maximum monthly average temperature as reported by the National Weather Service for waste stored at the ambient temperature, as determined:

- (1) In accordance with § 60.17(c); or
- (2) As obtained from standard reference texts; or
- (3) In accordance with § 60.17(a)(37); or
- (4) Any other method approved by the Administrator.

*No detectable emissions* means less than 500 parts per million by volume (ppmv) above background levels, as measured by a detection instrument reading in accordance with the procedures specified in § 61.355(h) of this subpart.

*Oil-water separator* means a waste management unit, generally a tank or surface impoundment, used to separate oil from water. An oil-water separator consists of not only the separation unit but also the forebay and other separator basins, skimmers, weirs, grit chambers, sludge hoppers, and bar screens that are located directly after the individual drain system and prior to additional treatment units such as an air flotation unit, clarifier, or biological treatment unit. Examples of an oil-water separator include an API separator, parallel-plate interceptor, and corrugated-plate interceptor with the associated ancillary equipment.

*Petroleum refinery* means any facility engaged in producing gasoline, kerosene, distillate fuel oils, residual fuel oils, lubricants, or other products through the distillation of petroleum, or through the redistillation, cracking, or reforming of unfinished petroleum derivatives.

*Petroleum* means the crude oil removed from the earth and the oils derived from tar sands, shale, and coal.

*Point of waste generation* means the location where the waste stream exits the process unit component or storage tank prior to handling or treatment in an operation that is not an integral part of the production process, or in the case of waste management units that generate new wastes after treatment, the location where the waste stream exits the waste management unit component.

*Process unit* means equipment assembled and connected by pipes or ducts to

produce intermediate or final products. A process unit can be operated independently if supplied with sufficient fuel or raw materials and sufficient product storage facilities.

*Process unit turnaround* means the shutting down of the operations of a process unit, the purging of the contents of the process unit, the maintenance or repair work, followed by re-starting of the process.

*Process unit turnaround waste* means a waste that is generated as a result of a process unit turnaround.

*Process wastewater* means water which comes in contact with benzene during manufacturing or processing operations conducted within a process unit. Process wastewater is not organic wastes, process fluids, product tank drawdown, cooling tower blowdown, steam trap condensate, or landfill leachate.

*Process wastewater stream* means a waste stream that contains only process wastewater.

*Product tank* means a stationary unit that is designed to contain an accumulation of materials that are fed to or produced by a process unit, and is constructed primarily of non-earthen materials (e.g., wood, concrete, steel, plastic) which provide structural support.

*Product tank drawdown* means any material or mixture of materials discharged from a product tank for the purpose of removing water or other contaminants from the product tank.

*Safety device* means a closure device such as a pressure relief valve, frangible disc, fusible plug, or any other type of device which functions exclusively to prevent physical damage or permanent deformation to a unit or its air emission control equipment by venting gases or vapors directly to the atmosphere during unsafe conditions resulting from an unplanned, accidental, or emergency event. For the purpose of this subpart, a safety device is not used for routine venting of gases or vapors from the vapor headspace underneath a cover such as during filling of the unit or to adjust the pressure in this vapor headspace in response to normal daily diurnal ambient temperature fluctuations. A safety device is designed to remain in a closed position during normal operations and open

only when the internal pressure, or another relevant parameter, exceeds the device threshold setting applicable to the air emission control equipment as determined by the owner or operator based on manufacturer recommendations, applicable regulations, fire protection and prevention codes, standard engineering codes and practices, or other requirements for the safe handling of flammable, ignitable, explosive, reactive, or hazardous materials.

*Segregated stormwater sewer system* means a drain and collection system designed and operated for the sole purpose of collecting rainfall runoff at a facility, and which is segregated from all other individual drain systems.

*Sewer line* means a lateral, trunk line, branch line, or other enclosed conduit used to convey waste to a downstream waste management unit.

*Slop oil* means the floating oil and solids that accumulate on the surface of an oil-water separator.

*Sour water stream* means a stream that:

(1) Contains ammonia or sulfur compounds (usually hydrogen sulfide) at concentrations of 10 ppm by weight or more;

(2) Is generated from separation of water from a feed stock, intermediate, or product that contained ammonia or sulfur compounds; and

(3) Requires treatment to remove the ammonia or sulfur compounds.

*Sour water stripper* means a unit that:

(1) Is designed and operated to remove ammonia or sulfur compounds (usually hydrogen sulfide) from sour water streams;

(2) Has the sour water streams transferred to the stripper through hard piping or other enclosed system; and

(3) Is operated in such a manner that the offgases are sent to a sulfur recovery unit, processing unit, incinerator, flare, or other combustion device.

*Surface impoundment* means a waste management unit which is a natural topographic depression, man-made excavation, or diked area formed primarily of earthen materials (although it may be lined with man-made materials), which is designed to hold an accumulation of liquid wastes or waste containing free liquids, and which is



not an injection well. Examples of surface impoundments are holding, storage, settling, and aeration pits, ponds, and lagoons.

*Tank* means a stationary waste management unit that is designed to contain an accumulation of waste and is constructed primarily of nonearthen materials (e.g., wood, concrete, steel, plastic) which provide structural support.

*Treatment process* means a stream stripping unit, thin-film evaporation unit, waste incinerator, or any other process used to comply with § 61.348 of this subpart.

*Vapor-mounted seal* means a foam-filled primary seal mounted continuously around the perimeter of a waste management unit so there is an annular vapor space underneath the seal. The annular vapor space is bounded by the bottom of the primary seal, the unit wall, the liquid surface, and the floating roof.

*Waste* means any material resulting from industrial, commercial, mining or agricultural operations, or from community activities that is discarded or is being accumulated, stored, or physically, chemically, thermally, or biologically treated prior to being discarded, recycled, or discharged.

*Waste management unit* means a piece of equipment, structure, or transport mechanism used in handling, storage, treatment, or disposal of waste. Examples of a waste management unit include a tank, surface impoundment, container, oil-water separator, individual drain system, steam stripping unit, thin-film evaporation unit, waste incinerator, and landfill.

*Waste stream* means the waste generated by a particular process unit, product tank, or waste management unit. The characteristics of the waste stream (e.g., flow rate, benzene concentration, water content) are determined at the point of waste generation. Examples of a waste stream include process wastewater, product tank drawdown, sludge and slop oil removed from waste management units, and landfill leachate.

*Wastewater treatment system* means any component, piece of equipment, or installation that receives, manages, or treats process wastewater, product

tank drawdown, or landfill leachate prior to direct or indirect discharge in accordance with the National Pollutant Discharge Elimination System permit regulations under 40 CFR part 122. These systems typically include individual drain systems, oil-water separators, air flotation units, equalization tanks, and biological treatment units.

*Water seal controls* means a seal pot, p-leg trap, or other type of trap filled with water (e.g., flooded sewers that maintain water levels adequate to prevent air flow through the system) that creates a water barrier between the sewer line and the atmosphere. The water level of the seal must be maintained in the vertical leg of a drain in order to be considered a water seal.

[55 FR 8346, Mar. 7, 1990; 55 FR 12444, Apr. 3, 1990, as amended at 58 FR 3095, Jan. 7, 1993; 67 FR 68531, Nov. 12, 2002]

#### § 61.342 Standards: General.

(a) An owner or operator of a facility at which the total annual benzene quantity from facility waste is less than 10 megagrams per year (Mg/yr) (11 ton/yr) shall be exempt from the requirements of paragraphs (b) and (c) of this section. The total annual benzene quantity from facility waste is the sum of the annual benzene quantity for each waste stream at the facility that has a flow-weighted annual average water content greater than 10 percent or that is mixed with water, or other wastes, at any time and the mixture has an annual average water content greater than 10 percent. The benzene quantity in a waste stream is to be counted only once without multiple counting if other waste streams are mixed with or generated from the original waste stream. Other specific requirements for calculating the total annual benzene waste quantity are as follows:

(1) Wastes that are exempted from control under §§ 61.342(c)(2) and 61.342(c)(3) are included in the calculation of the total annual benzene quantity if they have an annual average water content greater than 10 percent, or if they are mixed with water or other wastes at any time and the mixture has an annual average water content greater than 10 percent.

(2) The benzene in a material subject to this subpart that is sold is included in the calculation of the total annual benzene quantity if the material has an annual average water content greater than 10 percent.

(3) Benzene in wastes generated by remediation activities conducted at the facility, such as the excavation of contaminated soil, pumping and treatment of groundwater, and the recovery of product from soil or groundwater, are not included in the calculation of total annual benzene quantity for that facility. If the facility's total annual benzene quantity is 10 Mg/yr (11 ton/yr) or more, wastes generated by remediation activities are subject to the requirements of paragraphs (c) through (h) of this section. If the facility is managing remediation waste generated offsite, the benzene in this waste shall be included in the calculation of total annual benzene quantity in facility waste, if the waste streams have an annual average water content greater than 10 percent, or if they are mixed with water or other wastes at any time and the mixture has an annual average water content greater than 10 percent.

(4) The total annual benzene quantity is determined based upon the quantity of benzene in the waste before any waste treatment occurs to remove the benzene except as specified in § 61.355(c)(1)(i) (A) through (C).

(b) Each owner or operator of a facility at which the total annual benzene quantity from facility waste is equal to or greater than 10 Mg/yr (11 ton/yr) as determined in paragraph (a) of this section shall be in compliance with the requirements of paragraphs (c) through (h) of this section no later than 90 days following the effective date, unless a waiver of compliance has been obtained under § 61.11, or by the initial startup for a new source with an initial startup after the effective date.

(1) The owner or operator of an existing source unable to comply with the rule within the required time may request a waiver of compliance under § 61.10.

(2) As part of the waiver application, the owner or operator shall submit to the Administrator a plan under § 61.10(b)(3) that is an enforceable commitment to obtain environmental ben-

efits to mitigate the benzene emissions that result from extending the compliance date. The plan shall include the following information:

(i) A description of the method of compliance, including the control approach, schedule for installing controls, and quantity of the benzene emissions that result from extending the compliance date;

(ii) If the control approach involves a compliance strategy designed to obtain integrated compliance with multiple regulatory requirements, a description of the other regulations involved and their effective dates; and

(iii) A description of the actions to be taken at the facility to obtain mitigating environmental benefits, including how the benefits will be obtained, the schedule for these actions, and an estimate of the quantifiable benefits that directly result from these actions.

(c) Each owner or operator of a facility at which the total annual benzene quantity from facility waste is equal to or greater than 10 Mg/yr (11 ton/yr) as determined in paragraph (a) of this section shall manage and treat the facility waste as follows:

(1) For each waste stream that contains benzene, including (but not limited to) organic waste streams that contain less than 10 percent water and aqueous waste streams, even if the wastes are not discharged to an individual drain system, the owner or operator shall:

(i) Remove or destroy the benzene contained in the waste using a treatment process or wastewater treatment system that complies with the standards specified in § 61.348 of this subpart.

(ii) Comply with the standards specified in §§ 61.343 through 61.347 of this subpart for each waste management unit that receives or manages the waste stream prior to and during treatment of the waste stream in accordance with paragraph (c)(1)(i) of this section.

(iii) Each waste management unit used to manage or treat waste streams that will be recycled to a process shall comply with the standards specified in §§ 61.343 through 61.347. Once the waste stream is recycled to a process, including to a tank used for the storage of production process feed, product, or

product intermediates, unless this tank is used primarily for the storage of wastes, the material is no longer subject to paragraph (c) of this section.

(2) A waste stream is exempt from paragraph (c)(1) of this section provided that the owner or operator demonstrates initially and, thereafter, at least once per year that the flow-weighted annual average benzene concentration for the waste stream is less than 10 ppmw as determined by the procedures specified in § 61.355(c)(2) or § 61.355(c)(3).

(3) A waste stream is exempt from paragraph (c)(1) of this section provided that the owner or operator demonstrates initially and, thereafter, at least once per year that the conditions specified in either paragraph (c)(3)(i) or (c)(3)(ii) of this section are met.

(i) The waste stream is process wastewater that has a flow rate less than 0.02 liters per minute (0.005 gallons per minute) or an annual wastewater quantity of less than 10 Mg/yr (11 ton/yr); or

(ii) All of the following conditions are met:

(A) The owner or operator does not choose to exempt process wastewater under paragraph (c)(3)(i) of this section.

(B) The total annual benzene quantity in all waste streams chosen for exemption in paragraph (c)(3)(ii) of this section does not exceed 2.0 Mg/yr (2.2 ton/yr) as determined in the procedures in § 61.355(j), and

(C) The total annual benzene quantity in a waste stream chosen for exemption, including process unit turn-around waste, is determined for the year in which the waste is generated.

(d) As an alternative to the requirements specified in paragraphs (c) and (e) of this section, an owner or operator of a facility at which the total annual benzene quantity from facility waste is equal to or greater than 10 Mg/yr (11 ton/yr) as determined in paragraph (a) of this section may elect to manage and treat the facility waste as follows:

(1) The owner or operator shall manage and treat facility waste other than process wastewater in accordance with the requirements of paragraph (c)(1) of this section.

(2) The owner or operator shall manage and treat process wastewater in accordance with the following requirements:

(i) Process wastewater shall be treated to achieve a total annual benzene quantity from facility process wastewater less than 1 Mg/yr (1.1 ton/yr). Total annual benzene from facility process wastewater shall be determined by adding together the annual benzene quantity at the point of waste generation for each untreated process wastewater stream plus the annual benzene quantity exiting the treatment process for each process wastewater stream treated in accordance with the requirements of paragraph (c)(1)(i) of this section.

(ii) Each treated process wastewater stream identified in paragraph (d)(2)(i) of this section shall be managed and treated in accordance with paragraph (c)(1) of this section.

(iii) Each untreated process wastewater stream identified in paragraph (d)(2)(i) of this section is exempt from the requirements of paragraph (c)(1) of this section.

(e) As an alternative to the requirements specified in paragraphs (c) and (d) of this section, an owner or operator of a facility at which the total annual benzene quantity from facility waste is equal to or greater than 10 Mg/yr (11 ton/yr) as determined in paragraph (a) of this section may elect to manage and treat the facility waste as follows:

(1) The owner or operator shall manage and treat facility waste with a flow-weighted annual average water content of less than 10 percent in accordance with the requirements of paragraph (c)(1) of this section; and

(2) The owner or operator shall manage and treat facility waste (including remediation and process unit turn-around waste) with a flow-weighted annual average water content of 10 percent or greater, on a volume basis as total water, and each waste stream that is mixed with water or wastes at any time such that the resulting mixture has an annual water content greater than 10 percent, in accordance with the following:

(i) The benzene quantity for the wastes described in paragraph (e)(2) of

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this section must be equal to or less than 6.0 Mg/yr (6.6 ton/yr), as determined in §61.355(k). Wastes as described in paragraph (e)(2) of this section that are transferred offsite shall be included in the determination of benzene quantity as provided in §61.355(k). The provisions of paragraph (f) of this section shall not apply to any owner or operator who elects to comply with the provisions of paragraph (e) of this section.

(ii) The determination of benzene quantity for each waste stream defined in paragraph (e)(2) of this section shall be made in accordance with §61.355(k).

(f) Rather than treating the waste onsite, an owner or operator may elect to comply with paragraph (c)(1)(i) of this section by transferring the waste offsite to another facility where the waste is treated in accordance with the requirements of paragraph (c)(1)(i) of this section. The owner or operator transferring the waste shall:

(1) Comply with the standards specified in §§61.343 through 61.347 of this subpart for each waste management unit that receives or manages the waste prior to shipment of the waste offsite.

(2) Include with each offsite waste shipment a notice stating that the waste contains benzene which is required to be managed and treated in accordance with the provisions of this subpart.

(g) Compliance with this subpart will be determined by review of facility records and results from tests and inspections using methods and procedures specified in §61.355 of this subpart.

(h) Permission to use an alternative means of compliance to meet the requirements of §§61.342 through 61.352 of this subpart may be granted by the Administrator as provided in §61.353 of this subpart.

[55 FR 8346, Mar. 7, 1990, as amended at 58 FR 3095, Jan. 7, 1993; 65 FR 62159, 62160, Oct. 17, 2000]

§61.343 Standards: Tanks.

(a) Except as provided in paragraph (b) of this section and in §61.351, the owner or operator must meet the standards in paragraph (a)(1) or (2) of this section for each tank in which the waste stream is placed in accordance

with §61.342 (c)(1)(ii). The standards in this section apply to the treatment and storage of the waste stream in a tank, including dewatering.

(1) The owner or operator shall install, operate, and maintain a fixed-roof and closed-vent system that routes all organic vapors vented from the tank to a control device.

(i) The fixed-roof shall meet the following requirements:

(A) The cover and all openings (e.g., access hatches, sampling ports, and gauge wells) shall be designed to operate with no detectable emissions as indicated by an instrument reading of less than 500 ppmv above background, as determined initially and thereafter at least once per year by the methods specified in §61.355(h) of this subpart.

(B) Each opening shall be maintained in a closed, sealed position (e.g., covered by a lid that is gasketed and latched) at all times that waste is in the tank except when it is necessary to use the opening for waste sampling or removal, or for equipment inspection, maintenance, or repair.

(C) If the cover and closed-vent system operate such that the tank is maintained at a pressure less than atmospheric pressure, then paragraph (a)(1)(i)(B) of this section does not apply to any opening that meets all of the following conditions:

(1) The purpose of the opening is to provide dilution air to reduce the explosion hazard;

(2) The opening is designed to operate with no detectable emissions as indicated by an instrument reading of less than 500 ppmv above background, as determined initially and thereafter at least once per year by the methods specified in §61.355(h); and

(3) The pressure is monitored continuously to ensure that the pressure in the tank remains below atmospheric pressure.

(ii) The closed-vent system and control device shall be designed and operated in accordance with the requirements of §61.349 of this subpart.

(2) The owner or operator must install, operate, and maintain an enclosure and closed-vent system that routes all organic vapors vented from the tank, located inside the enclosure, to a control device in accordance with

the requirements specified in paragraph (e) of this section.

(b) For a tank that meets all the conditions specified in paragraph (b)(1) of this section, the owner or operator may elect to comply with paragraph (b)(2) of this section as an alternative to the requirements specified in paragraph (a)(1) of this section.

(1) The waste managed in the tank complying with paragraph (b)(2) of this section shall meet all of the following conditions:

(i) Each waste stream managed in the tank must have a flow-weighted annual average water content less than or equal to 10 percent water, on a volume basis as total water.

(ii) The waste managed in the tank either:

(A) Has a maximum organic vapor pressure less than 5.2 kilopascals (kPa) (0.75 pounds per square inch (psi));

(B) Has a maximum organic vapor pressure less than 27.6 kPa (4.0 psi) and is managed in a tank having design capacity less than 151 m<sup>3</sup> (40,000 gal); or

(C) Has a maximum organic vapor pressure less than 76.6 kPa (11.1 psi) and is managed in a tank having a design capacity less than 75 m<sup>3</sup> (20,000 gal).

(2) The owner or operator shall install, operate, and maintain a fixed roof as specified in paragraph (a)(1)(i).

(3) For each tank complying with paragraph (b) of this section, one or more devices which vent directly to the atmosphere may be used on the tank provided each device remains in a closed, sealed position during normal operations except when the device needs to open to prevent physical damage or permanent deformation of the tank or cover resulting from filling or emptying the tank, diurnal temperature changes, atmospheric pressure changes or malfunction of the unit in accordance with good engineering and safety practices for handling flammable, explosive, or other hazardous materials.

(c) Each fixed-roof, seal, access door, and all other openings shall be checked by visual inspection initially and quarterly thereafter to ensure that no cracks or gaps occur and that access doors and other openings are closed and gasketed properly.

(d) Except as provided in § 61.350 of this subpart, when a broken seal or gasket or other problem is identified, or when detectable emissions are measured, first efforts at repair shall be made as soon as practicable, but not later than 45 calendar days after identification.

(e) Each owner or operator who controls air pollutant emissions by using an enclosure vented through a closed-vent system to a control device must meet the requirements specified in paragraphs (e)(1) through (4) of this section.

(1) The tank must be located inside a total enclosure. The enclosure must be designed and operated in accordance with the criteria for a permanent total enclosure as specified in "Procedure T—Criteria for and Verification of a Permanent or Temporary Total Enclosure" in 40 CFR 52.741, appendix B. The enclosure may have permanent or temporary openings to allow worker access; passage of material into or out of the enclosure by conveyor, vehicles, or other mechanical means; entry of permanent mechanical or electrical equipment; or direct airflow into the enclosure. The owner or operator must perform the verification procedure for the enclosure as specified in section 5.0 of Procedure T initially when the enclosure is first installed and, thereafter, annually. A facility that has conducted an initial compliance demonstration and that performs annual compliance demonstrations in accordance with the requirements for Tank Level 2 control requirements 40 CFR 264.1084(i) or 40 CFR 265(i) is not required to make repeat demonstrations of initial and continuous compliance for the purposes of this subpart.

(2) The enclosure must be vented through a closed-vent system to a control device that is designed and operated in accordance with the standards for control devices specified in § 61.349.

(3) Safety devices, as defined in this subpart, may be installed and operated as necessary on any enclosure, closed-vent system, or control device used to comply with the requirements of paragraphs (e)(1) and (2) of this section.

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(4) The closed-vent system must be designed and operated in accordance with the requirements of § 61.349.

[55 FR 8346, Mar. 7, 1990, as amended at 55 FR 18331, May 2, 1990; 58 FR 3096, Jan. 7, 1993; 67 FR 68532, Nov. 12, 2002; 68 FR 6082, Feb. 6, 2003; 68 FR 67935, Dec. 4, 2003]

### § 61.344 Standards: Surface impoundments.

(a) The owner or operator shall meet the following standards for each surface impoundment in which waste is placed in accordance with § 61.342(c)(1)(ii) of this subpart:

(1) The owner or operator shall install, operate, and maintain on each surface impoundment a cover (e.g., air-supported structure or rigid cover) and closed-vent system that routes all organic vapors vented from the surface impoundment to a control device.

(i) The cover shall meet the following requirements:

(A) The cover and all openings (e.g., access hatches, sampling ports, and gauge wells) shall be designed to operate with no detectable emissions as indicated by an instrument reading of less than 500 ppmv above background, initially and thereafter at least once per year by the methods specified in § 61.355(h) of this subpart.

(B) Each opening shall be maintained in a closed, sealed position (e.g., covered by a lid that is gasketed and latched) at all times that waste is in the surface impoundment except when it is necessary to use the opening for waste sampling or removal, or for equipment inspection, maintenance, or repair.

(C) If the cover and closed-vent system operate such that the enclosure of the surface impoundment is maintained at a pressure less than atmospheric pressure, then paragraph (a)(1)(i)(B) of this section does not apply to any opening that meets all of the following conditions:

(1) The purpose of the opening is to provide dilution air to reduce the explosion hazard;

(2) The opening is designed to operate with no detectable emissions as indicated by an instrument reading of less than 500 ppmv above background, as determined initially and thereafter at least once per year by the methods

specified in § 61.355(h) of this subpart; and

(3) The pressure is monitored continuously to ensure that the pressure in the enclosure of the surface impoundment remains below atmospheric pressure.

(D) The cover shall be used at all times that waste is placed in the surface impoundment except during removal of treatment residuals in accordance with 40 CFR 268.4 or closure of the surface impoundment in accordance with 40 CFR 264.228. (Note: the treatment residuals generated by these activities may be subject to the requirements of this part.)

(ii) The closed-vent system and control device shall be designed and operated in accordance with § 61.349 of this subpart.

(b) Each cover seal, access hatch, and all other openings shall be checked by visual inspection initially and quarterly thereafter to ensure that no cracks or gaps occur and that access hatches and other openings are closed and gasketed properly.

(c) Except as provided in § 61.350 of this subpart, when a broken seal or gasket or other problem is identified, or when detectable emissions are measured, first efforts at repair shall be made as soon as practicable, but not later than 15 calendar days after identification.

[55 FR 8346, Mar. 7, 1990, as amended at 58 FR 3097, Jan. 7, 1993]

### § 61.345 Standards: Containers.

(a) The owner or operator shall meet the following standards for each container in which waste is placed in accordance with § 61.342(c)(1)(ii) of this subpart:

(1) The owner or operator shall install, operate, and maintain a cover on each container used to handle, transfer, or store waste in accordance with the following requirements:

(i) The cover and all openings (e.g., bungs, hatches, and sampling ports) shall be designed to operate with no detectable emissions as indicated by an instrument reading of less than 500 ppmv above background, initially and thereafter at least once per year by the methods specified in § 61.355(h) of this subpart.

(ii) Except as provided in paragraph (a)(4) of this section, each opening shall be maintained in a closed, sealed position (e.g., covered by a lid that is gasketed and latched) at all times that waste is in the container except when it is necessary to use the opening for waste loading, removal, inspection, or sampling.

(2) When a waste is transferred into a container by pumping, the owner or operator shall perform the transfer using a submerged fill pipe. The submerged fill pipe outlet shall extend to within two fill pipe diameters of the bottom of the container while the container is being loaded. During loading of the waste, the cover shall remain in place and all openings shall be maintained in a closed, sealed position except for those openings required for the submerged fill pipe, those openings required for venting of the container to prevent physical damage or permanent deformation of the container or cover, and any openings complying with paragraph (a)(4) of this section.

(3) Treatment of a waste in a container, including aeration, thermal or other treatment, must be performed by the owner or operator in a manner such that while the waste is being treated the container meets the standards specified in paragraphs (a)(3)(i) through (iii) of this section, except for covers and closed-vent systems that meet the requirements in paragraph (a)(4) of this section.

(i) The owner or operator must either:

(A) Vent the container inside a total enclosure which is exhausted through a closed-vent system to a control device in accordance with the requirements of paragraphs (a)(3)(ii)(A) and (B) of this section; or

(B) Vent the covered or closed container directly through a closed-vent system to a control device in accordance with the requirements of paragraphs (a)(3)(ii)(B) and (C) of this section.

(ii) The owner or operator must meet the following requirements, as applicable to the type of air emission control equipment selected by the owner or operator:

(A) The total enclosure must be designed and operated in accordance with

the criteria for a permanent total enclosure as specified in section 5 of the "Procedure T—Criteria for and Verification of a Permanent or Temporary Total Enclosure" in 40 CFR 52.741, appendix B. The enclosure may have permanent or temporary openings to allow worker access; passage of containers through the enclosure by conveyor or other mechanical means; entry of permanent mechanical or electrical equipment; or direct airflow into the enclosure. The owner or operator must perform the verification procedure for the enclosure as specified in section 5.0 of "Procedure T—Criteria for and Verification of a Permanent or Temporary Total Enclosure" initially when the enclosure is first installed and, thereafter, annually. A facility that has conducted an initial compliance demonstration and that performs annual compliance demonstrations in accordance with the Container Level 3 control requirements in 40 CFR 264.1086(e)(2)(i) or 40 CFR 265.1086(e)(2)(i) is not required to make repeat demonstrations of initial and continuous compliance for the purposes of this subpart.

(B) The closed-vent system and control device must be designed and operated in accordance with the requirements of § 61.349.

(C) For a container cover, the cover and all openings (e.g., doors, hatches) must be designed to operate with no detectable emissions as indicated by an instrument reading of less than 500 ppmv above background, initially and thereafter at least once per year by the methods specified in § 61.355(h).

(iii) Safety devices, as defined in this subpart, may be installed and operated as necessary on any container, enclosure, closed-vent system, or control device used to comply with the requirements of paragraph (a)(3)(i) of this section.

(4) If the cover and closed-vent system operate such that the container is maintained at a pressure less than atmospheric pressure, the owner or operator may operate the system with an opening that is not sealed and kept closed at all times if the following conditions are met:

(i) The purpose of the opening is to provide dilution air to reduce the explosion hazard;

(ii) The opening is designed to operate with no detectable emissions as indicated by an instrument reading of less than 500 ppmv above background, as determined initially and thereafter at least once per year by methods specified in § 61.355(h); and-

(iii) The pressure is monitored continuously to ensure that the pressure in the container remains below atmospheric pressure.

(b) Each cover and all openings shall be visually inspected initially and quarterly thereafter to ensure that they are closed and gasketed properly.

(c) Except as provided in § 61.350 of this subpart, when a broken seal or gasket or other problem is identified, first efforts at repair shall be made as soon as practicable, but not later than 15 calendar days after identification.

[55 FR 8346, Mar. 7, 1990, as amended at 58 FR 3097, Jan. 7, 1993; 67 FR 68532, Nov. 12, 2002; 68 FR 67936, Dec. 4, 2003]

**§ 61.346 Standards: Individual drain systems.**

(a) Except as provided in paragraph (b) of this section, the owner or operator shall meet the following standards for each individual drain system in which waste is placed in accordance with § 61.342(c)(1)(ii) of this subpart:

(1) The owner or operator shall install, operate, and maintain on each drain system opening a cover and closed-vent system that routes all organic vapors vented from the drain system to a control device.

(i) The cover shall meet the following requirements:

(A) The cover and all openings (e.g., access hatches, sampling ports) shall be designed to operate with no detectable emissions as indicated by an instrument reading of less than 500 ppmv above background, initially and thereafter at least once per year by the methods specified in § 61.355(h) of this subpart.

(B) Each opening shall be maintained in a closed, sealed position (e.g., covered by a lid that is gasketed and latched) at all times that waste is in the drain system except when it is necessary to use the opening for waste

sampling or removal, or for equipment inspection, maintenance, or repair.

(C) If the cover and closed-vent system operate such that the individual drain system is maintained at a pressure less than atmospheric pressure, then paragraph (a)(1)(i)(B) of this section does not apply to any opening that meets all of the following conditions:

(1) The purpose of the opening is to provide dilution air to reduce the explosion hazard;

(2) The opening is designed to operate with no detectable emissions as indicated by an instrument reading of less than 500 ppmv above background, as determined initially and thereafter at least once per year by the methods specified in § 61.355(h); and

(3) The pressure is monitored continuously to ensure that the pressure in the individual drain system remains below atmospheric pressure.

(ii) The closed-vent system and control device shall be designed and operated in accordance with § 61.349 of this subpart.

(2) Each cover seal, access hatch, and all other openings shall be checked by visual inspection initially and quarterly thereafter to ensure that no cracks or gaps occur and that access hatches and other openings are closed and gasketed properly.

(3) Except as provided in § 61.350 of this subpart, when a broken seal or gasket or other problem is identified, or when detectable emissions are measured, first efforts at repair shall be made as soon as practicable, but not later than 15 calendar days after identification.

(b) As an alternative to complying with paragraph (a) of this section, an owner or operator may elect to comply with the following requirements:

(1) Each drain shall be equipped with water seal controls or a tightly sealed cap or plug.

(2) Each junction box shall be equipped with a cover and may have a vent pipe. The vent pipe shall be at least 90 cm (3 ft) in length and shall not exceed 10.2 cm (4 in) in diameter.

(i) Junction box covers shall have a tight seal around the edge and shall be kept in place at all times, except during inspection and maintenance.



(ii) One of the following methods shall be used to control emissions from the junction box vent pipe to the atmosphere:

(A) Equip the junction box with a system to prevent the flow of organic vapors from the junction box vent pipe to the atmosphere during normal operation. An example of such a system includes use of water seal controls on the junction box. A flow indicator shall be installed, operated, and maintained on each junction box vent pipe to ensure that organic vapors are not vented from the junction box to the atmosphere during normal operation.

(B) Connect the junction box vent pipe to a closed-vent system and control device in accordance with §61.349 of this subpart.

(3) Each sewer line shall not be open to the atmosphere and shall be covered or enclosed in a manner so as to have no visual gaps or cracks in joints, seals, or other emission interfaces.

(4) Equipment installed in accordance with paragraphs (b)(1), (b)(2), or (b)(3) of this section shall be inspected as follows:

(i) Each drain using water seal controls shall be checked by visual or physical inspection initially and thereafter quarterly for indications of low water levels or other conditions that would reduce the effectiveness of water seal controls.

(ii) Each drain using a tightly sealed cap or plug shall be visually inspected initially and thereafter quarterly to ensure caps or plugs are in place and properly installed.

(iii) Each junction box shall be visually inspected initially and thereafter quarterly to ensure that the cover is in place and to ensure that the cover has a tight seal around the edge.

(iv) The unburied portion of each sewer line shall be visually inspected initially and thereafter quarterly for indication of cracks, gaps, or other problems that could result in benzene emissions.

(5) Except as provided in §61.350 of this subpart, when a broken seal, gap, crack or other problem is identified, first efforts at repair shall be made as

soon as practicable, but not later than 15 calendar days after identification.

[55 FR 8346, Mar. 7, 1990, as amended at 55 FR 37231, Sept. 10, 1990; 58 FR 3097, Jan. 7, 1993]

#### §61.347 Standards: Oil-water separators.

(a) Except as provided in §61.352 of this subpart, the owner or operator shall meet the following standards for each oil-water separator in which waste is placed in accordance with §61.342(c)(1)(ii) of this subpart:

(1) The owner or operator shall install, operate, and maintain a fixed-roof and closed-vent system that routes all organic vapors vented from the oil-water separator to a control device.

(i) The fixed-roof shall meet the following requirements:

(A) The cover and all openings (e.g., access hatches, sampling ports, and gauge wells) shall be designed to operate with no detectable emissions as indicated by an instrument reading of less than 500 ppmv above background, as determined initially and thereafter at least once per year by the methods specified in §61.355(h) of this subpart.

(B) Each opening shall be maintained in a closed, sealed position (e.g., covered by a lid that is gasketed and latched) at all times that waste is in the oil-water separator except when it is necessary to use the opening for waste sampling or removal, or for equipment inspection, maintenance, or repair.

(C) If the cover and closed-vent system operate such that the oil-water separator is maintained at a pressure less than atmospheric pressure, then paragraph (a)(1)(i)(B) of this section does not apply to any opening that meets all of the following conditions:

(1) The purpose of the opening is to provide dilution air to reduce the explosion hazard;

(2) The opening is designed to operate with no detectable emissions as indicated by an instrument reading of less than 500 ppmv above background, as determined initially and thereafter at least once per year by the methods specified in §61.355(h); and

(3) The pressure is monitored continuously to ensure that the pressure

in the oil-water separator remains below atmospheric pressure.

(ii) The closed-vent system and control device shall be designed and operated in accordance with the requirements of § 61.349 of this subpart.

(b) Each cover seal, access hatch, and all other openings shall be checked by visual inspection initially and quarterly thereafter to ensure that no cracks or gaps occur between the cover and oil-water separator wall and that access hatches and other openings are closed and gasketed properly.

(c) Except as provided in § 61.350 of this subpart, when a broken seal or gasket or other problem is identified, or when detectable emissions are measured, first efforts at repair shall be made as soon as practicable, but not later than 15 calendar days after identification.

[55 FR 8346, Mar. 7, 1990, as amended at 58 FR 3098, Jan. 7, 1993]

**§ 61.348 Standards: Treatment processes.**

(a) Except as provided in paragraph (a)(5) of this section, the owner or operator shall treat the waste stream in accordance with the following requirements:

(1) The owner or operator shall design, install, operate, and maintain a treatment process that either:

(i) Removes benzene from the waste stream to a level less than 10 parts per million by weight (ppmw) on a flow-weighted annual average basis,

(ii) Removes benzene from the waste stream by 99 percent or more on a mass basis, or

(iii) Destroys benzene in the waste stream by incinerating the waste in a combustion unit that achieves a destruction efficiency of 99 percent or greater for benzene.

(2) Each treatment process complying with paragraphs (a)(1)(i) or (a)(1)(ii) of this section shall be designed and operated in accordance with the appropriate waste management unit standards specified in §§ 61.343 through 61.347 of this subpart. For example, if a treatment process is a tank, then the owner or operator shall comply with § 61.343 of this subpart.

(3) For the purpose of complying with the requirements specified in para-

graph (a)(1)(i) of this section, the intentional or unintentional reduction in the benzene concentration of a waste stream by dilution of the waste stream with other wastes or materials is not allowed.

(4) An owner or operator may aggregate or mix together individual waste streams to create a combined waste stream for the purpose of facilitating treatment of waste to comply with the requirements of paragraph (a)(1) of this section except as provided in paragraph (a)(5) of this section.

(5) If an owner or operator aggregates or mixes any combination of process wastewater, product tank drawdown, or landfill leachate subject to § 61.342(c)(1) of this subpart together with other waste streams to create a combined waste stream for the purpose of facilitating management or treatment of waste in a wastewater treatment system, then the wastewater treatment system shall be operated in accordance with paragraph (b) of this section. These provisions apply to above-ground wastewater treatment systems as well as those that are at or below ground level.

(b) Except for facilities complying with § 61.342(e), the owner or operator that aggregates or mixes individual waste streams as defined in paragraph (a)(5) of this section for management and treatment in a wastewater treatment system shall comply with the following requirements:

(1) The owner or operator shall design and operate each waste management unit that comprises the wastewater treatment system in accordance with the appropriate standards specified in §§ 61.343 through 61.347 of this subpart.

(2) The provisions of paragraph (b)(1) of this section do not apply to any waste management unit that the owner or operator demonstrates to meet the following conditions initially and, thereafter, at least once per year:

(i) The benzene content of each waste stream entering the waste management unit is less than 10 ppmw on a flow-weighted annual average basis as determined by the procedures specified in § 61.355(c) of this subpart; and

(ii) The total annual benzene quantity contained in all waste streams

managed or treated in exempt waste management units comprising the facility wastewater treatment systems is less than 1 Mg/yr (1.1 ton/yr). For this determination, total annual benzene quantity shall be calculated as follows:

(A) The total annual benzene quantity shall be calculated as the sum of the individual benzene quantities determined at each location where a waste stream first enters an exempt waste management unit. The benzene quantity discharged from an exempt waste management unit shall not be included in this calculation.

(B) The annual benzene quantity in a waste stream managed or treated in an enhanced biodegradation unit shall not be included in the calculation of the total annual benzene quantity, if the enhanced biodegradation unit is the first exempt unit in which the waste is managed or treated. A unit shall be considered enhanced biodegradation if it is a suspended-growth process that generates biomass, uses recycled biomass, and periodically removes biomass from the process. An enhanced biodegradation unit typically operates at a food-to-microorganism ratio in the range of 0.05 to 1.0 kg of biological oxygen demand per kg of biomass per day, a mixed liquor suspended solids ratio in the range of 1 to 8 grams per liter (0.008 to 0.7 pounds per liter), and a residence time in the range of 3 to 36 hours.

(c) The owner and operator shall demonstrate that each treatment process or wastewater treatment system unit, except as provided in paragraph (d) of this section, achieves the appropriate conditions specified in paragraphs (a) or (b) of this section in accordance with the following requirements:

(1) Engineering calculations in accordance with requirements specified in § 61.356(e) of this subpart; or

(2) Performance tests conducted using the test methods and procedures that meet the requirements specified in § 61.355 of this subpart.

(d) A treatment process or waste stream is in compliance with the requirements of this subpart and exempt from the requirements of paragraph (c) of this section provided that the owner or operator documents that the treatment process or waste stream is in

compliance with other regulatory requirements as follows:

(1) The treatment process is a hazardous waste incinerator for which the owner or operator has been issued a final permit under 40 CFR part 270 and complies with the requirements of 40 CFR part 264, subpart O;

(2) The treatment process is an industrial furnace or boiler burning hazardous waste for energy recovery for which the owner or operator has been issued a final permit under 40 CFR part 270 and complies with the requirements of 40 CFR part 266, subpart D;

(3) The waste stream is treated by a means or to a level that meets benzene-specific treatment standards in accordance with the Land Disposal Restrictions under 40 CFR part 268, and the treatment process is designed and operated with a closed-vent system and control device meeting the requirements of § 61.349 of this subpart;

(4) The waste stream is treated by a means or to a level that meets benzene-specific effluent limitations or performance standards in accordance with the Effluent Guidelines and Standards under 40 CFR parts 401-464, and the treatment process is designed and operated with a closed-vent system and control device meeting the requirements of § 61.349 of this subpart; or

(5) The waste stream is discharged to an underground injection well for which the owner or operator has been issued a final permit under 40 CFR part 270 and complies with the requirements of 40 CFR part 122.

(e) Except as specified in paragraph (e)(3) of this section, if the treatment process or wastewater treatment system unit has any openings (e.g., access doors, hatches, etc.), all such openings shall be sealed (e.g., gasketed, latched, etc.) and kept closed at all times when waste is being treated, except during inspection and maintenance.

(1) Each seal, access door, and all other openings shall be checked by visual inspections initially and quarterly thereafter to ensure that no cracks or gaps occur and that openings are closed and gasketed properly.

(2) Except as provided in § 61.350 of this subpart, when a broken seal or gasket or other problem is identified, first efforts at repair shall be made as

soon as practicable, but not later than 15 calendar days after identification.

(3) If the cover and closed-vent system operate such that the treatment process and wastewater treatment system unit are maintained at a pressure less than atmospheric pressure, the owner or operator may operate the system with an opening that is not sealed and kept closed at all times if the following conditions are met:

(i) The purpose of the opening is to provide dilution air to reduce the explosion hazard;

(ii) The opening is designed to operate with no detectable emissions as indicated by an instrument reading of less than 500 ppmv above background, as determined initially and thereafter at least once per year by the methods specified in § 61.355(h); and

(iii) The pressure is monitored continuously to ensure that the pressure in the treatment process and wastewater treatment system unit remain below atmospheric pressure.

(f) Except for treatment processes complying with paragraph (d) of this section, the Administrator may request at any time an owner or operator demonstrate that a treatment process or wastewater treatment system unit meets the applicable requirements specified in paragraphs (a) or (b) of this section by conducting a performance test using the test methods and procedures as required in § 61.355 of this subpart.

(g) The owner or operator of a treatment process or wastewater treatment system unit that is used to comply with the provisions of this section shall monitor the unit in accordance with the applicable requirements in § 61.354 of this subpart.

[55 FR 8346, Mar. 7, 1990, as amended at 55 FR 37231, Sept. 10, 1990; 58 FR 3098, Jan. 7, 1993; 65 FR 62160, Oct. 17, 2000]

**§ 61.349 Standards: Closed-vent systems and control devices.**

(a) For each closed-vent system and control device used to comply with standards in accordance with §§ 61.343 through 61.348 of this subpart, the owner or operator shall properly design, install, operate, and maintain the closed-vent system and control device

in accordance with the following requirements:

(1) The closed-vent system shall:

(i) Be designed to operate with no detectable emissions as indicated by an instrument reading of less than 500 ppmv above background, as determined initially and thereafter at least once per year by the methods specified in § 61.355(h) of this subpart.

(ii) Vent systems that contain any bypass line that could divert the vent stream away from a control device used to comply with the provisions of this subpart shall install, maintain, and operate according to the manufacturer's specifications a flow indicator that provides a record of vent stream flow away from the control device at least once every 15 minutes, except as provided in paragraph (a)(1)(ii)(B) of this section.

(A) The flow indicator shall be installed at the entrance to any bypass line that could divert the vent stream away from the control device to the atmosphere.

(B) Where the bypass line valve is secured in the closed position with a car-seal or a lock-and-key type configuration, a flow indicator is not required.

(iii) All gauging and sampling devices shall be gas-tight except when gauging or sampling is taking place.

(iv) For each closed-vent system complying with paragraph (a) of this section, one or more devices which vent directly to the atmosphere may be used on the closed-vent system provided each device remains in a closed, sealed position during normal operations except when the device needs to open to prevent physical damage or permanent deformation of the closed-vent system resulting from malfunction of the unit in accordance with good engineering and safety practices for handling flammable, explosive, or other hazardous materials.

(2) The control device shall be designed and operated in accordance with the following conditions:

(i) An enclosed combustion device (e.g., a vapor incinerator, boiler, or process heater) shall meet one of the following conditions:

(A) Reduce the organic emissions vented to it by 95 weight percent or greater;

(B) Achieve a total organic compound concentration of 20 ppmv (as the sum of the concentrations for individual compounds using Method 18) on a dry basis corrected to 3 percent oxygen; or

(C) Provide a minimum residence time of 0.5 seconds at a minimum temperature of 760 °C (1,400 °F). If a boiler or process heater issued as the control device, then the vent stream shall be introduced into the flame zone of the boiler or process heater.

(ii) A vapor recovery system (e.g., a carbon adsorption system or a condenser) shall recover or control the organic emissions vented to it with an efficiency of 95 weight percent or greater, or shall recover or control the benzene emissions vented to it with an efficiency of 98 weight percent or greater.

(iii) A flare shall comply with the requirements of 40 CFR 60.18.

(iv) A control device other than those described in paragraphs (a)(2) (i) through (iii) of this section may be used provided that the following conditions are met:

(A) The device shall recover or control the organic emissions vented to it with an efficiency of 95 weight percent or greater, or shall recover or control the benzene emissions vented to it with an efficiency of 98 weight percent or greater.

(B) The owner or operator shall develop test data and design information that documents the control device will achieve an emission control efficiency of either 95 percent or greater for organic compounds or 98 percent or greater for benzene.

(C) The owner or operator shall identify:

(1) The critical operating parameters that affect the emission control performance of the device;

(2) The range of values of these operating parameters that ensure the emission control efficiency specified in paragraph (a)(2)(iv)(A) of this section is maintained during operation of the device; and

(3) How these operating parameters will be monitored to ensure the proper operation and maintenance of the device.

(D) The owner or operator shall submit the information and data specified

in paragraphs (a)(2)(iv) (B) and (C) of this section to the Administrator prior to operation of the alternative control device.

(E) The Administrator will determine, based on the information submitted under paragraph (a)(2)(iv)(D) of this section, if the control device subject to paragraph (a)(2)(iv) of this section meets the requirements of § 61.349. The control device subject to paragraph (a)(2)(iv) of this section may be operated prior to receiving approval from the Administrator. However, if the Administrator determines that the control device does not meet the requirements of § 61.349, the facility may be subject to enforcement action beginning from the time the control device began operation.

(b) Each closed-vent system and control device used to comply with this subpart shall be operated at all times when waste is placed in the waste management unit vented to the control device except when maintenance or repair of the waste management unit cannot be completed without a shutdown of the control device.

(c) An owner and operator shall demonstrate that each control device, except for a flare, achieves the appropriate conditions specified in paragraph (a)(2) of this section by using one of the following methods:

(1) Engineering calculations in accordance with requirements specified in § 61.356(f) of this subpart; or

(2) Performance tests conducted using the test methods and procedures that meet the requirements specified in § 61.355 of this subpart.

(d) An owner or operator shall demonstrate compliance of each flare in accordance with paragraph (a)(2)(iii) of this section.

(e) The Administrator may request at any time an owner or operator demonstrate that a control device meets the applicable conditions specified in paragraph (a)(2) of this section by conducting a performance test using the test methods and procedures as required in § 61.355, and for control devices subject to paragraph (a)(2)(iv) of this section, the Administrator may specify alternative test methods and procedures, as appropriate.

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(f) Each closed-vent system and control device shall be visually inspected initially and quarterly thereafter. The visual inspection shall include inspection of ductwork and piping and connections to covers and control devices for evidence of visible defects such as holes in ductwork or piping and loose connections.

(g) Except as provided in § 61.350 of this subpart, if visible defects are observed during an inspection, or if other problems are identified, or if detectable emissions are measured, a first effort to repair the closed-vent system and control device shall be made as soon as practicable but no later than 5 calendar days after detection. Repair shall be completed no later than 15 calendar days after the emissions are detected or the visible defect is observed.

(h) The owner or operator of a control device that is used to comply with the provisions of this section shall monitor the control device in accordance with § 61.354(c) of this subpart.

[55 FR 8346, Mar. 7, 1990; 55 FR 12444, Apr. 3, 1990, as amended at 55 FR 37231, Sept. 10, 1990; 58 FR 3098, Jan. 7, 1993; 65 FR 62160, Oct. 17, 2000]

**§ 61.350 Standards: Delay of repair.**

(a) Delay of repair of facilities or units that are subject to the provisions of this subpart will be allowed if the repair is technically impossible without a complete or partial facility or unit shutdown.

(b) Repair of such equipment shall occur before the end of the next facility or unit shutdown.

**§ 61.351 Alternative standards for tanks.**

(a) As an alternative to the standards for tanks specified in § 61.343 of this subpart, an owner or operator may elect to comply with one of the following:

(1) A fixed roof and internal floating roof meeting the requirements in 40 CFR 60.112b(a)(1);

(2) An external floating roof meeting the requirements of 40 CFR 60.112b(a)(2); or

(3) An alternative means of emission limitation as described in 40 CFR 60.114b.

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(b) If an owner or operator elects to comply with the provisions of this section, then the owner or operator is exempt from the provisions of § 61.343 of this subpart applicable to the same facilities.

[55 FR 8346, Mar. 7, 1990, as amended at 55 FR 37231, Sept. 10, 1990]

**§ 61.352 Alternative standards for oil-water separators.**

(a) As an alternative to the standards for oil-water separators specified in § 61.347 of this subpart, an owner or operator may elect to comply with one of the following:

(1) A floating roof meeting the requirements in 40 CFR 60.693-2(a); or

(2) An alternative means of emission limitation as described in 40 CFR 60.694.

(b) For portions of the oil-water separator where it is infeasible to construct and operate a floating roof, such as over the weir mechanism, a fixed roof vented to a vapor control device that meets the requirements in §§ 61.347 and 61.349 of this subpart shall be installed and operated.

(c) Except as provided in paragraph (b) of this section, if an owner or operator elects to comply with the provisions of this section, then the owner or operator is exempt from the provisions in § 61.347 of this subpart applicable to the same facilities.

**§ 61.353 Alternative means of emission limitation.**

(a) If, in the Administrator's judgment, an alternative means of emission limitation will achieve a reduction in benzene emissions at least equivalent to the reduction in benzene emissions from the source achieved by the applicable design, equipment, work practice, or operational requirements in §§ 61.342 through 61.349, the Administrator will publish in the FEDERAL REGISTER a notice permitting the use of the alternative means for purposes of compliance with that requirement. The notice may condition the permission on requirements related to the operation and maintenance of the alternative means.

(b) Any notice under paragraph (a) of this section shall be published only

after public notice and an opportunity for a hearing.

(c) Any person seeking permission under this section shall collect, verify, and submit to the Administrator information showing that the alternative means achieves equivalent emission reductions.

[55 FR 8346, Mar. 7, 1990, as amended at 58 FR 3099, Jan. 7, 1993]

#### § 61.354 Monitoring of operations.

(a) Except for a treatment process or waste stream complying with § 61.348(d), the owner or operator shall monitor each treatment process or wastewater treatment system unit to ensure the unit is properly operated and maintained by one of the following monitoring procedures:

(1) Measure the benzene concentration of the waste stream exiting the treatment process complying with § 61.348(a)(1)(i) at least once per month by collecting and analyzing one or more samples using the procedures specified in § 61.355(c)(3).

(2) Install, calibrate, operate, and maintain according to manufacturer's specifications equipment to continuously monitor and record a process parameter (or parameters) for the treatment process or wastewater treatment system unit that indicates proper system operation. The owner or operator shall inspect at least once each operating day the data recorded by the monitoring equipment (e.g., temperature monitor or flow indicator) to ensure that the unit is operating properly.

(b) If an owner or operator complies with the requirements of § 61.348(b), then the owner or operator shall monitor each wastewater treatment system to ensure the unit is properly operated and maintained by the appropriate monitoring procedure as follows:

(1) For the first exempt waste management unit in each waste treatment train, other than an enhanced biodegradation unit, measure the flow rate, using the procedures of § 61.355(b), and the benzene concentration of each waste stream entering the unit at least once per month by collecting and analyzing one or more samples using the procedures specified in § 61.355(c)(3).

(2) For each enhanced biodegradation unit that is the first exempt waste management unit in a treatment train, measure the benzene concentration of each waste stream entering the unit at least once per month by collecting and analyzing one or more samples using the procedures specified in § 61.355(c)(3).

(c) An owner or operator subject to the requirements in § 61.349 of this subpart shall install, calibrate, maintain, and operate according to the manufacturer's specifications a device to continuously monitor the control device operation as specified in the following paragraphs, unless alternative monitoring procedures or requirements are approved for that facility by the Administrator. The owner or operator shall inspect at least once each operating day the data recorded by the monitoring equipment (e.g., temperature monitor or flow indicator) to ensure that the control device is operating properly.

(1) For a thermal vapor incinerator, a temperature monitoring device equipped with a continuous recorder. The device shall have an accuracy of  $\pm 1$  percent of the temperature being monitored in  $^{\circ}\text{C}$  or  $\pm 0.5$   $^{\circ}\text{C}$ , whichever is greater. The temperature sensor shall be installed at a representative location in the combustion chamber.

(2) For a catalytic vapor incinerator, a temperature monitoring device equipped with a continuous recorder. The device shall be capable of monitoring temperature at two locations, and have an accuracy of  $\pm 1$  percent of the temperature being monitored in  $^{\circ}\text{C}$  or  $\pm 0.5$   $^{\circ}\text{C}$ , whichever is greater. One temperature sensor shall be installed in the vent stream at the nearest feasible point to the catalyst bed inlet and a second temperature sensor shall be installed in the vent stream at the nearest feasible point to the catalyst bed outlet.

(3) For a flare, a monitoring device in accordance with 40 CFR 60.18(f)(2) equipped with a continuous recorder.

(4) For a boiler or process heater having a design heat input capacity less than 44 MW ( $150 \times 10^6$  BTU/hr), a temperature monitoring device equipped with a continuous recorder. The device shall have an accuracy of  $\pm 1$  percent of the temperature being monitored in  $^{\circ}\text{C}$

or  $\pm 0.5$  °C, whichever is greater. The temperature sensor shall be installed at a representative location in the combustion chamber.

(5) For a boiler or process heater having a design heat input capacity greater than or equal to 44 MW ( $150 \times 10^6$  BTU/hr), a monitoring device equipped with a continuous recorder to measure a parameter(s) that indicates good combustion operating practices are being used.

(6) For a condenser, either:

(i) A monitoring device equipped with a continuous recorder to measure either the concentration level of the organic compounds or the concentration level of benzene in the exhaust vent stream from the condenser; or

(ii) A temperature monitoring device equipped with a continuous recorder. The device shall be capable of monitoring temperature at two locations, and have an accuracy of  $\pm 1$  percent of the temperature being monitored in °C or  $\pm 0.5$  °C, whichever is greater. One temperature sensor shall be installed at a location in the exhaust stream from the condenser, and a second temperature sensor shall be installed at a location in the coolant fluid exiting the condenser.

(7) For a carbon adsorption system that regenerates the carbon bed directly in the control device such as a fixed-bed carbon adsorber, either:

(i) A monitoring device equipped with a continuous recorder to measure either the concentration level of the organic compounds or the benzene concentration level in the exhaust vent stream from the carbon bed; or

(ii) A monitoring device equipped with a continuous recorder to measure a parameter that indicates the carbon bed is regenerated on a regular, predetermined time cycle.

(8) For a vapor recovery system other than a condenser or carbon adsorption system, a monitoring device equipped with a continuous recorder to measure either the concentration level of the organic compounds or the benzene concentration level in the exhaust vent stream from the control device.

(9) For a control device subject to the requirements of § 61.349(a)(2)(iv), devices to monitor the parameters as specified in § 61.349(a)(2)(iv)(C).

(d) For a carbon adsorption system that does not regenerate the carbon bed directly on site in the control device (e.g., a carbon canister), either the concentration level of the organic compounds or the concentration level of benzene in the exhaust vent stream from the carbon adsorption system shall be monitored on a regular schedule, and the existing carbon shall be replaced with fresh carbon immediately when carbon breakthrough is indicated. The device shall be monitored on a daily basis or at intervals no greater than 20 percent of the design carbon replacement interval, whichever is greater. As an alternative to conducting this monitoring, an owner or operator may replace the carbon in the carbon adsorption system with fresh carbon at a regular predetermined time interval that is less than the carbon replacement interval that is determined by the maximum design flow rate and either the organic concentration or the benzene concentration in the gas stream vented to the carbon adsorption system.

(e) An alternative operation or process parameter may be monitored if it can be demonstrated that another parameter will ensure that the control device is operated in conformance with these standards and the control device's design specifications.

(f) Owners or operators using a closed-vent system that contains any bypass line that could divert a vent stream from a control device used to comply with the provisions of this subpart shall do the following:

(1) Visually inspect the bypass line valve at least once every month, checking the position of the valve and the condition of the car-seal or closure mechanism required under § 61.349(a)(1)(ii) to ensure that the valve is maintained in the closed position and the vent stream is not diverted through the bypass line.

(2) Visually inspect the readings from each flow monitoring device required by § 61.349(a)(1)(ii) at least once each operating day to check that vapors are being routed to the control device as required.

(g) Each owner or operator who uses a system for emission control that is



maintained at a pressure less than atmospheric pressure with openings to provide dilution air shall install, calibrate, maintain, and operate according to the manufacturer's specifications a device equipped with a continuous recorder to monitor the pressure in the unit to ensure that it is less than atmospheric pressure.

[55 FR 8346, Mar. 7, 1990, as amended at 58 FR 3099, Jan. 7, 1993; 65 FR 62160, Oct. 17, 2000]

**§61.355 Test methods, procedures, and compliance provisions.**

(a) An owner or operator shall determine the total annual benzene quantity from facility waste by the following procedure:

(1) For each waste stream subject to this subpart having a flow-weighted annual average water content greater than 10 percent water, on a volume basis as total water, or is mixed with water or other wastes at any time and the resulting mixture has an annual average water content greater than 10 percent as specified in §61.342(a), the owner or operator shall:

(i) Determine the annual waste quantity for each waste stream using the procedures specified in paragraph (b) of this section.

(ii) Determine the flow-weighted annual average benzene concentration for each waste stream using the procedures specified in paragraph (c) of this section.

(iii) Calculate the annual benzene quantity for each waste stream by multiplying the annual waste quantity of the waste stream times the flow-weighted annual average benzene concentration.

(2) Total annual benzene quantity from facility waste is calculated by adding together the annual benzene quantity for each waste stream generated during the year and the annual benzene quantity for each process unit turnaround waste annualized according to paragraph (b)(4) of this section.

(3) If the total annual benzene quantity from facility waste is equal to or greater than 10 Mg/yr (11 ton/yr), then the owner or operator shall comply with the requirements of §61.342 (c), (d), or (e).

(4) If the total annual benzene quantity from facility waste is less than 10

Mg/yr (11 ton/yr) but is equal to or greater than 1 Mg/yr (1.1 ton/yr), then the owner or operator shall:

(i) Comply with the recordkeeping requirements of §61.356 and reporting requirements of §61.357 of this subpart; and

(ii) Repeat the determination of total annual benzene quantity from facility waste at least once per year and whenever there is a change in the process generating the waste that could cause the total annual benzene quantity from facility waste to increase to 10 Mg/yr (11 ton/yr) or more.

(5) If the total annual benzene quantity from facility waste is less than 1 Mg/yr (1.1 ton/yr), then the owner or operator shall:

(i) Comply with the recordkeeping requirements of §61.356 and reporting requirements of §61.357 of this subpart; and

(ii) Repeat the determination of total annual benzene quantity from facility waste whenever there is a change in the process generating the waste that could cause the total annual benzene quantity from facility waste to increase to 1 Mg/yr (1.1 ton/yr) or more.

(6) The benzene quantity in a waste stream that is generated less than one time per year, except as provided for process unit turnaround waste in paragraph (b)(4) of this section, shall be included in the determination of total annual benzene quantity from facility waste for the year in which the waste is generated unless the waste stream is otherwise excluded from the determination of total annual benzene quantity from facility waste in accordance with paragraphs (a) through (c) of this section. The benzene quantity in this waste stream shall not be annualized or averaged over the time interval between the activities that resulted in generation of the waste, for purposes of determining the total annual benzene quantity from facility waste.

(b) For purposes of the calculation required by paragraph (a) of this section, an owner or operator shall determine the annual waste quantity at the point of waste generation, unless otherwise provided in paragraphs (b) (1), (2), (3), and (4) of this section, by one of the methods given in paragraphs (b) (5) through (7) of this section.

(1) The determination of annual waste quantity for sour water streams that are processed in sour water strippers shall be made at the point that the water exits the sour water stripper.

(2) The determination of annual waste quantity for wastes at coke by-product plants subject to and complying with the control requirements of § 61.132, 61.133, 61.134, or 61.139 of subpart L of this part shall be made at the location that the waste stream exits the process unit component or waste management unit controlled by that subpart or at the exit of the ammonia still, provided that the following conditions are met:

(i) The transfer of wastes between units complying with the control requirements of subpart L of this part, process units, and the ammonia still is made through hard piping or other enclosed system.

(ii) The ammonia still meets the definition of a sour water stripper in § 61.341.

(3) The determination of annual waste quantity for wastes that are received at hazardous waste treatment, storage, or disposal facilities from off-site shall be made at the point where the waste enters the hazardous waste treatment, storage, or disposal facility.

(4) The determination of annual waste quantity for each process unit turnaround waste generated only at 2 year or greater intervals, may be made by dividing the total quantity of waste generated during the most recent process unit turnaround by the time period (in the nearest tenth of a year) between the turnaround resulting in generation of the waste and the most recent preceding process turnaround for the unit. The resulting annual waste quantity shall be included in the calculation of the annual benzene quantity as provided in paragraph (a)(1)(iii) of this section for the year in which the turnaround occurs and for each subsequent year until the unit undergoes the next process turnaround. For estimates of total annual benzene quantity as specified in the 90-day report, required under § 61.357(a)(1), the owner or operator shall estimate the waste quantity generated during the most recent turnaround, and the time period between turnarounds in accordance with good

engineering practices. If the owner or operator chooses not to annualize process unit turnaround waste, as specified in this paragraph, then the process unit turnaround waste quantity shall be included in the calculation of the annual benzene quantity for the year in which the turnaround occurs.

(5) Select the highest annual quantity of waste managed from historical records representing the most recent 5 years of operation or, if the facility has been in service for less than 5 years but at least 1 year, from historical records representing the total operating life of the facility;

(6) Use the maximum design capacity of the waste management unit; or

(7) Use measurements that are representative of maximum waste generation rates.

(c) For the purposes of the calculation required by §§ 61.355(a) of this subpart, an owner or operator shall determine the flow-weighted annual average benzene concentration in a manner that meets the requirements given in paragraph (c)(1) of this section using either of the methods given in paragraphs (c)(2) and (c)(3) of this section.

(1) The determination of flow-weighted annual average benzene concentration shall meet all of the following criteria:

(i) The determination shall be made at the point of waste generation except for the specific cases given in paragraphs (c)(1)(i)(A) through (D) of this section.

(A) The determination for sour water streams that are processed in sour water strippers shall be made at the point that the water exits the sour water stripper.

(B) The determination for wastes at coke by-product plants subject to and complying with the control requirements of § 61.132, 61.133, 61.134, or 61.139 of subpart L of this part shall be made at the location that the waste stream exits the process unit component or waste management unit controlled by that subpart or at the exit of the ammonia still, provided that the following conditions are met:

(I) The transfer of wastes between units complying with the control requirements of subpart L of this part, process units, and the ammonia still is

made through hard piping or other enclosed system.

(2) The ammonia still meets the definition of a sour water stripper in § 61.341.

(C) The determination for wastes that are received from offsite shall be made at the point where the waste enters the hazardous waste treatment, storage, or disposal facility.

(D) The determination of flow-weighted annual average benzene concentration for process unit turnaround waste shall be made using either of the methods given in paragraph (c)(2) or (c)(3) of this section. The resulting flow-weighted annual average benzene concentration shall be included in the calculation of annual benzene quantity as provided in paragraph (a)(1)(iii) of this section for the year in which the turnaround occurs and for each subsequent year until the unit undergoes the next process unit turnaround.

(ii) Volatilization of the benzene by exposure to air shall not be used in the determination to reduce the benzene concentration.

(iii) Mixing or diluting the waste stream with other wastes or other materials shall not be used in the determination—to reduce the benzene concentration.

(iv) The determination shall be made prior to any treatment of the waste that removes benzene, except as specified in paragraphs (c)(1)(i)(A) through (D) of this section.

(v) For wastes with multiple phases, the determination shall provide the weighted-average benzene concentration based on the benzene concentration in each phase of the waste and the relative proportion of the phases.

(2) *Knowledge of the waste.* The owner or operator shall provide sufficient information to document the flow-weighted annual average benzene concentration of each waste stream. Examples of information that could constitute knowledge include material balances, records of chemicals purchases, or previous test results provided the results are still relevant to the current waste stream conditions. If test data are used, then the owner or operator shall provide documentation describing the testing protocol and the means by which sampling variability

and analytical variability were accounted for in the determination of the flow-weighted annual average benzene concentration for the waste stream. When an owner or operator and the Administrator do not agree on determinations of the flow-weighted annual average benzene concentration based on knowledge of the waste, the procedures under paragraph (c)(3) of this section shall be used to resolve the disagreement.

(3) Measurements of the benzene concentration in the waste stream in accordance with the following procedures:

(i) Collect a minimum of three representative samples from each waste stream. Where feasible, samples shall be taken from an enclosed pipe prior to the waste being exposed to the atmosphere.

(ii) For waste in enclosed pipes, the following procedures shall be used:

(A) Samples shall be collected prior to the waste being exposed to the atmosphere in order to minimize the loss of benzene prior to sampling.

(B) A static mixer shall be installed in the process line or in a by-pass line unless the owner or operator demonstrates that installation of a static mixer in the line is not necessary to accurately determine the benzene concentration of the waste stream.

(C) The sampling tap shall be located within two pipe diameters of the static mixer outlet.

(D) Prior to the initiation of sampling, sample lines and cooling coil shall be purged with at least four volumes of waste.

(E) After purging, the sample flow shall be directed to a sample container and the tip of the sampling tube shall be kept below the surface of the waste during sampling to minimize contact with the atmosphere.

(F) Samples shall be collected at a flow rate such that the cooling coil is able to maintain a waste temperature less than 10 °C (50 °F).

(G) After filling, the sample container shall be capped immediately (within 5 seconds) to leave a minimum headspace in the container.

(H) The sample containers shall immediately be cooled and maintained at

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a temperature below 10 °C (50 °F) for transfer to the laboratory.

(iii) When sampling from an enclosed pipe is not feasible, a minimum of three representative samples shall be collected in a manner to minimize exposure of the sample to the atmosphere and loss of benzene prior to sampling.

(iv) Each waste sample shall be analyzed using one of the following test methods for determining the benzene concentration in a waste stream:

(A) Method 8020, Aromatic Volatile Organics, in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication No. SW-846 (incorporation by reference as specified in §61.18 of this part);

(B) Method 8021, Volatile Organic Compounds in Water by Purge and Trap Capillary Column Gas Chromatography with Photoionization and Electrolytic Conductivity Detectors in Series in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication No. SW-846 (incorporation by reference as specified in §61.18 of this part);

(C) Method 8240, Gas Chromatography/Mass Spectrometry for Volatile Organics in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication No. SW-846 (incorporation by reference as specified in §61.18 of this part);

(D) Method 8260, Gas Chromatography/Mass Spectrometry for Volatile Organics: Capillary Column Technique in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication No. SW-846 (incorporation by reference as specified in §61.18 of this part);

(E) Method 602, Purgeable Aromatics, as described in 40 CFR part 136, appendix A, Test Procedures for Analysis of Organic Pollutants, for wastewaters for which this is an approved EPA method; or

(F) Method 624, Purgeables, as described in 40 CFR part 136, appendix A, Test Procedures for Analysis of Organic Pollutants, for wastewaters for which this is an approved EPA method.

(v) The flow-weighted annual average benzene concentration shall be calculated by averaging the results of the sample analyses as follows:

$$\bar{C} = \frac{1}{Q_t} \times \sum_{i=1}^n (Q_i)(C_i)$$

Where:

$\bar{C}$  = Flow-weighted annual average benzene concentration for waste stream, ppmw.

$Q_t$  = Total annual waste quantity for waste stream, kg/yr (lb/yr).

$n$  = Number of waste samples (at least 3).

$Q_i$  = Annual waste quantity for waste stream represented by  $C_i$ , kg/yr (lb/yr).

$C_i$  = Measured concentration of benzene in waste sample  $i$ , ppmw.

(d) An owner or operator using performance tests to demonstrate compliance of a treatment process with §61.348 (a)(1)(i) shall measure the flow-weighted annual average benzene concentration of the waste stream exiting the treatment process by collecting and analyzing a minimum of three representative samples of the waste stream using the procedures in paragraph (c)(3) of this section. The test shall be conducted under conditions that exist when the treatment process is operating at the highest inlet waste stream flow rate and benzene content expected to occur. Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a test. The owner or operator shall record all process information as is necessary to document the operating conditions during the test.

(e) An owner or operator using performance tests to demonstrate compliance of a treatment process with §61.348(a)(1)(ii) of this subpart shall determine the percent reduction of benzene in the waste stream on a mass basis by the following procedure:

(1) The test shall be conducted under conditions that exist when the treatment process is operating at the highest inlet waste stream flow rate and benzene content expected to occur. Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a test. The owner or operator shall record all process information as is necessary to document the operating conditions during the test.

(2) All testing equipment shall be prepared and installed as specified in the appropriate test methods.

(3) The mass flow rate of benzene entering the treatment process ( $E_b$ ) shall be determined by computing the product of the flow rate of the waste stream entering the treatment process, as determined by the inlet flow meter, and the benzene concentration of the waste stream, as determined using the sampling and analytical procedures specified in paragraph (c)(2) or (c)(3) of this section. Three grab samples of the waste shall be taken at equally spaced time intervals over a 1-hour period. Each 1-hour period constitutes a run, and the performance test shall consist of a minimum of 3 runs conducted over a 3-hour period. The mass flow rate of benzene entering the treatment process is calculated as follows:

$$E_b = \frac{K}{n \times 10^6} \left[ \sum_{i=1}^n V_i C_i \right]$$

Where:

- $E_b$  = Mass flow rate of benzene entering the treatment process, kg/hr (lb/hr).  
 $K$  = Density of the waste stream, kg/m<sup>3</sup> (lb/ft<sup>3</sup>).  
 $V_i$  = Average volume flow rate of waste entering the treatment process during each run  $i$ , m<sup>3</sup>/hr (ft<sup>3</sup>/hr).  
 $C_i$  = Average concentration of benzene in the waste stream entering the treatment process during each run  $i$ , ppmw.  
 $n$  = Number of runs.  
 $10^6$  = Conversion factor for ppmw.

(4) The mass flow rate of benzene exiting the treatment process ( $E_a$ ) shall be determined by computing the product of the flow rate of the waste stream exiting the treatment process, as determined by the outlet flow meter or the inlet flow meter, and the benzene concentration of the waste stream, as determined using the sampling and analytical procedures specified in paragraph (c)(2) or (c)(3) of this section. Three grab samples of the waste shall be taken at equally spaced time intervals over a 1-hour period. Each 1-hour period constitutes a run, and the performance test shall consist of a minimum of 3 runs conducted over the same 3-hour period at which the mass flow rate of benzene entering the treatment process is determined. The mass flow rate of benzene exiting the treatment process is calculated as follows:

$$E_a = \frac{K}{n \times 10^6} \left[ \sum_{i=1}^n V_i C_i \right]$$

Where:

- $E_a$  = Mass flow rate of benzene exiting the treatment process, kg/hr (lb/hr).  
 $K$  = Density of the waste stream, kg/m<sup>3</sup> (lb/ft<sup>3</sup>).  
 $V_i$  = Average volume flow rate of waste exiting the treatment process during each run  $i$ , m<sup>3</sup>/hr (ft<sup>3</sup>/hr).  
 $C_i$  = Average concentration of benzene in the waste stream exiting the treatment process during each run  $i$ , ppmw.  
 $n$  = Number of runs.  
 $10^6$  = Conversion factor for ppmw.

(f) An owner or operator using performance tests to demonstrate compliance of a treatment process with § 61.348(a)(1)(iii) of this subpart shall determine the benzene destruction efficiency for the combustion unit by the following procedure:

(1) The test shall be conducted under conditions that exist when the combustion unit is operating at the highest inlet waste stream flow rate and benzene content expected to occur. Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a test. The owner or operator shall record all process information necessary to document the operating conditions during the test.

(2) All testing equipment shall be prepared and installed as specified in the appropriate test methods.

(3) The mass flow rate of benzene entering the combustion unit shall be determined by computing the product of the flow rate of the waste stream entering the combustion unit, as determined by the inlet flow meter, and the benzene concentration of the waste stream, as determined using the sampling procedures in paragraph (c)(2) or (c)(3) of this section. Three grab samples of the waste shall be taken at equally spaced time intervals over a 1-hour period. Each 1-hour period constitutes a run, and the performance test shall consist of a minimum of 3 runs conducted over a 3-hour period. The mass flow rate of benzene into the combustion unit is calculated as follows:

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$$E_b = \frac{K}{n \times 10^6} \left[ \sum_{i=1}^n V_i C_i \right]$$

Where:

$E_b$  = Mass flow rate of benzene entering the combustion unit, kg/hr (lb/hr).

$K$  = Density of the waste stream, kg/m<sup>3</sup> (lb/ft<sup>3</sup>).

$V_i$  = Average volume flow rate of waste entering the combustion unit during each run  $i$ , m<sup>3</sup>/hr (ft<sup>3</sup>/hr).

$C_i$  = Average concentration of benzene in the waste stream entering the combustion unit during each run  $i$ , ppmv.

$n$  = Number of runs.

$10^6$  = Conversion factor for ppmv.

(4) The mass flow rate of benzene exiting the combustion unit exhaust stack shall be determined as follows:

(i) The time period for the test shall not be less than 3 hours during which at least 3 stack gas samples are collected and be the same time period at which the mass flow rate of benzene entering the treatment process is determined. Each sample shall be collected over a 1-hour period (e.g., in a tedlar bag) to represent a time-integrated composite sample and each 1-hour period shall correspond to the periods when the waste feed is sampled.

(ii) A run shall consist of a 1-hour period during the test. For each run:

(A) The reading from each measurement shall be recorded;

(B) The volume exhausted shall be determined using Method 2, 2A, 2C, or 2D from appendix A of 40 CFR part 60, as appropriate.

(C) The average benzene concentration in the exhaust downstream of the combustion unit shall be determined using Method 18 from appendix A of 40 CFR part 60.

(iii) The mass of benzene emitted during each run shall be calculated as follows:

$$M_i = D_b VC(10^{-6})$$

Where:

$M_i$  = Mass of benzene emitted during run  $i$ , kg (lb).

$V$  = Volume of air-vapor mixture exhausted at standard conditions, m<sup>3</sup> (ft<sup>3</sup>).

$C$  = Concentration of benzene measured in the exhaust, ppmv.

$D_b$  = Density of benzene, 3.24 kg/m<sup>3</sup> (0.202 lb/ft<sup>3</sup>).

$10^6$  = Conversion factor for ppmv.

(iv) The benzene mass emission rate in the exhaust shall be calculated as follows:

$$E_a = \left( \sum_{i=1}^n M_i \right) / T$$

Where:

$E_a$  = Mass flow rate of benzene emitted from the combustion unit, kg/hr (lb/hr).

$M_i$  = Mass of benzene emitted from the combustion unit during run  $i$ , kg (lb).

$T$  = Total time of all runs, hr.

$n$  = Number of runs.

(5) The benzene destruction efficiency for the combustion unit shall be calculated as follows:

$$R = \frac{E_b - E_a}{E_b} \times 100$$

Where:

$R$  = Benzene destruction efficiency for the combustion unit, percent.

$E_b$  = Mass flow rate of benzene entering the combustion unit, kg/hr (lb/hr).

$E_a$  = Mass flow rate of benzene emitted from the combustion unit, kg/hr (lb/hr).

(g) An owner or operator using performance tests to demonstrate compliance of a wastewater treatment system unit with § 61.348(b) shall measure the flow-weighted annual average benzene concentration of the wastewater stream where the waste stream enters an exempt waste management unit by collecting and analyzing a minimum of three representative samples of the waste stream using the procedures in paragraph (c)(3) of this section. The test shall be conducted under conditions that exist when the wastewater treatment system is operating at the highest inlet wastewater stream flow rate and benzene content expected to occur. Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a test. The owner or operator shall record all process information as is necessary to document the operating conditions during the test.

(h) An owner or operator shall test equipment for compliance with no detectable emissions as required in §§ 61.343 through 61.347, and § 61.349 of

this subpart in accordance with the following requirements:

(1) Monitoring shall comply with Method 21 from appendix A of 40 CFR part 60.

(2) The detection instrument shall meet the performance criteria of Method 21.

(3) The instrument shall be calibrated before use on each day of its use by the procedures specified in Method 21.

(4) Calibration gases shall be:

(i) Zero air (less than 10 ppm of hydrocarbon in air); and

(ii) A mixture of methane or n-hexane and air at a concentration of approximately, but less than, 10,000 ppm methane or n-hexane.

(5) The background level shall be determined as set forth in Method 21.

(6) The instrument probe shall be traversed around all potential leak interfaces as close as possible to the interface as described in Method 21.

(7) The arithmetic difference between the maximum concentration indicated by the instrument and the background level is compared to 500 ppm for determining compliance.

(i) An owner or operator using a performance test to demonstrate compliance of a control device with either the organic reduction efficiency requirement or the benzene reduction efficiency requirement specified under § 61.349(a)(2) shall use the following procedures:

(1) The test shall be conducted under conditions that exist when the waste management unit vented to the control device is operating at the highest load or capacity level expected to occur. Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a test. The owner or operator shall record all process information necessary to document the operating conditions during the test.

(2) Sampling sites shall be selected using Method 1 or 1A from appendix A of 40 CFR part 60, as appropriate.

(3) The mass flow rate of either the organics or benzene entering and exiting the control device shall be determined as follows:

(i) The time period for the test shall not be less than 3 hours during which

at least 3 stack gas samples are collected. Samples of the vent stream entering and exiting the control device shall be collected during the same time period. Each sample shall be collected over a 1-hour period (e.g., in a tedlar bag) to represent a time-integrated composite sample.

(ii) A run shall consist of a 1-hour period during the test. For each run:

(A) The reading from each measurement shall be recorded;

(B) The volume exhausted shall be determined using Method 2, 2A, 2C, or 2D from appendix A of 40 CFR part 60, as appropriate;

(C) The organic concentration or the benzene concentration, as appropriate, in the vent stream entering and exiting the control shall be determined using Method 18 from appendix A of 40 CFR part 60.

(iii) The mass of organics or benzene entering and exiting the control device during each run shall be calculated as follows:

$$M_{aj} = \frac{K_1 V_{aj}}{10^6} \left( \sum_{i=1}^n C_{ai} MW_i \right)$$

$$M_{bj} = \frac{K_1 V_{bj}}{10^6} \left( \sum_{i=1}^n C_{bi} MW_i \right)$$

$M_{aj}$  = Mass of organics or benzene in the vent stream entering the control device during run j. kg (lb).

$M_{bj}$  = Mass of organics or benzene in the vent stream exiting the control device during run j. kg (lb).

$V_{aj}$  = Volume of vent stream entering the control device during run j, at standard conditions, m<sup>3</sup> (ft<sup>3</sup>).

$V_{bj}$  = Volume of vent stream exiting the control device during run j, at standard conditions, m<sup>3</sup> (ft<sup>3</sup>).

$C_{ai}$  = Organic concentration of compound i or the benzene concentration measured in the vent stream entering the control device as determined by Method 18, ppm by volume on a dry basis.

$C_{bi}$  = Organic concentration of compound i or the benzene concentration measured in the vent stream exiting the control device as determined by Method 18, ppm by volume on a dry basis.

$MW_i$  = Molecular weight of organic compound i in the vent stream, or the molecular weight of benzene. kg/kg-mol (lb/lb-mole).

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n = Number of organic compounds in the vent stream; if benzene reduction efficiency is being demonstrated, then n=1.  
 K<sub>v</sub> = Conversion factor for molar volume at standard conditions (293 K and 760 mm Hg (527 R and 14.7 psia))  
 = 0.0416 kg-mol/m<sup>3</sup> (0.00118 lb-mol/ft<sup>3</sup>)  
 10<sup>-6</sup> = Conversion factor for ppmv.

(iv) The mass flow rate of organics or benzene entering and exiting the control device shall be calculated as follows:

$$E_a = \left( \sum_{j=1}^n M_{aj} \right) / T$$

$$E_b = \left( \sum_{j=1}^n M_{bj} \right) / T$$

Where:

E<sub>a</sub> = Mass flow rate of organics or benzene entering the control device, kg/hr (lb/hr).  
 E<sub>b</sub> = Mass flow rate of organics or benzene exiting the control device, kg/hr (lb/hr).  
 M<sub>aj</sub> = Mass of organics or benzene in the vent stream entering the control device during run j, kg (lb).  
 M<sub>bj</sub> = Mass of organics or benzene in the vent stream exiting the control device during run j, kg (lb).  
 T = Total time of all runs, hr.  
 n = Number of runs.

(4) The organic reduction efficiency or the benzene reduction efficiency for the control device shall be calculated as follows:

$$R = \frac{E_a - E_b}{E_a} \times 100$$

Where:

R = Total organic reduction of efficiency or benzene reduction efficiency for the control device, percent.  
 E<sub>a</sub> = Mass flow rate of organics or benzene entering the control device, kg/hr (lb/hr).  
 E<sub>b</sub> = Mass flow rate of organic or benzene emitted from the control device, kg/hr (lb/hr).

(j) An owner or operator shall determine the benzene quantity for the purposes of the calculation required by § 61.342 (c)(3)(ii)(B) according to the provisions of paragraph (a) of this section, except that the procedures in paragraph (a) of this section shall also

apply to wastes with a water content of 10 percent or less.

(k) An owner or operator shall determine the benzene quantity for the purposes of the calculation required by § 61.342(e)(2) by the following procedure:

(1) For each waste stream that is not controlled for air emissions in accordance with § 61.343, 61.344, 61.345, 61.346, 61.347, or 61.348(a), as applicable to the waste management unit that manages the waste, the benzene quantity shall be determined as specified in paragraph (a) of this section, except that paragraph (b)(4) of this section shall not apply, i.e., the waste quantity for process unit turnaround waste is not annualized but shall be included in the determination of benzene quantity for the year in which the waste is generated for the purposes of the calculation required by § 61.342(e)(2).

(2) For each waste stream that is controlled for air emissions in accordance with § 61.343, 61.344, 61.345, 61.346, 61.347, or 61.348(a), as applicable to the waste management unit that manages the waste, the determination of annual waste quantity and flow-weighted annual average benzene concentration shall be made at the first applicable location as described in paragraphs (k)(2)(i), (k)(2)(ii), and (k)(2)(iii) of this section and prior to any reduction of benzene concentration through volatilization of the benzene, using the methods given in (k)(2)(iv) and (k)(2)(v) of this section.

(i) Where the waste stream enters the first waste management unit not complying with §§ 61.343, 61.344, 61.345, 61.346, 61.347, and 61.348(a) that are applicable to the waste management unit,

(ii) For each waste stream that is managed or treated only in compliance with §§ 61.343 through 61.348(a) up to the point of final direct discharge from the facility, the determination of benzene quantity shall be prior to any reduction of benzene concentration through volatilization of the benzene, or

(iii) For wastes managed in units controlled for air emissions in accordance with §§ 61.343, 61.344, 61.345, 61.346, 61.347, and 61.348(a), and then transferred offsite, facilities shall use the first applicable offsite location as described in paragraphs (k)(2)(i) and



(k)(2)(ii) of this section if they have documentation from the offsite facility of the benzene quantity at this location. Facilities without this documentation for offsite wastes shall use the benzene quantity determined at the point where the transferred waste leaves the facility.

(iv) Annual waste quantity shall be determined using the procedures in paragraphs (b)(5), (6), or (7) of this section, and

(v) The flow-weighted annual average benzene concentration shall be determined using the procedures in paragraphs (c)(2) or (3) of this section.

(3) The benzene quantity in a waste stream that is generated less than one time per year, including process unit turnaround waste, shall be included in the determination of benzene quantity as determined in paragraph (k)(6) of this section for the year in which the waste is generated. The benzene quantity in this waste stream shall not be annualized or averaged over the time interval between the activities that resulted in generation of the waste for purposes of determining benzene quantity as determined in paragraph (k)(6) of this section.

(4) The benzene in waste entering an enhanced biodegradation unit, as defined in § 61.348(b)(2)(ii)(B), shall not be included in the determination of benzene quantity, determined in paragraph (k)(6) of this section, if the following conditions are met:

(i) The benzene concentration for each waste stream entering the enhanced biodegradation unit is less than 10 ppmw on a flow-weighted annual average basis, and

(ii) All prior waste management units managing the waste comply with §§ 61.343, 61.344, 61.345, 61.346, 61.347 and 61.348(a).

(5) The benzene quantity for each waste stream in paragraph (k)(2) of this section shall be determined by multiplying the annual waste quantity of each waste stream times its flow-weighted annual average benzene concentration.

(6) The total benzene quantity for the purposes of the calculation required by § 61.342(e)(2) shall be determined by adding together the benzene quantities determined in paragraphs (k)(1) and

(k)(5) of this section for each applicable waste stream.

(7) If the benzene quantity determined in paragraph (6) of this section exceeds 6.0 Mg/yr (6.6 ton/yr) only because of multiple counting of the benzene quantity for a waste stream, the owner or operator may use the following procedures for the purposes of the calculation required by § 61.342(e)(2):

(i) Determine which waste management units are involved in the multiple counting of benzene;

(ii) Determine the quantity of benzene that is emitted, recovered, or removed from the affected units identified in paragraph (k)(7)(i) of this section, or destroyed in the units if applicable, using either direct measurements or the best available estimation techniques developed or approved by the Administrator.

(iii) Adjust the benzene quantity to eliminate the multiple counting of benzene based on the results from paragraph (k)(7)(ii) of this section and determine the total benzene quantity for the purposes of the calculation required by § 61.342(e)(2).

(iv) Submit in the annual report required under § 61.357(a) a description of the methods used and the resulting calculations for the alternative procedure under paragraph (k)(7) of this section, the benzene quantity determination from paragraph (k)(6) of this section, and the adjusted benzene quantity determination from paragraph (k)(7)(iii) of this section.

[55 FR 8346, Mar. 7, 1990; 55 FR 12444, Apr. 3, 1990, as amended at 55 FR 37231, Sept. 10, 1990; 58 FR 3099, Jan. 7, 1993; 65 FR 62160, Oct. 17, 2000]

#### § 61.356 Recordkeeping requirements.

(a) Each owner or operator of a facility subject to the provisions of this subpart shall comply with the recordkeeping requirements of this section. Each record shall be maintained in a readily accessible location at the facility site for a period not less than two years from the date the information is recorded unless otherwise specified.

(b) Each owner or operator shall maintain records that identify each waste stream at the facility subject to this subpart, and indicate whether or

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not the waste stream is controlled for benzene emissions in accordance with this subpart. In addition the owner or operator shall maintain the following records:

(1) For each waste stream not controlled for benzene emissions in accordance with this subpart, the records shall include all test results, measurements, calculations, and other documentation used to determine the following information for the waste stream: waste stream identification, water content, whether or not the waste stream is a process wastewater stream, annual waste quantity, range of benzene concentrations, annual average flow-weighted benzene concentration, and annual benzene quantity.

(2) For each waste stream exempt from §61.342(c)(1) in accordance with §61.342(c)(3), the records shall include:

(i) All measurements, calculations, and other documentation used to determine that the continuous flow of process wastewater is less than 0.02 liters (0.005 gallons) per minute or the annual waste quantity of process wastewater is less than 10 Mg/yr (11 ton/yr) in accordance with §61.342(c)(3)(i), or

(ii) All measurements, calculations, and other documentation used to determine that the sum of the total annual benzene quantity in all exempt waste streams does not exceed 2.0 Mg/yr (2.2 ton/yr) in accordance with §61.342(c)(3)(ii).

(3) For each facility where process wastewater streams are controlled for benzene emissions in accordance with §61.342(d) of this subpart, the records shall include for each treated process wastewater stream all measurements, calculations, and other documentation used to determine the annual benzene quantity in the process wastewater stream exiting the treatment process.

(4) For each facility where waste streams are controlled for benzene emissions in accordance with §61.342(e), the records shall include for each waste stream all measurements, including the locations of the measurements, calculations, and other documentation used to determine that the total benzene quantity does not exceed 6.0 Mg/yr (6.6 ton/yr).

(5) For each facility where the annual waste quantity for process unit turnaround waste is determined in accordance with §61.355(b)(5), the records shall include all test results, measurements, calculations, and other documentation used to determine the following information: identification of each process unit at the facility that undergoes turnarounds, the date of the most recent turnaround for each process unit, identification of each process unit turnaround waste, the water content of each process unit turnaround waste, the annual waste quantity determined in accordance with §61.355(b)(5), the range of benzene concentrations in the waste, the annual average flow-weighted benzene concentration of the waste, and the annual benzene quantity calculated in accordance with §61.355(a)(1)(iii) of this section.

(6) For each facility where wastewater streams are controlled for benzene emissions in accordance with §61.348(b)(2), the records shall include all measurements, calculations, and other documentation used to determine the annual benzene content of the waste streams and the total annual benzene quantity contained in all waste streams managed or treated in exempt waste management units.

(c) An owner or operator transferring waste off-site to another facility for treatment in accordance with §61.342(f) shall maintain documentation for each offsite waste shipment that includes the following information: Date waste is shipped offsite, quantity of waste shipped offsite, name and address of the facility receiving the waste, and a copy of the notice sent with the waste shipment.

(d) An owner or operator using control equipment in accordance with §§61.343 through 61.347 shall maintain engineering design documentation for all control equipment that is installed on the waste management unit. The documentation shall be retained for the life of the control equipment. If a control device is used, then the owner or operator shall maintain the control device records required by paragraph (f) of this section.

(e) An owner or operator using a treatment process or wastewater treatment system unit in accordance with § 61.348 of this subpart shall maintain the following records. The documentation shall be retained for the life of the unit.

(1) A statement signed and dated by the owner or operator certifying that the unit is designed to operate at the documented performance level when the waste stream entering the unit is at the highest waste stream flow rate and benzene content expected to occur.

(2) If engineering calculations are used to determine treatment process or wastewater treatment system unit performance, then the owner or operator shall maintain the complete design analysis for the unit. The design analysis shall include for example the following information: Design specifications, drawings, schematics, piping and instrumentation diagrams, and other documentation necessary to demonstrate the unit performance.

(3) If performance tests are used to determine treatment process or wastewater treatment system unit performance, then the owner or operator shall maintain all test information necessary to demonstrate the unit performance.

(i) A description of the unit including the following information: type of treatment process; manufacturer name and model number; and for each waste stream entering and exiting the unit, the waste stream type (e.g., process wastewater, sludge, slurry, etc.), and the design flow rate and benzene content.

(ii) Documentation describing the test protocol and the means by which sampling variability and analytical variability were accounted for in the determination of the unit performance. The description of the test protocol shall include the following information: sampling locations, sampling method, sampling frequency, and analytical procedures used for sample analysis.

(iii) Records of unit operating conditions during each test run including all key process parameters.

(iv) All test results.

(4) If a control device is used, then the owner or operator shall maintain

the control device records required by paragraph (f) of this section.

(f) An owner or operator using a closed-vent system and control device in accordance with § 61.349 of this subpart shall maintain the following records. The documentation shall be retained for the life of the control device.

(1) A statement signed and dated by the owner or operator certifying that the closed-vent system and control device is designed to operate at the documented performance level when the waste management unit vented to the control device is or would be operating at the highest load or capacity expected to occur.

(2) If engineering calculations are used to determine control device performance in accordance with § 61.349(c), then a design analysis for the control device that includes for example:

(i) Specifications, drawings, schematics, and piping and instrumentation diagrams prepared by the owner or operator, or the control device manufacturer or vendor that describe the control device design based on acceptable engineering texts. The design analysis shall address the following vent stream characteristics and control device operating parameters:

(A) For a thermal vapor incinerator, the design analysis shall consider the vent stream composition, constituent concentrations, and flow rate. The design analysis shall also establish the design minimum and average temperature in the combustion zone and the combustion zone residence time.

(B) For a catalytic vapor incinerator, the design analysis shall consider the vent stream composition, constituent concentrations, and flow rate. The design analysis shall also establish the design minimum and average temperatures across the catalyst bed inlet and outlet.

(C) For a boiler or process heater, the design analysis shall consider the vent stream composition, constituent concentrations, and flow rate. The design analysis shall also establish the design minimum and average flame zone temperatures, combustion zone residence time, and description of method and location where the vent stream is introduced into the flame zone.

(D) For a flare, the design analysis shall consider the vent stream composition, constituent concentrations, and flow rate. The design analysis shall also consider the requirements specified in 40 CFR 60.18.

(E) For a condenser, the design analysis shall consider the vent stream composition, constituent concentration, flow rate, relative humidity, and temperature. The design analysis shall also establish the design outlet organic compound concentration level or the design outlet benzene concentration level, design average temperature of the condenser exhaust vent stream, and the design average temperatures of the coolant fluid at the condenser inlet and outlet.

(F) For a carbon adsorption system that regenerates the carbon bed directly on-site in the control device such as a fixed-bed adsorber, the design analysis shall consider the vent stream composition, constituent concentration, flow rate, relative humidity, and temperature. The design analysis shall also establish the design exhaust vent stream organic compound concentration level or the design exhaust vent stream benzene concentration level, number and capacity of carbon beds, type and working capacity of activated carbon used for carbon beds, design total steam flow over the period of each complete carbon bed regeneration cycle, duration of the carbon bed steaming and cooling/drying cycles, design carbon bed temperature after regeneration, design carbon bed regeneration time, and design service life of carbon.

(G) For a carbon adsorption system that does not regenerate the carbon bed directly on-site in the control device, such as a carbon canister, the design analysis shall consider the vent stream composition, constituent concentration, flow rate, relative humidity, and temperature. The design analysis shall also establish the design exhaust vent stream organic compound concentration level or the design exhaust vent stream benzene concentration level, capacity of carbon bed, type and working capacity of activated carbon used for carbon bed, and design carbon replacement interval based on the total carbon working capacity of

the control device and source operating schedule.

(H) For a control device subject to the requirements of §61.349(a)(2)(iv), the design analysis shall consider the vent stream composition, constituent concentration, and flow rate. The design analysis shall also include all of the information submitted under §61.349 (a)(2)(iv).

(ii) [Reserved]

(3) If performance tests are used to determine control device performance in accordance with §61.349(c) of this subpart:

(i) A description of how it is determined that the test is conducted when the waste management unit or treatment process is operating at the highest load or capacity level. This description shall include the estimated or design flow rate and organic content of each vent stream and definition of the acceptable operating ranges of key process and control parameters during the test program.

(ii) A description of the control device including the type of control device, control device manufacturer's name and model number, control device dimensions, capacity, and construction materials.

(iii) A detailed description of sampling and monitoring procedures, including sampling and monitoring locations in the system, the equipment to be used, sampling and monitoring frequency, and planned analytical procedures for sample analysis.

(iv) All test results.

(g) An owner or operator shall maintain a record for each visual inspection required by §§61.343 through 61.347 of this subpart that identifies a problem (such as a broken seal, gap or other problem) which could result in benzene emissions. The record shall include the date of the inspection, waste management unit and control equipment location where the problem is identified, a description of the problem, a description of the corrective action taken, and the date the corrective action was completed.

(h) An owner or operator shall maintain a record for each test of no detectable emissions required by §§61.343

through 61.347 and § 61.349 of this subpart. The record shall include the following information: date the test is performed, background level measured during test, and maximum concentration indicated by the instrument reading measured for each potential leak interface. If detectable emissions are measured at a leak interface, then the record shall also include the waste management unit, control equipment, and leak interface location where detectable emissions were measured, a description of the problem, a description of the corrective action taken, and the date the corrective action was completed.

(i) For each treatment process and wastewater treatment system unit operated to comply with § 61.348, the owner or operator shall maintain documentation that includes the following information regarding the unit operation:

(1) Dates of startup and shutdown of the unit.

(2) If measurements of waste stream benzene concentration are performed in accordance with § 61.354(a)(1) of this subpart, the owner or operator shall maintain records that include date each test is performed and all test results.

(3) If a process parameter is continuously monitored in accordance with § 61.354(a)(2) of this subpart, the owner or operator shall maintain records that include a description of the operating parameter (or parameters) to be monitored to ensure that the unit will be operated in conformance with these standards and the unit's design specifications, and an explanation of the criteria used for selection of that parameter (or parameters). This documentation shall be kept for the life of the unit.

(4) If measurements of waste stream benzene concentration are performed in accordance with § 61.354(b), the owner or operator shall maintain records that include the date each test is performed and all test results.

(5) Periods when the unit is not operated as designed.

(j) For each control device, the owner or operator shall maintain documentation that includes the following information

regarding the control device operation:

(1) Dates of startup and shutdown of the closed-vent system and control device.

(2) A description of the operating parameter (or parameters) to be monitored to ensure that the control device will be operated in conformance with these standards and the control device's design specifications and an explanation of the criteria used for selection of that parameter (or parameters). This documentation shall be kept for the life of the control device.

(3) Periods when the closed-vent system and control device are not operated as designed including all periods and the duration when:

(i) Any valve car-seal or closure mechanism required under § 61.349(a)(1)(ii) is broken or the by-pass line valve position has changed.

(ii) The flow monitoring devices required under § 61.349(a)(1)(ii) indicate that vapors are not routed to the control device as required.

(4) If a thermal vapor incinerator is used, then the owner or operator shall maintain continuous records of the temperature of the gas stream in the combustion zone of the incinerator and records of all 3-hour periods of operation during which the average temperature of the gas stream in the combustion zone is more than 28 °C (50 °F) below the design combustion zone temperature.

(5) If a catalytic vapor incinerator is used, then the owner or operator shall maintain continuous records of the temperature of the gas stream both upstream and downstream of the catalyst bed of the incinerator, records of all 3-hour periods of operation during which the average temperature measured before the catalyst bed is more than 28 °C (50 °F) below the design gas stream temperature, and records of all 3-hour periods of operation during which the average temperature difference across the catalyst bed is less than 80 percent of the design temperature difference.

(6) If a boiler or process heater is used, then the owner or operator shall maintain records of each occurrence when there is a change in the location at which the vent stream is introduced into the flame zone as required by

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§ 61.349(a)(2)(i)(C). For a boiler or process heater having a design heat input capacity less than 44 MW ( $150 \times 10^6$  BTU/hr), the owner or operator shall maintain continuous records of the temperature of the gas stream in the combustion zone of the boiler or process heater and records of all 3-hour periods of operation during which the average temperature of the gas stream in the combustion zone is more than 28 °C (50 °F) below the design combustion zone temperature. For a boiler or process heater having a design heat input capacity greater than or equal to 44 MW ( $150 \times 10^6$  BTU/hr), the owner or operator shall maintain continuous records of the parameter(s) monitored in accordance with the requirements of § 61.354(c)(5).

(7) If a flare is used, then the owner or operator shall maintain continuous records of the flare pilot flame monitoring and records of all periods during which the pilot flame is absent.

(8) If a condenser is used, then the owner or operator shall maintain records from the monitoring device of the parameters selected to be monitored in accordance with § 61.354(c)(6). If concentration of organics or concentration of benzene in the control device outlet gas stream is monitored, then the owner or operator shall record all 3-hour periods of operation during which the concentration of organics or the concentration of benzene in the exhaust stream is more than 20 percent greater than the design value. If the temperature of the condenser exhaust stream and coolant fluid is monitored, then the owner or operator shall record all 3-hour periods of operation during which the temperature of the condenser exhaust vent stream is more than 6 °C (11 °F) above the design average exhaust vent stream temperature, or the temperature of the coolant fluid exiting the condenser is more than 6 °C (11 °F) above the design average coolant fluid temperature at the condenser outlet.

(9) If a carbon adsorber is used, then the owner or operator shall maintain records from the monitoring device of the concentration of organics or the concentration of benzene in the control device outlet gas stream. If the concentration of organics or the con-

centration of benzene in the control device outlet gas stream is monitored, then the owner or operator shall record all 3-hour periods of operation during which the concentration of organics or the concentration of benzene in the exhaust stream is more than 20 percent greater than the design value. If the carbon bed regeneration interval is monitored, then the owner or operator shall record each occurrence when the vent stream continues to flow through the control device beyond the predetermined carbon bed regeneration time.

(10) If a carbon adsorber that is not regenerated directly on site in the control device is used, then the owner or operator shall maintain records of dates and times when the control device is monitored, when breakthrough is measured, and shall record the date and time then the existing carbon in the control device is replaced with fresh carbon.

(11) If an alternative operational or process parameter is monitored for a control device, as allowed in § 61.354(e) of this subpart, then the owner or operator shall maintain records of the continuously monitored parameter, including periods when the device is not operated as designed.

(12) If a control device subject to the requirements of § 61.349(a)(2)(iv) is used, then the owner or operator shall maintain records of the parameters that are monitored and each occurrence when the parameters monitored are outside the range of values specified in § 61.349(a)(2)(iv)(C), or other records as specified by the Administrator.

(k) An owner or operator who elects to install and operate the control equipment in § 61.351 of this subpart shall comply with the recordkeeping requirements in 40 CFR 60.115b.

(l) An owner or operator who elects to install and operate the control equipment in § 61.352 of this subpart shall maintain records of the following:

(1) The date, location, and corrective action for each visual inspection required by 40 CFR 60.693-2(a)(5), during which a broken seal, gap, or other problem is identified that could result in benzene emissions.

(2) Results of the seal gap measurements required by 40 CFR 60.693-2(a).

(m) If a system is used for emission control that is maintained at a pressure less than atmospheric pressure with openings to provide dilution air, then the owner or operator shall maintain records of the monitoring device and records of all periods during which the pressure in the unit is operated at a pressure that is equal to or greater than atmospheric pressure.

(n) Each owner or operator using a total enclosure to comply with control requirements for tanks in § 61.343 or the control requirements for containers in § 61.345 must keep the records required in paragraphs (n)(1) and (2) of this section. Owners or operators may use records as required in 40 CFR 264.1089(b)(2)(iv) or 40 CFR 265.1090(b)(2)(iv) for a tank or as required in 40 CFR 264.1089(d)(1) or 40 CFR 265.1090(d)(1) for a container to meet the recordkeeping requirement in paragraph (n)(1) of this section. The owner or operator must make the records of each verification of a total enclosure available for inspection upon request.

(1) Records of the most recent set of calculations and measurements performed to verify that the enclosure meets the criteria of a permanent total enclosure as specified in "Procedure T—Criteria for and Verification of a Permanent or Temporary Total Enclosure" in 40 CFR 52.741, appendix B;

(2) Records required for a closed-vent system and control device according to the requirements in paragraphs (d) (f), and (j) of this section.

[55 FR 8346, Mar. 7, 1990; 55 FR 12444, Apr. 3, 1990; 55 FR 18331, May 2, 1990, as amended at 58 FR 3103, Jan. 7, 1993; 65 FR 62161, Oct. 17, 2000; 67 FR 68533, Nov. 12, 2002]

#### § 61.357 Reporting requirements.

(a) Each owner or operator of a chemical plant, petroleum refinery, coke by-product recovery plant, and any facility managing wastes from these industries shall submit to the Administrator within 90 days after January 7, 1993, or by the initial startup for a new source with an initial startup after the effective date, a report that summarizes the regulatory status of each waste stream subject to § 61.342 and is determined by the procedures specified in § 61.355(c) to contain benzene. Each owner or oper-

ator subject to this subpart who has no benzene onsite in wastes, products, by-products, or intermediates shall submit an initial report that is a statement to this effect. For all other owners or operators subject to this subpart, the report shall include the following information:

(1) Total annual benzene quantity from facility waste determined in accordance with § 61.355(a) of this subpart.

(2) A table identifying each waste stream and whether or not the waste stream will be controlled for benzene emissions in accordance with the requirements of this subpart.

(3) For each waste stream identified as not being controlled for benzene emissions in accordance with the requirements of this subpart the following information shall be added to the table:

(i) Whether or not the water content of the waste stream is greater than 10 percent;

(ii) Whether or not the waste stream is a process wastewater stream, product tank drawdown, or landfill leachate;

(iii) Annual waste quantity for the waste stream;

(iv) Range of benzene concentrations for the waste stream;

(v) Annual average flow-weighted benzene concentration for the waste stream; and

(vi) Annual benzene quantity for the waste stream.

(4) The information required in paragraphs (a) (1), (2), and (3) of this section should represent the waste stream characteristics based on current configuration and operating conditions. An owner or operator only needs to list in the report those waste streams that contact materials containing benzene. The report does not need to include a description of the controls to be installed to comply with the standard or other information required in § 61.10(a).

(b) If the total annual benzene quantity from facility waste is less than 1 Mg/yr (1.1 ton/yr), then the owner or operator shall submit to the Administrator a report that updates the information listed in paragraphs (a)(1) through (a)(3) of this section whenever

there is a change in the process generating the waste stream that could cause the total annual benzene quantity from facility waste to increase to 1 Mg/yr (1.1 ton/yr) or more.

(c) If the total annual benzene quantity from facility waste is less than 10 Mg/yr (11 ton/yr) but is equal to or greater than 1 Mg/yr (1.1 ton/yr), then the owner or operator shall submit to the Administrator a report that updates the information listed in paragraphs (a)(1) through (a)(3) of this section. The report shall be submitted annually and whenever there is a change in the process generating the waste stream that could cause the total annual benzene quantity from facility waste to increase to 10 Mg/yr (11 ton/yr) or more. If the information in the annual report required by paragraphs (a)(1) through (a)(3) of this section is not changed in the following year, the owner or operator may submit a statement to that effect.

(d) If the total annual benzene quantity from facility waste is equal to or greater than 10 Mg/yr (11 ton/yr), then the owner or operator shall submit to the Administrator the following reports:

(1) Within 90 days after January 7, 1993, unless a waiver of compliance under § 61.11 of this part is granted, or by the date of initial startup for a new source with an initial startup after the effective date, a certification that the equipment necessary to comply with these standards has been installed and that the required initial inspections or tests have been carried out in accordance with this subpart. If a waiver of compliance is granted under § 61.11, the certification of equipment necessary to comply with these standards shall be submitted by the date the waiver of compliance expires.

(2) Beginning on the date that the equipment necessary to comply with these standards has been certified in accordance with paragraph (d)(1) of this section, the owner or operator shall submit annually to the Administrator a report that updates the information listed in paragraphs (a)(1) through (a)(3) of this section. If the information in the annual report required by paragraphs (a)(1) through (a)(3) of this section is not changed in

the following year, the owner or operator may submit a statement to that effect.

(3) If an owner or operator elects to comply with the requirements of § 61.342(c)(3)(ii), then the report required by paragraph (d)(2) of this section shall include a table identifying each waste stream chosen for exemption and the total annual benzene quantity in these exempted streams.

(4) If an owner or operator elects to comply with the alternative requirements of § 61.342(d) of this subpart, then he shall include in the report required by paragraph (d)(2) of this section a table presenting the following information for each process wastewater stream:

(i) Whether or not the process wastewater stream is being controlled for benzene emissions in accordance with the requirements of this subpart;

(ii) For each process wastewater stream identified as not being controlled for benzene emissions in accordance with the requirements of this subpart, the table shall report the following information for the process wastewater stream as determined at the point of waste generation: annual waste quantity, range of benzene concentrations, annual average flow-weighted benzene concentration, and annual benzene quantity;

(iii) For each process wastewater stream identified as being controlled for benzene emissions in accordance with the requirements of this subpart, the table shall report the following information for the process wastewater stream as determined at the exit to the treatment process: Annual waste quantity, range of benzene concentrations, annual average flow-weighted benzene concentration, and annual benzene quantity.

(5) If an owner or operator elects to comply with the alternative requirements of § 61.342(e), then the report required by paragraph (d)(2) of this section shall include a table presenting the following information for each waste stream:

(i) For each waste stream identified as not being controlled for benzene emissions in accordance with the requirements of this subpart; the table shall report the following information



for the waste stream as determined at the point of waste generation: annual waste quantity, range of benzene concentrations, annual average flow-weighted benzene concentration, and annual benzene quantity;

(ii) For each waste stream identified as being controlled for benzene emissions in accordance with the requirements of this subpart; the table shall report the following information for the waste stream as determined at the applicable location described in § 61.355(k)(2): Annual waste quantity, range of benzene concentrations, annual average flow-weighted benzene concentration, and annual benzene quantity.

(6) Beginning 3 months after the date that the equipment necessary to comply with these standards has been certified in accordance with paragraph (d)(1) of this section, the owner or operator shall submit quarterly to the Administrator a certification that all of the required inspections have been carried out in accordance with the requirements of this subpart.

(7) Beginning 3 months after the date that the equipment necessary to comply with these standards has been certified in accordance with paragraph (d)(1) of this section, the owner or operator shall submit a report quarterly to the Administrator that includes:

(i) If a treatment process or wastewater treatment system unit is monitored in accordance with § 61.354(a)(1) of this subpart, then each period of operation during which the concentration of benzene in the monitored waste stream exiting the unit is equal to or greater than 10 ppmw.

(ii) If a treatment process or wastewater treatment system unit is monitored in accordance with § 61.354(a)(2) of this subpart, then each 3-hour period of operation during which the average value of the monitored parameter is outside the range of acceptable values or during which the unit is not operating as designed.

(iii) If a treatment process or wastewater treatment system unit is monitored in accordance with § 61.354(b), then each period of operation during which the flow-weighted annual average concentration of benzene in the monitored waste stream entering the

unit is equal to or greater than 10 ppmw and/or the total annual benzene quantity is equal to or greater than 1.0 mg/yr.

(iv) For a control device monitored in accordance with § 61.354(c) of this subpart, each period of operation monitored during which any of the following conditions occur, as applicable to the control device:

(A) Each 3-hour period of operation during which the average temperature of the gas stream in the combustion zone of a thermal vapor incinerator, as measured by the temperature monitoring device, is more than 28 °C (50 °F) below the design combustion zone temperature.

(B) Each 3-hour period of operation during which the average temperature of the gas stream immediately before the catalyst bed of a catalytic vapor incinerator, as measured by the temperature monitoring device, is more than 28 °C (50 °F) below the design gas stream temperature, and any 3-hour period during which the average temperature difference across the catalyst bed (i.e., the difference between the temperatures of the gas stream immediately before and after the catalyst bed), as measured by the temperature monitoring device, is less than 80 percent of the design temperature difference.

(C) Each 3-hour period of operation during which the average temperature of the gas stream in the combustion zone of a boiler or process heater having a design heat input capacity less than 44 MW (150 × 10<sup>6</sup> BTU/hr), as measured by the temperature monitoring device, is more than 28 °C (50 °F) below the design combustion zone temperature.

(D) Each 3-hour period of operation during which the average concentration of organics or the average concentration of benzene in the exhaust gases from a carbon adsorber, condenser, or other vapor recovery system is more than 20 percent greater than the design concentration level of organics or benzene in the exhaust gas.

(E) Each 3-hour period of operation during which the temperature of the condenser exhaust vent stream is more than 6 °C (11 °F) above the design average exhaust vent stream temperature.

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or the temperature of the coolant fluid exiting the condenser is more than 6 °C (11 °F) above the design average coolant fluid temperature at the condenser outlet.

(F) Each period in which the pilot flame of a flare is absent.

(G) Each occurrence when there is a change in the location at which the vent stream is introduced into the flame zone of a boiler or process heater as required by § 61.349(a)(2)(i)(C) of this subpart.

(H) Each occurrence when the carbon in a carbon adsorber system that is regenerated directly on site in the control device is not regenerated at the predetermined carbon bed regeneration time.

(I) Each occurrence when the carbon in a carbon adsorber system that is not regenerated directly on site in the control device is not replaced at the predetermined interval specified in § 61.354(c) of this subpart.

(J) Each 3-hour period of operation during which the parameters monitored are outside the range of values specified in § 61.349(a)(2)(iv)(C), or any other periods specified by the Administrator for a control device subject to the requirements of § 61.349(a)(2)(iv).

(v) For a cover and closed-vent system monitored in accordance with § 61.354(g), the owner or operator shall submit a report quarterly to the Administrator that identifies any period in which the pressure in the waste management unit is equal to or greater than atmospheric pressure.

(8) Beginning one year after the date that the equipment necessary to comply with these standards has been certified in accordance with paragraph (d)(1) of this section, the owner or operator shall submit annually to the Ad-

ministrator a report that summarizes all inspections required by §§ 61.342 through 61.354 during which detectable emissions are measured or a problem (such as a broken seal, gap or other problem) that could result in benzene emissions is identified, including information about the repairs or corrective action taken.

(e) An owner or operator electing to comply with the provisions of §§ 61.351 or 61.352 of this subpart shall notify the Administrator of the alternative standard selected in the report required under § 61.07 or § 61.10 of this part.

(f) An owner or operator who elects to install and operate the control equipment in § 61.351 of this subpart shall comply with the reporting requirements in 40 CFR 60.115b.

(g) An owner or operator who elects to install and operate the control equipment in § 61.352 of this subpart shall submit initial and quarterly reports that identify all seal gap measurements, as required in 40 CFR 60.693-2(a), that are outside the prescribed limits.

[55 FR 8346, Mar. 7 1990; 55 FR 12444, Apr. 3, 1990, as amended at 55 FR 37231, Sept. 10, 1990; 58 FR 3105, Jan. 7, 1993; 65 FR 62161, Oct. 17, 2000]

§ 61.358 Delegation of authority.

(a) In delegating implementation and enforcement authority to a State under section 112(d) of the Clean Air Act, the authorities contained in paragraph (b) of this section shall be retained by the Administrator and not transferred to a State.

(b) Alternative means of emission limitation under § 61.353 of this subpart will not be delegated to States.

§ 61.359 [Reserved]

TABLE 10—MISCELLANEOUS PROCESS VENTS—MONITORING, RECORDKEEPING AND REPORTING REQUIREMENTS FOR COMPLYING WITH 98 WEIGHT-PERCENT REDUCTION OF TOTAL ORGANIC HAP EMISSIONS OR A LIMIT OF 20 PARTS PER MILLION BY VOLUME—Continued

Control device	Parameters to be monitored <sup>a</sup>	Recordkeeping and reporting requirements for monitored parameters
All control devices .....	Presence of flow diverted to the atmosphere from the control device (63.644(c)(1)) or	2. Record and report the presence of a flame at the pilot light over the full period of the compliance determination—NCS <sup>d</sup> . 3. Record the times and durations of all periods when all pilot flames for a flare are absent or the monitor is not operating. 4. Report the times and durations of all periods when all pilot flames for a flare are absent or the monitor is not operating.
	Monthly inspections of sealed valves [63.644(c)(2)]	1. Hourly records of whether the flow indicator was operating and whether flow was detected at any time during each hour. 2. Record and report the times and durations of all periods when the vent stream is diverted through a bypass line or the monitor is not operating—PR <sup>e</sup> . 1. Records that monthly inspections were performed. 2. Record and report all monthly inspections that show the valves are not closed or the seal has been changed—PR <sup>e</sup> .

<sup>a</sup> Regulatory citations are listed in parentheses.  
<sup>b</sup> Monitor may be installed in the firebox or in the ductwork immediately downstream of the firebox before any substantial heat exchange is encountered.  
<sup>c</sup> "Continuous records" is defined in § 63.641.  
<sup>d</sup> NCS = Notification of compliance status report described in § 63.654.  
<sup>e</sup> The daily average is the average of all recorded parameter values for the operating day. If all recorded values during an operating day are within the range established in the NCS or operating permit, a statement to this effect can be recorded instead of the daily average.  
<sup>f</sup> When a period of excess emission is caused by insufficient monitoring data, as described in § 63.654(g)(6)(i) (C) or (D), the duration of the period when monitoring data were not collected shall be included in the Periodic Report.  
<sup>g</sup> PR = Periodic Reports described in § 63.654(g).  
<sup>h</sup> No monitoring is required for boilers and process heaters with a design heat capacity ≥44 megawatts or for boilers and process heaters where all vent streams are introduced into the flame zone. No recordkeeping or reporting associated with monitoring is required for such boilers and process heaters.  
<sup>i</sup> Process vents that are routed to refinery fuel gas systems are not regulated under this subpart. No monitoring, recordkeeping, or reporting is required for boilers and process heaters that combust refinery fuel gas.

[60 FR 43260, Aug. 18, 1995, as amended at 61 FR 29881, 29882, June 12, 1996; 63 FR 44142, 44143, Aug. 18, 1998]

**Subpart DD—National Emission Standards for Hazardous Air Pollutants from Off-Site Waste and Recovery Operations**

SOURCE: 61 FR 34158, July 1, 1996, unless otherwise noted.

**§ 63.680 Applicability and designation of affected sources.**

(a) The provisions of this subpart apply to the owner and operator of a plant site for which both of the conditions specified in paragraphs (a)(1) and (a)(2) of this section are applicable. If either one of these conditions does not apply to the plant site, then the owner and operator of the plant site are not subject to the provisions of this subpart.

(1) The plant site is a major source of hazardous air pollutant (HAP) emissions as defined in 40 CFR 63.2.

(2) At the plant site is located one or more of operations that receives off-site materials as specified in paragraph (b) of this section and the operations is one of the following waste management operations or recovery operations as specified in paragraphs (a)(2)(i) through (a)(2)(vi) of this section.

(i) A waste management operation that receives off-site material and the operation is regulated as a hazardous waste treatment, storage, and disposal facility (TSDF) under either 40 CFR part 264 or part 265.

(ii) A waste management operation that treats wastewater which is an off-site material and the operation is exempted from regulation as a hazardous

waste treatment, storage, and disposal facility under 40 CFR 264.1(g)(6) or 40 CFR 265.1(c)(10).

(iii) A waste management operation that treats wastewater which is an off-site material and the operation meets both of the following conditions:

(A) The operation is subject to regulation under either section 402 or 307(b) of the Clean Water Act but is not owned by a "state" or "municipality" as defined by section 502(3) and 502(4), respectively, of the Clean Water Act; and

(B) The treatment of wastewater received from off-site is the predominant activity performed at the plant site.

(iv) A recovery operation that recycles or reprocesses hazardous waste which is an off-site material and the operation is exempted from regulation as a hazardous waste treatment, disposal, and storage facility under 40 CFR 264.1(g)(2) or 40 CFR 265.1(c)(6).

(v) A recovery operation that recycles or reprocesses used solvent which is an off-site material and the operation is not part of a chemical, petroleum, or other manufacturing process that is required to use air emission controls by another subpart of 40 CFR part 63 or 40 CFR part 61.

(vi) A recovery operation that re-refines or reprocesses used oil which is an off-site material and the operation is regulated under 40 CFR 279 subpart F—Standards for Used Oil Processors and Refiners.

(b) For the purpose of implementing this subpart, an off-site material is a material that meets all of the criteria specified in paragraph (b)(1) of this section but is not one of the materials specified in paragraph (b)(2) of this section.

(1) An off-site material is a material that meets all of the criteria specified in paragraphs (b)(1)(i) through (b)(1)(iii) of this section. If any one of these criteria do not apply to the material, then the material is not an off-site material subject to this subpart.

(i) The material is a waste, used oil, or used solvent as defined in §63.681 of this subpart;

(ii) The waste, used oil, or used solvent is not produced or generated within the plant site, but the material is delivered, transferred, or otherwise

moved to the plant site from a location outside the boundaries of the plant site; and

(iii) The waste, used oil, or used solvent contains one or more of the hazardous air pollutants (HAP) listed in Table 1 of this subpart based on the composition of the material at the point-of-delivery, as defined in §63.681 of this subpart.

(2) For the purpose of implementing this subpart, the following materials are not off-site materials:

(i) Household waste as defined in 40 CFR 258.2.

(ii) Radioactive mixed waste managed in accordance with all applicable regulations under Atomic Energy Act and Nuclear Waste Policy Act authorities.

(iii) Waste that is generated as a result of implementing remedial activities required under the Resource Conservation and Recovery Act (RCRA) corrective action authorities (RCRA sections 3004(u), 3004(v), or 3008(h)), Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) authorities, or similar Federal or State authorities.

(iv) Waste containing HAP that is generated by residential households (e.g., old paint, home garden pesticides) and subsequently is collected as a community service by government agencies, businesses, or other organizations for the purpose of promoting the proper disposal of this waste.

(v) Waste that is transferred from a chemical manufacturing plant or other facility for which both of the following conditions apply to the waste:

(A) The management of the waste at the facility is required either under part 63 subpart F—National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry or under another subpart in 40 CFR part 63 to meet the air emission control standards for process wastewater specified in 40 CFR 63.132 through 63.147; and

(B) The owner or operator of the facility from which the waste is transferred has complied with the provisions of 40 CFR 63.132(g)(1)(ii) and (g)(2).

(vi) Waste that is transferred from a chemical manufacturing plant, petroleum refinery, or coke by-product recovery plant which is subject to 40 CFR part 61, subpart FF--National Emission Standards for Benzene Waste Operations, and for which both of the following conditions apply to the waste:

(A) The waste is generated at a facility that is not exempted under the provisions of 40 CFR 61.342(a) from meeting the air emission control standards of 40 CFR part 61, subpart FF; and

(B) The owner or operator of the facility from which the waste is transferred has complied with the provisions of 40 CFR 61.342(f)(2).

(vii) Ship ballast water pumped from a ship to an onshore wastewater treatment facility.

(viii) Hazardous waste that is stored for 10 days or less at a transfer facility in compliance with the provisions of 40 CFR 263.12.

(c) *Affected sources.* (1) *Off-site material management units.* For each operation specified in paragraphs (a)(2)(i) through (a)(2)(vi) of this section that is located at the plant site, the affected source is the entire group of off-site material management units associated with the operation. An off-site material management unit is a tank, container, surface impoundment, oil-water separator, organic-water separator, or transfer system used to manage off-site material. For the purpose of implementing the standards under this subpart, a unit that meets the definition of a tank or container but also is equipped with a vent that serves as a process vent for any of the processes listed in paragraphs (c)(2)(i) through (c)(2)(vi) of this section is not an off-site material management unit but instead is a process vent and is to be included in the appropriate affected source group under paragraph (c)(2) of this section. Examples of such a unit may include, but are not limited to, a distillate receiver vessel, a primary condenser, a bottoms receiver vessel, a surge control tank, a separator tank, and a hot well.

(2) *Process vents.* For each operation specified in paragraphs (a)(2)(i) through (a)(2)(vi) of this section that is located at the plant site, the affected source is the entire group of process equipment

associated with the process vents for the processes listed in paragraphs (c)(2)(i) through (c)(2)(vi) of this section.

(i) *Distillation process* used for the treatment, recycling, or recovery of off-site material. Distillation means a process, either batch or continuous, separating one or more off-site material feed streams into two or more exit streams having different component concentrations from those in the feed stream or streams. The separation is achieved by the redistribution of the components between the liquid and vapor phases as they approach equilibrium within the distillation unit.

(ii) *Fractionation process* used for the treatment, recycling, or recovery of off-site material. Fractionation means a liquid mixture separation process or method used to separate a mixture of several volatile components of different boiling points in successive stages, each stage removing from the mixture some proportion of one of the components.

(iii) *Thin-film evaporation process* used for the treatment, recycling, or recovery of off-site material. Thin-film evaporation means a liquid mixture separation process or method that uses a heating surface consisting of a large diameter tube that may be either straight or tapered, horizontal or vertical. Liquid is spread on the tube wall by a rotating assembly of blades that maintain a close clearance from the wall or actually ride on the film of liquid on the wall.

(iv) *Solvent extraction process* used for the treatment, recycling, or recovery of off-site material. Solvent extraction means a separation process or method in which a solid or a solution is contacted with a liquid solvent (the material and the solvent being relatively insoluble in each other) to preferentially dissolve and transfer one or more components into the solvent.

(v) *Steam stripping process* used for the treatment, recycling, or recovery of off-site material. Steam stripping means a liquid mixture separation process or method in which vaporization of the volatile components of a liquid mixture occurs by the introduction of steam directly into the process.

(vi) Gas stripping process used for the treatment, recycling, or recovery of off-site material. Gas stripping means a desorption process or method used to transfer one or more volatile components from a liquid mixture into a gas stream either with or without the application of heat to the liquid. Packed towers, spray towers, and bubble-cap, sieve, or valve-type plate towers are examples of the process configurations used for contacting the gas and a liquid.

(3) *Equipment leaks.* For each operation specified in paragraphs (a)(2)(i) through (a)(2)(vi) of this section that is located at the plant site, the affected source is the entire group of equipment components for which each component meets all of the conditions specified in paragraphs (c)(3)(i) through (c)(3)(iii) of this section. If any one of these conditions do not apply to an equipment component, then that component is not part of the affected source for equipment leaks.

(i) The equipment component is a pump, compressor, agitator, pressure relief device, sampling connection system, open-ended valve or line, valve, connector, or instrumentation system;

(ii) The equipment component contains or contacts off-site material having a total HAP concentration equal to or greater than 10 percent by weight; and

(iii) The equipment component is intended to operate for 300 hours or more during a calendar year in off-site material service, as defined in § 63.681 of this subpart.

(d) *Facility-wide exemption.* The owner or operator of affected sources subject to this subpart is exempted from the requirements of §§ 63.682 through 63.699 of this subpart in situations when the total annual quantity of the HAP that is contained in the off-site material received at the plant site is less than 1 megagram per year. For a plant site to be exempted under the provisions of this paragraph (d), the owner or operator must meet the requirements in paragraphs (d)(1) through (d)(3) of this section.

(1) The owner or operator must prepare an initial determination of the total annual HAP quantity in the off-site material received at the plant site.

This determination is based on the total quantity of the HAP listed in Table 1 of this subpart as determined at the point-of-delivery for each off-site material stream.

(2) The owner or operator must prepare a new determination whenever the extent of changes to the quantity or composition of the off-site material received at the plant site could cause the total annual HAP quantity in the off-site material received at the plant site to exceed the limit of 1 megagram per year.

(3) The owner or operator must maintain documentation to support the owner's or operator's determination of the total annual HAP quantity in the off-site material received at the plant site. This documentation must include the basis and data used for determining the HAP content of the off-site material.

(e) *Compliance dates.* (1) *Existing sources.* The owner or operator of an affected source that commenced construction or reconstruction before October 13, 1994, must achieve compliance with the provisions of this subpart on or before the date specified in paragraph (e)(1)(i) or (e)(1)(ii) of this section as applicable to the affected source.

(i) For an affected source that commenced construction or reconstruction before October 13, 1994 and receives off-site material for the first time before February 1, 2000, the owner or operator of this affected source must achieve compliance with the provisions of the subpart on or before February 1, 2000 unless an extension has been granted by the Administrator as provided in 40 CFR 63.6(i).

(ii) For an affected source that commenced construction or reconstruction before October 13, 1994, but receives off-site material for the first time on or after February 1, 2000, the owner or operator of the affected source must achieve compliance with the provisions of this subpart upon the first date that the affected source begins to manage off-site material.

(2) *New sources.* The owner or operator of an affected source for which construction or reconstruction commences on or after October 13, 1994,

must achieve compliance with the provisions of this subpart on or before July 1, 1996, or upon initial startup of operations, whichever date is later as provided in 40 CFR 63.6(b).

(f) The provisions of 40 CFR part 63, subpart A—General Provisions that apply and those that do not apply to this subpart are specified in Table 2 of this subpart.

[61 FR 34158, July 1, 1996, as amended at 65 FR 38963, July 20, 1999]

#### § 63.681 Definitions.

All terms used in this subpart shall have the meaning given to them in this section, 40 CFR 63.2 of this part, and the Act.

*Boiler* means an enclosed combustion device that extracts useful energy in the form of steam and is not an incinerator or a process heater.

*Closed-vent system* means a system that is not open to the atmosphere and is composed of hard-piping, ductwork, connections, and, if necessary, fans, blowers, or other flow-inducing devices that conveys gas or vapor from an emission point to a control device.

*Closure device* means a cap, hatch, lid, plug, seal, valve, or other type of fitting that prevents or reduces air pollutant emissions to the atmosphere by blocking an opening in a cover when the device is secured in the closed position. Closure devices include devices that are detachable from the cover (e.g., a sampling port cap), manually operated (e.g., a hinged access lid or hatch), or automatically operated (e.g., a spring-loaded pressure relief valve).

*Container* means a portable unit used to hold material. Examples of containers include but are not limited to drums, dumpsters, roll-off boxes, bulk cargo containers commonly known as "portable tanks" or "totes", cargo tank trucks, and tank rail cars.

*Continuous record* means documentation of data values measured at least once every 15 minutes and recorded at the frequency specified in this subpart.

*Continuous recorder* means a data recording device that either records an instantaneous data value at least once every 15 minutes or records 15-minute or more frequent block averages.

*Continuous seal* means a seal that forms a continuous closure that com-

pletely covers the space between the edge of the floating roof and the wall of a tank. A continuous seal may be a vapor-mounted seal, liquid-mounted seal, or metallic shoe seal. A continuous seal may be constructed of fastened segments so as to form a continuous seal.

*Control device* means equipment used for recovering, removing, oxidizing, or destroying organic vapors. Examples of such equipment include but are not limited to carbon adsorbers, condensers, vapor incinerators, flares, boilers, and process heaters.

*Cover* means a device or system that provides a continuous barrier over the material managed in an off-site material management unit to prevent or reduce air pollutant emissions to the atmosphere. A cover may have openings needed for operation, inspection, sampling, maintenance, and repair of the unit provided that each opening is closed when not in use (e.g., access hatches, sampling ports). A cover may be a separate piece of equipment which can be detached and removed from the unit or a cover may be formed by structural features permanently integrated into the design of the unit.

*Emission point* means an individual tank, surface impoundment, container, oil-water or organic-water separator, transfer system, process vent, or enclosure.

*Enclosure* means a structure that surrounds a tank or container, captures organic vapors emitted from the tank or container, and vents the captured vapor through a closed vent system to a control device.

*External floating roof* means a pontoon-type or double-deck type cover that rests on the liquid surface in a tank with no fixed roof.

*Fixed roof* means a cover that is mounted on a unit in a stationary position and does not move with fluctuations in the level of the liquid managed in the unit.

*Flame zone* means the portion of the combustion chamber in a boiler or process heater occupied by the flame envelope.

*Floating roof* means a cover consisting of a double deck, pontoon single deck, or internal floating cover which

rests upon and is supported by the liquid being contained, and is equipped with a continuous seal.

*Flow indicator* means a device that indicates whether gas is flowing, or whether the valve position would allow gas to flow in a bypass line.

*Hard-piping* means pipe or tubing that is manufactured and properly installed in accordance with relevant standards and good engineering practices.

*Hazardous air pollutants* or *HAP* means the specific organic chemical compounds, isomers, and mixtures listed in Table 1 of this subpart.

*Hazardous waste* means a waste that is determined to be hazardous under the Resource Conservation and Recovery Act (PL 94-580) (RCRA), as implemented by 40 CFR parts 260 and 261.

*Individual drain system* means a stationary system used to convey wastewater streams or residuals to a waste management unit or to discharge or disposal. The term includes hard-piping, all drains and junction boxes, together with their associated sewer lines and other junction boxes (e.g., manholes, sumps, and lift stations) conveying wastewater streams or residuals. For the purpose of this subpart, an individual drain system is not a drain and collection system that is designed and operated for the sole purpose of collecting rainfall runoff (e.g., stormwater sewer system) and is segregated from all other individual drain systems.

*Internal floating roof* means a cover that rests or floats on the liquid surface (but not necessarily in complete contact with it inside a tank that has a fixed roof).

*Light-material service* means the container is used to manage an off-site material for which both of the following conditions apply: the vapor pressure of one or more of the organic constituents in the off-site material is greater than 0.3 kilopascals (kPa) at 20 °C; and the total concentration of the pure organic constituents having a vapor pressure greater than 0.3 kPa at 20 °C is equal to or greater than 20 percent by weight.

*Liquid-mounted seal* means a foam- or liquid-filled continuous seal mounted in contact with the liquid in a unit.

*Maximum HAP vapor pressure* means the sum of the individual HAP equilibrium partial pressure exerted by an off-site material at the temperature equal to either: the local maximum monthly average temperature as reported by the National Weather Service when the off-site material is stored or treated at ambient temperature; or the highest calendar-month average temperature of the off-site material when the off-site material is stored at temperatures above the ambient temperature or when the off-site material is stored or treated at temperatures below the ambient temperature. For the purpose of this subpart, maximum HAP vapor pressure is determined using the procedures specified in § 63.694(j) of this subpart.

*Metallic shoe seal* means a continuous seal that is constructed of metal sheets which are held vertically against the wall of the tank by springs, weighted levers, or other mechanisms and is connected to the floating roof by braces or other means. A flexible coated fabric (envelope) spans the annular space between the metal sheet and the floating roof.

*No detectable organic emissions* means no escape of organics to the atmosphere as determined using the procedure specified in § 63.694(k) of this subpart.

*Off-site material* means a material that meets all of the criteria specified in paragraph § 63.680(b)(1) of this subpart but is not one of the materials specified in § 63.680(b)(2) of this subpart.

*Off-site material management unit* means a tank, container, surface impoundment, oil-water separator, organic-water separator, or transfer system used to manage off-site material.

*Off-site material service* means any time when a pump, compressor, agitator, pressure relief device, sampling connection system, open-ended valve or line, valve, connector, or instrumentation system contains or contacts off-site material.

*Off-site material stream* means an off-site material produced or generated by a particular process or source such that the composition and form of the material comprising the stream remain consistent. An off-site material stream



may be delivered, transferred, or otherwise moved to the plant site in a continuous flow of material (e.g., wastewater flowing through a pipeline) or in a series of discrete batches of material (e.g., a truckload of drums all containing the same off-site material or multiple bulk truck loads of an off-site material produced by the same process).

*Oil-water separator* means a separator as defined for this subpart that is used to separate oil from water.

*Operating parameter value* means a minimum or maximum value established for a control device or treatment process parameter which, if achieved by itself or in combination with one or more other operating parameter values, determines that an owner or operator has complied with an applicable emission limitation or standard.

*Organic-water separator* means a separator as defined for this subpart that is used to separate organics from water.

*Plant site* means all contiguous or adjoining property that is under common control including properties that are separated only by a road or other public right-of-way. Common control includes properties that are owned, leased, or operated by the same entity, parent entity, subsidiary, or any combination thereof. A unit or group of units within a contiguous property that are not under common control (e.g., a wastewater treatment unit or solvent recovery unit located at the site but is sold to a different company) is a different plant site.

*Point-of-delivery* means the point at the boundary or within the plant site where the owner or operator first accepts custody, takes possession, or assumes responsibility for the management of an off-site material stream managed in a waste management operation or recovery operation specified in § 63.680 (a)(2)(i) through (a)(2)(vi) of this subpart. The characteristics of an off-site material stream are determined prior to combining the off-site material stream with other off-site material streams or with any other materials.

*Point-of-treatment* means a point after the treated material exits the treatment process but before the first point downstream of the treatment process exit where the organic constituents in

the treated material have the potential to volatilize and be released to the atmosphere. For the purpose of applying this definition to this subpart, the first point downstream of the treatment process exit is not a fugitive emission point due to an equipment leak from any of the following equipment components: pumps, compressors, valves, connectors, instrumentation systems, or safety devices.

*Process heater* means an enclosed combustion device that transfers heat released by burning fuel directly to process streams or to heat transfer liquids other than water.

*Process vent* means an open-ended pipe, stack, or duct through which a gas stream containing HAP is continuously or intermittently discharged to the atmosphere from any of the processes listed in § 63.680(c)(2)(i) through (c)(2)(vi) of this section. For the purpose of this subpart, a process vent is none of the following: a pressure-relief vent or other vent that is used as a safety device (as defined in this section); an open-ended line or other vent that is subject to the equipment leak control requirements under § 63.691 of this subpart; or a stack or other vent that is used to exhaust combustion products from a boiler, furnace, process heater, incinerator, or other combustion device.

*Recovery operation* means the collection of off-site material management units, process vents, and equipment components used at a plant site to manage an off-site material stream from the point-of-delivery through the point where the material has been recycled, reprocessed, or re-refined to obtain the intended product or to remove the physical and chemical impurities of concern.

*Safety device* means a closure device such as a pressure relief valve, frangible disc, fusible plug, or any other type of device which functions to prevent physical damage or permanent deformation to equipment by venting gases or vapors during unsafe conditions resulting from an unplanned, accidental, or emergency event. For the purpose of this subpart, a safety device is not used for routine venting of gases or vapors from the vapor headspace underneath a cover such as during filling

of the unit or to adjust the pressure in this vapor headspace in response to normal daily diurnal ambient temperature fluctuations. A safety device is designed to remain in a closed position during normal operations and open only when the internal pressure, or another relevant parameter, exceeds the device threshold setting applicable to the equipment as determined by the owner or operator based on manufacturer recommendations, applicable regulations, fire protection and prevention codes, standard engineering codes and practices, or other requirements for the safe handling of flammable, combustible, explosive, reactive, or hazardous materials.

*Separator* means a waste management unit, generally a tank, used to separate oil or organics from water. A separator consists of not only the separation unit but also the forebay and other separator basins, skimmers, weirs, grit chambers, sludge hoppers, and bar screens that are located directly after the individual drain system and prior to any additional treatment units such as an air flotation unit clarifier or biological treatment unit. Examples of a separator include, but are not limited to, an API separator, parallel-plate interceptor, and corrugated-plate interceptor with the associated ancillary equipment.

*Single-seal system* means a floating roof having one continuous seal. This seal may be vapor-mounted, liquid-mounted, or a metallic shoe seal.

*Surface impoundment* means a unit that is a natural topographical depression, man-made excavation, or diked area formed primarily of earthen materials (although it may be lined with man-made materials), which is designed to hold an accumulation of liquids. Examples of surface impoundments include holding, storage, settling, and aeration pits, ponds, and lagoons.

*Tank* means a stationary unit that is constructed primarily of nonearthen materials (such as wood, concrete, steel, fiberglass, or plastic) which provide structural support and is designed to hold an accumulation of liquids or other materials.

*Transfer system* means a stationary system for which the predominant

function is to convey liquids or solid materials from one point to another point within a waste management operation or recovery operation. For the purpose of this subpart, the conveyance of material using a container (as defined for this subpart) or a self-propelled vehicle (e.g., a front-end loader) is not a transfer system. Examples of a transfer system include but are not limited to a pipeline, an individual drain system, a gravity-operated conveyor (such as a chute), and a mechanically-powered conveyor (such as a belt or screw conveyor).

*Temperature monitoring device* means a piece of equipment used to monitor temperature and having an accuracy of  $\pm 1$  percent of the temperature being monitored expressed in degrees Celsius ( $^{\circ}\text{C}$ ) or  $\pm 1.2$  degrees  $^{\circ}\text{C}$ , whichever value is greater.

*Treatment process* means a process in which an off-site material stream is physically, chemically, thermally, or biologically treated to destroy, degrade, or remove hazardous air pollutants contained in the off-site material. A treatment process can be composed of a single unit (e.g., a steam stripper) or a series of units (e.g., a wastewater treatment system). A treatment process can be used to treat one or more off-site material streams at the same time.

*Used oil* means any oil refined from crude oil or any synthetic oil that has been used and as a result of such use is contaminated by physical or chemical impurities. This definition is the same definition of "used oil" in 40 CFR 279.1.

*Used solvent* means a mixture of aliphatic hydrocarbons or a mixture of one and two ring aromatic hydrocarbons that has been used as a solvent and as a result of such use is contaminated by physical or chemical impurities.

*Vapor-mounted seal* means a continuous seal that is mounted such that there is a vapor space between the liquid in the unit and the bottom of the seal.

*Volatile organic hazardous air pollutant concentration* or *VOHAP concentration* means the fraction by weight of those compounds listed in Table 1 of this subpart that are in an off-site material as measured using Method 305 in appendix

A of this part and expressed in terms of parts per million (ppm). As an alternative to using Method 305, an owner or operator may determine the HAP concentration of an off-site material using any one of the other test methods specified in § 63.694(b)(2)(ii) of this subpart. When a test method specified in § 63.694(b)(2)(ii) of this subpart other than Method 305 is used to determine the speciated HAP concentration of an off-site material, the individual compound concentration may be adjusted by the corresponding  $f_{m305}$  value listed in Table 1 of this subpart to determine a VOHAP concentration.

*Waste* means a material generated from industrial, commercial, mining, or agricultural operations or from community activities that is discarded, discharged, or is being accumulated, stored, or physically, chemically, thermally, or biologically treated prior to being discarded or discharged.

*Waste management operation* means the collection of off-site material management units, process vents, and equipment components used at a plant site to manage an off-site material stream from the point-of-delivery to the point where the waste exits or is discharged from the plant site or the waste is placed for on-site disposal in a unit not subject to this subpart (e.g., a waste incinerator, a land disposal unit).

*Waste stabilization process* means any physical or chemical process used to either reduce the mobility of hazardous constituents in a waste or eliminate free liquids as determined by Test Method 9095—Paint Filter Liquids Test in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication No. SW-846, Third Edition, September 1986, as amended by Update I, November 15, 1992. (As an alternative, an owner or operator may use any more recent, updated version of Method 9095 approved by the EPA.) A waste stabilization process includes mixing the waste with binders or other materials and curing the resulting waste and binder mixture. Other synonymous terms used to refer to this process are "waste fixation" or "waste solidification." A waste stabilization process does not include the adding of absorbent materials to the surface of a

waste, without mixing, agitation, or subsequent curing, to absorb free liquid.

[61 FR 34158, July 1, 1996, as amended at 64 FR 38964, July 20, 1999]

**§ 63.682 [Reserved]**

**§ 63.683 Standards: General.**

(a) The general standards under this section apply to owners and operators of affected sources as designated in § 63.680(c) of this subpart.

(b) *Off-site material management units.*

(1) For each off-site material management unit that is part of an affected source, the owner or operator must meet the requirements in either paragraph (b)(1)(i), (b)(1)(ii), or (b)(1)(iii) of this section except for those off-site material management units exempted under paragraph (b)(2) of this section.

(i) The owner or operator controls air emissions from the off-site material management unit in accordance with the applicable standards specified in §§ 63.685 through 63.689 of this subpart.

(ii) The owner or operator removes or destroys HAP in the off-site material before placing the material in the off-site material management unit by treating the material in accordance with the standards specified in § 63.684 of this subpart.

(iii) The owner or operator determines before placing off-site material in the off-site material management unit that the average VOHAP concentration of the off-site material is less than 500 parts per million by weight (ppmw) at the point-of-delivery. The owner or operator must perform an initial determination of the average VOHAP concentration of the off-site material using the procedures specified in § 63.694(b) of this subpart. This initial determination must be performed either before the first time any portion of the off-site material stream is placed in the unit or by the compliance date, whichever date is later. Thereafter, the owner or operator must review and update, as necessary, this determination at least once every calendar year following the date of the initial determination for the off-site material stream.

(2) An off-site material management unit is exempted from the requirements in paragraph (b)(1) of this section when the owner or operator meets one of the exemptions provided in paragraphs (b)(2)(i) through (b)(2)(iv) of this section as applicable to the unit.

(i) An off-site material management unit is exempted from the requirements in paragraph (b)(1) of this section if the off-site material management unit is also subject to another subpart under 40 CFR part 63 or 40 CFR part 61, and the owner or operator is controlling the HAP listed in Table 1 of this subpart that are emitted from the unit in compliance with the provisions specified in the other applicable subpart under part 61 or part 63.

(ii) At the discretion of the owner or operator, one or a combination of off-site material management units may be exempted from the requirements in paragraph (b)(1) of this section when these units meet the condition that the total annual quantity of HAP contained in the off-site material placed in the units exempted under this paragraph (b)(2)(ii) is less than 1 megagram per year. For the off-site material management units selected by the owner or operator to be exempted from the requirements in paragraph (b)(1) of this section, the owner or operator must meet the requirements in paragraphs (b)(2)(ii)(A) and (b)(2)(ii)(B) of this section. An owner or operator may change the off-site material management units selected to be exempted under this paragraph (b)(2)(ii) by preparing a new designation for the exempt-units as required by paragraph (b)(2)(ii)(A) of this section and performing a new determination as required by paragraph (b)(2)(ii)(B) of this section.

(A) The owner or operator must designate each of the off-site material management units selected by the owner or operator to be exempt under paragraph (b)(2)(ii) of this section by either submitting to the Administrator a written notification identifying the exempt-units or permanently marking the exempt-units at the plant site. If an owner or operator chooses to prepare and submit a written notification, this notification must include a site plan, process diagram, or other appro-

priate documentation identifying each of the exempt-units. If an owner or operator chooses to permanently mark the exempt-units, each exempt-unit must be marked in such a manner that it can be readily identified as an exempt-unit from the other off-site material management units located at the plant site.

(B) The owner or operator must prepare an initial determination of the total annual HAP quantity in the off-site material placed in the units exempted under this paragraph (b)(2)(ii). This determination is based on the total quantity of the HAP listed in Table 1 of this subpart as determined at the point where the off-site material is placed in each exempted unit. The owner or operator must perform a new determination whenever the extent of changes to the quantity or composition of the off-site material placed in the exempted units could cause the total annual HAP content in the off-site material to exceed 1 megagram per year. The owner or operator must maintain documentation to support the most recent determination of the total annual HAP quantity. This documentation must include the basis and data used for determining the HAP content of the off-site material.

(iii) A tank or surface impoundment is exempted from the requirements in paragraph (b)(1) of this section if the unit is used for a biological treatment process that meets the requirements in either paragraph (b)(2)(iii)(A) or (b)(2)(iii)(B) of this section and the owner or operator complies with the monitoring requirements in § 63.684(e)(4) of this subpart.

(A) The HAP biodegradation efficiency ( $R_{bio}$ ) for the biological treatment process is equal to or greater than 95 percent. The HAP biodegradation efficiency ( $R_{bio}$ ) shall be determined in accordance with the requirements of § 63.694(h) of this subpart.

(B) The total actual HAP mass removal rate ( $MR_{bio}$ ) for the off-site material treated by the biological treatment process is equal to or greater than the required HAP mass removal rate (RMR) for the off-site material. The total actual HAP mass removal rate ( $MR_{bio}$ ) must be determined in accordance with the requirements of

§ 63.694(i) of this subpart. The required HAP mass removal rate (RMR) must be determined in accordance with the requirements of § 63.694(e) of this subpart.

(iv) An off-site material management unit is exempted from the requirements in paragraph (b)(1) of this section if the off-site material placed in the unit is a hazardous waste that meets the conditions specified in either paragraph (b)(2)(iv)(A) or (b)(2)(iv)(B) of this section.

(A) The hazardous waste meets the numerical organic concentration limits, applicable to the hazardous waste, as specified in 40 CFR part 268—Land Disposal Restrictions, listed in the table, "Treatment Standards for Hazardous Waste" in 40 CFR 268.40.

(B) The organic hazardous constituents in the hazardous waste have been treated by the treatment technology established by the EPA for the hazardous waste in 40 CFR 268.42(a), or have been removed or destroyed by an equivalent method of treatment approved by the EPA under 40 CFR 268.42(b).

(v) A tank used for bulk feed of off-site material to a waste incinerator is exempted from the requirements specified in paragraph (b)(1) of this section if the tank meets all of the conditions specified in paragraphs (b)(2)(v)(A) through (b)(2)(v)(C) of this section.

(A) The tank is located inside an enclosure vented to a control device that is designed and operated in accordance with all applicable requirements specified under 40 CFR part 61, subpart FF—National Emission Standards for Benzene Waste Operations for a facility at which the total annual benzene quantity from the facility waste is equal to or greater than 10 megagrams per year;

(B) The enclosure and control device serving the tank were installed and began operation prior to July 1, 1996; and

(C) The enclosure is designed and operated in accordance with the criteria for a permanent total enclosure as specified in "Procedure T—Criteria for and Verification of a Permanent or Temporary Total Enclosure" under 40 CFR 52.741, appendix B. The enclosure may have permanent or temporary openings to allow worker access; passage of material into or out of the en-

closure by conveyor, vehicles, or other mechanical or electrical equipment; or to direct air flow into the enclosure. The owner or operator must annually perform the verification procedure for the enclosure as specified in Section 5.0 to "Procedure T—Criteria for and Verification of a Permanent or Temporary Total Enclosure."

(c) *Process vents.* (1) For each process vent that is part of an affected source, the owner or operator must meet the requirements in either paragraph (c)(1)(i) or (c)(1)(ii) of this section except for those process vents exempted under paragraph (c)(2) of this section.

(i) The owner or operator controls air emissions from the process vent in accordance with the standards specified in § 63.690 of this subpart.

(ii) The owner or operator determines before placing off-site material in the process equipment associated with the process vent that the average VOHAP concentration of the off-site material is less than ppmw at the point-of-delivery. The owner or operator must perform an initial determination of the average VOHAP concentration of the off-site material using the procedures specified in § 63.694(b) of this subpart before any portion of the off-site material stream is placed in the unit. Thereafter, the owner or operator must review and update, as necessary, this determination at least once every calendar year following the date of the initial determination for the off-site material stream.

(2) A process vent is exempted from the requirements of paragraph (c)(1) of this section when the owner or operator meets one of the exemptions provided in paragraphs (c)(2)(i) through (c)(2)(iii) of this section.

(i) A process vent is exempted from the requirements in paragraph (c)(1) of this section if the process vent is also subject to another subpart under part 63 or 40 CFR part 61, and the owner or operator is controlling the HAP listed in Table 1 of this subpart that are emitted from the process vent in compliance with the provisions specified in the other applicable subpart under part 61 or part 63.

(ii) A process vent is exempted from the requirements specified in paragraph (c)(1) of this section if the owner

or operator determines that the process vent stream flow rate is less than 0.005 cubic meters per minute ( $m^3/min$ ) at standard conditions (as defined in 40 CFR 63.2). The process vent stream flow rate shall be determined in accordance with the procedures specified in § 63.694(m) of this subpart. Documentation must be prepared by the owner or operator and maintained at the plant site to support the determination of the process vent stream flow rate. This documentation must include identification of each process vent exempted under this paragraph and the test results used to determine the process vent stream flow rate.

(iii) A process vent is exempted from the requirements specified in paragraph (c)(1) of this section if the owner or operator determines that the process vent stream flow rate is less than  $6.0 m^3/min$  at standard conditions (as defined in 40 CFR 63.2) and the total HAP concentration is less than 20 ppmv. The process vent stream flow rate and total HAP concentration shall be determined in accordance with the procedures specified in § 63.694(m) of this subpart. Documentation must be prepared by the owner or operator and maintained at the plant site to support the determination of the process vent stream flow rate and total HAP concentration. This documentation must include identification of each process vent exempted under this paragraph (c)(2)(iii) and the test results used to determine the process vent stream flow rate and total HAP concentration. The owner or operator must perform a new determination of the process vent stream flow rate and total HAP concentration when the extent of changes to operation of the unit on which the process vent is used could cause either the process vent stream flow rate to exceed the limit of  $6.0 m^3/min$  or the total HAP concentration to exceed the limit of 20 ppmv.

(d) *Equipment leaks.* The owner or operator must control equipment leaks from each equipment component that is part of the affected source specified in § 63.680(c)(3) of this subpart by implementing leak detection and control measures in accordance with the standards specified in § 63.691 of this subpart.

[64 FR 38965, July 20, 1999]

**§ 63.684 Standards: Off-site material treatment.**

(a) The provisions of this section apply to the treatment of off-site material to remove or destroy HAP for which § 63.683(b)(1)(ii) of this subpart references the requirements of this section for such treatment.

(b) The owner or operator shall remove or destroy the HAP contained in off-site material streams to be managed in the off-site material management unit in accordance with § 63.683(b)(1)(ii) of this subpart using a treatment process that continuously achieves, under normal operations, one or more of the performance levels specified in paragraphs (b)(1) through (b)(5) of this section (as applicable to the type of treatment process) for the range of off-site material stream compositions and quantities expected to be treated.

(1) *VOHAP concentration.* The treatment process shall reduce the VOHAP concentration of the off-site material using a means, other than by dilution, to achieve one of the following performance levels, as applicable:

(i) In the case when every off-site material stream entering the treatment process has an average VOHAP concentration equal to or greater than 500 ppmw at the point-of-delivery, then the VOHAP concentration of the off-site material shall be reduced to a level that is less than 500 ppmw at the point-of-treatment.

(ii) In the case when off-site material streams entering the treatment process are a mixture of off-site material streams having an average VOHAP concentration equal to or greater than 500 ppmw at the point-of-delivery with off-site material streams having average VOHAP concentrations less than 500 ppmw at the point-of-delivery, then the VOHAP concentration of the off-site material must be reduced to a level at the point-of-treatment that meets the performance level specified in either paragraph (b)(1)(ii)(A) or (B) of this section.

(A) Less than the VOHAP concentration limit ( $C_R$ ) established for the treatment process using the procedure specified in § 63.694(d); or

(B) Less than the lowest VOHAP concentration determined for each of the

off-site material streams entering the treatment process as determined by the VOHAP concentration of the off-site material at the point-of-delivery.

(2) *HAP mass removal.* The treatment process shall achieve a performance level such that the total quantity of HAP actually removed from the off-site material stream (MR) is equal to or greater than the required mass removal (RMR) established for the off-site material stream using the procedure specified in § 63.694(e) of this subpart. The MR for the off-site material streams shall be determined using the procedures specified in § 63.694(f) of this subpart.

(3) *HAP reduction efficiency.* For any treatment process except a treatment process that uses biological degradation and is performed in an open tank or surface impoundment, the treatment process must achieve the applicable performance level specified in either paragraph (b)(3)(i) or (b)(3)(ii) of this section.

(i) In the case when the owner or operator determines that off-site material stream entering the treatment process has an average VOHAP concentration less than 10,000 ppmw at the point-of-delivery, then the treatment process shall achieve a performance level such that the total quantity of HAP in the off-site material stream is reduced by 95 percent or more. The HAP reduction efficiency (R) for the treatment process shall be determined using the procedure specified in § 63.694(g) of this subpart. The average VOHAP concentration of the off-site material stream at the point-of-delivery shall be determined using the procedure specified in § 63.694(b) of this subpart.

(ii) In the case when the off-site material stream entering the treatment process has an average VOHAP concentration equal to or greater than 10,000 ppmw at the point-of-delivery, then the treatment process shall achieve a performance level such that the total quantity of HAP in the off-site material stream is reduced by 95 percent or more, and the average VOHAP concentration of the off-site material at the point-of-treatment is less than 100 parts per million by weight (ppmw). The HAP reduction ef-

iciency (R) for the treatment process shall be determined using the procedure specified in § 63.694(g) of this subpart. The average VOHAP concentration of the off-site material stream at the point-of-treatment shall be determined using the procedure specified in § 63.694(c) of this subpart.

(4) *Biological degradation performed in an open tank or surface impoundment.* A treatment process using biological degradation and performed in an open tank or surface impoundment must achieve the performance level specified in either paragraph (b)(4)(i) or (b)(4)(ii) of this section.

(i) The HAP reduction efficiency (R) for the treatment process is equal to or greater than 95 percent, and the HAP biodegradation efficiency ( $R_{bio}$ ) for the treatment process is equal to or greater than 95 percent. The HAP reduction efficiency (R) shall be determined using the procedure specified in § 63.694(g) of this subpart. The HAP biodegradation efficiency ( $R_{bio}$ ) shall be determined in accordance with the requirements of § 63.694(h) of this subpart.

(ii) The total quantity of HAP actually removed from the off-site material stream by biological degradation ( $MR_{bio}$ ) shall be equal to or greater than the required mass removal (RMR) established for the off-site material stream using the procedure specified in § 63.694(e) of this subpart. The  $MR_{bio}$  of the off-site material stream shall be determined using the procedures specified in § 63.694(i) of this subpart.

(5) *Incineration.* The treatment process must destroy the HAP contained in the off-site material stream using one of the combustion devices specified in paragraphs (b)(5)(i) through (b)(5)(iv) of this section.

(i) An incinerator for which the owner or operator has been issued a final permit under 40 CFR part 270, and the incinerator is designed and operated in accordance with the requirements of 40 CFR part 264, subpart O—Incinerators, or

(ii) An incinerator for which the owner or operator has certified compliance with the interim status requirements of 40 CFR part 265, subpart O—Incinerators.

(iii) A boiler or industrial furnace for which the owner or operator has been

issued a final permit under 40 CFR part 270, and the combustion unit is designed and operated in accordance with the requirements of 40 CFR part 266, subpart H—Hazardous Waste Burned in Boilers and Industrial Furnaces.

(iv) A boiler or industrial furnace for which the owner or operator has certified compliance with the interim status requirements of 40 CFR part 266, subpart H Hazardous Waste Burned in Boilers and Industrial Furnaces.

(c) For a treatment process that removes the HAP from the off-site material by a means other than thermal destruction or biological degradation to achieve one of the performance levels specified in paragraph (b)(1), (b)(2), or (b)(3) of this section, the owner or operator shall manage the HAP removed from the off-site material in such a manner to minimize release of these HAP to the atmosphere, to the extent practical. Examples of HAP emission control measures that meet the requirements of this paragraph include managing the HAP removed from the off-site material in units that use air emission controls in accordance with the standards specified in §§ 63.685 through 63.689 of this subpart, as applicable to the unit.

(d) When the owner or operator treats the off-site material to meet one of the performance levels specified in paragraphs (b)(1) through (b)(4) of this section, the owner or operator shall demonstrate that the treatment process achieves the selected performance level for the range of expected off-site material stream compositions expected to be treated. An initial demonstration shall be performed as soon as possible but no later than 30 days after first time an owner or operator begins using the treatment process to manage off-site material streams in accordance with the requirements of either § 63.683(b)(1)(ii) or § 63.683(b)(2)(ii) of this subpart as applicable to the affected off-site material management unit or process equipment. Thereafter, the owner or operator shall review and update, as necessary, this demonstration at least once every calendar year following the date of the initial demonstration.

(e) When the owner or operator treats the off-site material to meet one of the

performance levels specified in paragraphs (b)(1) through (b)(4) of this section, the owner or operator shall ensure that the treatment process is achieving the applicable performance requirements by continuously monitoring the operation of the process when it is used to treat off-site material by complying with paragraphs (e)(1) through (e)(3) or, for biological treatment units, paragraph (e)(4) of this section:

(1) A continuous monitoring system shall be installed and operated for each treatment that measures operating parameters appropriate for the treatment process technology. This system shall include a continuous recorder that records the measured values of the selected operating parameters. The monitoring equipment shall be installed, calibrated, and maintained in accordance with the equipment manufacturer's specifications. The continuous recorder shall be a data recording device that is capable of recording either an instantaneous data value at least once every 15 minutes or an average value for intervals of 15 minutes or less.

(2) For each monitored operating parameter, the owner or operator shall establish a minimum operating parameter value or a maximum operating parameter value, as appropriate, to define the range of conditions at which the treatment process must be operated to continuously achieve the applicable performance requirements of this section.

(3) When the treatment process is operating to treat off-site material, the owner or operator shall inspect the data recorded by the continuous monitoring system on a routine basis and operate the treatment process such that the actual value of each monitored operating parameter is greater than the minimum operating parameter value or less than the maximum operating parameter value, as appropriate, established for the treatment process.

(4) When the treatment process is a biological treatment process that is complying with paragraph (b)(4) of this



section, the owner or operator must establish and implement a written procedure to monitor the appropriate parameters that demonstrate proper operation of the biological treatment unit in accordance with the evaluation required in § 63.694(h) of this subpart. The written procedure must list the operating parameters that will be monitored and state the frequency of monitoring to ensure that the biological treatment unit is operating between the minimum operating parameter values and maximum operating parameter values to establish that the biological treatment unit is continuously achieving the performance requirement.

(f) The owner or operator must maintain records for each treatment process in accordance with the requirements of § 63.696(a) of this subpart.

(g) The owner or operator must prepare and submit reports for each treatment process in accordance with the requirements of § 63.697(a) of this subpart.

(h) The Administrator may at any time conduct or request that the owner or operator conduct testing necessary to demonstrate that a treatment process is achieving the applicable performance requirements of this section. The testing shall be conducted in accordance with the applicable requirements of this section. The Administrator may elect to have an authorized representative observe testing conducted by the owner or operator.

[61 FR 34158, July 1, 1996, as amended at 64 FR 38967, July 20, 1999; 66 FR 1266, Jan. 8, 2001; 68 FR 37351, June 23, 2003]

#### § 63.685 Standards: Tanks.

(a) The provisions of this section apply to the control of air emissions from tanks for which § 63.683(b)(1)(i) of this subpart references the use of this section for such air emission control.

(b) The owner or operator shall control air emissions from each tank subject to this section in accordance with the following applicable requirements:

(1) For a tank that is part of an existing affected source but the tank is not used to manage off-site material having a maximum HAP vapor pressure kilopascal (kPa) that is equal to or greater than 76.6 kPa nor is the tank used for a waste stabilization process

as defined in § 63.681 of this subpart, the owner or operator shall determine whether the tank is required to use either Tank Level 1 controls or Tank Level 2 controls as specified for the tank by Table 3 of this subpart based on the off-site material maximum HAP vapor pressure and the tank's design capacity. The owner or operator shall control air emissions from a tank required by Table 3 to use Tank Level 1 controls in accordance with the requirements of paragraph (c) of this section. The owner or operator shall control air emissions from a tank required by Table 3 to use Tank Level 2 controls in accordance with the requirements of paragraph (d) of this section.

(2) For a tank that is part of a new affected source but the tank is not used to manage off-site material having a maximum HAP vapor pressure that is equal to or greater than 76.6 kPa nor is the tank used for a waste stabilization process as defined in § 63.681 of this subpart, the owner or operator shall determine whether the tank is required to use either Tank Level 1 controls or Tank Level 2 controls as specified for the tank by Table 4 of this subpart based on the off-site material maximum HAP vapor pressure and the tank's design capacity. The owner or operator shall control air emissions from a tank required by Table 4 to use Tank Level 1 controls in accordance with the requirements of paragraph (c) of this section. The owner or operator shall control air emissions from a tank required by Table 4 to use Tank Level 2 controls in accordance with the requirements of paragraph (d) of this section.

(3) For a tank that is used for a waste stabilization process, the owner or operator shall control air emissions from the tank by using Tank Level 2 controls in accordance with the requirements of paragraph (d) of this section.

(4) For a tank that manages off-site material having a maximum HAP vapor pressure that is equal to or greater than 76.6 kPa, the owner or operator must control air emissions by using one of the tanks specified in paragraphs (b)(4)(i) through (b)(4)(iii) of this section.

(i) A tank vented through a closed-vent system to a control device in accordance with the requirements specified in paragraph (g) of this section;

(ii) A pressure tank designed and operated in accordance with the requirements specified in paragraph (h) of this section; or

(iii) A tank located inside an enclosure that is vented through a closed-vent system to an enclosed combustion control device in accordance with the requirements specified in paragraph (i) of this section.

(c) Owners and operators controlling air emissions from a tank using Tank Level 1 controls shall meet the following requirements:

(1) The owner or operator shall determine the maximum HAP vapor pressure for an off-site material to be managed in the tank using Tank Level 1 controls before the first time the off-site material is placed in the tank. The maximum HAP vapor pressure shall be determined using the procedures specified in §63.694(j) of this subpart. Thereafter, the owner or operator shall perform a new determination whenever changes to the off-site material managed in the tank could potentially cause the maximum HAP vapor pressure to increase to a level that is equal to or greater than the maximum HAP vapor pressure limit for the tank design capacity category specified in Table 3 or Table 4 of this subpart, as applicable to the tank.

(2) The owner or operator must control air emissions from the tank in accordance with the requirements in either paragraph (c)(2)(i), (c)(2)(ii), or (c)(2)(iii) of this section, as applicable to the tank.

(i) The owner or operator controls air emissions from the tank in accordance with the provisions specified in subpart 00 of 40 CFR part 63—National Emission Standards for Tanks—Level 1.

(ii) As an alternative to meeting the requirements in paragraph (c)(2)(i) of this section, an owner or operator may control air emissions from the tank in accordance with the provisions for Tank Level 2 controls as specified in paragraph (d) of this section.

(iii) As an alternative to meeting the requirements in paragraph (c)(2)(i) of this section when a tank is used as an

interim transfer point to transfer off-site material from containers to another off-site material management unit, an owner or operator may control air emissions from the tank in accordance with the requirements in paragraphs (c)(2)(iii)(A) and (c)(2)(iii)(B) of this section. An example of such a tank is an in-ground tank into which organic-contaminated debris is dumped from roll-off boxes or dump trucks, and then this debris is promptly transferred from the tank to a macroencapsulation unit by a backhoe.

(A) During those periods of time when the material transfer activity is occurring, the tank may be operated without a cover.

(B) At all other times, air emissions from the tank must be controlled in accordance with the provisions specified in 40 CFR part 67, subpart 00—National Emission Standards for Tanks—Level 1.

(d) Owners and operators controlling air emissions from a tank using Tank Level 2 controls shall use one of the following tanks:

(1) A fixed-roof tank equipped with an internal floating roof in accordance with the requirements specified in paragraph (e) of this section;

(2) A tank equipped with an external floating roof in accordance with the requirements specified in paragraph (f) of this section;

(3) A tank vented through a closed-vent system to a control device in accordance with the requirements specified in paragraph (g) of this section;

(4) A pressure tank designed and operated in accordance with the requirements specified in paragraph (h) of this section; or

(5) A tank located inside an enclosure that is vented through a closed-vent system to an enclosed combustion control device in accordance with the requirements specified in paragraph (i) of this section.

(e) The owner or operator who elects to control air emissions from a tank using a fixed-roof with an internal floating roof shall meet the requirements specified in paragraphs (e)(1) through (e)(3) of this section.

(1) The tank shall be equipped with a fixed roof and an internal floating roof

in accordance with the following requirements:

(i) The internal floating roof shall be designed to float on the liquid surface except when the floating roof must be supported by the leg supports.

(ii) The internal floating roof shall be equipped with a continuous seal between the wall of the tank and the floating roof edge that meets either of the following requirements:

(A) A single continuous seal that is either a liquid-mounted seal or a metallic shoe seal, as defined in § 63.681 of this subpart; or

(B) Two continuous seals mounted one above the other. The lower seal may be a vapor-mounted seal.

(iii) The internal floating roof shall meet the following specifications:

(A) Each opening in a noncontact internal floating roof except for automatic bleeder vents (vacuum breaker vents) and the rim space vents is to provide a projection below the liquid surface.

(B) Each opening in the internal floating roof shall be equipped with a gasketed cover or a gasketed lid except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains.

(C) Each penetration of the internal floating roof for the purpose of sampling shall have a slit fabric cover that covers at least 90 percent of the opening.

(D) Each automatic bleeder vent and rim space vent shall be gasketed.

(E) Each penetration of the internal floating roof that allows for passage of a ladder shall have a gasketed sliding cover.

(F) Each penetration of the internal floating roof that allows for passage of a column supporting the fixed roof shall have a flexible fabric sleeve seal or a gasketed sliding cover.

(2) The owner or operator shall operate the tank in accordance with the following requirements:

(i) When the floating roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be accomplished as soon as practical.

(ii) Automatic bleeder vents are to be set closed at all times when the roof is

floating, except when the roof is being floated off or is being landed on the leg supports.

(iii) Prior to filling the tank, each cover, access hatch, gauge float well or lid on any opening in the internal floating roof shall be bolted or fastened closed (i.e., no visible gaps). Rim space vents are to be set to open only when the internal floating roof is not floating or when the pressure beneath the rim exceeds the manufacturer's recommended setting.

(3) The owner or operator shall inspect the internal floating roof in accordance with the procedures specified in § 63.695(b) of this subpart.

(f) The owner or operator who elects to control tank emissions by using an external floating roof shall meet the requirements specified in paragraphs (f)(1) through (f)(3) of this section.

(1) The owner or operator shall design the external floating roof in accordance with the following requirements:

(i) The external floating roof shall be designed to float on the liquid surface except when the floating roof must be supported by the leg supports.

(ii) The floating roof shall be equipped with two continuous seals, one above the other, between the wall of the tank and the roof edge. The lower seal is referred to as the primary seal, and the upper seal is referred to as the secondary seal.

(A) The primary seal shall be a liquid-mounted seal or a metallic shoe seal, as defined in § 63.681 of this subpart. The total area of the gaps between the tank wall and the primary seal shall not exceed 212 square centimeters (cm<sup>2</sup>) per meter of tank diameter, and the width of any portion of these gaps shall not exceed 3.8 centimeters (cm). If a metallic shoe seal is used for the primary seal, the metallic shoe seal shall be designed so that one end extends into the liquid in the tank and the other end extends a vertical distance of at least 61 centimeters (24 inches) above the liquid surface.

(B) The secondary seal shall be mounted above the primary seal and cover the annular space between the floating roof and the wall of the tank. The total area of the gaps between the tank wall and the secondary seal shall

not exceed 21.2 square centimeters (cm<sup>2</sup>) per meter of tank diameter, and the width of any portion of these gaps shall not exceed 1.3 centimeters (cm).

(iii) The external floating roof shall meet the following specifications:

(A) Except for automatic bleeder vents (vacuum breaker vents) and rim space vents, each opening in a noncontact external floating roof shall provide a projection below the liquid surface.

(B) Except for automatic bleeder vents, rim space vents, roof drains, and leg sleeves, each opening in the roof shall be equipped with a gasketed cover, seal, or lid.

(C) Each access hatch and each gauge float wells shall be equipped with covers designed to be bolted or fastened when the cover is secured in the closed position.

(D) Each automatic bleeder vent and each rim space vents shall be equipped with a gasket.

(E) Each roof drain that empties into the liquid managed in the tank shall be equipped with a slotted membrane fabric cover that covers at least 90 percent of the area of the opening.

(F) Each unslotted and slotted guide pole well shall be equipped with a gasketed sliding cover or a flexible fabric sleeve seal.

(G) Each unslotted guide pole shall be equipped with a gasketed cap on the end of the pole.

(H) Each slotted guide pole shall be equipped with a gasketed float or other device which closes off the surface from the atmosphere.

(I) Each gauge hatch and each sample well shall be equipped with a gasketed cover.

(2) The owner or operator shall operate the tank in accordance with the following requirements:

(i) When the floating roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be accomplished as soon as practical.

(ii) Except for automatic bleeder vents, rim space vents, roof drains, and leg sleeves, each opening in the roof shall be secured and maintained in a closed position at all times except when the closure device must be open for access.

(iii) Covers on each access hatch and each gauge float well shall be bolted or fastened when secured in the closed position.

(iv) Automatic bleeder vents shall be set closed at all times when the roof is floating, except when the roof is being floated off or is being landed on the leg supports.

(v) Rim space vents shall be set to open only at those times that the roof is being floated off the roof leg supports or when the pressure beneath the rim seal exceeds the manufacturer's recommended setting.

(vi) The cap on the end of each unslotted guide pole shall be secured in the closed position at all times except when measuring the level or collecting samples of the liquid in the tank.

(vii) The cover on each gauge hatch or sample well shall be secured in the closed position at all times except when the hatch or well must be opened for access.

(viii) Both the primary seal and the secondary seal shall completely cover the annular space between the external floating roof and the wall of the tank in a continuous fashion except during inspections.

(3) The owner or operator shall inspect the external floating roof in accordance with the procedures specified in § 63.695(b) of this subpart.

(g) The owner or operator who controls tank air emissions by venting to a control device shall meet the requirements specified in paragraphs (g)(1) through (g)(3) of this section.

(1) The tank shall be covered by a fixed roof and vented directly through a closed-vent system to a control device in accordance with the following requirements:

(i) The fixed roof and its closure devices shall be designed to form a continuous barrier over the entire surface area of the liquid in the tank.

(ii) Each opening in the fixed roof not vented to the control device shall be equipped with a closure device. If the pressure in the vapor headspace underneath the fixed roof is less than atmospheric pressure when the control device is operating, the closure devices shall be designed to operate such that when the closure device is secured in the closed position there are no visible

cracks, holes, gaps, or other open spaces in the closure device or between the perimeter of the cover opening and the closure device. If the pressure in the vapor headspace underneath the fixed roof is equal to or greater than atmospheric pressure when the control device is operating, the closure device shall be designed to operate with no detectable organic emissions.

(iii) The fixed roof and its closure devices shall be made of suitable materials that will minimize exposure of the off-site material to the atmosphere, to the extent practical, and will maintain the integrity of the equipment throughout its intended service life. Factors to be considered when selecting the materials for and designing the fixed roof and closure devices shall include: organic vapor permeability, the effects of any contact with the liquid and its vapor managed in the tank; the effects of outdoor exposure to wind, moisture, and sunlight; and the operating practices used for the tank on which the fixed roof is installed.

(iv) The closed-vent system and control device shall be designed and operated in accordance with the requirements of § 63.693 of this subpart.

(2) Whenever an off-site material is in the tank, the fixed roof shall be installed with each closure device secured in the closed position and the vapor headspace underneath the fixed roof vented to the control device except as follows:

(i) Venting to the control device is not required, and opening of closure devices or removal of the fixed roof is allowed at the following times:

(A) To provide access to the tank for performing routine inspection, maintenance, or other activities needed for normal operations. Examples of such activities include those times when a worker needs to open a port to sample liquid in the tank, or when a worker needs to open a hatch to maintain or repair equipment. Following completion of the activity, the owner or operator shall promptly secure the closure device in the closed position or re-install the cover, as applicable, to the tank.

(B) To remove accumulated sludge or other residues from the bottom of the tank.

(ii) Opening of a safety device, as defined in § 63.681 of this subpart, is allowed at any time conditions require it to do so to avoid an unsafe condition.

(3) The owner or operator shall inspect and monitor the air emission control equipment in accordance with the procedures specified in § 63.695 of this subpart.

(h) The owner or operator who elects to control tank air emissions by using a pressure tank shall meet the following requirements.

(1) The tank shall be designed not to vent to the atmosphere as a result of compression of the vapor headspace in the tank during filling of the tank to its design capacity.

(2) All tank openings shall be equipped with closure devices designed to operate with no detectable organic emissions as determined using the procedure specified in § 63.694(k) of this subpart.

(3) Whenever an off-site material is in the tank, the tank shall be operated as a closed system that does not vent to the atmosphere except under either of the following conditions as specified in paragraph (h)(3)(i) or (h)(3)(ii) of this section.

(i) At those times when opening of a safety device, as defined in § 63.681 of this subpart, is required to avoid an unsafe condition.

(ii) At those times when purging of inerts from the tank is required and the purge stream is routed to a closed-vent system and control device designed and operated in accordance with the requirements of § 63.693 of this subpart.

(1) The owner or operator who elects to control air emissions by using an enclosure vented through a closed-vent system to an enclosed combustion control device shall meet the requirements specified in paragraphs (i)(1) through (4) of this section.

(1) The tank shall be located inside an enclosure. The enclosure shall be designed and operated in accordance with the criteria for a permanent total enclosure as specified in "Procedure T—Criteria for and Verification of a Permanent or Temporary Total Enclosure" under 40 CFR 52.741, Appendix B. The enclosure may have permanent or temporary openings to allow worker

access; passage of material into or out of the enclosure by conveyor, vehicles, or other mechanical means; entry of permanent mechanical or electrical equipment; or to direct airflow into the enclosure. The owner or operator shall perform the verification procedure for the enclosure as specified in Section 5.0 to "Procedure T—Criteria for and Verification of a Permanent or Temporary Total Enclosure" initially when the enclosure is first installed and, thereafter, annually.

(2) The enclosure shall be vented through a closed-vent system to an enclosed combustion control device that is designed and operated in accordance with the standards for either a vapor incinerator, boiler, or process heater specified in § 63.693 of this subpart.

(3) Opening of a safety device, as defined in § 63.681 of this subpart, is allowed at any time conditions require it to do so to avoid an unsafe condition.

(4) The owner or operator shall inspect and monitor the closed-vent system and control device as specified in § 63.693.

[61 FR 34158, July 1, 1996, as amended at 64 FR 38968, July 20, 1999; 66 FR 1266, Jan. 8, 2001]

**§ 63.686 Standards: Oil-water and organic-water separators.**

(a) The provisions of this section apply to the control of air emissions from oil-water separators and organic-water separators for which § 63.683(b)(1)(i) of this subpart references the use of this section for such air emission control.

(b) The owner or operator shall control air emissions from each separator subject to this section by using one of the following:

(1) A floating roof in accordance with all applicable provisions specified in 40 CFR 63 subpart VV—National Emission Standards for Oil-Water Separators and Organic-Water Separators. For portions of the separator where it is infeasible to install and operate a floating roof, such as over a weir mechanism, the owner or operator shall comply with the requirements specified in paragraph (b)(2) of this section.

(2) A fixed-roof that is vented through a closed-vent system to a control device in accordance with all ap-

plicable provisions specified in 40 CFR 63 subpart VV—National Emission Standards for Oil-Water Separators and Organic-Water Separators.

(3) A pressurized separator that operates as a closed system in accordance with all applicable provisions specified in 40 CFR part 63, subpart VV—National Emission Standards for Oil-Water Separators and Organic-Water Separators.

[61 FR 34158, July 1, 1996, as amended at 64 FR 38969, July 20, 1999]

**§ 63.687 Standards: Surface impoundments.**

(a) The provisions of this section apply to the control of air emissions from surface impoundments for which § 63.683(b)(1)(i) of this subpart references the use of this section for such air emission control.

(b) The owner or operator shall control air emissions from each surface impoundment subject to this section by using one of the following:

(1) A floating membrane cover in accordance with the applicable provisions specified in 40 CFR 63 subpart QQ—National Emission Standards for Surface Impoundments; or

(2) A cover that is vented through a closed-vent system to a control device in accordance with all applicable provisions specified in 40 CFR 63 subpart QQ—National Emission Standards for Surface Impoundments.

[61 FR 34158, July 1, 1996, as amended at 64 FR 38969, July 20, 1999]

**§ 63.688 Standards: Containers.**

(a) The provisions of this section apply to the control of air emissions from containers for which § 63.683(b)(1)(i) of this subpart references the use of this section for such air emission control.

(b) The owner or operator shall control air emissions from each container subject to this section in accordance with the following requirements, as applicable to the container, except when the special provisions for waste stabilization processes specified in paragraph (c) of this section apply to the container.

(1) For a container having a design capacity greater than 0.1 m<sup>3</sup> and less

than or equal to 0.46 m<sup>3</sup>, the owner or operator must control air emissions from the container in accordance with the requirements in either paragraph (b)(1)(i) or (b)(1)(ii) of this section.

(i) The owner or operator controls air emissions from the container in accordance with the standards for Container Level 1 controls as specified in 40 CFR part 63, subpart PP—National Emission Standards for Containers.

(ii) As an alternative to meeting the requirements in paragraph (b)(1)(i) of this section, an owner or operator may choose to control air emissions from the container in accordance with the standards for either Container Level 2 controls or Container Level 3 controls as specified in subpart PP of this part 63—National Emission Standards for Containers.

(2) For a container having a design capacity greater than 0.46 m<sup>3</sup> and the container is not in light-material service as defined in § 63.681 of this subpart, the owner or operator must control air emissions from the container in accordance with the requirements in either paragraph (b)(1)(i) or (b)(1)(ii) of this section.

(3) For a container having a design capacity greater than 0.46 m<sup>3</sup> and the container is in light-material service as defined in § 63.681 of this subpart, the owner or operator must control air emissions from the container in accordance with the requirements in either paragraph (b)(3)(i) or (b)(3)(ii) of this section.

(i) The owner or operator controls air emissions from the container in accordance with the standards for Container Level 2 controls as specified in 40 CFR part 63, subpart PP—National Emission Standards for Containers.

(ii) As an alternative to meeting the requirements in paragraph (b)(3)(i) of this section, an owner or operator may choose to control air emissions from the container in accordance with the standards for Container Level 3 controls as specified in 40 CFR part 63, subpart PP—National Emission Standards for Containers.

(c) When a container subject to this subpart and having a design capacity greater than 0.1 m<sup>3</sup> is used for treatment of an off-site material by a waste stabilization process as defined in

§ 63.681 of this subpart, the owner or operator shall control air emissions from the container at those times during the process when the off-site material in the container is exposed to the atmosphere in accordance with the standards for Container Level 3 controls as specified in 40 CFR part 63, subpart PP—National Emission Standards for Containers.

[61 FR 34158, July 1, 1996, as amended at 64 FR 38969, July 20, 1999]

#### § 63.689 Standards: Transfer systems.

(a) The provisions of this section apply to the control of air emissions from transfer systems for which § 63.683(b)(1)(i) of this subpart references the use of this section for such air emission control.

(b) For each transfer system that is subject to this section and is an individual drain system, the owner or operator shall control air emissions in accordance with the standards specified in 40 CFR part 63, subpart RR—National Emission Standards for Individual Drain Systems.

(c) For each transfer system that is subject to this section but is not an individual drain system, the owner or operator shall control air emissions by using one of the transfer systems specified in paragraphs (c)(1) through (c)(3) of this section.

(1) A transfer system that uses covers in accordance with the requirements specified in paragraph (d) of this section.

(2) A transfer system that consists of continuous hard-piping. All joints or seams between the pipe sections shall be permanently or semi-permanently sealed (e.g., a welded joint between two sections of metal pipe or a bolted and gasketed flange).

(3) A transfer system that is enclosed and vented through a closed-vent system to a control device in accordance with the requirements specified in paragraphs (c)(3)(i) and (c)(3)(ii) of this section.

(i) The transfer system is designed and operated such that an internal pressure in the vapor headspace in the enclosure is maintained at a level less than atmospheric pressure when the control device is operating, and

(ii) The closed-vent system and control device are designed and operated in accordance with the requirements of § 63.693 of this subpart.

(d) Owners and operators controlling air emissions from a transfer system using covers in accordance with the provisions of paragraph (c)(1) of this section shall meet the requirements specified in paragraphs (d)(1) through (d)(6) of this section.

(1) The cover and its closure devices shall be designed to form a continuous barrier over the entire surface area of the off-site material as it is conveyed by the transfer system except for the openings at the inlet and outlet to the transfer system through which the off-site material passes. The inlet and outlet openings used for passage of the off-site material through the transfer system shall be the minimum size required for practical operation of the transfer system.

(2) The cover shall be installed in a manner such that there are no visible cracks, holes, gaps, or other open spaces between cover section joints or between the interface of the cover edge and its mounting.

(3) Except for the inlet and outlet openings to the transfer system through which the off-site material passes, each opening in the cover shall be equipped with a closure device designed to operate such that when the closure device is secured in the closed position there are no visible cracks, holes, gaps, or other open spaces in the closure device or between the perimeter of the opening and the closure device.

(4) The cover and its closure devices shall be made of suitable materials that will minimize exposure of the off-site material to the atmosphere, to the extent practical, and will maintain the integrity of the equipment throughout its intended service life. Factors to be considered when selecting the materials for and designing the cover and closure devices shall include: organic vapor permeability; the effects of any contact with the material or its vapors conveyed in the transfer system; the effects of outdoor exposure to wind, moisture, and sunlight; and the operating practices used for the transfer system on which the cover is installed.

(5) Whenever an off-site material is in the transfer system, the cover shall be installed with each closure device secured in the closed position except as specified in paragraph (d)(5)(i) or (d)(5)(ii) of this section.

(i) Opening of closure devices or removal of the cover is allowed to provide access to the transfer system for performing routine inspection, maintenance, repair, or other activities needed for normal operations. Examples of such activities include those times when a worker needs to open a hatch or remove the cover to repair conveyance equipment mounted under the cover or to clear a blockage of material inside the system. Following completion of the activity, the owner or operator shall promptly secure the closure device in the closed position or reinstall the cover, as applicable.

(ii) Opening of a safety device, as defined in § 63.681 of this subpart, is allowed at any time conditions require it to do so to avoid an unsafe condition.

(6) The owner or operator shall inspect the air emission control equipment in accordance with the requirements specified in § 63.695 of this subpart.

[61 FR 34158, July 1, 1996, as amended at 64 FR 38970, July 20, 1999]

#### § 63.690 Standards: Process vents.

(a) The provisions of this section apply to the control of air emissions from process vents for which § 63.683(c)(1)(i) of this subpart references the use of this section for such air emission control.

(b) The owner or operator must route the vent stream from each affected process vent through a closed-vent system to a control device that meets the standards specified in § 63.693 of this subpart. For the purpose of complying with this paragraph (b), a primary condenser is not a control device; however, a second condenser or other organic recovery device that is operated downstream of the primary condenser is considered a control device.

[64 FR 38970, July 20, 1999]

#### § 63.691 Standards: Equipment leaks.

(a) The provisions of this section apply to the control of air emissions



from equipment leaks for which § 63.683(d) references the use of this section for such air emissions control.

(b) The owner or operator shall control the HAP emitted from equipment leaks in accordance with the applicable provisions specified in either paragraph (b)(1) or (b)(2) of this section.

(1) The owner or operator controls the HAP emitted from equipment leaks in accordance with § 61.242 through § 61.247 in 40 CFR part 61, subpart V—National Emission Standards for Equipment Leaks; or

(2) The owner or operator controls the HAP emitted from equipment leaks in accordance with § 63.162 through § 63.182 in subpart H—National Emission Standards for Organic Hazardous Air Pollutants from Equipment Leaks.

[64 FR 38970, July 20, 1999, as amended at 66 FR 1266, Jan. 8, 2001]

**§ 63.692 [Reserved]**

**§ 63.693 Standards: Closed-vent systems and control devices.**

(a) The provisions of this section apply to closed-vent systems and control devices used to control air emissions for which another standard references the use of this section for such air emission control.

(b) For each closed-vent system and control device used to comply with this section, the owner or operator shall meet the following requirements:

(1) The owner or operator must use a closed-vent system that meets the requirements specified in paragraph (c) of this section.

(2) The owner or operator must use a control device that meets the requirements specified in paragraphs (d) through (h) of this section as applicable to the type and design of the control device selected by the owner or operator to comply with the provisions of this section.

(3) Whenever gases or vapors containing HAP are vented through a closed-vent system connected to a control device used to comply with this section, the control device must be operating except at those times listed in either paragraph (b)(3)(i) or (b)(3)(ii) of this section.

(i) The control device may be bypassed for the purpose of performing

planned routine maintenance of the closed-vent system or control device in situations when the routine maintenance cannot be performed during periods that the emission point vented to the control device is shutdown. On an annual basis, the total time that the closed-vent system or control device is bypassed to perform routine maintenance shall not exceed 240 hours per each calendar year.

(ii) The control device may be bypassed for the purpose of correcting a malfunction of the closed-vent system or control device. The owner or operator shall perform the adjustments or repairs necessary to correct the malfunction as soon as practicable after the malfunction is detected.

(4) The owner or operator must inspect and monitor each closed-vent system in accordance with the requirements specified in either paragraph (b)(4)(i) or (b)(4)(ii) of this section.

(i) The owner or operator inspects and monitors the closed-vent system in accordance with the requirements specified in § 63.695(c) of this subpart, and complies with the applicable recordkeeping requirements in § 63.696 of this subpart and the applicable reporting requirements in § 63.697 of this subpart.

(ii) As an alternative to meeting the requirements specified in paragraph (b)(4)(i) of this section, the owner or operator may choose to inspect and monitor the closed-vent system in accordance with the requirements under 40 CFR part 63, subpart H—National Emission Standards for Organic Hazardous Air Pollutants from Equipment Leaks as specified in 40 CFR 63.172(f) through (h), and complies with the applicable recordkeeping requirements in 40 CFR 63.181 and the applicable reporting requirements in 40 CFR 63.182.

(5) The owner or operator must monitor the operation of each control device in accordance with the requirements specified in paragraphs (d) through (h) of this section as applicable to the type and design of the control device selected by the owner or operator to comply with the provisions of this section.

(6) The owner or operator shall maintain records for each control device in accordance with the requirements of § 63.696 of this subpart.

(7) The owner or operator shall prepare and submit reports for each control device in accordance with the requirements of § 63.697 of this subpart.

(8) In the case when an owner or operator chooses to use a design analysis to demonstrate compliance of a control device with the applicable performance requirements specified in this section as provided for in paragraphs (d) through (g) of this section, the Administrator may request that the design analysis be revised or amended by the owner or operator to correct any deficiencies identified by the Administrator. If the owner or operator and the Administrator do not agree on the acceptability of using the design analysis (including any changes requested by the Administrator) to demonstrate that the control device achieves the applicable performance requirements, then the disagreement must be resolved using the results of a performance test conducted by the owner or operator in accordance with the requirements of § 63.694(1) of this subpart. The Administrator may choose to have an authorized representative observe the performance test conducted by the owner or operator. Should the results of this performance test not agree with the determination of control device performance based on the design analysis, then the results of the performance test will be used to establish compliance with this subpart.

(c) Closed-vent system requirements.

(1) The vent stream required to be controlled shall be conveyed to the control device by either of the following closed-vent systems:

(i) A closed-vent system that is designed to operate with no detectable organic emissions using the procedure specified in § 63.694(k) of this subpart; or

(ii) A closed-vent system that is designed to operate at a pressure below atmospheric pressure. The system shall be equipped with at least one pressure gage or other pressure measurement device that can be read from a readily accessible location to verify that negative pressure is being maintained in the closed-vent system when the control device is operating.

(2) In situations when the closed-vent system includes bypass devices that

could be used to divert a vent stream from the closed-vent system to the atmosphere at a point upstream of the control device inlet, each bypass device must be equipped with either a flow indicator as specified in paragraph (c)(2)(i) of this section or a seal or locking device as specified in paragraph (c)(2)(ii) of this section. For the purpose of complying with this paragraph (c)(2), low leg drains, high point bleeds, analyzer vents, open-ended valves or lines, or pressure relief valves needed for safety reasons are not subject to the requirements of this paragraph (c)(2).

(i) If a flow indicator is used, the indicator must be installed at the entrance to the bypass line used to divert the vent stream from the closed-vent system to the atmosphere. The flow indicator must indicate a reading at least once every 15 minutes. The owner or operator must maintain records of the following information: hourly records of whether the flow indicator was operating and whether flow was detected at any time during the hour; and records of all periods when flow is detected or the flow indicator is not operating.

(ii) If a seal or locking device is used to comply with paragraph (c)(2) of this section, the device shall be placed on the mechanism by which the bypass device position is controlled (*e.g.*, valve handle, damper lever) when the bypass device is in the closed position such that the bypass device cannot be opened without breaking the seal or removing the lock. Examples of such devices include, but are not limited to, a car-seal or a lock-and-key configuration valve.

(d) Carbon adsorption control device requirements.

(1) The carbon adsorption system must achieve the performance specifications in either paragraph (d)(1)(i) or (d)(1)(ii) of this section.

(i) Recover 95 percent or more, on a weight-basis, of the total organic compounds (TOC), less methane and ethane, contained in the vent stream entering the carbon adsorption system; or

(ii) Recover 95 percent or more, on a weight-basis, of the total HAP listed in Table 1 of this subpart contained in the

vent stream entering the carbon adsorption system.

(2) The owner or operator must demonstrate that the carbon adsorption system achieves the performance requirements in paragraph (d)(1) of this section by either performing a performance test as specified in paragraph (d)(2)(i) of this section or a design analysis as specified in paragraph (d)(2)(ii) of this section.

(i) An owner or operator choosing to use a performance test to demonstrate compliance must conduct the test in accordance with the requirements of § 63.694(l) of this subpart.

(ii) An owner or operator choosing to use a design analysis to demonstrate compliance must include as part of this design analysis the information specified in either paragraph (d)(2)(ii)(A) or (d)(2)(ii)(B) of this section as applicable to the carbon adsorption system design.

(A) For a regenerable carbon adsorption system, the design analysis shall address the vent stream composition, constituent concentrations, flow rate, relative humidity, and temperature and shall establish the design exhaust vent stream organic compound concentration, adsorption cycle time, number and capacity of carbon beds, type and working capacity of activated carbon used for carbon beds, design total regeneration steam flow over the period of each complete carbon bed regeneration cycle, design carbon bed temperature after regeneration, design carbon bed regeneration time, and design service life of the carbon.

(B) For a nonregenerable carbon adsorption system (e.g., a carbon canister), the design analysis shall address the vent stream composition, constituent concentrations, flow rate, relative humidity, and temperature and shall establish the design exhaust vent stream organic compound concentration, carbon bed capacity, activated carbon type and working capacity, and design carbon replacement interval based on the total carbon working capacity of the control device and emission point operating schedule.

(3) The owner or operator must monitor the operation of the carbon adsorption system in accordance with the requirements of § 63.695(e) using one of

the continuous monitoring systems specified in paragraphs (d)(3)(i) through (iii) of this section. Monitoring the operation of a nonregenerable carbon adsorption system (e.g., a carbon canister) using a continuous monitoring system is not required when the carbon canister or the carbon in the control device is replaced on a regular basis according to the requirements in paragraph (d)(4)(iii) of this section.

(i) For a regenerative-type carbon adsorption system:

(A) A continuous parameter monitoring system to measure and record the average total regeneration stream mass flow or volumetric flow during each carbon bed regeneration cycle. The integrating regenerating stream flow monitoring device must have an accuracy of  $\pm 10$  percent; and

(B) A continuous parameter monitoring system to measure and record the average carbon bed temperature for the duration of the carbon bed steaming cycle and to measure the actual carbon bed temperature after regeneration and within 15 minutes of completing the cooling cycle. The accuracy of the temperature monitoring device must be  $\pm 1$  percent of the temperature being measured, expressed in degrees Celsius or  $\pm 5$  °C, whichever is greater.

(ii) A continuous monitoring system to measure and record the daily average concentration level of organic compounds in the exhaust gas stream from the control device. The organic monitoring system must comply either with Performance Specification 8 or 9 in 40 CFR part 60, appendix B. The relative accuracy provision of Performance Specification 8, Sections 2.4 and 3 need not be conducted.

(iii) A continuous monitoring system that measures other alternative operating parameters upon approval of the Administrator as specified in 40 CFR 63.8(f)(1) through (f)(5) of this part.

(4) The owner or operator shall manage the carbon used for the carbon adsorption system, as follows:

(i) Following the initial startup of the control device, all carbon in the control device shall be replaced with fresh carbon on a regular, predetermined time interval that is no longer than the carbon service life established for the carbon adsorption system. The

provisions of this paragraph (d)(4)(i) do not apply to a nonregenerable carbon adsorption system (e.g., a carbon canister) for which the carbon canister or the carbon in the control device is replaced on a regular basis according to the requirements in paragraph (d)(4)(iii) of this section.

(ii) The spent carbon removed from the carbon adsorption system must be either regenerated, reactivated, or burned in one of the units specified in paragraphs (d)(4)(ii)(A) through (d)(4)(ii)(G) of this section.

(A) Regenerated or reactivated in a thermal treatment unit for which the owner or operator has been issued a final permit under 40 CFR part 270 that implements the requirements of 40 CFR part 264, subpart X.

(B) Regenerated or reactivated in a thermal treatment unit equipped with and operating air emission controls in accordance with this section.

(C) Regenerated or reactivated in a thermal treatment unit equipped with and operating organic air emission controls in accordance with a national emission standard for hazardous air pollutants under another subpart in 40 CFR part 63 or 40 CFR part 61.

(D) Burned in a hazardous waste incinerator for which the owner or operator has been issued a final permit under 40 CFR part 270 that implements the requirements of 40 CFR part 264, subpart O.

(E) Burned in a hazardous waste incinerator for which the owner or operator has designed and operates the incinerator in accordance with the interim status requirements of 40 CFR part 265, subpart O.

(F) Burned in a boiler or industrial furnace for which the owner or operator has been issued a final permit under 40 CFR part 270 that implements the requirements of 40 CFR part 266, subpart H.

(G) Burned in a boiler or industrial furnace for which the owner or operator has designed and operates the unit in accordance with the interim status requirements of 40 CFR part 266, subpart H.

(iii) As an alternative to meeting the requirements in paragraphs (d)(3) and (d)(4)(i) of this section, an owner or operator of a nonregenerable carbon ad-

sorption system may choose to replace on a regular basis the carbon canister or the carbon in the control device using the procedures in either paragraph (d)(4)(iii)(A) or (d)(4)(iii)(B) of this section. For the purpose of complying with this paragraph (d)(4)(iii), a nonregenerable carbon adsorption system means a carbon adsorption system that does not regenerate the carbon bed directly onsite in the control device, such as a carbon canister. The spent carbon removed from the nonregenerable carbon adsorption system must be managed according to the requirements in paragraph (d)(4)(ii) of this section.

(A) Monitor the concentration level of the organic compounds in the exhaust vent from the carbon adsorption system on a regular schedule, and when carbon breakthrough is indicated, immediately replace either the existing carbon canister with a new carbon canister or replace the existing carbon in the control device with fresh carbon. Measurement of the concentration level of the organic compounds in the exhaust vent stream must be made with a detection instrument that is appropriate for the composition of organic constituents in the vent stream and is routinely calibrated to measure the organic concentration level expected to occur at breakthrough. The monitoring frequency must be daily or at an interval no greater than 20 percent of the time required to consume the total carbon working capacity established as a requirement of paragraph (d)(2)(ii)(B) of this section, whichever is longer.

(B) Replace either the existing carbon canister with a new carbon canister or replace the existing carbon in the control device with fresh carbon at a regular, predetermined time interval that is less than the design carbon replacement interval established as a requirement of paragraph (d)(2)(ii)(B) of this section.

(e) Condenser control device requirements.

(1) The condenser must achieve the performance specifications in either paragraph (e)(1)(i) or (e)(1)(ii) of this section.

(i) Recover 95 percent or more, on a weight-basis, of the total organic compounds (TOC), less methane and ethane, contained in the vent stream entering the condenser; or

(ii) Recover 95 percent or more, on a weight-basis, of the total HAP, listed in Table 1 of this subpart, contained in the vent stream entering the condenser.

(2) The owner or operator must demonstrate that the condenser achieves the performance requirements in paragraph (e)(1) of this section by either performing a performance test as specified in paragraph (e)(2)(i) of this section or a design analysis as specified in paragraph (e)(2)(ii) of this section.

(i) An owner or operator choosing to use a performance test to demonstrate compliance must conduct the test in accordance with the requirements of § 63.694(1) of this subpart.

(ii) An owner or operator choosing to use a design analysis to demonstrate compliance must include as part of this design analysis the following information: description of the vent stream composition, constituent concentrations, flow rate, relative humidity, and temperature; and specification of the design outlet organic compound concentration level, design average temperature of the condenser exhaust vent stream, and the design average temperatures of the coolant fluid at the condenser inlet and outlet.

(3) The owner or operator must monitor the operation of the condenser in accordance with the requirements of § 63.695(e) of this subpart using one of the continuous monitoring systems specified in paragraphs (e)(3)(i) through (e)(3)(iii) of this section.

(i) A continuous parameter monitoring system to measure and record the daily average temperature of the exhaust gases from the control device. The accuracy of the temperature monitoring device shall be  $\pm 1$  percent of the temperature being measured, expressed in degrees Celsius or  $\pm 5$  °C, whichever is greater.

(ii) A continuous monitoring system to measure and record the daily average concentration level of organic compounds in the exhaust gas stream from the control device. The organic monitoring system must comply either with

Performance Specification 8 or 9 in 40 CFR part 60, appendix B. The relative accuracy provision of Performance Specification 8, Sections 2.4 and 3 need not be conducted.

(iii) A continuous monitoring system that measures other alternative operating parameters upon approval of the Administrator as specified in 40 CFR 63.8(f)(1) through (f)(5) of this part.

(f) Vapor incinerator control device requirements.

(1) The vapor incinerator must achieve the performance specifications in either paragraph (f)(1)(i), (f)(1)(ii), or (f)(1)(iii) of this section.

(i) Destroy the total organic compounds (TOC), less methane and ethane, contained in the vent stream entering the vapor incinerator either:

(A) By 95 percent or more, on a weight-basis, or

(B) To achieve a total incinerator outlet concentration for the TOC, less methane and ethane, of less than or equal to ppmv on a dry basis corrected to 3 percent oxygen.

(ii) Destroy the HAP listed in Table 1 of this subpart contained in the vent stream entering the vapor incinerator either:

(A) By 95 percent or more, on a total HAP weight-basis, or

(B) To achieve a total incinerator outlet concentration for the HAP, listed in Table 1 of this subpart, of less than or equal to ppmv on a dry basis corrected to 3 percent oxygen.

(iii) Maintain the conditions in the vapor incinerator combustion chamber at a residence time of 0.5 seconds or longer and at a temperature of 760°C or higher.

(2) The owner or operator must demonstrate that the vapor incinerator achieves the performance requirements in paragraph (f)(1) of this section by either performing a performance test as specified in paragraph (f)(2)(i) of this section or a design analysis as specified in paragraph (f)(2)(ii) of this section.

(i) An owner or operator choosing to use a performance test to demonstrate compliance must conduct the test in accordance with the requirements of § 63.694(1) of this subpart.

(ii) An owner or operator choosing to use a design analysis to demonstrate compliance must include as part of this

design analysis the information specified in either paragraph (f)(2)(i)(A) or (f)(2)(ii)(B) of this section as applicable to the vapor incinerator design.

(A) For a thermal vapor incinerator, the design analysis shall address the vent stream composition, constituent concentrations, and flow rate and shall establish the design minimum and average temperatures in the combustion chamber and the combustion chamber residence time.

(B) For a catalytic vapor incinerator, the design analysis shall address the vent stream composition, constituent concentrations, and flow rate and shall establish the design minimum and average temperatures across the catalyst bed inlet and outlet, and the design service life of the catalyst.

(3) The owner or operator must monitor the operation of the vapor incinerator in accordance with the requirements of § 63.695(e) of this subpart using one of the continuous monitoring systems specified in paragraphs (f)(3)(i) through (f)(3)(iv) of this section as applicable to the type of vapor incinerator used.

(i) For a thermal vapor incinerator, a continuous parameter monitoring system to measure and record the daily average temperature of the exhaust gases from the control device. The accuracy of the temperature monitoring device must be  $\pm 1$  percent of the temperature being measured, expressed in degrees Celsius of  $\pm 0.5$  °C, whichever is greater.

(ii) For a catalytic vapor incinerator, a temperature monitoring device capable of monitoring temperature at two locations equipped with a continuous recorder. One temperature sensor shall be installed in the vent stream at the nearest feasible point to the catalyst bed inlet and a second temperature sensor shall be installed in the vent stream at the nearest feasible point to the catalyst bed outlet.

(iii) For either type of vapor incinerator, a continuous monitoring system to measure and record the daily average concentration of organic compounds in the exhaust vent stream from the control device. The organic monitoring system must comply either with Performance Specification 8 or 9 in 40 CFR part 60, appendix B. The rel-

ative accuracy provision of Performance Specification 8, Sections 2.4 and 3 need not be conducted.

(iv) For either type of vapor incinerator, a continuous monitoring system that measures alternative operating parameters other than those specified in paragraph (f)(3)(i) or (f)(3)(ii) of this section upon approval of the Administrator as specified in 40 CFR 63.8(f)(1) through (f)(5) of this part.

(g) Boilers and process heaters control device requirements.

(1) The boiler or process heater must achieve the performance specifications in either paragraph (g)(1)(i), (g)(1)(ii), (g)(1)(iii), (g)(1)(iv), or (g)(1)(v) of this section.

(i) Destroy the total organic compounds (TOC), less methane and ethane, contained in the vent stream introduced into the flame zone of the boiler or process heater either:

(A) By 95 percent or more, on a weight-basis, or

(B) To achieve in the exhausted combustion gases a total concentration for the TOC, less methane and ethane, of less than or equal to 20 parts ppmv on a dry basis corrected to 3 percent oxygen.

(ii) Destroy the HAP listed in Table 1 of this subpart contained in the vent stream entering the vapor incinerator either:

(A) By 95 percent or more, on a total HAP weight-basis, or

(B) To achieve in the exhausted combustion gases a total concentration for the HAP, listed in Table 1 of the subpart, of less than or equal to 20 ppmv on a dry basis corrected to 3 percent oxygen.

(iii) Introduce the vent stream into the flame zone of the boiler or process heater and maintain the conditions in the combustion chamber at a residence time of 0.5 seconds or longer and at a temperature of 760°C or higher.

(iv) Introduce the vent stream with the fuel that provides the predominate heat input to the boiler or process heater (i.e., the primary fuel); or

(v) Introduce the vent stream to a boiler or process heater for which the owner or operator either has been issued a final permit under 40 CFR part 270 and complies with the requirements of 40 CFR part 266, subpart H of this

chapter; or has certified compliance with the interim status requirements of 40 CFR part 266, subpart H of this chapter.

(2) The owner or operator must demonstrate that the boiler or process heater achieves the performance specifications in paragraph (g)(1) of this section chosen by the owner or operator using the applicable method specified in paragraph (g)(2)(i) or (g)(2)(ii) of this section.

(i) If an owner or operator chooses to comply with the performance specifications in either paragraph (g)(1)(i), (g)(1)(ii), or (g)(1)(iii) of this section, the owner or operator must demonstrate compliance with the applicable performance specifications by either performing a performance test as specified in paragraph (g)(2)(i)(A) of this section or a design analysis as specified in paragraph (g)(2)(i)(B) of this section.

(A) An owner or operator choosing to use a performance test to demonstrate compliance must conduct the test in accordance with the requirements of § 63.694(l) of this subpart.

(B) An owner or operator choosing to use a design analysis to demonstrate compliance must include as part of this design analysis the following information: description of the vent stream composition, constituent concentrations, and flow rate; specification of the design minimum and average flame zone temperatures and combustion zone residence time; and description of the method and location by which the vent stream is introduced into the flame zone.

(ii) If an owner or operator chooses to comply with the performance specifications in either paragraph (g)(1)(iv) or (g)(1)(v) of this section, the owner or operator must demonstrate compliance by maintaining the records that document that the boiler or process heater is designed and operated in accordance with the applicable requirements of this section.

(3) For a boiler or process heater complying with the performance specifications in either paragraph (g)(1)(i), (g)(1)(ii), or (g)(1)(iii) of this section, the owner or operator must monitor the operation of a boiler or process heater in accordance with the require-

ments of § 63.695(e) of this subpart using one of the continuous monitoring systems specified in paragraphs (g)(3)(i) through (g)(3)(iii) of this section.

(i) A continuous parameter monitoring system to measure and record the daily average combustion zone temperature. The accuracy of the temperature sensor must be  $\pm 1$  percent of the temperature being measured, expressed in degrees Celsius or  $\pm 0.5$  °C, whichever is greater;

(ii) A continuous monitoring system to measure and record the daily average concentration of organic compounds in the exhaust vent stream from the control device. The organic monitoring system must comply either with Performance Specification 8 or 9 in 40 CFR part 60, appendix B. The relative accuracy provision of Performance Specification 8, Sections 2.4 and 3 need not be conducted.

(iii) A continuous monitoring system that measures alternative operating parameters other than those specified in paragraph (g)(3)(i) or (g)(3)(ii) of this section upon approval of the Administrator as specified in 40 CFR 63.8(f)(1) through (f)(5) of this part.

(h) Flare control device requirements.

(1) The flare must be designed and operated in accordance with the requirements in 40 CFR 63.11(b).

(2) The owner or operator must demonstrate that the flare achieves the requirements in paragraph (h)(1) of this section by performing the procedures specified in paragraph (h)(2)(i) of this section. A previous compliance demonstration for the flare that meets all of the conditions specified in paragraph (h)(2)(ii) of this section may be used by an owner or operator to demonstrate compliance with this paragraph (h)(2).

(i) To demonstrate that a flare achieves the requirements in paragraph (h)(1) of this section, the owner or operator performs all of the procedures specified in paragraphs (h)(2)(i)(A) through (h)(2)(i)(C) of this section.

(A) The owner or operator conducts a visible emission test for the flare in accordance with the requirements specified in 40 CFR 63.11(b)(4).

(B) The owner or operator determines the net heating value of the gas being combusted in the flare in accordance

with the requirements specified in 40 CFR 63.11(b)(6); and

(C) The owner or operator determines the flare exit velocity in accordance with the requirements applicable to the flare design as specified in 40 CFR 63.11(b)(7) or 40 CFR 63.11(b)(8).

(ii) A previous compliance demonstration for the flare may be used by an owner or operator to demonstrate compliance with paragraph (h)(2) of this section provided that all conditions for the compliance determination and subsequent flare operation are met as specified in paragraphs (h)(2)(ii)(A) and (h)(2)(ii)(B) of this section.

(A) The owner or operator conducted the compliance determination using the procedures specified in paragraph (h)(2)(i) of this section.

(B) No flare operating parameter or process changes have occurred since completion of the compliance determination which could affect the compliance determination results.

(3) The owner or operator must monitor the operation of the flare using a heat sensing monitoring device (including but not limited to a thermocouple, ultraviolet beam sensor, or infrared sensor) that continuously detects the presence of a pilot flame. The owner or operator must record, for each 1-hour period, whether the monitor was continuously operating and whether a pilot flame was continuously present during each hour as required in § 63.696(b)(3) of this subpart.

[64 FR 38970, July 20, 1999, as amended at 66 FR 1266, Jan. 8, 2001; 68 FR 37351, June 23, 2003]

**§ 63.694 Testing methods and procedures.**

(a) This section specifies the testing methods and procedures required for this subpart to perform the following:

(1) To determine the average VOHAP concentration for off-site material streams at the point-of-delivery for compliance with standards specified § 63.683 of this subpart, the testing methods and procedures are specified in paragraph (b) of this section.

(2) To determine the average VOHAP concentration for treated off-site material streams at the point-of-treatment for compliance with standards specified § 63.684 of this subpart, the testing

methods and procedures are specified in paragraph (c) of this section.

(3) To determine the treatment process VOHAP concentration limit ( $C_R$ ) for compliance with standards specified § 63.684 of this subpart, the testing methods and procedures are specified in paragraph (d) of this section.

(4) To determine treatment process required HAP removal rate (RMR) for compliance with standards specified § 63.684 of this subpart, the testing methods and procedures are specified in paragraph (e) of this section.

(5) To determine treatment process actual HAP removal rate (MR) for compliance with standards specified § 63.684 of this subpart, the testing methods and procedures are specified in paragraph (f) of this section.

(6) To determine treatment process required HAP reduction efficiency (R) for compliance with standards specified in § 63.684 of this subpart, the testing methods and procedures are specified in paragraph (g) of this section.

(7) To determine treatment process required HAP biodegradation efficiency ( $R_{bio}$ ) for compliance with standards specified in § 63.684 of this subpart, the testing methods and procedures are specified in paragraph (h) of this section.

(8) To determine treatment process required actual HAP mass removal rate ( $MR_{bio}$ ) for compliance with standards specified in § 63.684 of this subpart, the testing methods and procedures are specified in paragraph (i) of this section.

(9) To determine maximum organic HAP vapor pressure of off-site materials in tanks for compliance with the standards specified in § 63.685 of this subpart, the testing methods and procedures are specified in paragraph (j) of this section.

(10) To determine no detectable organic emissions, the testing methods and procedures are specified in paragraph (k) of this section.

(11) To determine closed-vent system and control device performance for compliance with the standards specified in § 63.693 of this subpart, the testing methods and procedures are specified in paragraph (l) of this section.

(12) To determine process vent stream flow rate and total organic



HAP concentration for compliance with the standards specified in § 63.693 of this subpart, the testing methods and procedures are specified in paragraph (m) of this section.

(b) Testing methods and procedures to determine average VOHAP concentration of an off-site material stream at the point-of-delivery.

(1) The average VOHAP concentration of an off-site material at the point-of-delivery shall be determined using either direct measurement as specified in paragraph (b)(2) of this section or by knowledge as specified in paragraph (b)(3) of this section.

(2) *Direct measurement to determine VOHAP concentration*—(i) *Sampling*. Samples of the off-site material stream shall be collected from the container, pipeline, or other device used to deliver the off-site material stream to the plant site in a manner such that volatilization of organics contained in the sample is minimized and an adequately representative sample is collected and maintained for analysis by the selected method.

(A) The averaging period to be used for determining the average VOHAP concentration for the off-site material stream on a mass-weighted average basis shall be designated and recorded. The averaging period can represent any time interval that the owner or operator determines is appropriate for the off-site material stream but shall not exceed 1 year.

(B) A sufficient number of samples, but no less than four samples, shall be collected to represent the complete range of HAP compositions and HAP quantities that occur in the off-site material stream during the entire averaging period due to normal variations in the operating conditions for the source or process generating the off-site material stream. Examples of such normal variations are seasonal variations in off-site material quantity or fluctuations in ambient temperature.

(C) All samples shall be collected and handled in accordance with written procedures prepared by the owner or operator and documented in a site sampling plan. This plan shall describe the procedure by which representative samples of the off-site material stream are collected such that a minimum loss

of organics occurs throughout the sample collection and handling process and by which sample integrity is maintained. A copy of the written sampling plan shall be maintained on-site in the plant site operating records. An example of an acceptable sampling plan includes a plan incorporating sample collection and handling procedures in accordance with the requirements specified in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication No. SW-846 or Method 25D in 40 CFR part 60, appendix A.

(ii) *Analysis*. Each collected sample must be prepared and analyzed in accordance with one of the following methods as applicable to the sampled off-site material for the purpose of measuring the HAP listed in Table 1 of this subpart:

(A) Method 305 in 40 CFR part 63, appendix A.

(B) Method 25D in 40 CFR part 60, appendix A.

(C) Method 624 in 40 CFR part 136, appendix A. If this method is used to analyze one or more compounds that are not on the method's published list of approved compounds, the Alternative Test Procedure specified in 40 CFR 136.4 and 40 CFR 136.5 must be followed.

(D) Method 625 in 40 CFR part 136, appendix A. For the purpose of using this method to comply with this subpart, the owner or operator must perform corrections to these compounds based on the "accuracy as recovery" using the factors in Table 7 of the method. If this method is used to analyze one or more compounds that are not on the method's published list of approved compounds, the Alternative Test Procedure specified in 40 CFR 136.4 and 40 CFR 136.5 must be followed.

(E) Method 1624 in 40 CFR part 136, appendix A.

(F) Method 1625 in 40 CFR part 136, appendix A.

(G) Method 8260 in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication No. SW-846, Third Edition, September 1986, as amended by Update I, November 15, 1992. As an alternative, an owner or operator may use any more recent, updated version of Method 8260 approved by the EPA. For the purpose of

using Method 8260 to comply with this subpart, the owner or operator must maintain a formal quality assurance program consistent with section 8 of Method 8260, and this program must include the following elements related to measuring the concentrations of volatile compounds:

(1) Documentation of site-specific procedures to minimize the loss of compounds due to volatilization, biodegradation, reaction, or sorption during the sample collection, storage, and preparation steps.

(2) Documentation of specific quality assurance procedures followed during sampling, sample preparation, sample introduction, and analysis.

(3) Measurement of the average accuracy and precision of the specific procedures, including field duplicates and field spiking of the off-site material source before or during sampling with compounds having similar chemical characteristics to the target analytes.

(H) Method 8270 in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication No. SW-846, Third Edition, September 1986, as amended by Update I, November 15, 1992. As an alternative, an owner or operator may use any more recent, updated version of Method 8270 approved by the EPA. For the purpose of using Method 8270 to comply with this subpart, the owner or operator must maintain a formal quality assurance program consistent with Method 8270, and this program must include the following elements related to measuring the concentrations of volatile compounds:

(1) Documentation of site-specific procedures to minimize the loss of compounds due to volatilization, biodegradation, reaction, or sorption during the sample collection, storage, and preparation steps.

(2) Documentation of specific quality assurance procedures followed during sampling, sample preparation, sample introduction, and analysis.

(3) Measurement of the average accuracy and precision of the specific procedures, including field duplicates and field spiking of the off-site material source before or during sampling with compounds having similar chemical characteristics to the target analytes.

(I) Any other analysis method that has been validated in accordance with the procedures specified in section 5.1 and section 5.3 and the corresponding calculations in section 6.1 or section 6.3 of Method 301 in appendix A in 40 CFR part 63. The data are acceptable if they meet the criteria specified in section 6.1.5 or section 6.3.3 of Method 301. If correction is required under section 6.3.3 of Method 301, the data are acceptable if the correction factor is within the range of 0.7 to 1.30. Other sections of Method 301 are not required.

(iii) *Calculations.* The average VOHAP concentration (C) on a mass-weighted basis shall be calculated by using the results for all samples analyzed in accordance with paragraph (b)(2)(ii) of this section and the following equation. An owner or operator using a test method that provides species-specific chemical concentrations may adjust the measured concentrations to the corresponding concentration values which would be obtained had the off-site material samples been analyzed using Method 305. To adjust these data, the measured concentration for each individual HAP chemical species contained in the off-site material is multiplied by the appropriate species-specific adjustment factor ( $f_{m,305}$ ) listed in Table 1 of this subpart.

$$C = \frac{1}{Q_T} \times \sum_{i=1}^n (Q_i \times C_i)$$

Where:

C = Average VOHAP concentration of the off-site material at the point-of-delivery on a mass-weighted basis, ppmw.

i = Individual sample "i" of the off-site material.

n = Total number of samples of the off-site material collected (at least 4) for the averaging period (not to exceed 1 year).

$Q_i$  = Mass quantity of off-site material stream represented by  $C_i$ , kg/hr.

$Q_T$  = Total mass quantity of off-site material during the averaging period, kg/hr.

$C_i$  = Measured VOHAP concentration of sample "i" as determined in accordance with the requirements of § 63.694(a), ppmw.

(3) Knowledge of the off-site material to determine VOHAP concentration.

(i) Documentation shall be prepared that presents the information used as the basis for the owner's or operator's knowledge of the off-site material

stream's average VOHAP concentration. Examples of information that may be used as the basis for knowledge include: material balances for the source or process generating the off-site material stream; species-specific chemical test data for the off-site material stream from previous testing that are still applicable to the current off-site material stream; previous test data for other locations managing the same type of off-site material stream; or other knowledge based on information in documents such as manifests, shipping papers, or waste certification notices.

(ii) If test data are used as the basis for knowledge, then the owner or operator shall document the test method, sampling protocol, and the means by which sampling variability and analytical variability are accounted for in the determination of the average VOHAP concentration. For example, an owner or operator may use HAP concentration test data for the off-site material stream that are validated in accordance with Method 301 in 40 CFR part 63, appendix A of this part as the basis for knowledge of the off-site material.

(iii) An owner or operator using species-specific chemical concentration test data as the basis for knowledge of the off-site material may adjust the test data to the corresponding average VOHAP concentration value which would be obtained had the off-site material samples been analyzed using Method 305. To adjust these data, the measured concentration for each individual HAP chemical species contained in the off-site material is multiplied by the appropriate species-specific adjustment factor ( $f_{m,305}$ ) listed in Table 1 of this subpart.

(iv) In the event that the Administrator and the owner or operator disagree on a determination of the average VOHAP concentration for an off-site material stream using knowledge, then the results from a determination of VOHAP concentration using direct measurement as specified in paragraph (b)(2) of this section shall be used to establish compliance with the applicable requirements of this subpart. The Administrator may perform or request that the owner or operator perform

this determination using direct measurement.

(c) Determination of average VOHAP concentration of an off-site material stream at the point-of-treatment.

(1) *Sampling.* Samples of the off-site material stream shall be collected at the point-of-treatment in a manner such that volatilization of organics contained in the sample is minimized and an adequately representative sample is collected and maintained for analysis by the selected method.

(i) The averaging period to be used for determining the average VOHAP concentration for the off-site material stream on a mass-weighted average basis shall be designated and recorded. The averaging period can represent any time interval that the owner or operator determines is appropriate for the off-site material stream but shall not exceed 1 year.

(ii) A sufficient number of samples, but no less than four samples, shall be collected to represent the complete range of HAP compositions and HAP quantities that occur in the off-site material stream during the entire averaging period due to normal variations in the operating conditions for the treatment process. Examples of such normal variations are seasonal variations in off-site material quantity or fluctuations in ambient temperature.

(iii) All samples shall be collected and handled in accordance with written procedures prepared by the owner or operator and documented in a site sampling plan. This plan shall describe the procedure by which representative samples of the off-site material stream are collected such that a minimum loss of organics occurs throughout the sample collection and handling process and by which sample integrity is maintained. A copy of the written sampling plan shall be maintained on-site in the plant site operating records. An example of an acceptable sampling plan includes a plan incorporating sample collection and handling procedures in accordance with the requirements specified in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods." EPA Publication No. SW-846 or Method 25D in 40 CFR part 60, appendix A.

(2) *Analysis.* Each collected sample must be prepared and analyzed in accordance with one of the methods specified in paragraphs (b)(2)(ii)(A) through (b)(2)(ii)(I) of this section, as applicable to the sampled off-site material, for the purpose of measuring the HAP listed in Table 1 of this subpart.

(3) *Calculations.* The average VOHAP concentration ( $\bar{C}$ ) a mass-weighted basis shall be calculated by using the results for all samples analyzed in accordance with paragraph (c)(2) of this section and the following equation. An owner or operator using a test method that provides species-specific chemical concentrations may adjust the measured concentrations to the corresponding concentration values which would be obtained had the off-site material samples been analyzed using Method 305. To adjust these data, the measured concentration for each individual HAP chemical species contained in the off-site material is multiplied by the appropriate species-specific adjustment factor ( $f_{m305}$ ) listed in Table 1 of this subpart.

$$\bar{C} = \frac{1}{Q_T} \times \sum_{i=1}^n (Q_i \times C_i)$$

$$C_R = \frac{\sum_{x=1}^m (Q_x \times \bar{C}_x) + \sum_{y=1}^n (Q_y \times 500 \text{ ppmw})}{\sum_{x=1}^m Q_x + \sum_{y=1}^n Q_y}$$

where:

- $C_R$ =VOHAP concentration limit, ppmw.
- $x$ =Individual off-site material stream "x" that has a VOHAP concentration less than 500 ppmw at the point-of-delivery.
- $y$ =Individual off-site material stream "y" that has a VOHAP concentration equal to or greater than 500 ppmw at the point-of-delivery.
- $m$ =Total number of "x" off-site material streams treated by process.
- $n$ =Total number of "y" off-site material streams treated by process.
- $Q_x$ =Total mass quantity of off-site material stream "x", kg/yr.
- $Q_y$ =Total mass quantity of off-site material stream "y", kg/yr.

Where:

- $\bar{C}$  = Average VOHAP concentration of the off-site material on a mass-weighted basis, ppmw.
- $i$  = Individual sample "i" of the off-site material.
- $n$  = Total number of samples of the off-site material collected (at least 4) for the averaging period (not to exceed 1 year).
- $Q_i$  = Mass quantity of off-site material stream represented by  $C_i$ , kg/hr.
- $Q_T$  = Total mass quantity of off-site material during the averaging period, kg/hr.
- $C_i$  = Measured VOHAP concentration of sample "i" as determined in accordance with the requirements of § 63.694(a), ppmw.

(d) *Determination of treatment process VOHAP concentration limit ( $C_R$ ).* (1) All of the off-site material streams entering the treatment process shall be identified.

(2) The average VOHAP concentration of each off-site material stream at the point-of-delivery shall be determined using the procedures specified in paragraph (b) of this section.

(3) The VOHAP concentration limit ( $C_R$ ) shall be calculated by using the results determined for each individual off-site material stream and the following equation:

$\bar{C}_x$ =VOHAP concentration of off-site material stream "x" at the point-of-delivery, ppmw.

(e) *Determination of required HAP mass removal rate (RMR).*

(1) Each individual stream containing HAP that enters the treatment process shall be identified.

(2) The average VOHAP concentration at the point-of-delivery for each stream identified in paragraph (e)(1) of this section shall be determined using the test methods and procedures specified in paragraph (b) of this section.

(3) For each stream identified in paragraph (e)(1) of this section that has

an average VOHAP concentration equal to or greater than 500 ppmw at the point-of-delivery, the average volumetric flow rate and the density of the off-site material stream at the point-of-delivery shall be determined.

(4) The required HAP mass removal rate (RMR) shall be calculated by using the average VOHAP concentration, average volumetric flow rate, and density determined in paragraph (e)(3) of this section for each stream and the following equation:

$$RMR = \sum_{y=1}^n \left[ V_y \times k_y \times \frac{(\bar{C}_y - 500 \text{ ppmw})}{10^6} \right]$$

Where:

RMR = Required HAP mass removal rate, kg/hr.

y = Individual stream "y" that has a VOHAP concentration equal to or greater than 500 ppmw at the point-of-delivery as determined in §63.694(b).

n = Total number of "y" streams treated by process.

V<sub>y</sub> = Average volumetric flow rate of stream "y" at the point-of-delivery, m<sup>3</sup>/hr.

k<sub>y</sub> = Density of stream "y", kg/m<sup>3</sup>.

C<sub>y</sub> = Average VOHAP concentration of stream "y" at the point-of-delivery as determined in §63.694(b)(2), ppmw.

(f) Determination of actual HAP mass removal rate (MR).

(1) The actual HAP mass removal rate (MR) shall be determined based on results for a minimum of three consecutive runs. The sampling time for each run shall be 1 hour.

(2) The HAP mass flow entering the process (E<sub>b</sub>) and the HAP mass flow exiting the process (E<sub>a</sub>) shall be determined using the test methods and procedures specified in paragraphs (g)(2) through (g)(4) of this section.

(3) The actual mass removal rate shall be calculated using the HAP mass flow rates determined in paragraph (f)(2) of this section and the following equation:

$$MR = E_b - E_a$$

where:

MR = Actual HAP mass removal rate, kg/hr.

E<sub>b</sub> = HAP mass flow entering process as determined in paragraph (f)(2) of this section, kg/hr.

E<sub>a</sub> = HAP mass flow exiting process as determined in paragraph (f)(2) of this section, kg/hr.

(g) Determination of treatment process HAP reduction efficiency (R).

(1) The HAP reduction efficiency (R) for a treatment process shall be determined based on results for a minimum of three consecutive runs.

(2) Each individual stream containing HAP that enters the treatment process shall be identified. Each individual stream containing HAP that exits the treatment process shall be identified. The owner or operator shall prepare a sampling plan for measuring the identified streams that accurately reflects the retention time of the material in the process.

(3) For each run, information shall be determined for each stream identified in paragraph (g)(2) of this section as specified in paragraphs (g)(3)(i) through (g)(3)(iii) of this section.

(i) The mass quantity shall be determined for each stream identified in paragraph (g)(2) of this section as entering the process (Q<sub>b</sub>). The mass quantity shall be determined for each stream identified in paragraph (g)(2) of this section as exiting the process (Q<sub>a</sub>).

(ii) The average VOHAP concentration at the point-of-delivery shall be determined for each stream entering the process (C<sub>b</sub>) (as identified in paragraph (g)(2) of this section) using the test methods and procedures specified in paragraph (b) of this section.

(iii) The average VOHAP concentration at the point-of-treatment shall be determined for each stream exiting the process (C<sub>a</sub>) (as identified in paragraph (g)(2) of this section) using the test methods and procedures specified in paragraph (c) of this section.

(4) The HAP mass flow entering the process (E<sub>b</sub>) and the HAP mass flow exiting the process (E<sub>a</sub>) shall be calculated using the results determined in paragraph (g)(3) of this section and the following equations:

$$E_a = \frac{1}{10^6} \sum_{j=1}^m (Q_{aj} \times \bar{C}_{aj})$$

$$E_b = \frac{1}{10^6} \sum_{j=1}^m (Q_{bj} \times \bar{C}_{bj})$$

Where:

$E_b$  = HAP mass flow entering process, kg/hr.

$E_a$  = HAP mass flow exiting process, kg/hr.

$m$  = Total number of runs (at least 3)

$j$  = Individual run "j"

$Q_{bj}$  = Mass quantity of material entering process during run "j", kg/hr.

$Q_{aj}$  = Average mass quantity of material exiting process during run "j", kg/hr.

$C_{aj}$  = Average VOHAP concentration of material exiting process during run "j" as determined in § 63.694(c), ppmw.

$C_{bj}$  = Average VOHAP concentration of material entering process during run "j" as determined in § 63.694(b)(2), ppmw.

(5) The HAP reduction efficiency (R) shall be calculated using the HAP mass flow rates determined in paragraph (g)(4) of this section and the following equation:

$$R = \frac{E_b - E_a}{E_b} \times 100$$

Where:

R = HAP reduction efficiency, percent.

$E_b$  = HAP mass flow entering process as determined in paragraph (g)(4) of this section, kg/hr.

$E_a$  = HAP mass flow exiting process as determined in accordance with the requirements of paragraph (g)(4) of this section, kg/hr.

(h) Determination of HAP biodegradation efficiency ( $R_{bio}$ ).

(1) The fraction of HAP biodegraded ( $F_{bio}$ ) shall be determined using one of the procedures specified in appendix C of this part 63.

(2) The HAP biodegradation efficiency ( $R_{bio}$ ) shall be calculated by using the following equation:

$$R_{bio} = F_{bio} \times 100$$

where:

$R_{bio}$  = HAP biodegradation efficiency, percent.

$F_{bio}$  = Fraction of HAP biodegraded as determined in paragraph (h)(1) of this section.

(i) Determination of actual HAP mass removal rate ( $MR_{bio}$ ).

(1) The actual HAP mass removal rate ( $MR_{bio}$ ) shall be determined based on results for a minimum of three consecutive runs. The sampling time for each run shall be 1 hour.

(2) The HAP mass flow entering the process ( $E_b$ ) shall be determined using the test methods and procedures specified in paragraphs (g)(2) through (g)(4) of this section.

(3) The fraction of HAP biodegraded ( $F_{bio}$ ) shall be determined using the procedure specified in 40 CFR part 63, appendix C of this part.

(4) The actual mass removal rate shall be calculated by using the HAP mass flow rates and fraction of HAP biodegraded determined in paragraphs (i)(2) and (i)(3), respectively, of this section and the following equation:

$$MR_{bio} = E_b \times F_{bio}$$

Where:

$MR_{bio}$  = Actual HAP mass removal rate, kg/hr.

$E_b$  = HAP mass flow entering process, kg/hr.

$F_{bio}$  = Fraction of HAP biodegraded.

(j) *Determination of maximum HAP vapor pressure for off-site material in a tank.* (1) The maximum HAP vapor pressure of the off-site material composition managed in a tank shall be determined using either direct measurement as specified in paragraph (j)(2) of this section or by knowledge of the off-site material as specified by paragraph (j)(3) of this section.

(2) Direct measurement to determine the maximum HAP vapor pressure of an off-site material.

(i) *Sampling.* A sufficient number of samples shall be collected to be representative of the off-site material contained in the tank. All samples shall be collected and handled in accordance with written procedures prepared by the owner or operator and documented in a site sampling plan. This plan shall describe the procedure by which representative samples of the off-site material is collected such that a minimum loss of organics occurs throughout the sample collection and handling process and by which sample integrity is maintained. A copy of the written sampling plan shall be maintained on-site in the plant site operating records. An example of an acceptable sampling plan includes a plan incorporating sample collection and handling procedures in accordance with the requirements specified in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication No. SW-846 or Method 25D in 40 CFR part 60, appendix A.

(ii) *Analysis.* Any one of the following methods may be used to analyze

the samples and compute the maximum HAP vapor pressure of the off-site material:

(A) Method 25E in 40 CFR part 60 appendix A;

(B) Methods described in American Petroleum Institute Bulletin 2517, "Evaporation Loss from External Floating Roof Tanks,";

(C) Methods obtained from standard reference texts;

(D) ASTM Method 2879-83; or

(E) Any other method approved by the Administrator.

(3) Use of knowledge to determine the maximum HAP vapor pressure of the off-site material. Documentation shall be prepared and recorded that presents the information used as the basis for the owner's or operator's knowledge that the maximum HAP vapor pressure of the off-site material is less than the maximum vapor pressure limit listed in Table 3 or Table 4 of this subpart for the applicable tank design capacity category. Examples of information that may be used include: the off-site material is generated by a process for which at other locations it previously has been determined by direct measurement that the off-site material maximum HAP vapor pressure is less than the maximum vapor pressure limit for the appropriate tank design capacity category.

(k) Procedure for determining no detectable organic emissions for the purpose of complying with this subpart.

(1) The test shall be conducted in accordance with the procedures specified in Method 21 of 40 CFR part 60, appendix A. Each potential leak interface (i.e., a location where organic vapor leakage could occur) on the cover and associated closure devices shall be checked. Potential leak interfaces that are associated with covers and closure devices include, but are not limited to: the interface of the cover and its foundation mounting; the periphery of any opening on the cover and its associated closure device; and the sealing seat interface on a spring-loaded pressure-relief valve.

(2) The test shall be performed when the unit contains a material having a total organic concentration representative of the range of concentrations for the materials expected to be managed

in the unit. During the test, the cover and closure devices shall be secured in the closed position.

(3) The detection instrument shall meet the performance criteria of Method 21 of 40 CFR part 60, appendix A, except the instrument response factor criteria in section 3.1.2(a) of Method 21 shall be for the average composition of the organic constituents in the material placed in the unit, not for each individual organic constituent.

(4) The detection instrument shall be calibrated before use on each day of its use by the procedures specified in Method 21 of 40 CFR part 60, appendix A.

(5) Calibration gases shall be as follows:

(i) Zero air (less than 10 ppmv hydrocarbon in air); and

(ii) A mixture of methane or n-hexane in air at a concentration of approximately, but less than, 10,000 ppmv.

(6) An owner or operator may choose to adjust or not adjust the detection instrument readings to account for the background organic concentration level. If an owner or operator chooses to adjust the instrument readings for the background level, the background level value must be determined according to the procedures in Method 21 of 40 CFR part 60, appendix A.

(7) Each potential leak interface shall be checked by traversing the instrument probe around the potential leak interface as close to the interface as possible, as described in Method 21. In the case when the configuration of the cover or closure device prevents a complete traverse of the interface, all accessible portions of the interface shall be sampled. In the case when the configuration of the closure device prevents any sampling at the interface and the device is equipped with an enclosed extension or horn (e.g., some pressure relief devices), the instrument probe inlet shall be placed at approximately the center of the exhaust area to the atmosphere.

(8) An owner or operator must determine if a potential leak interface operates with no detectable emissions using the applicable procedure specified in paragraph (k)(8)(i) or (k)(8)(ii) of this section.

(i) If an owner or operator chooses not to adjust the detection instrument readings for the background organic concentration level, then the maximum organic concentration value measured by the detection instrument is compared directly to the applicable value for the potential leak interface as specified in paragraph (k)(9) of this section.

(ii) If an owner or operator chooses to adjust the detection instrument readings for the background organic concentration level, the value of the arithmetic difference between the maximum organic concentration value measured by the instrument and the background organic concentration value as determined in paragraph (k)(6) of this section is compared with the applicable value for the potential leak interface as specified in paragraph (k)(9) of this section.

(9) A potential leak interface is determined to operate with no detectable emissions using the applicable criteria specified in paragraphs (k)(9)(i) and (k)(9)(ii) of this section.

(i) For a potential leak interface other than a seal around a shaft that passes through a cover opening, the potential leak interface is determined to operate with no detectable organic emissions if the organic concentration value determined in paragraph (k)(8) is less than 500 ppmv.

(ii) For a seal around a shaft that passes through a cover opening, the potential leak interface is determined to operate with no detectable organic emissions if the organic concentration value determined in paragraph (k)(8) is less than 10,000 ppmv.

(1) Control device performance test procedures.

(1) Method 1 or 1A of 40 CFR part 60, appendix A, as appropriate, shall be used for selection of the sampling sites at the inlet and outlet of the control device.

(i) To determine compliance with a control device percent reduction requirement, sampling sites shall be located at the inlet of the control device as specified in paragraphs (1)(1)(i)(A) and (1)(1)(i)(B) of this section, and at the outlet of the control device.

(A) The control device inlet sampling site shall be located after the final product recovery device.

(B) If a vent stream is introduced with the combustion air or as an auxiliary fuel into a boiler or process heater, the location of the inlet sampling sites shall be selected to ensure that the measurement of total HAP concentration or TOC concentration, as applicable, includes all vent streams and primary and secondary fuels introduced into the boiler or process heater.

(ii) To determine compliance with an enclosed combustion device concentration limit, the sampling site shall be located at the outlet of the device.

(2) The gas volumetric flow rate shall be determined using Method 2, 2A, 2C, or 2D of 40 CFR part 60, appendix A, as appropriate.

(3) To determine compliance with the control device percent reduction requirement, the owner or operator shall use Method 18 of 40 CFR part 60, appendix A of this chapter; alternatively, any other method or data that has been validated according to the applicable procedures in Method 301 in 40 CFR part 63, appendix A of this part may be used. The following procedures shall be used to calculate percent reduction efficiency:

(i) The minimum sampling time for each run shall be 1 hour in which either an integrated sample or a minimum of four grab samples shall be taken. If grab sampling is used, then the samples shall be taken at approximately equal intervals in time such as 15 minute intervals during the run.

(ii) The mass rate of either TOC (minus methane and ethane) or total HAP ( $E_i$  and  $E_o$ , respectively) shall be computed.

(A) The following equations shall be used:

$$E_i = K_2 \times Q_i \times \sum_{j=1}^n (C_{ij} \times M_{ij})$$

$$E_o = K_2 \times Q_o \times \sum_{j=1}^n (C_{oj} \times M_{oj})$$

Where:

$C_{ij}$ ,  $C_{oj}$  = Concentration of sample component  $j$  of the gas stream at the inlet and outlet



of the control device, respectively, dry basis, parts per million by volume.

$E_i$ ,  $E_o$  = Mass rate of TOC (minus methane and ethane) or total HAP at the inlet and outlet of the control device, respectively, dry basis, kilogram per hour.

$M_{ij}$ ,  $M_{oj}$  = Molecular weight of sample component  $j$  of the gas stream at the inlet and outlet of the control device, respectively, gram/gram-mole.

$Q_i$ ,  $Q_o$  = Flow rate of gas stream at the inlet and outlet of the control device, respectively, dry standard cubic meter per minute.

$K_2$  = Constant,  $2.494 \times 10^{-6}$  (parts per million) $^{-1}$  (gram-mole per standard cubic meter) (kilogram/gram) (minute/hour), where standard temperature (gram-mole per standard cubic meter) is 20 °C.

(B) When the TOC mass rate is calculated, all organic compounds (minus methane and ethane) measured by Method 18 of 40 CFR part 60, appendix A shall be summed using the equation in paragraph (1)(3)(ii)(A) of this section.

(C) When the total HAP mass rate is calculated, only the HAP constituents shall be summed using the equation in paragraph (1)(3)(ii)(A) of this section.

(iii) The percent reduction in TOC (minus methane and ethane) or total HAP shall be calculated as follows:

$$R_{cd} = \frac{E_i - E_o}{E_i} \times 100$$

where:

$R_{cd}$  = Control efficiency of control device, percent.

$E_i$  = Mass rate of TOC (minus methane and ethane) or total HAP at the inlet to the control device as calculated under paragraph (1)(3)(ii) of this section, kilograms TOC per hour or kilograms HAP per hour.

$E_o$  = Mass rate of TOC (minus methane and ethane) or total HAP at the outlet of the control device, as calculated under paragraph (1)(3)(ii) of this section, kilograms TOC per hour or kilograms HAP per hour.

(iv) If the vent stream entering a boiler or process heater is introduced with the combustion air or as a secondary fuel, the weight-percent reduction of total HAP or TOC (minus methane and ethane) across the device shall be determined by comparing the TOC (minus methane and ethane) or total HAP in all combusted vent streams and primary and secondary fuels with the TOC (minus methane and ethane) or total HAP exiting the device, respectively.

(4) To determine compliance with the enclosed combustion device total HAP concentration limit of this subpart, the owner or operator shall use Method 18 of 40 CFR part 60, appendix A to measure either TOC (minus methane and ethane) or total HAP. Alternatively, any other method or data that has been validated according to Method 301 in appendix A of this part, may be used. The following procedures shall be used to calculate parts per million by volume concentration, corrected to 3 percent oxygen:

(i) The minimum sampling time for each run shall be 1 hour in which either an integrated sample or a minimum of four grab samples shall be taken. If grab sampling is used, then the samples shall be taken at approximately equal intervals in time, such as 15 minute intervals during the run.

(ii) The TOC concentration or total HAP concentration shall be calculated according to paragraph (m)(4)(ii)(A) or (m)(4)(ii)(B) of this section.

(A) The TOC concentration ( $C_{TOC}$ ) is the sum of the concentrations of the individual components and shall be computed for each run using the following equation:

$$C_{TOC} = \sum_{i=1}^x \frac{\sum_{j=1}^n C_{ij}}{x}$$

where:

$C_{TOC}$  = Concentration of total organic compounds minus methane and ethane, dry basis, parts per million by volume.

$C_{ij}$  = Concentration of sample components  $j$  of sample  $i$ , dry basis, parts per million by volume.

$n$  = Number of components in the sample.

$x$  = Number of samples in the sample run.

(B) The total HAP concentration ( $C_{HAP}$ ) shall be computed according to the equation in paragraph (1)(4)(ii)(A) of this section except that only HAP constituents shall be summed.

(iii) The measured TOC concentration or total HAP concentration shall be corrected to 3 percent oxygen as follows:

(A) The emission rate correction factor or excess air, integrated sampling and analysis procedures of Method 3B of 40 CFR part 60, appendix A shall be

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used to determine the oxygen concentration (%O<sub>2dry</sub>). The samples shall be collected during the same time that the samples are collected for determining TOC concentration or total HAP concentration.

(B) The concentration corrected to 3 percent oxygen (C<sub>c</sub>) shall be computed using the following equation:

$$C_c = C_m \left( \frac{17.9}{20.9 - \%O_{2dry}} \right)$$

where:

C<sub>c</sub>=TOC concentration or total HAP concentration corrected to 3 percent oxygen, dry basis, parts per million by volume.

C<sub>m</sub>=Measured TOC concentration or total HAP concentration, dry basis, parts per million by volume.

%O<sub>2dry</sub>=Concentration of oxygen, dry basis, percent by volume.

(m) Determination of process vent stream flow rate and total HAP concentration.

(1) Method 1 or 1A of 40 CFR part 60, appendix A, as appropriate, must be used for selection of the sampling site.

(2) No traverse site selection method is needed for vents smaller than 0.10 meter in diameter.

(3) Process vent stream gas volumetric flow rate must be determined using Method 2, 2A, 2C, or 2D of 40 CFR part 60, appendix A, as appropriate.

(4) Process vent stream total HAP concentration must be measured using the following procedures:

(i) Method 18 of 40 CFR part 60, appendix A, must be used to measure the total HAP concentration. Alternatively, any other method or data that has been validated according to the protocol in Method 301 of appendix A of this part may be used.

(ii) Where Method 18 of 40 CFR part 60, appendix A, is used, the following procedures must be used to calculate parts per million by volume concentration:

(A) The minimum sampling time for each run must be 1 hour in which either an integrated sample or four grab samples must be taken. If grab sampling is used, then the samples must be taken at approximately equal intervals in time, such as 15 minute intervals during the run.

(B) The total HAP concentration (C<sub>HAP</sub>) must be computed according to the following equation:

$$C_{HAP} = \frac{\sum_{i=1}^x \left( \sum_{j=1}^n C_{ji} \right)}{X}$$

Where:

C<sub>HAP</sub> = Total concentration of HAP compounds listed in Table 1 of this subpart, dry basis, parts per million by volume.

C<sub>ji</sub> = Concentration of sample component j of the sample i, dry basis, parts per million by volume.

n = Number of components in the sample.

x = Number of samples in the sample run.

[61 FR 34158, July 1, 1996, as amended at 64 FR 38974, July 20, 1999; 66 FR 1267, Jan. 8, 2001]

§ 63.695 Inspection and monitoring requirements.

(a) This section specifies the inspection and monitoring procedures required to perform the following:

(1) To inspect tank fixed roofs and floating roofs for compliance with the Tank Level 2 controls standards specified in § 63.685 of this subpart, the inspection procedures are specified in paragraph (b) of this section.

(2) To inspect and monitor closed-vent systems for compliance with the standards specified in § 63.693 of this subpart, the inspection and monitoring procedures are specified in paragraph (c) of this section.

(3) To inspect and monitor transfer system covers for compliance with the standards specified in § 63.689(c)(1) of this subpart, the inspection and monitoring procedures are specified in paragraph (d) of this section.

(4) To monitor and record off-site material treatment processes for compliance with the standards specified in § 63.684(e), the monitoring procedures are specified in paragraph (e) of this section.

(b) Tank Level 2 fixed roof and floating roof inspection requirements.

(1) Owners and operators that use a tank equipped with an internal floating roof in accordance with the provisions of § 63.685(e) of this subpart shall meet the following inspection requirements:

(i) The floating roof and its closure devices shall be visually inspected by

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the owner or operator to check for defects that could result in air emissions. Defects include, but are not limited to, the internal floating roof is not floating on the surface of the liquid inside the tank; liquid has accumulated on top of the internal floating roof; any portion of the roof seals have detached from the roof rim; holes, tears, or other openings are visible in the seal fabric; the gaskets no longer close off the waste surfaces from the atmosphere; or the slotted membrane has more than 10 percent open area.

(ii) The owner or operator shall inspect the internal floating roof components as follows except as provided for in paragraph (b)(1)(iii) of this section:

(A) Visually inspect the internal floating roof components through openings on the fixed-roof (e.g., manholes and roof hatches) at least once every calendar year after initial fill, and

(B) Visually inspect the internal floating roof, primary seal, secondary seal (if one is in service), gaskets, slotted membranes, and sleeve seals (if any) each time the tank is emptied and degassed and at least every 10 years. Prior to each inspection, the owner or operator shall notify the Administrator in accordance with the reporting requirements specified in § 63.697 of this subpart.

(iii) As an alternative to performing the inspections specified in paragraph (b)(1)(ii) of this section for an internal floating roof equipped with two continuous seals mounted one above the other, the owner or operator may visually inspect the internal floating roof, primary and secondary seals, gaskets, slotted membranes, and sleeve seals (if any) each time the tank is emptied and degassed and at least every 5 years. Prior to each inspection, the owner or operator shall notify the Administrator in accordance with the reporting requirements specified in § 63.697 of this subpart.

(iv) In the event that a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of paragraph (b)(4) of this section.

(v) The owner or operator shall maintain a record of the inspection in ac-

cordance with the requirements specified in § 63.696 of this subpart.

(2) Owners and operators that use a tank equipped with an external floating roof in accordance with the provisions of § 63.685(f) of this subpart shall meet the following requirements:

(i) The owner or operator shall measure the external floating roof seal gaps in accordance with the following requirements:

(A) The owner or operator shall perform measurements of gaps between the tank wall and the primary seal within 60 days after initial operation of the tank following installation of the floating roof and, thereafter, at least once every 5 years. Prior to each inspection, the owner or operator shall notify the Administrator in accordance with the reporting requirements specified in § 63.697 of this subpart.

(B) The owner or operator shall perform measurements of gaps between the tank wall and the secondary seal within 60 days after initial operation of the separator following installation of the floating roof and, thereafter, at least once every year. Prior to each inspection, the owner or operator shall notify the Administrator in accordance with the reporting requirements specified in § 63.697 of this subpart.

(C) If a tank ceases to hold off-site material for a period of 1 year or more, subsequent introduction of off-site material into the tank shall be considered an initial operation for the purposes of paragraphs (b)(2)(i)(A) and (b)(2)(i)(B) of this section.

(D) The owner shall determine the total surface area of gaps in the primary seal and in the secondary seal individually using the following procedure.

(1) The seal gap measurements shall be performed at one or more floating roof levels when the roof is floating off the roof supports.

(2) Seal gaps, if any, shall be measured around the entire perimeter of the floating roof in each place where a 0.32-centimeter (cm) (1/8-inch) diameter uniform probe passes freely (without forcing or binding against the seal) between the seal and the wall of the tank and measure the circumferential distance of each such location.

(3) For a seal gap measured under paragraph (b)(2) of this section, the gap surface area shall be determined by using probes of various widths to measure accurately the actual distance from the tank wall to the seal and multiplying each such width by its respective circumferential distance.

(4) The total gap area shall be calculated by adding the gap surface areas determined for each identified gap location for the primary seal and the secondary seal individually, and then dividing the sum for each seal type by the nominal diameter of the tank. These total gap areas for the primary seal and secondary seal are then compared to the respective standards for the seal type as specified in § 63.685(f)(1) of this subpart.

(E) In the event that the seal gap measurements do not conform to the specifications in § 63.685(f)(1) of this subpart, the owner or operator shall repair the defect in accordance with the requirements of paragraph (b)(4) of this section.

(F) The owner or operator shall maintain a record of the inspection in accordance with the requirements specified in § 63.696 of this subpart.

(ii) The owner or operator shall visually inspect the external floating roof in accordance with the following requirements:

(A) The floating roof and its closure devices shall be visually inspected by the owner or operator to check for defects that could result in air emissions. Defects include, but are not limited to: holes, tears, or other openings in the rim seal or seal fabric of the floating roof; a rim seal detached from the floating roof; all or a portion of the floating roof deck being submerged below the surface of the liquid in the tank; broken, cracked, or otherwise damaged seals or gaskets on closure devices; and broken or missing hatches, access covers, caps, or other closure devices.

(B) The owner or operator shall perform the inspections following installation of the external floating roof and, thereafter, at least once every year.

(C) In the event that a defect is detected, the owner or operator shall repair the defect in accordance with the

requirements of paragraph (b)(4) of this section.

(D) The owner or operator shall maintain a record of the inspection in accordance with the requirements specified in § 63.696(d) of this subpart.

(3) Owners and operators that use a tank equipped with a fixed roof in accordance with the provisions of § 63.685(g) of this subpart shall meet the following requirements:

(i) The fixed roof and its closure devices shall be visually inspected by the owner or operator to check for defects that could result in air emissions. Defects include, but are not limited to, visible cracks, holes, or gaps in the roof sections or between the roof and the separator wall; broken, cracked, or otherwise damaged seals or gaskets on closure devices; and broken or missing hatches, access covers, caps, or other closure devices. In the case when a tank is buried partially or entirely underground, inspection is required only for those portions of the cover that extend to or above the ground surface, and those connections that are on such portions of the cover (e.g., fill ports, access hatches, gauge wells, etc.) and can be opened to the atmosphere.

(ii) The owner or operator must perform an initial inspection following installation of the fixed roof. Thereafter, the owner or operator must perform the inspections at least once every calendar year except as provided for in paragraph (f) of this section.

(iii) In the event that a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of paragraph (b)(4) of this section.

(iv) The owner or operator shall maintain a record of the inspection in accordance with the requirements specified in § 63.696(e) of this subpart.

(4) The owner or operator shall repair each defect detected during an inspection performed in accordance with the requirements of paragraph (b)(1), (b)(2), or (b)(3) of this section in the following manner:

(i) The owner or operator shall within 45 calendar days of detecting the defect either repair the defect or empty the tank and remove it from service. If within this 45-day period the defect cannot be repaired or the tank cannot

be removed from service without disrupting operations at the plant site, the owner or operator is allowed two 30-day extensions. In cases when an owner or operator elects to use a 30-day extension, the owner or operator shall prepare and maintain documentation describing the defect, explaining why alternative storage capacity is not available, and specify a schedule of actions that will ensure that the control equipment will be repaired or the tank emptied as soon as possible.

(ii) When a defect is detected during an inspection of a tank that has been emptied and degassed, the owner or operator shall repair the defect before refilling the tank.

(c) Owners and operators that use a closed-vent system in accordance with the provisions of § 63.693 of this subpart shall meet the following inspection and monitoring requirements:

(1) Each closed-vent system that is used to comply with § 63.693(c)(1)(i) of this subpart shall be inspected and monitored in accordance with the following requirements:

(i) At initial startup, the owner or operator shall monitor the closed-vent system components and connections using the procedures specified in § 63.694(k) of this subpart to demonstrate that the closed-vent system operates with no detectable organic emissions.

(ii) After initial startup, the owner or operator shall inspect and monitor the closed-vent system as follows:

(A) Closed-vent system joints, seams, or other connections that are permanently or semi-permanently sealed (e.g., a welded joint between two sections of hard piping or a bolted and gasketed ducting flange) shall be visually inspected at least once per year to check for defects that could result in air emissions. The owner or operator shall monitor a component or connection using the procedures specified in § 63.694(k) of this subpart to demonstrate that it operates with no detectable organic emissions following any time the component is repaired or replaced (e.g., a section of damaged hard piping is replaced with new hard piping) or the connection is unsealed (e.g., a flange is unbolted).

(B) Closed-vent system components or connections other than those specified in paragraph (c)(1)(ii)(A) of this section, shall be monitored at least once per year using the procedures specified in § 63.694(k) of this subpart to demonstrate that components or connections operate with no detectable organic emissions.

(C) The continuous monitoring system required by § 63.693(b)(4)(i) shall monitor and record either an instantaneous data value at least once every 15 minutes or an average value for intervals of 15 minutes or less.

(D) The owner or operator shall visually inspect the seal or closure mechanism required by § 63.693(c)(2)(ii) at least once every month to verify that the bypass mechanism is maintained in the closed position.

(iii) In the event that a defect or leak is detected, the owner or operator shall repair the defect or leak in accordance with the requirements of paragraph (c)(3) of this section.

(iv) The owner or operator shall maintain a record of the inspection and monitoring in accordance with the requirements specified in § 63.696 of this subpart.

(2) Each closed-vent system that is used to comply with § 63.693(c)(1)(ii) of this subpart shall be inspected and monitored in accordance with the following requirements:

(i) The closed-vent system shall be visually inspected by the owner or operator to check for defects that could result in air emissions. Defects include, but are not limited to, visible cracks, holes, or gaps in ductwork or piping; loose connections; or broken or missing caps or other closure devices.

(ii) The owner or operator must perform an initial inspection following installation of the closed-vent system. Thereafter, the owner or operator must perform the inspections at least once every calendar year except as provided for in paragraph (f) of this section.

(iii) In the event that a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of paragraph (c)(3) of this section.

(iv) The owner or operator shall maintain a record of the inspection in

accordance with the requirements specified in § 63.696 of this subpart.

(3) The owner or operator shall repair all detected defects as follows:

(i) The owner or operator shall make first efforts at repair of the defect no later than 5 calendar days after detection and repair shall be completed as soon as possible but no later than 45 calendar days after detection.

(ii) Repair of a defect may be delayed beyond 45 calendar days if either of the conditions specified in paragraph (c)(3)(ii)(A) or (c)(3)(ii)(B) occurs. In this case, the owner or operator must repair the defect the next time the process or unit that vents to the closed-vent system is shutdown. Repair of the defect must be completed before the process or unit resumes operation.

(A) Completion of the repair is technically infeasible without the shutdown of the process or unit that vents to the closed-vent system.

(B) The owner or operator determines that the air emissions resulting from the repair of the defect within the specified period would be greater than the fugitive emissions likely to result by delaying the repair until the next time the process or unit that vents to the closed-vent system is shutdown.

(iii) The owner or operator shall maintain a record of the defect repair in accordance with the requirements specified in § 63.696 of this subpart.

(d) Owners and operators that use a transfer system equipped with a cover in accordance with the provisions of § 63.689(c)(1) of this subpart shall meet the following inspection requirements:

(1) The cover and its closure devices shall be visually inspected by the owner or operator to check for defects that could result in air emissions. Defects include, but are not limited to, visible cracks, holes, or gaps in the cover sections or between the cover and its mounting; broken, cracked, or otherwise damaged seals or gaskets on closure devices; and broken or missing hatches, access covers, caps, or other closure devices. In the case when a transfer system is buried partially or entirely underground, inspection is required only for those portions of the cover that extend to or above the ground surface, and those connections that are on such portions of the cover

(e.g., access hatches, etc.) and can be opened to the atmosphere.

(2) The owner or operator must perform an initial inspection following installation of the cover. Thereafter, the owner or operator must perform the inspections at least once every calendar year except as provided for in paragraph (f) of this section.

(3) In the event that a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of paragraph (d)(5) of this section.

(4) The owner or operator shall maintain a record of the inspection in accordance with the requirements specified in § 63.696 of this subpart.

(5) The owner or operator shall repair all detected defects as follows:

(i) The owner or operator shall make first efforts at repair of the defect no later than 5 calendar days after detection and repair shall be completed as soon as possible but no later than 45 calendar days after detection except as provided in paragraph (d)(5)(ii) of this section.

(ii) Repair of a defect may be delayed beyond 45 calendar days if the owner or operator determines that repair of the defect requires emptying or temporary removal from service of the transfer system and no alternative transfer system is available at the site to accept the material normally handled by the system. In this case, the owner or operator shall repair the defect the next time the process or unit that is generating the material handled by the transfer system stops operation. Repair of the defect must be completed before the process or unit resumes operation.

(iii) The owner or operator shall maintain a record of the defect repair in accordance with the requirements specified in § 63.696 of this subpart.

(e) *Control device monitoring requirements.* For each control device required under § 63.693 of this subpart to be monitored in accordance with the provisions of this paragraph (e), the owner or operator must ensure that each control device operates properly by monitoring the control device in accordance with the requirements specified in paragraphs (e)(1) through (e)(7) of this section.

(1) A continuous parameter monitoring system must be used to measure the operating parameter or parameters specified for the control device in § 63.693(d) through § 63.693(g) of this subpart as applicable to the type and design of the control device. The continuous parameter monitoring system must meet the following specifications and requirements:

(i) The continuous parameter monitoring system must measure either an instantaneous value at least once every 15 minutes or an average value for intervals of 15 minutes or less and continuously record either:

(A) Each measured data value; or

(B) Each block average value for each 1-hour period or shorter periods calculated from all measured data values during each period. If values are measured more frequently than once per minute, a single value for each minute may be used to calculate the hourly (or shorter period) block average instead of all measured values.

(ii) The monitoring system must be installed, calibrated, operated, and maintained in accordance with the manufacturer's specifications or other written procedures that provide reasonable assurance that the monitoring equipment is operating properly.

(2) Using the data recorded by the monitoring system, the owner or operator must calculate the daily average value for each monitored operating parameter for each operating day. If operation of the control device is continuous, the operating day is a 24-hour period. If control device operation is not continuous, the operating day is the total number of hours of control device operation per 24-hour period. Valid data points must be available for 75 percent of the operating hours in an operating day to compute the daily average.

(3) For each monitored operating parameter, the owner or operator must establish a minimum operating parameter value or a maximum operating parameter value, as appropriate, to define the range of conditions at which the control device must be operated to continuously achieve the applicable performance requirements specified in § 63.693(b)(2) of this subpart. Each minimum or maximum operating param-

eter value must be established in accordance with the requirements in paragraphs (e)(3)(i) and (e)(3)(ii) of this section.

(i) If the owner or operator conducts a performance test to demonstrate control device performance, then the minimum or maximum operating parameter value must be established based on values measured during the performance test and supplemented, as necessary, by the control device design specifications, manufacturer recommendations, or other applicable information.

(ii) If the owner or operator uses a control device design analysis to demonstrate control device performance, then the minimum or maximum operating parameter value must be established based on the control device design analysis and supplemented, as necessary, by the control device manufacturer recommendations or other applicable information.

(4) An excursion for a given control device is determined to have occurred when the monitoring data or lack of monitoring data result in any one of the criteria specified in paragraphs (e)(4)(i) through (e)(4)(iii) of this section being met. When multiple operating parameters are monitored for the same control device and during the same operating day more than one of these operating parameters meets an excursion criterion specified in paragraphs (e)(4)(i) through (e)(4)(iii) of this section, then a single excursion is determined to have occurred for the control device for that operating day.

(i) An excursion occurs when the daily average value of a monitored operating parameter is less than the minimum operating parameter limit (or, if applicable, greater than the maximum operating parameter limit) established for the operating parameter in accordance with the requirements of paragraph (e)(3) of this section.

(ii) An excursion occurs when the period of control device operation is 4 hours or greater in an operating day and the monitoring data are insufficient to constitute a valid hour of data for at least 75 percent of the operating hours. Monitoring data are insufficient to constitute a valid hour of data if measured values are unavailable for

any of the 15-minute periods within the hour.

(iii) An excursion occurs when the period of control device operation is less than 4 hours in an operating day and more than 1 of the hours during the period does not constitute a valid hour of data due to insufficient monitoring data. Monitoring data are insufficient to constitute a valid hour of data if measured values are unavailable for any of the 15-minute periods within the hour.

(5) For each excursion, except as provided for in paragraph(e)(6) of this section, the owner or operator shall be deemed to have failed to have applied control in a manner that achieves the required operating parameter limits. Failure to achieve the required operating parameter limits is a violation of this standard.

(6) An excursion is not a violation of this standard under any one of the conditions specified in paragraphs (e)(6)(i) and (e)(6)(ii) of this section.

(i) An excursion is not a violation nor does it count toward the number of excused excursions allowed under paragraph (e)(6)(ii) of this section when the excursion occurs during any one of the following periods:

(A) During a period of startup, shutdown, or malfunction when the affected facility is operated during such period in accordance with § 63.6(e)(1); or

(B) During periods of non-operation of the unit or the process that is vented to the control device (resulting in cessation of HAP emissions to which the monitoring applies).

(ii) For each control device, one excused excursion is allowed per semi-annual period for any reason. The initial semiannual period is the 6-month reporting period addressed by the first semiannual report submitted by the owner or operator in accordance with § 63.697(b)(4) of this subpart.

(7) Nothing in paragraphs (e)(1) through (e)(6) of this section shall be construed to allow or excuse a monitoring parameter excursion caused by any activity that violates other applicable provisions of this subpart.

(f) *Alternative inspection and monitoring interval.* Following the initial inspection and monitoring of a piece of air pollution control equipment in ac-

cordance with the applicable provisions of this section, subsequent inspection and monitoring of the equipment may be performed at intervals longer than 1 year when an owner or operator determines that performing the required inspection or monitoring procedures would expose a worker to dangerous, hazardous, or otherwise unsafe conditions and the owner or operator complies with the requirements specified in paragraphs (f)(1) and (f)(2) of this section.

(1) The owner or operator must prepare and maintain at the plant site written documentation identifying the specific air pollution control equipment designated as "unsafe to inspect and monitor." The documentation must include for each piece of air pollution control equipment designated as such a written explanation of the reasons why the equipment is unsafe to inspect or monitor using the applicable procedures under this section.

(2) The owner or operator must develop and implement a written plan and schedule to inspect and monitor the air pollution control equipment using the applicable procedures specified in this section during times when a worker can safely access the air pollution control equipment. The required inspections and monitoring must be performed as frequently as practicable but do not need to be performed more frequently than the periodic schedule that would be otherwise applicable to the air pollution control equipment under the provisions of this section. A copy of the written plan and schedule must be maintained at the plant site.

[64 FR 38977, July 20, 1999, as amended at 68 FR 37352, June 23, 2003; 71 FR 20457, Apr. 20, 2006]

#### § 63.696 Recordkeeping requirements.

(a) The owner or operator subject to this subpart shall comply with the recordkeeping requirements in § 63.10 under 40 CFR 63 subpart A—General Provisions that are applicable to this subpart as specified in Table 2 of this subpart.

(b) The owner or operator of a control device subject to this subpart shall maintain the records in accordance with the requirements of 40 CFR 63.10 of this part.



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(c) [Reserved]

(d) Each owner or operator using an internal floating roof to comply with the tank control requirements specified in § 63.685(e) of this subpart or using an external floating roof to comply with the tank control requirements specified in § 63.685(f) of this subpart shall prepare and maintain the following records:

(1) Documentation describing the floating roof design and the dimensions of the tank.

(2) A record for each inspection required by § 63.695(b) of this subpart, as applicable to the tank, that includes the following information: a tank identification number (or other unique identification description as selected by the owner or operator) and the date of inspection.

(3) The owner or operator shall record for each defect detected during inspections required by § 63.695(b) of this subpart the following information: the location of the defect, a description of the defect, the date of detection, and corrective action taken to repair the defect. In the event that repair of the defect is delayed in accordance with the provisions of § 63.695(b)(4) of this section, the owner or operator shall also record the reason for the delay and the date that completion of repair of the defect is expected.

(4) Owners and operators that use a tank equipped with an external floating roof in accordance with the provisions of § 63.685(f) of this subpart shall prepare and maintain records for each seal gap inspection required by § 63.695(b) describing the results of the seal gap measurements. The records shall include the date of that the measurements are performed, the raw data obtained for the measurements, and the calculations of the total gap surface area. In the event that the seal gap measurements do not conform to the specifications in § 63.695(b) of this subpart, the records shall include a description of the repairs that were made, the date the repairs were made, and the date the separator was emptied, if necessary.

(e) Each owner or operator using a fixed roof to comply with the tank control requirements specified in § 63.685(g)

of this subpart shall prepare and maintain the following records:

(1) A record for each inspection required by § 63.695(b) of this subpart, as applicable to the tank, that includes the following information: a tank identification number (or other unique identification description as selected by the owner or operator) and the date of inspection.

(2) The owner or operator shall record for each defect detected during inspections required by § 63.695(b) of this subpart the following information: the location of the defect, a description of the defect, the date of detection, and corrective action taken to repair the defect. In the event that repair of the defect is delayed in accordance with the provisions of § 63.695(b)(4) of this section, the owner or operator shall also record the reason for the delay and the date that completion of repair of the defect is expected.

(f) Each owner or operator using an enclosure to comply with the tank control requirements specified in § 63.685(i) of this subpart shall prepare and maintain records for the most recent set of calculations and measurements performed by the owner or operator to verify that the enclosure meets the criteria of a permanent total enclosure as specified in "Procedure T—Criteria for and Verification of a Permanent or Temporary Total Enclosure" under 40 CFR 52.741, Appendix B.

(g) An owner or operator shall record, on a semiannual basis, the information specified in paragraphs (g)(1) and (g)(2) of this section for those planned routine maintenance operations that would require the control device not to meet the requirements of § 63.693(d) through (h) of this subpart, as applicable.

(1) A description of the planned routine maintenance that is anticipated to be performed for the control device during the next 6 months. This description shall include the type of maintenance necessary, planned frequency of maintenance, and lengths of maintenance periods.

(2) A description of the planned routine maintenance that was performed for the control device during the previous 6 months. This description shall

include the type of maintenance performed and the total number of hours during these 6 months that the control device did not meet the requirement of § 63.693 (d) through (h) of this subpart, as applicable, due to planned routine maintenance.

(h) An owner or operator shall record the information specified in paragraphs (h)(1) through (h)(3) of this section for those unexpected control device system malfunctions that would require the control device not to meet the requirements of § 63.693 (d) through (h) of this subpart, as applicable.

(1) The occurrence and duration of each malfunction of the control device system.

(2) The duration of each period during a malfunction when gases, vapors, or fumes are vented from the waste management unit through the closed-vent system to the control device while the control device is not properly functioning.

(3) Actions taken during periods of malfunction to restore a malfunctioning control device to its normal or usual manner of operation.

#### § 63.697 Reporting requirements.

(a) Each owner or operator of an affected source subject to this subpart must comply with the notification requirements specified in paragraph (a)(1) of this section and the reporting requirements specified in paragraph (a)(2) of this section.

(1) The owner or operator of an affected source must submit notices to the Administrator in accordance with the applicable notification requirements in 40 CFR 63.9 as specified in Table 2 of this subpart. For the purpose of this subpart, an owner or operator subject to the initial notification requirements under 40 CFR 63.9(b)(2) must submit the required notification on or before October 19, 1999.

(2) The owner or operator of an affected source must submit reports to the Administrator in accordance with the applicable reporting requirements in 40 CFR 63.10 as specified in Table 2 of this subpart.

(b) The owner or operator of a control device used to meet the requirements of § 63.693 of this subpart shall

submit the following notifications and reports to the Administrator:

(1) A Notification of Performance Tests specified in § 63.7 and § 63.9(g) of this part.

(2) Performance test reports specified in § 63.10(d)(2) of this part, and

(3) Startup, shutdown, and malfunction reports specified in § 63.10(d)(5) of this part.

(i) If actions taken by an owner or operator during a startup, shutdown, or malfunction of an affected source (including actions taken to correct a malfunction) are not completely consistent with the procedures specified in the source's startup, shutdown, and malfunction plan specified in § 63.6(e)(3) of this part, the owner or operator shall state such information in the report. The startup, shutdown, or malfunction report shall consist of a letter, containing the name, title, and signature of the responsible official who is certifying its accuracy, that shall be submitted to the Administrator, and

(ii) Separate startup, shutdown, or malfunction reports are not required if the information is included in the summary report specified in paragraph (b)(4) of this section.

(4) A summary report specified in § 63.10(e)(3) of this part shall be submitted on a semiannual basis (i.e., once every 6-month period). The summary report must include a description of all excursions as defined in § 63.695(e) of this subpart that have occurred during the 6-month reporting period. For each excursion caused when the daily average value of a monitored operating parameter is less than the minimum operating parameter limit (or, if applicable, greater than the maximum operating parameter limit), the report must include the daily average values of the monitored parameter, the applicable operating parameter limit, and the date and duration of the period that the exceedance occurred. For each excursion caused by lack of monitoring data, the report must include the date and duration of period when the monitoring data were not collected and the reason why the data were not collected.

(c) Each owner or operator using an internal floating roof or external floating roof to comply with the Tank Level

2 control requirements specified in §63.685(d) of this subpart shall notify the Administrator in advance of each inspection required under §63.695(b) of this subpart to provide the Administrator with the opportunity to have an observer present during the inspection. The owner or operator shall notify the Administrator of the date and location of the inspection as follows:

(1) Prior to each inspection to measure external floating roof seal gaps as required under §63.695(b) of this subpart, written notification shall be prepared and sent by the owner or operator so that it is received by the Administrator at least 30 calendar days before the date the measurements are scheduled to be performed.

(2) Prior to each visual inspection of an internal floating roof or external floating roof in a tank that has been emptied and degassed, written notification shall be prepared and sent by the owner or operator so that it is received by the Administrator at least 30 calendar days before refilling the tank except when an inspection is not planned as provided for in paragraph (c)(3) of this section.

(3) When a visual inspection is not planned and the owner or operator could not have known about the inspection 30 calendar days before refilling the tank, the owner or operator shall notify the Administrator as soon as possible, but no later than 7 calendar days before refilling of the tank. This notification may be made by telephone and immediately followed by a written explanation for why the inspection is unplanned. Alternatively, written notification, including the explanation for the unplanned inspection, may be sent so that it is received by the Administrator at least 7 calendar days before refilling the tank.

[61 FR 34158, July 1, 1996, as amended at 64 FR 38981, July 20, 1999]

**§63.698 Implementation and enforcement.**

(a) This subpart can be implemented and enforced by the U.S. EPA, or a delegated authority such as the applicable State, local, or Tribal agency. If the U.S. EPA Administrator has delegated authority to a State, local, or Tribal agency, then that agency, in addition to the U.S. EPA, has the authority to implement and enforce this subpart. Contact the applicable U.S. EPA Regional Office to find out if this subpart is delegated to a State, local, or Tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or Tribal agency under subpart E of this part, the authorities contained in paragraph (c) of this section are retained by the Administrator of U.S. EPA and cannot be transferred to the State, local, or Tribal agency.

(c) The authorities that cannot be delegated to State, local, or Tribal agencies are as specified in paragraphs (c)(1) through (4) of this section.

(1) Approval of alternatives to the requirements in §§63.680, 63.683 through 63.691, and 63.693. Where these standards reference another subpart, the cited provisions will be delegated according to the delegation provisions of the referenced subpart.

(2) Approval of major alternatives to test methods under §63.7(e)(2)(ii) and (f), as defined in §63.90, and as required in this subpart.

(3) Approval of major alternatives to monitoring under §63.8(f), as defined in §63.90, and as required in this subpart.

(4) Approval of major alternatives to recordkeeping and reporting under §63.10(f), as defined in §63.90, and as required in this subpart.

[68 FR 37352, June 23, 2003]

TABLE 1 TO SUBPART DD OF PART 63—LIST OF HAZARDOUS AIR POLLUTANTS (HAP) FOR SUBPART DD

CAS No. *	Chemical name	<i>t</i> <sub>m</sub> 305
75-07-0 .....	Acetaldehyde .....	1.000
75-05-8 .....	Acetonitrile .....	0.989
98-86-2 .....	Acetophenone .....	0.314
107-02-8 .....	Acrolein .....	1.000
107-13-1 .....	Acrylonitrile .....	0.999

CAS No. *	Chemical name	$f_m$ 305
107-05-1	Allyl chloride	1.000
71-43-2	Benzene (includes benzene in gasoline)	1.000
98-07-7	Benzotrifluoride (isomers and mixture)	0.958
100-44-7	Benzyl chloride	1.000
92-52-4	Biphenyl	0.864
542-88-1	Bis(chloromethyl)ether <sup>b</sup>	0.999
75-25-2	Bromoform	0.998
106-99-0	1,3-Butadiene	1.000
75-15-0	Carbon disulfide	1.000
56-23-5	Carbon tetrachloride	1.000
43-58-1	Carbonyl sulfide	1.000
133-90-4	Chloramben	0.633
108-90-7	Chlorobenzene	1.000
67-66-3	Chloroform	1.000
107-30-2	Chloromethyl methyl ether <sup>b</sup>	1.000
126-99-8	Chloroprene	1.000
98-82-8	Cumene	1.000
94-75-7	2,4-D, salts and esters	0.167
334-88-3	Diazomethane <sup>c</sup>	0.999
132-64-9	Dibenzofurans	0.967
96-12-8	1,2-Dibromo-3-chloropropane	1.000
106-46-7	1,4-Dichlorobenzene(p)	1.000
107-06-2	Dichloroethane (Ethylene dichloride)	1.000
111-44-4	Dichloroethyl ether (Bis(2-chloroethyl ether))	0.757
542-75-6	1,3-Dichloropropene	1.000
79-44-7	Dimethyl carbamoyl chloride <sup>c</sup>	0.150
64-67-5	Diethyl sulfate	0.0025
77-78-1	Dimethyl sulfate	0.086
121-69-7	N,N-Dimethylaniline	0.0008
51-28-5	2,4-Dinitrophenol	0.0077
121-14-2	2,4-Dinitrotoluene	0.0848
123-91-1	1,4-Dioxane (1,4-Diethyleneoxide)	0.869
106-89-8	Epichlorohydrin (1-Chloro-2,3-epoxypropane)	0.939
106-88-7	1,2-Epoxybutane	1.000
140-88-5	Ethyl acrylate	1.000
100-41-4	Ethyl benzene	1.000
75-00-3	Ethyl chloride (Chloroethane)	1.000
106-93-4	Ethylene dibromide (Dibromoethane)	0.999
107-06-2	Ethylene dichloride (1,2-Dichloroethane)	1.000
151-56-4	Ethylene imine (Aziridine)	0.867
75-21-8	Ethylene oxide	1.000
75-34-3	Ethylidene dichloride (1,1-Dichloroethane)	1.000
	Glycol ethers <sup>d</sup> that have a Henry's Law constant value equal to or greater than 0.1 YX (1.8x10 <sup>-4</sup> atm/gm-mole/m <sup>3</sup> ) at 25°C.	(e)
118-74-1	Hexachlorobenzene	0.97
87-68-3	Hexachlorobutadiene	0.88
67-72-1	Hexachloroethane	0.499
110-54-3	Hexane	1.000
78-59-1	Isophorone	0.506
58-89-9	Lindane (all isomers)	1.000
67-56-1	Methanol	0.855
74-83-9	Methyl bromide (Bromomethane)	1.000
74-87-3	Methyl chloride (Chloromethane)	1.000
71-55-6	Methyl chloroform (1,1,1-Trichloroethane)	1.000
78-93-3	Methyl ethyl ketone (2-Butanone)	0.990
74-88-4	Methyl iodide (Iodomethane)	1.0001
108-10-1	Methyl isobutyl ketone (Hexone)	0.9796
624-83-9	Methyl isocyanate	1.000
80-62-6	Methyl methacrylate	0.916
1634-04-4	Methyl tert butyl ether	1.000
75-09-2	Methylene chloride (Dichloromethane)	1.000
91-20-3	Naphthalene	0.994
98-95-3	Nitrobenzene	0.394
79-46-9	2-Nitropropane	0.989
82-68-8	Pentachloronitrobenzene (Quintobenzene)	0.839
87-86-5	Pentachlorophenol	0.0898
75-44-5	Phosgene <sup>e</sup>	1.000
123-38-6	Propionaldehyde	0.999
78-87-5	Propylene dichloride (1,2-Dichloropropane)	1.000
75-56-9	Propylene oxide	1.000
75-55-8	1,2-Propylenimine (2-Methyl aziridine)	0.945
100-42-5	Styrene	1.000
96-09-3	Styrene oxide	0.830
79-34-5	1,1,2,2-Tetrachloroethane	0.999

CAS No. *	Chemical name	f <sub>m</sub> 305
127-18-4	Tetrachloroethylene (Perchloroethylene)	1.000
108-88-3	Toluene	1.000
95-53-4	o-Toluidine	0.152
120-82-1	1,2,4-Trichlorobenzene	1.000
71-55-6	1,1,1-Trichloroethane (Methyl chlorform)	1.000
79-00-5	1,1,2-Trichloroethane (Vinyl trichloride)	1.000
79-01-6	Trichloroethylene	1.000
95-95-4	2,4,5-Trichlorophenol	0.108
88-06-2	2,4,6-Trichlorophenol	0.132
121-44-8	Triethylamine	1.000
540-84-1	2,2,4-Trimethylpentane	1.000
108-05-4	Vinyl acetate	1.000
593-60-2	Vinyl bromide	1.000
75-01-4	Vinyl chloride	1.000
75-35-4	Vinylidene chloride (1,1-Dichloroethylene)	1.000
1330-20-7	Xylenes (isomers and mixture)	1.000
95-47-6	o-Xylenes	1.000
108-38-3	m-Xylenes	1.000
106-42-3	p-Xylenes	1.000

NOTES:  
 f<sub>m</sub> 305 = Method 305 fraction measure factor.  
 a. CAS numbers refer to the Chemical Abstracts Services registry number assigned to specific compounds, isomers, or mixtures of compounds.  
 b. Denotes a HAP that hydrolyzes quickly in water, but the hydrolysis products are also HAP chemicals.  
 c. Denotes a HAP that may react violently with water, exercise caustic is an expected analyte.  
 d. Denotes a HAP that hydrolyzes slowly in water.  
 e. The f<sub>m</sub> 305 factors for some of the more common glycol ethers can be obtained by contacting the Waste and Chemical Processes Group, Office of Air Quality Planning and Standards, Research Triangle Park, NC 27711.

[64 FR 38981, July 20, 1999]

TABLE 2 TO SUBPART DD OF PART 63—APPLICABILITY OF PARAGRAPHS IN SUBPART A OF THIS PART 63—GENERAL PROVISIONS TO SUBPART DD

Subpart A reference	Applies to Subpart DD	Explanation
63.1(a)(1)	Yes	Subpart DD (this table) specifies applicability of each paragraph in subpart A to subpart DD.
63.1(a)(2)	Yes	
63.1(a)(3)	Yes	
63.1(a)(4)	No	
63.1(a)(5)–63.1(a)(9)	No	Subpart DD specifies its own applicability.
63.1(a)(10)	Yes	
63.1(a)(11)	Yes	
63.1(a)(12)	Yes	
63.1(a)(13)	Yes	
63.1(a)(14)	Yes	
63.1(b)(1)	No	
63.1(b)(2)	Yes	
63.1(b)(3)	No	
63.1(c)(1)	No	
63.1(c)(2)	No	
63.1(c)(3)	No	
63.1(c)(4)	Yes	
63.1(c)(5)	Yes	
63.1(d)	No	Subpart DD explicitly specifies requirements that apply. Area sources are not subject to subpart DD.
63.1(e)	No	
63.2	Yes	Except that sources are not required to submit notifications overridden by this table.
63.3	Yes	§ 63.681 of subpart DD specifies that if the same term is defined in subparts A and DD, it shall have the meaning given in subpart DD.
63.4(a)(1)–63.4(a)(3)	Yes	
63.4(a)(4)	No	Reserved.
63.4(a)(5)	Yes	
63.4(b)	Yes	
63.4(c)	Yes	
63.5(a)(1)	Yes	
63.5(a)(2)	Yes	Except replace term "source" and "stationary source" in § 63.5(a)(1) of subpart A with "affected source."
63.5(b)(1)	Yes	
63.5(b)(2)	No	
63.5(b)(3)	Yes	

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Subpart A reference	Applies to Subpart DD	Explanation
63.5(b)(4) .....	Yes	Except the cross-reference to § 63.9(b) is changed to § 63.9(b)(4) and (5). Subpart DD overrides § 63.9(b)(2) and (b)(3).
63.5(b)(5) .....	Yes	
63.5(b)(6) .....	Yes	
63.5(c) .....	No	Reserved.
63.5(d)(1)(i) .....	Yes	
63.5(d)(1)(ii) .....	Yes	
63.5(d)(1)(iii) .....	Yes	
63.5(d)(2) .....	No	
63.5(d)(3) .....	Yes	
63.5(d)(4) .....	Yes	
63.5(e) .....	Yes	
63.5(f)(1) .....	Yes	
63.5(f)(2) .....	Yes	
63.6(a) .....	Yes	
63.6(b)(1) .....	No	Subpart DD specifies compliance dates for sources subject to subpart DD.
63.6(b)(2) .....	No	
63.6(b)(3) .....	Yes	
63.6(b)(4) .....	No	May apply when standards are proposed under section 112(f) of the Clean Air Act.
63.6(b)(5) .....	No	§ 63.697 of subpart DD includes notification requirements.
63.6(b)(6) .....	No	
63.6(b)(7) .....	No	
63.6(c)(1) .....	No	§ 63.680 of subpart DD specifies the compliance date.
63.6(c)(2)–63.6(c)(4) .....	No	
63.6(c)(5) .....	Yes	
63.6(d) .....	No	
63.6(e) .....	Yes	
63.6(f)(1) .....	Yes	
63.6(f)(2)(i) .....	Yes	
63.6(f)(2)(ii) .....	Yes	Subpart DD specifies the use of monitoring data in determining compliance with subpart DD.
63.6(f)(2)(iii) (A), (B), and (C) ..	Yes	
63.6(f)(2)(iii) (D) .....	No	
63.6(f)(2)(iv) .....	Yes	
63.6(f)(2)(v) .....	Yes	
63.6(f)(3) .....	Yes	
63.6(g) .....	Yes	
63.6(h) .....	No	Subpart DD does not require opacity and visible emission standards.
63.6(i) .....	Yes	Except for § 63.6(i)(15), which is reserved.
63.6(j) .....	Yes	
63.7(a)(1) .....	No	Subpart DD specifies required testing and compliance demonstration procedures.
63.7(a)(2) .....	Yes	
63.7(a)(3) .....	Yes	
63.7(b) .....	No	
63.7(c) .....	No	
63.7(d) .....	Yes	
63.7(e)(1) .....	Yes	
63.7(e)(2) .....	Yes	
63.7(e)(3) .....	No	Subpart DD specifies test methods and procedures.
63.7(e)(4) .....	Yes	
63.7(f) .....	No	Subpart DD specifies applicable methods and provides alternatives.
63.7(g) .....	Yes	
63.7(h)(1) .....	Yes	
63.7(h)(2) .....	Yes	
63.7(h)(3) .....	Yes	
63.7(h)(4) .....	No	
63.7(h)(5) .....	Yes	
63.8(a) .....	No	
63.8(b)(1) .....	Yes	
63.8(b)(2) .....	No	Subpart DD specifies locations to conduct monitoring.
63.8(b)(3) .....	Yes	
63.8(c)(1)(i) .....	Yes	
63.8(c)(1)(ii) .....	Yes	
63.8(c)(1)(iii) .....	Yes	
63.8(c)(2) .....	Yes	
63.8(c)(3) .....	Yes	
63.8(c)(4) .....	No	
63.8(c)(5)–63.8(c)(8) .....	No	Subpart DD specifies monitoring frequency

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Subpart A reference	Applies to Subpart DD	Explanation
63.8(d) .....	No	
63.8(e) .....	No	
63.8(f)(1) .....	Yes	
63.8(f)(2) .....	Yes	
63.8(f)(3) .....	Yes	
63.8(f)(4)(i) .....	Yes	
63.8(f)(4)(ii) .....	Yes	
63.8(f)(4)(iii) .....	No	
63.8(f)(5)(i) .....	Yes	
63.8(f)(5)(ii) .....	No	
63.8(f)(5)(iii) .....	Yes	
63.8(f)(6) .....	Yes	
63.8(g) .....	Yes	
63.9(a) .....	Yes	
63.9(b)(1)(i) .....	Yes	
63.9(b)(1)(ii) .....	No	
63.9(b)(2) .....	Yes	
63.9(b)(3) .....	No	
63.9(b)(4) .....	Yes	
63.9(b)(5) .....	Yes	
63.9(c) .....	Yes	
63.9(d) .....	Yes	
63.9(e) .....	No	
63.9(f) .....	No	
63.9(g) .....	No	
63.9(h) .....	Yes	
63.9(i) .....	Yes	
63.9(j) .....	No	
63.10(a) .....	Yes	
63.10(b)(1) .....	Yes	
63.10(b)(2)(i) .....	Yes	
63.10(b)(2)(ii) .....	Yes	
63.10(b)(2)(iii) .....	No	
63.10(b)(2)(iv) .....	Yes	
63.10(b)(2)(v) .....	Yes	
63.10(b)(2)(vi)-(ix) .....	Yes	
63.10(b)(2)(x)-(xi) .....	Yes	
63.10(b)(2) (xii)-(xiv) .....	No	
63.10(b)(3) .....	Yes	
63.10(c) .....	No	
63.10(d)(1) .....	No	
63.10(d)(2) .....	Yes	
63.10(d)(3) .....	No	
63.10(d)(4) .....	Yes	
63.10(d)(5)(i) .....	Yes	
63.10(d)(5)(ii) .....	Yes	
63.10(e) .....	No	
63.10(f) .....	Yes	
63.11-63.15 .....	Yes	

\*Wherever subpart A specifies "postmark" dates, submittals may be sent by methods other than the U.S. Mail (e.g., by fax or courier). Submittals shall be sent by the specified dates, but a postmark is not required.

[64 FR 38983, July 20, 1999, as amended at 66 FR 1267, Jan. 8, 2001]

TABLE 3 TO SUBPART DD OF PART 63—TANK CONTROL LEVELS FOR TANKS AT EXISTING AFFECTED SOURCES AS REQUIRED BY 40 CFR 63.685(B)(1)

Tank design capacity (cubic meters)	Maximum HAP vapor pressure of off-site material managed in tank (kilopascals)	Tank control level
Design capacity less than 75 m <sup>3</sup> .....	Maximum HAP vapor pressure less than 76.6 kPa .....	Level 1.
Design capacity equal to or greater than 75 m <sup>3</sup> and less than 151 m <sup>3</sup> .....	Maximum HAP vapor pressure less than 27.6 kPa .....	Level 1.
	Maximum HAP vapor pressure equal to or greater than 27.6 kPa.	Level 2.
Design capacity equal to or greater than 151 m <sup>3</sup> .....	Maximum HAP vapor pressures less than 5.2 kPa .....	Level 1.
	Maximum HAP vapor pressure equal to or greater than 5.2 kPa.	Level 2.

TABLE 4 TO SUBPART DD OF PART 63—TANK CONTROL LEVELS FOR TANKS AT NEW AFFECTED SOURCES AS REQUIRED BY 40 CFR 63.685(B)(2)

Tank design capacity (cubic meters)	Maximum HAP vapor pressure of off-site material managed in tank (kilopascals)	Tank control level
Design capacity less than 38 m <sup>3</sup> .....	Maximum HAP vapor pressure less than 76.6 kPa .....	Level 1.
Design capacity equal to or greater than 38 m <sup>3</sup> and less than 151 m <sup>3</sup> .	Maximum HAP vapor pressure less than 13.1 kPa .....	Level 1.
	Maximum HAP vapor pressure equal to or greater than 13.1 kPa.	Level 2.
Design capacity equal to or greater than 151 m <sup>3</sup> .....	Maximum HAP vapor pressure less than 0.7 kPa .....	Level 1.
	Maximum HAP vapor pressure equal to or greater than 0.7 kPa.	Level 2.

### Subpart EE—National Emission Standards for Magnetic Tape Manufacturing Operations

SOURCE: 59 FR 64596, Dec. 15, 1994, unless otherwise noted.

#### § 63.701 Applicability.

(a) Except as specified in paragraph (b) of this section, the provisions of this subpart apply to:

(1) Each new and existing magnetic tape manufacturing operation located at a major source of hazardous air pollutant (HAP) emissions; and

(2) A magnetic tape manufacturing operation for which the owner or operator chooses to use the provisions of § 63.703(b) and (h) to obtain a Federally enforceable limit on its potential to emit HAP.

EXPLANATORY NOTE: A reason the owner or operator would make the choice described in paragraph (a)(2) of this section is if the plant site, without this limit, would be a major source. The owner or operator could use this limit, which would establish the potential to emit from magnetic tape manufacturing operations, in conjunction with the potential to emit from the other HAP emission points at the stationary source, to be an area source. Note, however, that an owner or operator is not required to use the provisions in § 63.703(b) and (h) to determine the potential to emit HAP from magnetic tape manufacturing operations.

(b) This subpart does not apply to the following:

(1) Research or laboratory facilities; and

(2) Any coating operation that produces a quantity of magnetic tape that is 1 percent or less of total production (in terms of total square footage coated) from that coating operation in any 12-month period.

(c) The affected source subject to this standard is the magnetic tape manufacturing operation, as defined in § 63.702.

(d) An owner or operator of an existing affected source subject to the provisions of this subpart shall comply according to the following schedule:

(1) Within 3 years after the effective date of the standard, if the owner or operator is required to install a new add-on air pollution control device to meet the requirements of § 63.703(c) or (g); or

(2) Within 2 years after the effective date of the standard, if a new add-on air pollution control device is not needed to comply with § 63.703(c) or (g) of these standards.

(e) The compliance date for an owner or operator of a new affected source subject to the provisions of this subpart is immediately upon startup of the affected source.

(f) The provisions of this subpart apply during periods of startup and shutdown, and whenever magnetic tape manufacturing operations are taking place.

(g) Owners or operators of affected sources subject to the provisions of this subpart shall also comply with the requirements of subpart A as identified in Table 1, according to the applicability of subpart A to such sources.

(h) In any title V permit for an affected source, all research or laboratory facilities that are exempt from the requirements of this subpart shall be clearly identified.

#### § 63.702 Definitions.

(a) All terms used in this subpart that are not defined below have the



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**TABLE 8 TO SUBPART PPP—ROUTINE REPORTS REQUIRED BY THIS SUBPART**

AUTHORITY: 42 U.S.C. 7401 *et seq.*

SOURCE: 57 FR 61992, Dec. 29, 1992, unless otherwise noted.

**Subpart EEE—National Emission Standards for Hazardous Air Pollutants from Hazardous Waste Combustors**

SOURCE: 64 FR 53038, Sept. 30, 1999, unless otherwise noted.

**GENERAL**

**§ 63.1200 Who is subject to these regulations?**

The provisions of this subpart apply to all hazardous waste combustors: hazardous waste incinerators, hazardous waste cement kilns, hazardous

waste lightweight aggregate kilns, hazardous waste solid fuel boilers, hazardous waste liquid fuel boilers, and hazardous waste hydrochloric acid production furnaces. Hazardous waste combustors are also subject to applicable requirements under parts 260 through 270 of this chapter.

(a) *What if I am an area source?* (1) Both area sources and major sources are subject to this subpart.

(2) Both area sources and major sources subject to this subpart, but not previously subject to title V, are immediately subject to the requirement to apply for and obtain a title V permit in all States, and in areas covered by part 71 of this chapter.

(b) These regulations in this subpart do not apply to sources that meet the criteria in Table 1 of this Section, as follows:

**TABLE 1 TO § 63.1200—HAZARDOUS WASTE COMBUSTORS EXEMPT FROM SUBPART EEE**

If	And if	Then
(1) You are a previously affected source.	(i) You ceased feeding hazardous waste for a period of time greater than the hazardous waste residence time (i.e., hazardous waste no longer resides in the combustion chamber); (ii) You have initiated the closure requirements of subpart G, parts 264 or 265 of this chapter; (iii) You begin complying with the requirements of all other applicable standards of this part (Part 63); and (iv) You notify the Administrator in writing that you are no longer an affected source under this subpart (Subpart EEE).	You are no longer subject to this subpart (Subpart EEE).
(2) You are a research, development, and demonstration source.	You operate for no longer than one year after first burning hazardous waste (Note that the Administrator can extend this one-year restriction on a case-by-case basis upon your written request documenting when you first burned hazardous waste and the justification for needing additional time to perform research, development, or demonstration operations).	You are not subject to this subpart (Subpart EEE). This exemption applies even if there is a hazardous waste combustor at the plant site that is regulated under this subpart. You still, however, remain subject to § 270.65 of this chapter.
(3) The only hazardous wastes you burn are exempt from regulation under § 266.100(c) of this chapter.	.....	You are not subject to the requirements of this subpart (Subpart EEE).
(4) You meet the definition of a small quantity burner under § 266.108 of this chapter.	.....	You are not subject to the requirements of this subpart (Subpart EEE).

(c) Table 1 of this section specifies the provisions of subpart A (General Provisions, §§ 63.1–63.15) that apply and those that do not apply to sources affected by this subpart.

[64 FR 53038, Sept. 30, 1999, as amended at 65 FR 42297, July 10, 2000; 67 FR 6986, Feb. 14, 2002; 70 FR 59540, Oct. 12, 2005]

**§ 63.1201 Definitions and acronyms used in this subpart.**

(a) The terms used in this subpart are defined in the Act, in subpart A of this part, or in this section as follows:

*Air pollution control system* means the equipment used to reduce the release of particulate matter and other pollutants to the atmosphere.

*Automatic waste feed cutoff (AWFCO) system* means a system comprised of cutoff valves, actuator, sensor, data manager, and other necessary components and electrical circuitry designed, operated and maintained to stop the flow of hazardous waste to the combustion unit automatically and immediately (except as provided by § 63.1206(c)(3)(viii)) when any operating requirement is exceeded.

*Btu* means British Thermal Units.

*By-pass duct* means a device which diverts a minimum of 10 percent of a cement kiln's off gas, or a device which the Administrator determines on a case-by-case basis diverts a sample of kiln gas that contains levels of carbon monoxide or hydrocarbons representative of the levels in the kiln.

*Combustion chamber* means the area in which controlled flame combustion of hazardous waste occurs.

*Continuous monitor* means a device which continuously samples the regulated parameter specified in § 63.1209 without interruption, evaluates the detector response at least once every 15 seconds, and computes and records the average value at least every 60 seconds, except during allowable periods of calibration and except as defined otherwise by the CEMS Performance Specifications in appendix B, part 60 of this chapter.

*Dioxin/furan and dioxins and furans* mean tetra-, penta-, hexa-, hepta-, and octa-chlorinated dibenzo dioxins and furans.

*Existing source* means any affected source that is not a new source.

*Feedrate operating limits* means limits on the feedrate of materials (e.g., metals, chlorine) to the combustor that are established based on comprehensive performance testing. The limits are established and monitored by knowing the concentration of the limited material (e.g., chlorine) in each feedstream and the flowrate of each feedstream.

*Feedstream* means any material fed into a hazardous waste combustor, including, but not limited to, any pumpable or nonpumpable solid, liquid, or gas.

*Flowrate* means the rate at which a feedstream is fed into a hazardous waste combustor.

*Hazardous waste* is defined in § 261.3 of this chapter.

*Hazardous waste burning cement kiln* means a rotary kiln and any associated preheater or precalciner devices that produce clinker by heating limestone and other materials for subsequent production of cement for use in commerce, and that burns hazardous waste at any time.

*Hazardous waste combustor* means a hazardous waste incinerator, hazardous waste burning cement kiln, hazardous waste burning lightweight aggregate kiln, hazardous waste liquid fuel boiler, hazardous waste solid fuel boiler, or hazardous waste hydrochloric acid production furnace.

*Hazardous waste hydrochloric acid production furnace* and *Hazardous Waste HCl production furnace* mean a halogen acid furnace defined under § 260.10 of this chapter that produces aqueous hydrochloric acid (HCl) product and that burns hazardous waste at any time.

*Hazardous waste incinerator* means a device defined as an incinerator in § 260.10 of this chapter and that burns hazardous waste at any time. For purposes of this subpart, the hazardous waste incinerator includes all associated firing systems and air pollution control devices, as well as the combustion chamber equipment.

*Hazardous waste lightweight aggregate kiln* means a rotary kiln that produces clinker by heating materials such as slate, shale and clay for subsequent production of lightweight aggregate used in commerce, and that burns hazardous waste at any time.

*Hazardous waste liquid fuel boiler* means a boiler defined under § 260.10 of this chapter that does not burn solid fuels and that burns hazardous waste at any time. Liquid fuel boiler includes boilers that only burn gaseous fuel.

*Hazardous waste residence time* means the time elapsed from cutoff of the flow of hazardous waste into the combustor (including, for example, the time required for liquids to flow from the cutoff valve into the combustor) until solid, liquid, and gaseous materials from the hazardous waste (excluding residues that may adhere to combustion chamber surfaces and excluding waste-derived recycled materials

such as cement kiln dust and internally recycled metals) exit the combustion chamber. For combustors with multiple firing systems whereby the residence time may vary for the firing systems, the hazardous waste residence time for purposes of complying with this subpart means the longest residence time for any firing system in use at the time of the waste cutoff.

*Hazardous waste solid fuel boiler* means a boiler defined under § 260.10 of this chapter that burns a solid fuel and that burns hazardous waste at any time.

*Initial comprehensive performance test* means the comprehensive performance test that is used as the basis for initially demonstrating compliance with the standards.

*In-line kiln raw mill* means a hazardous waste burning cement kiln design whereby kiln gas is ducted through the raw material mill for portions of time to facilitate drying and heating of the raw material.

*Instantaneous monitoring* for combustion system leak control means detecting and recording pressure, without use of an averaging period, at a frequency adequate to detect combustion system leak events from hazardous waste combustion.

*Monovent* means an exhaust configuration of a building or emission control device (e.g. positive pressure fabric filter) that extends the length of the structure and has a width very small in relation to its length (i.e., length to width ratio is typically greater than 5:1). The exhaust may be an open vent with or without a roof, louvered vents, or a combination of such features.

*MTEC* means maximum theoretical emissions concentration of metals or HCl/Cl<sub>2</sub>, expressed as µg/dscm, and is calculated by dividing the feedrate by the gas flowrate.

*New source* means any affected source the construction or reconstruction of which is commenced after the dates specified under §§ 63.1206(a)(1)(i)(B), (a)(1)(ii)(B), and (a)(2)(ii).

*One-minute average* means the average of detector responses calculated at least every 60 seconds from responses obtained at least every 15 seconds.

*Operating record* means a documentation retained at the facility for ready

inspection by authorized officials of all information required by the standards to document and maintain compliance with the applicable regulations, including data and information, reports, notifications, and communications with regulatory officials.

*Operating requirements* means operating terms or conditions, limits, or operating parameter limits developed under this subpart that ensure compliance with the emission standards.

*Preheater tower combustion gas monitoring location* means a location within the preheater tower of a dry process cement kiln downstream (in terms of gas flow) of all hazardous waste firing locations and where a representative sample of combustion gas to measure combustion efficiency can be monitored.

*Raw material feed* means the prepared and mixed materials, which include but are not limited to materials such as limestone, clay, shale, sand, iron ore, mill scale, cement kiln dust and flyash, that are fed to a cement or lightweight aggregate kiln. Raw material feed does not include the fuels used in the kiln to produce heat to form the clinker product.

*Research, development, and demonstration source* means a source engaged in laboratory, pilot plant, or prototype demonstration operations:

(1) Whose primary purpose is to conduct research, development, or short-term demonstration of an innovative and experimental hazardous waste treatment technology or process; and

(2) Where the operations are under the close supervision of technically-trained personnel.

*Rolling average* means the average of all one-minute averages over the averaging period.

*Run* means the net period of time during which an air emission sample is collected under a given set of operating conditions. Three or more runs constitutes a test. Unless otherwise specified, a run may be either intermittent or continuous.

*Run average* means the average of the one-minute average parameter values for a run.

*System removal efficiency* means  $[1 - \text{Emission Rate (mass/time)} / \text{Feedrate (mass/time)}] \times 100$ .

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*TEQ* means the international method of expressing toxicity equivalents for dioxins and furans as defined in U.S. EPA, Interim Procedures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 Update, March 1989.

*You* means the owner or operator of a hazardous waste combustor.

(b) The acronyms used in this subpart refer to the following:

*AWFCO* means automatic waste feed cutoff.

*CAS* means chemical abstract services registry.

*CEMS* means continuous emissions monitoring system.

*CMS* means continuous monitoring system.

*DRE* means destruction and removal efficiency.

*MACT* means maximum achievable control technology.

*MTEC* means maximum theoretical emissions concentration.

*NIC* means notification of intent to comply.

[64 FR 53038, Sept. 30, 1999, as amended at 65 FR 42297, July 10, 2000; 65 FR 67271, Nov. 9, 2000; 66 FR 35103, July 3, 2001; 67 FR 6986, Feb. 14, 2002; 67 FR 77691, Dec. 19, 2002; 70 FR 59540, Oct. 12, 2005]

§ 63.1202 [Reserved]

INTERIM EMISSIONS STANDARDS AND OPERATING LIMITS FOR INCINERATORS, CEMENT KILNS, AND LIGHTWEIGHT AGGREGATE KILNS

§ 63.1203 **What are the standards for hazardous waste incinerators that are effective until compliance with the standards under § 63.1219?**

(a) *Emission limits for existing sources.* You must not discharge or cause combustion gases to be emitted into the atmosphere that contain:

(1) For dioxins and furans:

(i) Emissions in excess of 0.20 ng TEQ/dscm corrected to 7 percent oxygen; or

(ii) Emissions in excess of 0.40 ng TEQ/dscm corrected to 7 percent oxygen provided that the combustion gas temperature at the inlet to the initial particulate matter control device is 400 °F or lower based on the average of the test run average temperatures. (For

purposes of compliance, operation of a wet particulate control device is presumed to meet the 400 °F or lower requirement);

(2) Mercury in excess of 130 µg/dscm corrected to 7 percent oxygen;

(3) Lead and cadmium in excess of 240 µg/dscm, combined emissions, corrected to 7 percent oxygen;

(4) Arsenic, beryllium, and chromium in excess of 97 µg/dscm, combined emissions, corrected to 7 percent oxygen;

(5) For carbon monoxide and hydrocarbons, either:

(i) Carbon monoxide in excess of 100 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis and corrected to 7 percent oxygen. If you elect to comply with this carbon monoxide standard rather than the hydrocarbon standard under paragraph (a)(5)(ii) of this section, you must also document that, during the destruction and removal efficiency (DRE) test runs or their equivalent as provided by § 63.1206(b)(7), hydrocarbons do not exceed 10 parts per million by volume during those runs, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; or

(ii) Hydrocarbons in excess of 10 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane;

(6) Hydrochloric acid and chlorine gas in excess of 77 parts per million by volume, combined emissions, expressed as hydrochloric acid equivalents, dry basis and corrected to 7 percent oxygen; and

(7) Particulate matter in excess of 34 mg/dscm corrected to 7 percent oxygen.

(b) *Emission limits for new sources.* You must not discharge or cause combustion gases to be emitted into the atmosphere that contain:

(1) Dioxins and furans in excess of 0.20 ng TEQ/dscm, corrected to 7 percent oxygen;

(2) Mercury in excess of 45 µg/dscm corrected to 7 percent oxygen;

(3) Lead and cadmium in excess of 120 µg/dscm, combined emissions, corrected to 7 percent oxygen;

(4) Arsenic, beryllium, and chromium in excess of 97 µg/dscm, combined emissions, corrected to 7 percent oxygen;

(5) For carbon monoxide and hydrocarbons, either:

(i) Carbon monoxide in excess of 100 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis and corrected to 7 percent oxygen. If you elect to comply with this carbon monoxide standard rather than the hydrocarbon standard under paragraph (b)(5)(ii) of this section, you must also document that, during the destruction and removal efficiency (DRE) test runs or their equivalent as provided by § 63.1206(b)(7), hydrocarbons do not exceed 10 parts per million by volume during those runs, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; or

(ii) Hydrocarbons in excess of 10 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane;

(6) Hydrochloric acid and chlorine gas in excess of 21 parts per million by volume, combined emissions, expressed as hydrochloric acid equivalents, dry basis and corrected to 7 percent oxygen; and

(7) Particulate matter in excess of 34 mg/dscm corrected to 7 percent oxygen.

(c) *Destruction and removal efficiency (DRE) standard*—(1) *99.99% DRE*. Except as provided in paragraph (c)(2) of this section, you must achieve a destruction and removal efficiency (DRE) of 99.99% for each principle organic hazardous constituent (POHC) designated under paragraph (c)(3) of this section. You must calculate DRE for each POHC from the following equation:

$$DRE = [1 - (W_{out} / W_{in})] \times 100\%$$

Where:

$W_{in}$  = mass feedrate of one principal organic hazardous constituent (POHC) in a waste feedstream; and

$W_{out}$  = mass emission rate of the same POHC present in exhaust emissions prior to release to the atmosphere.

(2) *99.9999% DRE*. If you burn the dioxin-listed hazardous wastes F020, F021, F022, F023, F026, or F027 (see § 261.31 of this chapter), you must achieve a destruction and removal efficiency (DRE) of 99.9999% for each principle organic hazardous constituent (POHC) that you designate under paragraph (c)(3) of this section. You must demonstrate this DRE performance on POHCs that are more difficult to incinerate than tetra-, penta-, and hexachlorodibenzo-*p*-dioxins and dibenzofurans. You must use the equation in paragraph (c)(1) of this section to calculate DRE for each POHC. In addition, you must notify the Administrator of your intent to incinerate hazardous wastes F020, F021, F022, F023, F026, or F027.

(3) *Principal organic hazardous constituents (POHCs)*. (i) You must treat the Principal Organic Hazardous Constituents (POHCs) in the waste feed that you specify under paragraph (c)(3)(ii) of this section to the extent required by paragraphs (c)(1) and (c)(2) of this section.

(ii) You must specify one or more POHCs that are representative of the most difficult to destroy organic compounds in your hazardous waste feedstream. You must base this specification on the degree of difficulty of incineration of the organic constituents in the hazardous waste and on their concentration or mass in the hazardous waste feed, considering the results of hazardous waste analyses or other data and information.

(d) *Significant figures*. The emission limits provided by paragraphs (a) and (b) of this section are presented with two significant figures. Although you must perform intermediate calculations using at least three significant figures, you may round the resultant emission levels to two significant figures to document compliance.

[67 FR 6809, Feb. 13, 2002, as amended at 70 FR 59541, Oct. 12, 2005]

**§ 63.1204 What are the standards for hazardous waste burning cement kilns that are effective until compliance with the standards under § 63.1220?**

(a) *Emission limits for existing sources.* You must not discharge or cause combustion gases to be emitted into the atmosphere that contain:

(1) For dioxins and furans:

(i) Emissions in excess of 0.20 ng TEQ/dscm corrected to 7 percent oxygen; or

(ii) Emissions in excess of 0.40 ng TEQ/dscm corrected to 7 percent oxygen provided that the combustion gas temperature at the inlet to the initial dry particulate matter control device is 400 °F or lower based on the average of the test run average temperatures;

(2) Mercury in excess of 120 µg/dscm corrected to 7 percent oxygen;

(3) Lead and cadmium in excess of 330 µg/dscm, combined emissions, corrected to 7 percent oxygen;

(4) Arsenic, beryllium, and chromium in excess of 56 µg/dscm, combined emissions, corrected to 7 percent oxygen;

(5) *Carbon monoxide and hydrocarbons.*

(i) For kilns equipped with a by-pass duct or midkiln gas sampling system, either:

(A) Carbon monoxide in the by-pass duct or mid-kiln gas sampling system in excess of 100 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis and corrected to 7 percent oxygen. If you elect to comply with this carbon monoxide standard rather than the hydrocarbon standard under paragraph (a)(5)(i)(B) of this section, you must also document that, during the destruction and removal efficiency (DRE) test runs or their equivalent as provided by § 63.1206(b)(7), hydrocarbons in the by-pass duct or mid-kiln gas sampling system do not exceed 10 parts per million by volume during those runs, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; or

(B) Hydrocarbons in the by-pass duct or midkiln gas sampling system in excess of 10 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous

emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane;

(ii) For kilns not equipped with a by-pass duct or midkiln gas sampling system, either:

(A) Hydrocarbons in the main stack in excess of 20 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; or

(B) Carbon monoxide in the main stack in excess of 100 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis and corrected to 7 percent oxygen. If you elect to comply with this carbon monoxide standard rather than the hydrocarbon standard under paragraph (a)(5)(i)(A) of this section, you also must document that, during the destruction and removal efficiency (DRE) test runs or their equivalent as provided by § 63.1206(b)(7), hydrocarbons in the main stack do not exceed 20 parts per million by volume during those runs, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane.

(6) Hydrochloric acid and chlorine gas in excess of 130 parts per million by volume, combined emissions, expressed as hydrochloric acid equivalents, dry basis, corrected to 7 percent oxygen; and

(7) Particulate matter in excess of 0.15 kg/Mg dry feed and opacity greater than 20 percent.

(i) You must use suitable methods to determine the kiln raw material feedrate.

(ii) Except as provided in paragraph (a)(7)(iii) of this section, you must compute the particulate matter emission rate, E, from the following equation:

$$E=(C_r \times Q_{rd})/P$$

Where:

E=emission rate of particulate matter, kg/Mg of kiln raw material feed;

C<sub>r</sub>=concentration of particulate matter, kg/dscm;

$Q_{ed}$  = volumetric flowrate of effluent gas, dscm/hr; and  
 P = total kiln raw material feed (dry basis), Mg/hr.

(iii) If you operate a preheater or preheater/precalciner kiln with dual stacks, you must test simultaneously and compute the combined particulate matter emission rate,  $E_c$ , from the following equation:

$$E_c = (C_{sk} \times Q_{edk} + C_{sb} \times Q_{edb}) / P$$

Where:

$E_c$  = the combined emission rate of particulate matter from the kiln and bypass stack, kg/Mg of kiln raw material feed;

$C_{sk}$  = concentration of particulate matter in the kiln effluent, kg/dscm;

$Q_{edk}$  = volumetric flowrate of kiln effluent gas, dscm/hr;

$C_{sb}$  = concentration of particulate matter in the bypass stack effluent, kg/dscm;

$Q_{edb}$  = volumetric flowrate of bypass stack effluent gas, dscm/hr; and

P = total kiln raw material feed (dry basis), Mg/hr.

(b) *Emission limits for new sources.* You must not discharge or cause combustion gases to be emitted into the atmosphere that contain:

(1) For dioxins and furans:

(i) Emissions in excess of 0.20 ng TEQ/dscm corrected to 7 percent oxygen; or

(ii) Emissions in excess of 0.40 ng TEQ/dscm corrected to 7 percent oxygen provided that the combustion gas temperature at the inlet to the initial dry particulate matter control device is 400 °F or lower based on the average of the test run average temperatures;

(2) Mercury in excess of 120 µg/dscm corrected to 7 percent oxygen;

(3) Lead and cadmium in excess of 180 µg/dscm, combined emissions, corrected to 7 percent oxygen;

(4) Arsenic, beryllium, and chromium in excess of 54 µg/dscm, combined emissions, corrected to 7 percent oxygen;

(5) *Carbon monoxide and hydrocarbons.*

(i) For kilns equipped with a by-pass duct or midkiln gas sampling system, carbon monoxide and hydrocarbons emissions are limited in both the by-pass duct or midkiln gas sampling system and the main stack as follows:

(A) Emissions in the by-pass or midkiln gas sampling system are limited to either:

(1) Carbon monoxide in excess of 100 parts per million by volume, over an

hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis and corrected to 7 percent oxygen. If you elect to comply with this carbon monoxide standard rather than the hydrocarbon standard under paragraph (b)(5)(i)(A)(2) of this section, you also must document that, during the destruction and removal efficiency (DRE) test runs or their equivalent as provided by § 63.1206(b)(7), hydrocarbons do not exceed 10 parts per million by volume during those runs, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; or

(2) Hydrocarbons in the by-pass duct or midkiln gas sampling system in excess of 10 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; and

(B) Hydrocarbons in the main stack are limited, if construction of the kiln commenced after April 19, 1996 at a plant site where a cement kiln (whether burning hazardous waste or not) did not previously exist, to 50 parts per million by volume, over a 30-day block average (monitored continuously with a continuous monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane.

(ii) For kilns not equipped with a by-pass duct or midkiln gas sampling system, hydrocarbons and carbon monoxide are limited in the main stack to either:

(A) Hydrocarbons not exceeding 20 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; or

(B)(1) Carbon monoxide not exceeding 100 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen; and

(2) Hydrocarbons not exceeding 20 parts per million by volume, over an

hourly rolling average (monitored continuously with a continuous monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane at any time during the destruction and removal efficiency (DRE) test runs or their equivalent as provided by § 63.1206(b)(7); and

(3) If construction of the kiln commenced after April 19, 1996 at a plant site where a cement kiln (whether burning hazardous waste or not) did not previously exist, hydrocarbons are limited to 50 parts per million by volume, over a 30-day block average (monitored continuously with a continuous monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane.

(6) Hydrochloric acid and chlorine gas in excess of 86 parts per million, combined emissions, expressed as hydrochloric acid equivalents, dry basis and corrected to 7 percent oxygen; and

(7) Particulate matter in excess of 0.15 kg/Mg dry feed and opacity greater than 20 percent.

(i) You must use suitable methods to determine the kiln raw material feedrate.

(ii) Except as provided in paragraph (a)(7)(iii) of this section, you must compute the particulate matter emission rate,  $E$ , from the equation specified in paragraph (a)(7)(ii) of this section.

(iii) If you operate a preheater or preheater/precalciner kiln with dual stacks, you must test simultaneously and compute the combined particulate matter emission rate,  $E_c$ , from the equation specified in paragraph (a)(7)(iii) of this section.

(c) *Destruction and removal efficiency (DRE) standard*—(1) *99.99% DRE*. Except as provided in paragraph (c)(2) of this section, you must achieve a destruction and removal efficiency (DRE) of 99.99% for each principle organic hazardous constituent (POHC) designated under paragraph (c)(3) of this section. You must calculate DRE for each POHC from the following equation:

$$DRE = [1 - (W_{out}/W_{in})] \times 100\%$$

Where:

$W_{in}$  = mass feedrate of one principal organic hazardous constituent (POHC) in a waste feedstream; and

$W_{out}$  = mass emission rate of the same POHC present in exhaust emissions prior to release to the atmosphere.

(2) *99.9999% DRE*. If you burn the dioxin-listed hazardous wastes F020, F021, F022, F023, F026, or F027 (see § 261.31 of this chapter), you must achieve a destruction and removal efficiency (DRE) of 99.9999% for each principle organic hazardous constituent (POHC) that you designate under paragraph (c)(3) of this section. You must demonstrate this DRE performance on POHCs that are more difficult to incinerate than tetra-, penta-, and hexachlorodibenzo-*p*-dioxins and dibenzofurans. You must use the equation in paragraph (c)(1) of this section to calculate DRE for each POHC. In addition, you must notify the Administrator of your intent to incinerate hazardous wastes F020, F021, F022, F023, F026, or F027.

(3) *Principal organic hazardous constituents (POHCs)*. (i) You must treat the Principal Organic Hazardous Constituents (POHCs) in the waste feed that you specify under paragraph (c)(3)(ii) of this section to the extent required by paragraphs (c)(1) and (c)(2) of this section.

(ii) You must specify one or more POHCs that are representative of the most difficult to destroy organic compounds in your hazardous waste feedstream. You must base this specification on the degree of difficulty of incineration of the organic constituents in the hazardous waste and on their concentration or mass in the hazardous waste feed, considering the results of hazardous waste analyses or other data and information.

(d) *Cement kilns with in-line kiln raw mills*—(1) *General*. (i) You must conduct performance testing when the raw mill is on-line and when the mill is off-line to demonstrate compliance with the emission standards, and you must establish separate operating parameter limits under § 63.1209 for each mode of operation, except as provided by paragraph (d)(1)(iv) of this section.

(ii) You must document in the operating record each time you change from one mode of operation to the alternate mode and begin complying with the operating parameter limits for that alternate mode of operation.



(iii) You must calculate rolling averages for operating parameter limits as provided by § 63.1209(q)(2).

(iv) If your in-line kiln raw mill has dual stacks, you may assume that the dioxin/furan emission levels in the bypass stack and the operating parameter limits determined during performance testing of the by-pass stack when the raw mill is off-line are the same as when the mill is on-line.

(2) *Emissions averaging.* You may comply with the mercury, semivolatile metal, low volatile metal, and hydrochloric acid/chlorine gas emission standards on a time-weighted average basis under the following procedures:

(i) *Averaging methodology.* You must calculate the time-weighted average emission concentration with the following equation:

$$C_{\text{total}} = \{C_{\text{mill-off}} \times (T_{\text{mill-off}} / (T_{\text{mill-off}} + T_{\text{mill-on}}))\} + \{C_{\text{mill-on}} \times (T_{\text{mill-on}} / (T_{\text{mill-off}} + T_{\text{mill-on}}))\}$$

Where:

$C_{\text{total}}$  = time-weighted average concentration of a regulated constituent considering both raw mill on time and off time;

$C_{\text{mill-off}}$  = average performance test concentration of regulated constituent with the raw mill off-line;

$C_{\text{mill-on}}$  = average performance test concentration of regulated constituent with the raw mill on-line;

$T_{\text{mill-off}}$  = time when kiln gases are not routed through the raw mill; and

$T_{\text{mill-on}}$  = time when kiln gases are routed through the raw mill.

(ii) *Compliance.* (A) If you use this emission averaging provision, you must document in the operating record compliance with the emission standards on an annual basis by using the equation provided by paragraph (d)(2) of this section.

(B) Compliance is based on one-year block averages beginning on the day you submit the initial notification of compliance.

(iii) *Notification.* (A) If you elect to document compliance with one or more emission standards using this emission averaging provision, you must notify the Administrator in the initial comprehensive performance test plan submitted under § 63.1207(e).

(B) You must include historical raw mill operation data in the performance test plan to estimate future raw mill down-time and document in the per-

formance test plan that estimated emissions and estimated raw mill down-time will not result in an exceedance of an emission standard on an annual basis.

(C) You must document in the notification of compliance submitted under § 63.1207(j) that an emission standard will not be exceeded based on the documented emissions from the performance test and predicted raw mill down-time.

(e) *Preheater or preheater/precalciner kilns with dual stacks*—(1) *General.* You must conduct performance testing on each stack to demonstrate compliance with the emission standards, and you must establish operating parameter limits under § 63.1209 for each stack, except as provided by paragraph (d)(1)(iv) of this section for dioxin/furan emissions testing and operating parameter limits for the by-pass stack of in-line raw mills.

(2) *Emissions averaging.* You may comply with the mercury, semivolatile metal, low volatile metal, and hydrochloric acid/chlorine gas emission standards specified in this section on a gas flowrate-weighted average basis under the following procedures:

(i) *Averaging methodology.* You must calculate the gas flowrate-weighted average emission concentration using the following equation:

$$C_{\text{tot}} = \{C_{\text{main}} \times (Q_{\text{main}} / (Q_{\text{main}} + Q_{\text{bypass}}))\} + \{C_{\text{bypass}} \times (Q_{\text{bypass}} / (Q_{\text{main}} + Q_{\text{bypass}}))\}$$

Where:

$C_{\text{tot}}$  = gas flowrate-weighted average concentration of the regulated constituent;

$C_{\text{main}}$  = average performance test concentration demonstrated in the main stack;

$C_{\text{bypass}}$  = average performance test concentration demonstrated in the bypass stack;

$Q_{\text{main}}$  = volumetric flowrate of main stack effluent gas; and

$Q_{\text{bypass}}$  = volumetric flowrate of bypass effluent gas.

(ii) *Compliance.* (A) You must demonstrate compliance with the emission standard(s) using the emission concentrations determined from the performance tests and the equation provided by paragraph (e)(1) of this section; and

(B) You must develop operating parameter limits for bypass stack and main stack flowrates that ensure the emission concentrations calculated

with the equation in paragraph (e)(1) of this section do not exceed the emission standards on a 12-hour rolling average basis. You must include these flowrate limits in the Notification of Compliance.

(iii) *Notification.* If you elect to document compliance under this emissions averaging provision, you must:

(A) Notify the Administrator in the initial comprehensive performance test plan submitted under § 63.1207(e). The performance test plan must include, at a minimum, information describing the flowrate limits established under paragraph (e)(2)(ii)(B) of this section; and

(B) Document in the Notification of Compliance submitted under § 63.1207(j) the demonstrated gas flowrate-weighted average emissions that you calculate with the equation provided by paragraph (e)(2) of this section.

(f) *Significant figures.* The emission limits provided by paragraphs (a) and (b) of this section are presented with two significant figures. Although you must perform intermediate calculations using at least three significant figures, you may round the resultant emission levels to two significant figures to document compliance.

(g) [Reserved]

(h) When you comply with the particulate matter requirements of paragraphs (a)(7) or (b)(7) of this section, you are exempt from the New Source Performance Standard for particulate matter and opacity under § 60.60 of this chapter.

[67 FR 6809, Feb. 13, 2002, as amended at 67 FR 6987, Feb. 14, 2002; 70 FR 59541, Oct. 12, 2005]

**§ 63.1205 What are the standards for hazardous waste burning light-weight aggregate kilns that are effective until compliance with the standards under § 63.1221?**

(a) *Emission limits for existing sources.* You must not discharge or cause combustion gases to be emitted into the atmosphere that contain:

(1) For dioxins and furans:

(i) Emissions in excess of 0.20 ng TEQ/dscm corrected to 7 percent oxygen; or

(ii) Rapid quench of the combustion gas temperature at the exit of the (last) combustion chamber (or exit of any waste heat recovery system) to 400

°F or lower based on the average of the test run average temperatures. You must also notify in writing the RCRA authority that you are complying with this option;

(2) Mercury in excess of 120 µg/dscm corrected to 7 percent oxygen;

(3) Lead and cadmium in excess of 250 µg/dscm, combined emissions, corrected to 7 percent oxygen;

(4) Arsenic, beryllium, and chromium in excess of 110 µg/dscm, combined emissions, corrected to 7 percent oxygen;

(5) *Carbon monoxide and hydrocarbons.*

(i) Carbon monoxide in excess of 100 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis and corrected to 7 percent oxygen. If you elect to comply with this carbon monoxide standard rather than the hydrocarbon standard under paragraph (a)(5)(ii) of this section, you also must document that, during the destruction and removal efficiency (DRE) test runs or their equivalent as provided by § 63.1206(b)(7), hydrocarbons do not exceed 20 parts per million by volume during those runs, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; or

(ii) Hydrocarbons in excess of 20 parts per million by volume, over an hourly rolling average, dry basis, corrected to 7 percent oxygen, and reported as propane;

(6) Hydrochloric acid and chlorine gas in excess of 600 parts per million by volume, combined emissions, expressed as hydrochloric acid equivalents, dry basis and corrected to 7 percent oxygen; and

(7) Particulate matter in excess of 57 mg/dscm corrected to 7 percent oxygen.

(b) *Emission limits for new sources.* You must not discharge or cause combustion gases to be emitted into the atmosphere that contain:

(1) For dioxins and furans:

(i) Emissions in excess of 0.20 ng TEQ/dscm corrected to 7 percent oxygen; or

(ii) Rapid quench of the combustion gas temperature at the exit of the (last) combustion chamber (or exit of

any waste heat recovery system) to 400 °F or lower based on the average of the test run average temperatures. You must also notify in writing the RCRA authority that you are complying with this option;

(2) Mercury in excess of 120 µg/dscm corrected to 7 percent oxygen;

(3) Lead and cadmium in excess of 43 µg/dscm, combined emissions, corrected to 7 percent oxygen;

(4) Arsenic, beryllium, and chromium in excess of 110 µg/dscm, combined emissions, corrected to 7 percent oxygen;

(5) *Carbon monoxide and hydrocarbons.*

(i) Carbon monoxide in excess of 100 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis and corrected to 7 percent oxygen. If you elect to comply with this carbon monoxide standard rather than the hydrocarbon standard under paragraph (b)(5)(ii) of this section, you also must document that, during the destruction and removal efficiency (DRE) test runs or their equivalent as provided by § 63.1206(b)(7), hydrocarbons do not exceed 20 parts per million by volume during those runs, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; or

(ii) Hydrocarbons in excess of 20 parts per million by volume, over an hourly rolling average, dry basis, corrected to 7 percent oxygen, and reported as propane;

(6) Hydrochloric acid and chlorine gas in excess of 600 parts per million by volume, combined emissions, expressed as hydrochloric acid equivalents, dry basis and corrected to 7 percent oxygen; and

(7) Particulate matter in excess of 57 mg/dscm corrected to 7 percent oxygen.

(c) *Destruction and removal efficiency (DRE) standard*—(1) *99.99% DRE.* Except as provided in paragraph (c)(2) of this section, you must achieve a destruction and removal efficiency (DRE) of 99.99% for each principal organic hazardous constituent (POHC) designated under paragraph (c)(3) of this section.

You must calculate DRE for each POHC from the following equation:

$$\text{DRE} = [1 - (W_{\text{out}} / W_{\text{in}})] \times 100\%$$

Where:

$W_{\text{in}}$  = mass feedrate of one principal organic hazardous constituent (POHC) in a waste feedstream; and

$W_{\text{out}}$  = mass emission rate of the same POHC present in exhaust emissions prior to release to the atmosphere.

(2) *99.9999% DRE.* If you burn the dioxin-listed hazardous wastes F020, F021, F022, F023, F026, or F027 (see § 261.31 of this chapter), you must achieve a destruction and removal efficiency (DRE) of 99.9999% for each principal organic hazardous constituent (POHC) that you designate under paragraph (c)(3) of this section. You must demonstrate this DRE performance on POHCs that are more difficult to incinerate than tetra-, penta-, and hexachlorodibenzo-dioxins and dibenzofurans. You must use the equation in paragraph (c)(1) of this section to calculate DRE for each POHC. In addition, you must notify the Administrator of your intent to burn hazardous wastes F020, F021, F022, F023, F026, or F027.

(3) *Principal organic hazardous constituents (POHCs).* (i) You must treat the Principal Organic Hazardous Constituents (POHCs) in the waste feed that you specify under paragraph (c)(3)(ii) of this section to the extent required by paragraphs (c)(1) and (c)(2) of this section.

(ii) You must specify one or more POHCs that are representative of the most difficult to destroy organic compounds in your hazardous waste feedstream. You must base this specification on the degree of difficulty of incineration of the organic constituents in the hazardous waste and on their concentration or mass in the hazardous waste feed, considering the results of hazardous waste analyses or other data and information.

(d) *Significant figures.* The emission limits provided by paragraphs (a) and (b) of this section are presented with two significant figures. Although you must perform intermediate calculations using at least three significant figures, you may round the resultant

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emission levels to two significant figures to document compliance.

[67 FR 6812, Feb. 13, 2002, as amended at 67 FR 77691, Dec. 19, 2002; 70 FR 59541, Oct. 12, 2005]

MONITORING AND COMPLIANCE  
PROVISIONS

**§ 63.1206 When and how must you comply with the standards and operating requirements?**

(a) *Compliance dates*—(1) *Compliance dates for incinerators, cement kilns, and lightweight aggregate kilns that burn hazardous waste*—(i) *Compliance date for standards under §§ 63.1203, 63.1204, and 63.1205*—(A) *Compliance dates for existing sources*. You must comply with the emission standards under §§ 63.1203, 63.1204, and 63.1205 and the other requirements of this subpart no later than the compliance date, September 30, 2003, unless the Administrator grants you an extension of time under § 63.6(i) or § 63.1213, except:

(1) Cement kilns are exempt from the bag leak detection system requirements under paragraph (c)(8) of this section;

(2) The bag leak detection system required under § 63.1206(c)(8) must be capable of continuously detecting and recording particulate matter emissions at concentrations of 1.0 milligram per actual cubic meter unless you demonstrate under § 63.1209(g)(1) that a higher detection limit would adequately detect bag leaks, in lieu of the requirement for the higher detection limit under paragraph (c)(8)(ii)(A) of this section; and

(3) The excessive exceedances notification requirements for bag leak detection systems under paragraph (c)(8)(iv) of this section are waived.

(B) *New or reconstructed sources*. (1) If you commenced construction or reconstruction of your hazardous waste combustor after April 19, 1996, you must comply with the emission standards under §§ 63.1203, 63.1204, and 63.1205 and the other requirements of this subpart by the later of September 30, 1999 or the date the source starts operations, except as provided by paragraphs (a)(1)(i)(A)(1) through (3) and (a)(1)(i)(B)(2) of this section. The costs of retrofitting and replacement of

equipment that is installed specifically to comply with this subpart, between April 19, 1996 and a source's compliance date, are not considered to be reconstruction costs.

(2) For a standard under §§ 63.1203, 63.1204, and 63.1205 that is more stringent than the standard proposed on April 19, 1996, you may achieve compliance no later than September 30, 2003 if you comply with the standard proposed on April 19, 1996 after September 30, 1999. This exception does not apply, however, to new or reconstructed area source hazardous waste combustors that become major sources after September 30, 1999. As provided by § 63.6(b)(7), such sources must comply with the standards under §§ 63.1203, 63.1204, and 63.1205 at startup.

(ii) *Compliance date for standards under §§ 63.1219, 63.1220, and 63.1221*. (A) *Compliance dates for existing sources*. You must comply with the emission standards under §§ 63.1219, 63.1220, and 63.1221 and the other requirements of this subpart no later than the compliance date, October 14, 2008, unless the Administrator grants you an extension of time under § 63.6(i) or § 63.1213.

(B) *New or reconstructed sources*. (1) If you commenced construction or reconstruction of your hazardous waste combustor after April 20, 2004, you must comply with the new source emission standards under §§ 63.1219, 63.1220, and 63.1221 and the other requirements of this subpart by the later of October 12, 2005 or the date the source starts operations, except as provided by paragraph (a)(1)(ii)(B)(2) of this section. The costs of retrofitting and replacement of equipment that is installed specifically to comply with this subpart, between April 20, 2004, and a source's compliance date, are not considered to be reconstruction costs.

(2) For a standard under §§ 63.1219, 63.1220, and 63.1221 that is more stringent than the standard proposed on April 20, 2004, you may achieve compliance no later than October 14, 2008, if you comply with the standard proposed on April 20, 2004, after October 12, 2005. This exception does not apply, however, to new or reconstructed area source hazardous waste combustors that become major sources after October 14, 2008. As provided by § 63.6(b)(7),

such sources must comply with the standards under §§ 63.1219, 63.1220, and 63.1221 at startup.

(2) *Compliance dates for solid fuel boilers, liquid fuel boilers, and hydrogen chloride production furnaces that burn hazardous waste for standards under §§ 63.1216, 63.1217, and 63.1218.* (i) *Compliance date for existing sources.* You must comply with the standards of this subpart no later than the compliance date, October 14, 2008, unless the Administrator grants you an extension of time under § 63.6(i) or § 63.1213.

(ii) *New or reconstructed sources.* (A) If you commenced construction or reconstruction of your hazardous waste combustor after October 12, 2005, you must comply with the new source emission standards of this subpart by the later of October 12, 2005, or the date the source starts operations, except as provided by paragraph (a)(2)(ii)(B) of this section. The costs of retrofitting and replacement of equipment that is installed specifically to comply with this subpart, between April 20, 2004, and a source's compliance date, are not considered to be reconstruction costs.

(B) For a standard in the subpart that is more stringent than the standard proposed on April 20, 2004, you may achieve compliance no later than October 14, 2008, if you comply with the standard proposed on April 20, 2004, after October 12, 2005. This exception does not apply, however, to new or reconstructed area source hazardous waste combustors that become major sources after October 14, 2008. As provided by § 63.6(b)(7), such sources must comply with this subpart at startup.

(3) *Early compliance.* If you choose to comply with the emission standards of this subpart prior to the dates specified in paragraphs (a)(1) and (a)(2) of this section, your compliance date is the earlier of the date you postmark the Notification of Compliance under § 63.1207(j)(1) or the dates specified in paragraphs (a)(1) and (a)(2) of this section.

(b) *Compliance with standards—(1) Applicability.* The emission standards and operating requirements set forth in this subpart apply at all times except:

(i) During periods of startup, shutdown, and malfunction; and

(ii) When hazardous waste is not in the combustion chamber (i.e., the hazardous waste feed to the combustor has been cut off for a period of time not less than the hazardous waste residence time) and you have documented in the operating record that you are complying with all otherwise applicable requirements and standards promulgated under authority of sections 112 (e.g., 40 CFR part 63, subparts LLL, DDDDD, and NNNNN) or 129 of the Clean Air Act in lieu of the emission standards under §§ 63.1203, 63.1204, 63.1205, 63.1215, 63.1216, 63.1217, 63.1218, 63.1219, 63.1220, and 63.1221; the monitoring and compliance standards of this section and §§ 63.1207 through 63.1209, except the modes of operation requirements of § 63.1209(q); and the notification, reporting, and record-keeping requirements of §§ 63.1210 through 63.1212.

(2) *Methods for determining compliance.* The Administrator will determine compliance with the emission standards of this subpart as provided by § 63.6(f)(2). Conducting performance testing under operating conditions representative of the extreme range of normal conditions is consistent with the requirements of §§ 63.6(f)(2)(iii)(B) and 63.7(e)(1) to conduct performance testing under representative operating conditions.

(3) *Finding of compliance.* The Administrator will make a finding concerning compliance with the emission standards and other requirements of this subpart as provided by § 63.6(f)(3).

(4) *Extension of compliance with emission standards.* The Administrator may grant an extension of compliance with the emission standards of this subpart as provided by §§ 63.6(i) and 63.1213.

(5) *Changes in design, operation, or maintenance—(i) Changes that may adversely affect compliance.* If you plan to change (as defined in paragraph (b)(5)(iii) of this section) the design, operation, or maintenance practices of the source in a manner that may adversely affect compliance with any emission standard that is not monitored with a CEMS:

(A) *Notification.* You must notify the Administrator at least 60 days prior to the change, unless you document circumstances that dictate that such

prior notice is not reasonably feasible. The notification must include:

(1) A description of the changes and which emission standards may be affected; and

(2) A comprehensive performance test schedule and test plan under the requirements of §63.1207(f) that will document compliance with the affected emission standard(s);

(B) *Performance test.* You must conduct a comprehensive performance test under the requirements of §§63.1207(f)(1) and (g)(1) to document compliance with the affected emission standard(s) and establish operating parameter limits as required under §63.1209, and submit to the Administrator a Notification of Compliance under §§63.1207(j) and 63.1210(d); and

(C) *Restriction on waste burning.* (1) Except as provided by paragraph (b)(5)(i)(C)(2) of this section, after the change and prior to submitting the notification of compliance, you must not burn hazardous waste for more than a total of 720 hours (renewable at the discretion of the Administrator) and only for the purposes of pretesting or comprehensive performance testing. Pretesting is defined at §63.1207(h)(2)(i) and (ii).

(2) You may petition the Administrator to obtain written approval to burn hazardous waste in the interim prior to submitting a Notification of Compliance for purposes other than testing or pretesting. You must specify operating requirements, including limits on operating parameters, that you determine will ensure compliance with the emission standards of this subpart based on available information. The Administrator will review, modify as necessary, and approve if warranted the interim operating requirements.

(ii) *Changes that will not affect compliance.* If you determine that a change will not adversely affect compliance with the emission standards or operating requirements, you must document the change in the operating record upon making such change. You must revise as necessary the performance test plan, Documentation of Compliance, Notification of Compliance, and start-up, shutdown, and malfunction plan to reflect these changes.

(iii) *Definition of "change."* For purposes of paragraph (b)(5) of this section, "change" means any change in design, operation, or maintenance practices that were documented in the comprehensive performance test plan, Notification of Compliance, or startup, shutdown, and malfunction plan.

(6) *Compliance with the carbon monoxide and hydrocarbon emission standards.* This paragraph applies to sources that elect to comply with the carbon monoxide and hydrocarbon emissions standards of this subpart by documenting continuous compliance with the carbon monoxide standard using a continuous emissions monitoring system and documenting compliance with the hydrocarbon standard during the destruction and removal efficiency (DRE) performance test or its equivalent.

(i) If a DRE test performed pursuant to §63.1207(c)(2) is acceptable as documentation of compliance with the DRE standard, you may use the highest hourly rolling average hydrocarbon level achieved during the DRE test runs to document compliance with the hydrocarbon standard. An acceptable DRE test is any test for which the data and results are determined to meet quality assurance objectives (on a site-specific basis) such that the results adequately demonstrate compliance with the DRE standard.

(ii) If during this acceptable DRE test you did not obtain hydrocarbon emissions data sufficient to document compliance with the hydrocarbon standard, you must either:

(A) Perform, as part of the performance test, an "equivalent DRE test" to document compliance with the hydrocarbon standard. An equivalent DRE test is comprised of a minimum of three runs each with a minimum duration of one hour during which you operate the combustor as close as reasonably possible to the operating parameter limits that you established based on the initial DRE test. You must use the highest hourly rolling average hydrocarbon emission level achieved during the equivalent DRE test to document compliance with the hydrocarbon standard; or

(B) Perform a DRE test as part of the performance test.

(7) *Compliance with the DRE standard.*

(1) Except as provided in paragraphs (b)(7)(ii) and (b)(7)(iii) of this section:

(A) You must document compliance with the Destruction and Removal Efficiency (DRE) standard under this subpart only once provided that you do not modify the source after the DRE test in a manner that could affect the ability of the source to achieve the DRE standard.

(B) You may use any DRE test data that documents that your source achieves the required level of DRE provided:

(1) You have not modified the design or operation of your source in a manner that could effect the ability of your source to achieve the DRE standard since the DRE test was performed; and,

(2) The DRE test data meet quality assurance objectives determined on a site-specific basis.

(ii) *Sources that feed hazardous waste at locations other than the normal flame zone.* (A) Except as provided by paragraph (b)(7)(ii)(B) of this section, if you feed hazardous waste at a location in the combustion system other than the normal flame zone, then you must demonstrate compliance with the DRE standard during each comprehensive performance test;

(B)(1) A cement kiln that feeds hazardous waste at a location other than the normal flame zone need only demonstrate compliance with the DRE standard during three consecutive comprehensive performance tests provided that:

(i) All three tests achieve the DRE standard in this subpart; and

(ii) The design, operation, and maintenance features of each of the three tests are similar;

(iii) The data in lieu restriction of § 63.1207(c)(2)(iv) does not apply when complying with the provisions of paragraph (b)(7)(ii)(B) of this section;

(2) If at any time you change your design, operation, and maintenance features in a manner that could reasonably be expected to affect your ability to meet the DRE standard, then you must comply with the requirements of paragraph (b)(7)(ii)(A) of this section.

(iii) For sources that do not use DRE previous testing to document conformance with the DRE standard pursuant

to § 63.1207(c)(2), you must perform DRE testing during the initial comprehensive performance test.

(8) *Applicability of particulate matter and opacity standards during particulate matter CEMS correlation tests.* (1) Any particulate matter and opacity standards of parts 60, 61, 63, 264, 265, and 266 of this chapter (*i.e.*, any title 40 particulate or opacity standards) applicable to a hazardous waste combustor do not apply while you conduct particulate matter continuous emissions monitoring system (CEMS) correlation tests (*i.e.*, correlation with manual stack methods) under the conditions of paragraphs (b)(8)(iii) through (vii) of this section.

(ii) Any permit or other emissions or operating parameter limits or conditions, including any limitation on workplace practices, that are applicable to hazardous waste combustors to ensure compliance with any particulate matter and opacity standards of parts 60, 61, 63, 264, 265, and 266 of this chapter (*i.e.*, any title 40 particulate or opacity standards) do not apply while you conduct particulate matter CEMS correlation tests under the conditions of paragraphs (b)(8)(iii) through (vii) of this section.

(iii) For the provisions of this section to apply, you must:

(A) Develop a particulate matter CEMS correlation test plan that includes the following information. This test plan may be included as part of the comprehensive performance test plan required under §§ 63.1207(e) and (f):

(1) Number of test conditions and number of runs for each test condition;

(2) Target particulate matter emission level for each test condition;

(3) How you plan to modify operations to attain the desired particulate matter emission levels; and

(4) Anticipated normal particulate matter emission levels; and

(B) Submit the test plan to the Administrator for approval at least 90 calendar days before the correlation test is scheduled to be conducted.

(iv) The Administrator will review and approve/disapprove the correlation test plan under the procedures for review and approval of the site-specific test plan provided by § 63.7(c)(3)(i) and

(iii). If the Administrator fails to approve or disapprove the correlation test plan within the time period specified by §63.7(c)(3)(i), the plan is considered approved, unless the Administrator has requested additional information.

(v) The particulate matter and opacity standards and associated operating limits and conditions will not be waived for more than 96 hours, in the aggregate, for a correlation test, including all runs of all test conditions, unless more time is approved by the Administrator.

(vi) The stack sampling team must be on-site and prepared to perform correlation testing no later than 24 hours after you modify operations to attain the desired particulate matter emissions concentrations, unless you document in the correlation test plan that a longer period of conditioning is appropriate.

(vii) You must return to operating conditions indicative of compliance with the applicable particulate matter and opacity standards as soon as possible after correlation testing is completed.

(9) *Alternative standards for existing or new hazardous waste burning lightweight aggregate kilns using MACT.* (i) You may petition the Administrator to request alternative standards to the mercury or hydrogen chloride/chlorine gas emission standards of this subpart, to the semivolatile metals emission standards under §§63.1205, 63.1221(a)(3)(ii), or 63.1221(b)(3)(ii), or to the low volatile metals emissions standards under §§63.1205, 63.1221(a)(4)(ii), or 63.1221(b)(4)(ii) if:

(A) You cannot achieve one or more of these standards while using maximum achievable control technology (MACT) because of raw material contributions to emissions of mercury, semivolatile metals, low volatile metals, or hydrogen chloride/chlorine gas; or

(B) You determine that mercury is not present at detectable levels in your raw material.

(ii) The alternative standard that you recommend under paragraph (b)(9)(i)(A) of this section may be an operating requirement, such as a hazardous waste feedrate limitation for

metals and/or chlorine, and/or an emission limitation.

(iii) The alternative standard must include a requirement to use MACT, or better, applicable to the standard for which the source is seeking relief, as defined in paragraphs (b)(9)(viii) and (ix) of this section.

(iv) *Documentation required.* (A) The alternative standard petition you submit under paragraph (b)(9)(i)(A) of this section must include data or information documenting that raw material contributions to emissions prevent you from complying with the emission standard even though the source is using MACT, as defined under paragraphs (b)(9)(viii) and (ix) of this section, for the standard for which you are seeking relief.

(B) Alternative standard petitions that you submit under paragraph (b)(9)(i)(B) of this section must include data or information documenting that mercury is not present at detectable levels in raw materials.

(v) You must include data or information with semivolatile metal and low volatility metal alternative standard petitions that you submit under paragraph (b)(9)(i)(A) of this section documenting that increased chlorine feedrates associated with the burning of hazardous waste, when compared to non-hazardous waste operations, do not significantly increase metal emissions attributable to raw materials.

(vi) You must include data or information with semivolatile metals, low volatile metals, and hydrogen chloride/chlorine gas alternative standard petitions that you submit under paragraph (b)(9)(i)(A) of this section documenting that semivolatile metals, low volatile metals, and hydrogen chloride/chlorine gas emissions attributable to the hazardous waste only will not exceed the emission standards of this subpart.

(vii) You must not operate pursuant to your recommended alternative standards in lieu of emission standards specified in this subpart:

(A) Unless the Administrator approves the provisions of the alternative standard petition request or establishes other alternative standards; and

(B) Until you submit a revised Notification of Compliance that incorporates the revised standards.



(viii) For purposes of this alternative standard provision, MACT for existing hazardous waste burning lightweight aggregate kilns is defined as:

(A) For mercury, a hazardous waste feedrate corresponding to an MTEC of 24 µg/dscm or less;

(B) For semivolatile metals, a hazardous waste feedrate corresponding to an MTEC of 280,000 µg/dscm or less, and use of a particulate matter control device that achieves particulate matter emissions of 57 mg/dscm or less;

(C) For low volatile metals, a hazardous waste feedrate corresponding to an MTEC of 120,000 µg/dscm or less, and use of a particulate matter control device that achieves particulate matter emissions of 57 mg/dscm or less; and

(D) For hydrogen chloride/chlorine gas, a hazardous waste chlorine feedrate corresponding to an MTEC of 2,000,000 µg/dscm or less, and use of an air pollution control device with a hydrogen chloride/chlorine gas removal efficiency of 85 percent or greater.

(ix) For purposes of this alternative standard provision, MACT for new hazardous waste burning lightweight aggregate kilns is defined as:

(A) For mercury, a hazardous waste feedrate corresponding to an MTEC of 4 µg/dscm or less;

(B) For semivolatile metals, a hazardous waste feedrate corresponding to an MTEC of 280,000 µg/dscm or less, and use of a particulate matter control device that achieves particulate matter emissions of 57 mg/dscm or less;

(C) For low volatile metals, a hazardous waste feedrate corresponding to an MTEC of 46,000 µg/dscm or less, and use of a particulate matter control device that achieves particulate matter emissions of 57 mg/dscm or less;

(D) For hydrogen chloride/chlorine gas, a hazardous waste chlorine feedrate corresponding to an MTEC of 14,000,000 µg/dscm or less, and use of an air pollution control device with a hydrogen chloride/chlorine gas removal efficiency of 99.6 percent or greater.

(10) *Alternative standards for existing or new hazardous waste burning cement kilns using MACT.* (i) You may petition the Administrator to request alternative standards to the mercury or hydrogen chloride/chlorine gas emission standards of this subpart, to the

semivolatile metals emission standards under §§ 63.1204, 63.1220(a)(3)(ii), or 63.1220(b)(3)(ii), or to the low volatile metals emissions standards under §§ 63.1204, 63.1220(a)(4)(ii), or 63.1220(b)(4)(ii) if:

(A) You cannot achieve one or more of these standards while using maximum achievable control technology (MACT) because of raw material contributions to emissions of mercury, semivolatile metals, low volatile metals, or hydrogen chloride/chlorine gas; or

(B) You determine that mercury is not present at detectable levels in your raw material.

(ii) The alternative standard that you recommend under paragraph (b)(10)(i)(A) of this section may be an operating requirement, such as a hazardous waste feedrate limitation for metals and/or chlorine, and/or an emission limitation.

(iii) The alternative standard must include a requirement to use MACT, or better, applicable to the standard for which the source is seeking relief, as defined in paragraphs (b)(10)(viii) and (ix) of this section.

(iv) *Documentation required.* (A) The alternative standard petition you submit under paragraph (b)(10)(i)(A) of this section must include data or information documenting that raw material contributions to emissions prevent you from complying with the emission standard even though the source is using MACT, as defined in paragraphs (b)(10)(viii) and (ix) of this section, for the standard for which you are seeking relief.

(B) Alternative standard petitions that you submit under paragraph (b)(10)(i)(B) of this section must include data or information documenting that mercury is not present at detectable levels in raw materials.

(v) You must include data or information with semivolatile metal and low volatile metal alternative standard petitions that you submit under paragraph (b)(10)(i)(A) of this section documenting that increased chlorine feedrates associated with the burning of hazardous waste, when compared to non-hazardous waste operations, do not significantly increase metal emissions attributable to raw materials.

(vi) You must include data or information with semivolatile metals, low volatile metals, and hydrogen chloride/chlorine gas alternative standard petitions that you submit under paragraph (b)(10)(i)(A) of this section documenting that emissions of the regulated metals and hydrogen chloride/chlorine gas attributable to the hazardous waste only will not exceed the emission standards in this subpart.

(vii) You must not operate pursuant to your recommended alternative standards in lieu of emission standards specified in this subpart:

(A) Unless the Administrator approves the provisions of the alternative standard petition request or establishes other alternative standards; and

(B) Until you submit a revised Notification of Compliance that incorporates the revised standards.

(viii) For purposes of this alternative standard provision, MACT for existing hazardous waste burning cement kilns is defined as:

(A) For mercury, a hazardous waste feedrate corresponding to an MTEC of 88 µg/dscm or less;

(B) For semivolatile metals, a hazardous waste feedrate corresponding to an MTEC of 31,000 µg/dscm or less, and use of a particulate matter control device that achieves particulate matter emissions of 0.15 kg/Mg dry feed or less;

(C) For low volatile metals, a hazardous waste feedrate corresponding to an MTEC of 54,000 µg/dscm or less, and use of a particulate matter control device that achieves particulate matter emissions of 0.15 kg/Mg dry feed or less; and

(D) For hydrogen chloride/chlorine gas, a hazardous waste chlorine feedrate corresponding to an MTEC of 720,000 µg/dscm or less.

(ix) For purposes of this alternative standard provision, MACT for new hazardous waste burning cement kilns is defined as:

(A) For mercury, a hazardous waste feedrate corresponding to an MTEC of 7 µg/dscm or less;

(B) For semivolatile metals, a hazardous waste feedrate corresponding to an MTEC of 31,000 µg/dscm or less, and use of a particulate matter control device that achieves particulate matter emissions of 0.15 kg/Mg dry feed or less;

(C) For low volatile metals, a hazardous waste feedrate corresponding to an MTEC of 15,000 µg/dscm or less, and use of a particulate matter control device that achieves particulate matter emissions of 0.15 kg/Mg dry feed or less;

(D) For hydrogen chloride/chlorine gas, a hazardous waste chlorine feedrate corresponding to an MTEC of 420,000 µg/dscm or less.

(11) *Calculation of hazardous waste residence time.* You must calculate the hazardous waste residence time and include the calculation in the performance test plan under § 63.1207(f) and the operating record. You must also provide the hazardous waste residence time in the Documentation of Compliance under § 63.1211(c) and the Notification of Compliance under §§ 63.1207(j) and 63.1210(d).

(12) *Documenting compliance with the standards based on performance testing.*

(i) You must conduct a minimum of three runs of a performance test required under § 63.1207 to document compliance with the emission standards of this subpart.

(ii) You must document compliance with the emission standards based on the arithmetic average of the emission results of each run, except that you must document compliance with the destruction and removal efficiency standard for each run of the comprehensive performance test individually.

(13) *Cement kilns and lightweight aggregate kilns that feed hazardous waste at a location other than the end where products are normally discharged and where fuels are normally fired.*

(i) Cement kilns that feed hazardous waste at a location other than the end where products are normally discharged and where fuels are normally fired must comply with the carbon monoxide and hydrocarbon standards of this subpart as follows:

(A) For existing sources, you must not discharge or cause combustion gases to be emitted into the atmosphere that contain either:

(1) Hydrocarbons in the main stack in excess of 20 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system),

dry basis, corrected to 7 percent oxygen, and reported as propane; or

(2) Hydrocarbons both in the by-pass duct and at a preheater tower combustion gas monitoring location in excess of 10 parts per million by volume, at each location, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; or

(3) If the only firing location of hazardous waste upstream (in terms of gas flow) of the point where combustion gases are diverted into the bypass duct is at the kiln end where products are normally discharged, then both hydrocarbons at the preheater tower combustion gas monitoring location in excess of 10 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane, and either hydrocarbons in the by-pass duct in excess of 10 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane, or carbon monoxide in excess of 100 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, and corrected to 7 percent oxygen. If you comply with the carbon monoxide standard of 100 parts per million by volume in the by-pass duct, then you must also not discharge or cause combustion gases to be emitted into the atmosphere that contain hydrocarbons in the by-pass duct in excess of 10 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane, at any time during the destruction and removal efficiency (DRE) test runs or their equivalent as provided by § 63.1206(b)(7).

(B) For new sources, you must not discharge or cause combustion gases to be emitted into the atmosphere that contain either:

(1) Hydrocarbons in the main stack in excess of 20 parts per million by vol-

ume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; or

(2)(i) Hydrocarbons both in the by-pass duct and at a preheater tower combustion gas monitoring location in excess of 10 parts per million by volume, at each location, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane, and

(ii) Hydrocarbons in the main stack, if construction of the kiln commenced after April 19, 1996 at a plant site where a cement kiln (whether burning hazardous waste or not) did not previously exist, to 50 parts per million by volume, over a 30-day block average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; or

(3)(i) If the only firing location of hazardous waste upstream (in terms of gas flow) of the point where combustion gases are diverted into the bypass duct is at the kiln end where products are normally discharged, then both hydrocarbons at the preheater tower combustion gas monitoring location in excess of 10 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane, and either hydrocarbons in the by-pass duct in excess of 10 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane, or carbon monoxide in excess of 100 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, and corrected to 7 percent oxygen. If you comply with the carbon monoxide standard of 100 parts per million by volume in the by-pass duct, then you must also not discharge or cause combustion gases to be emitted into the atmosphere that contain

hydrocarbons in the by-pass duct in excess of 10 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane, at any time during the destruction and removal efficiency (DRE) test runs or their equivalent as provided by § 63.1206(b)(7).

(ii) If construction of the kiln commenced after April 19, 1996 at a plant site where a cement kiln (whether burning hazardous waste or not) did not previously exist, hydrocarbons are limited to 50 parts per million by volume, over a 30-day block average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane.

(ii) Lightweight aggregate kilns that feed hazardous waste at a location other than the end where products are normally discharged and where fuels are normally fired must comply with the hydrocarbon standards of this subpart as follows:

(A) Existing sources must comply with the 20 parts per million by volume hydrocarbon standard of this subpart;

(B) New sources must comply with the 20 parts per million by volume hydrocarbon standard of this subpart.

(14) *Alternative to the particulate matter standard for incinerators.* (i) *General.* In lieu of complying with the particulate matter standards under § 63.1203, you may elect to comply with the following alternative metal emission control requirements:

(ii) *Alternative metal emission control requirements for existing incinerators.* (A) You must not discharge or cause combustion gases to be emitted into the atmosphere that contain cadmium, lead, and selenium in excess of 240 µg/dscm, combined emissions, corrected to 7 percent oxygen; and,

(B) You must not discharge or cause combustion gases to be emitted into the atmosphere that contain antimony, arsenic, beryllium, chromium, cobalt, manganese, and nickel in excess of 97 µg/dscm, combined emissions, corrected to 7 percent oxygen.

(iii) *Alternative metal emission control requirements for new incinerators.* (A) You must not discharge or cause com-

bustion gases to be emitted into the atmosphere that contain cadmium, lead, and selenium in excess of 24 µg/dscm, combined emissions, corrected to 7 percent oxygen; and,

(B) You must not discharge or cause combustion gases to be emitted into the atmosphere that contain antimony, arsenic, beryllium, chromium, cobalt, manganese, and nickel in excess of 97 µg/dscm, combined emissions, corrected to 7 percent oxygen.

(iv) *Operating limits.* Semivolatile and low volatile metal operating parameter limits must be established to ensure compliance with the alternative emission limitations described in paragraphs (e)(2) and (e)(3) of this section pursuant to § 63.1209(n), except that semivolatile metal feedrate limits apply to lead, cadmium, and selenium, combined, and low volatile metal feedrate limits apply to arsenic, beryllium, chromium, antimony, cobalt, manganese, and nickel, combined.

(15) *Alternative to the interim standards for mercury for cement and lightweight aggregate kilns.* (i) *General.* In lieu of complying with the applicable mercury standards of §§ 63.1204(a)(2) and (b)(2) for existing and new cement kilns and §§ 63.1205(a)(2) and (b)(2) for existing and new lightweight aggregate kilns, you may instead elect to comply with the alternative mercury standard described in paragraphs (b)(15)(ii) through (b)(15)(v) of this section.

(ii) *Operating requirement.* You must not exceed a hazardous waste feedrate corresponding to a maximum theoretical emission concentration (MTEC) of 120 µg/dscm on a twelve-hour rolling average.

(iii) To document compliance with the operating requirement of paragraph (b)(15)(ii) of this section, you must:

(A) Monitor and record the feedrate of mercury for each hazardous waste feedstream according to § 63.1209(c);

(B) Monitor with a CMS and record in the operating record the gas flowrate (either directly or by monitoring a surrogate parameter that you have correlated to gas flowrate);

(C) Continuously calculate and record in the operating record a MTEC assuming mercury from all hazardous waste feedstreams is emitted;

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(D) Interlock the MTEC calculated in paragraph (b)(15)(iii)(C) of this section to the AWFCO system to stop hazardous waste burning when the MTEC exceeds the operating requirement of paragraph (b)(15)(ii) of this section.

(iv) In lieu of the requirement in paragraph (b)(15)(iii) of this section, you may:

(A) Identify in the Notification of Compliance a minimum gas flowrate limit and a maximum feedrate limit of mercury from all hazardous waste feedstreams that ensures the MTEC calculated in paragraph (b)(15)(iii)(C) of this section is below the operating requirement of paragraph (b)(15)(ii) of this section; and

(B) Interlock the minimum gas flowrate limit and maximum feedrate limits in paragraph (b)(15)(iv)(A) of this section to the AWFCO system to stop hazardous waste burning when the gas flowrate or mercury feedrate exceeds the limits in paragraph (b)(15)(iv)(A) of this section.

(v) *Notification requirement.* You must notify in writing the RCRA authority that you intend to comply with the alternative standard.

(16) *Compliance with subcategory standards for liquid fuel boilers.* You must comply with the mercury, semivolatile, low volatile metal, and total chlorine standards for liquid fuel boilers under § 63.1217 as follows:

(i) You must determine the as-fired heating value of each batch of hazardous waste fired by each firing system of the boiler so that you know the mass-weighted heating value of the hazardous waste fired at all times.

(ii) If the as-fired heating value of the hazardous waste is 10,000 Btu per pound or greater, you are subject to the thermal emission concentration standards (lb/million Btu) under § 63.1217.

(iii) If the as-fired heating value of the hazardous waste is less than 10,000 Btu/lb, you are subject to the mass or volume emission concentration standards ( $\mu\text{g}/\text{dscm}$  or ppmv) under § 63.1217.

(iv) If the as-fired heating value of hazardous wastes varies above and below 10,000 Btu/lb over time, you are subject to the thermal concentration standards when the heating value is 10,000 Btu/lb or greater and the mass

concentration standards when the heating value is less than 10,000 Btu/lb. You may elect to comply at all times with the more stringent operating requirements that ensure compliance with both the thermal emission concentration standards and the mass or volume emission concentration standards.

(c) *Operating requirements—(1) General.* (i) You must operate only under the operating requirements specified in the Documentation of Compliance under § 63.1211(c) or the Notification of Compliance under §§ 63.1207(j) and 63.1210(d), except:

(A) During performance tests under approved test plans according to § 63.1207(e), (f), and (g), and

(B) Under the conditions of paragraph (b)(1)(i) or (ii) of this section;

(ii) The Documentation of Compliance and the Notification of Compliance must contain operating requirements including, but not limited to, the operating requirements in this section and § 63.1209

(iii) Failure to comply with the operating requirements is failure to ensure compliance with the emission standards of this subpart;

(iv) Operating requirements in the Notification of Compliance are applicable requirements for purposes of parts 70 and 71 of this chapter;

(v) The operating requirements specified in the Notification of Compliance will be incorporated in the title V permit.

(2) *Startup, shutdown, and malfunction plan.* (i) You are subject to the startup, shutdown, and malfunction plan requirements of § 63.6(e)(3).

(ii) If you elect to comply with §§ 270.235(a)(1)(iii), 270.235(a)(2)(iii), or 270.235(b)(1)(ii) of this chapter to address RCRA concerns that you minimize emissions of toxic compounds from startup, shutdown, and malfunction events (including releases from emergency safety vents):

(A) The startup, shutdown, and malfunction plan must include a description of potential causes of malfunctions, including releases from emergency safety vents, that may result in significant releases of hazardous air pollutants, and actions the source is

taking to minimize the frequency and severity of those malfunctions.

(B) You must submit the startup, shutdown, and malfunction plan to the Administrator for review and approval.

(1) *Approval procedure.* The Administrator will notify you of approval or intention to deny approval of the startup, shutdown, and malfunction plan within 90 calendar days after receipt of the original request and within 60 calendar days after receipt of any supplemental information that you submit. Before disapproving the plan, the Administrator will notify you of the Administrator's intention to disapprove the plan together with:

(i) Notice of the information and findings on which intended disapproval is based; and

(ii) Notice of opportunity for you to present additional information to the Administrator before final action on disapproval of the plan. At the time the Administrator notifies you of intention to disapprove the plan, the Administrator will specify how much time you will have after being notified on the intended disapproval to submit additional information.

(2) *Responsibility of owners and operators.* You are responsible for ensuring that you submit any supplementary and additional information supporting your plan in a timely manner to enable the Administrator to consider whether to approve the plan. Neither your submittal of the plan, nor the Administrator's failure to approve or disapprove the plan, relieves you of the responsibility to comply with the provisions of this subpart.

(C) *Changes to the plan that may significantly increase emissions.* (1) You must request approval in writing from the Administrator within 5 days after making a change to the startup, shutdown, and malfunction plan that may significantly increase emissions of hazardous air pollutants.

(2) To request approval of such changes to the startup, shutdown, and malfunction plan, you must follow the procedures provided by paragraph (c)(2)(ii)(B) of this section for initial approval of the plan.

(iii) You must identify in the plan a projected oxygen correction factor

based on normal operations to use during periods of startup and shutdown.

(iv) You must record the plan in the operating record.

(v) *Operating under the startup, shutdown, and malfunction plan.* (A) *Compliance with AWFCO requirements during malfunctions.* (1) During malfunctions, the automatic waste feed cutoff requirements of § 63.1206(c)(3) continue to apply, except for paragraphs (c)(3)(v) and (c)(3)(vi) of this section. If you exceed a part 63, Subpart EEE, of this chapter emission standard monitored by a CEMS or COMs or operating limit specified under § 63.1209, the automatic waste feed cutoff system must immediately and automatically cutoff the hazardous waste feed, except as provided by paragraph (c)(3)(viii) of this section. If the malfunction itself prevents immediate and automatic cutoff of the hazardous waste feed, however, you must cease feeding hazardous waste as quickly as possible.

(2) Although the automatic waste feed cutoff requirements continue to apply during a malfunction, an exceedance of an emission standard monitored by a CEMS or COMS or operating limit specified under § 63.1209 is not a violation of this subpart EEE if you operate in accordance with § 63.6(e)(1).

(3) *Excessive exceedances during malfunctions.* For each set of 10 exceedances of an emission standard or operating requirement while hazardous waste remains in the combustion chamber (i.e., when the hazardous waste residence time has not transpired since the hazardous waste feed was cutoff) during a 60-day block period, you must:

(i) Within 45 days of the 10th exceedance, complete an investigation of the cause of each exceedance and evaluation of approaches to minimize the frequency, duration, and severity of each exceedance, and revise the startup, shutdown, and malfunction plan as warranted by the evaluation to minimize the frequency, duration, and severity of each exceedance; and

(ii) Record the results of the investigation and evaluation in the operating record, and include a summary of the investigation and evaluation, and any changes to the startup, shutdown,

and malfunction plan, in the excess emissions report required under § 63.10(e)(3).

(B) *Compliance with AWFCO requirements when burning hazardous waste during startup and shutdown.* (1) If you feed hazardous waste during startup or shutdown, you must include waste feed restrictions (e.g., type and quantity), and other appropriate operating conditions and limits in the startup, shutdown, and malfunction plan.

(2) You must interlock the operating limits you establish under paragraph (c)(2)(v)(B)(1) of this section with the automatic waste feed cutoff system required under § 63.1206(c)(3), except for paragraphs (c)(3)(v) and (c)(3)(vi) of this section.

(3) When feeding hazardous waste during startup or shutdown, the automatic waste feed cutoff system must immediately and automatically cutoff the hazardous waste feed if you exceed the operating limits you establish under paragraph (c)(2)(v)(B)(1) of this section, except as provided by paragraph (c)(3)(viii) of this section.

(4) Although the automatic waste feed cutoff requirements of this paragraph (c)(2)(v)(B)(4) apply during startup and shutdown, an exceedance of an emission standard or operating limit is not a violation of this subpart EEE if you operate in accordance with § 63.6(e)(1).

(3) *Automatic waste feed cutoff (AWFCO)*—(i) *General.* Upon the compliance date, you must operate the hazardous waste combustor with a functioning system that immediately and automatically cuts off the hazardous waste feed, except as provided by paragraph (c)(3)(viii) of this section:

(A) When any of the following are exceeded: Operating parameter limits specified under § 63.1209; an emission standard monitored by a CEMS; and the allowable combustion chamber pressure;

(B) When the span value of any CMS detector, except a CEMS, is met or exceeded;

(C) Upon malfunction of a CMS monitoring an operating parameter limit specified under § 63.1209 or an emission level; or

(D) When any component of the automatic waste feed cutoff system fails.

(ii) *Ducting of combustion gases.* During an AWFCO, you must continue to duct combustion gasses to the air pollution control system while hazardous waste remains in the combustion chamber (i.e., if the hazardous waste residence time has not transpired since the hazardous waste feed cutoff system was activated).

(iii) *Restarting waste feed.* You must continue to monitor during the cutoff the operating parameters for which limits are established under § 63.1209 and the emissions required under that section to be monitored by a CEMS, and you must not restart the hazardous waste feed until the operating parameters and emission levels are within the specified limits.

(iv) *Failure of the AWFCO system.* If the AWFCO system fails to automatically and immediately cutoff the flow of hazardous waste upon exceedance of a parameter required to be interlocked with the AWFCO system under paragraph (c)(3)(i) of this section, you have failed to comply with the AWFCO requirements of paragraph (c)(3) of this section. If an equipment or other failure prevents immediate and automatic cutoff of the hazardous waste feed, however, you must cease feeding hazardous waste as quickly as possible.

(v) *Corrective measures.* If, after any AWFCO, there is an exceedance of an emission standard or operating requirement, irrespective of whether the exceedance occurred while hazardous waste remained in the combustion chamber (i.e., whether the hazardous waste residence time has transpired since the hazardous waste feed cutoff system was activated), you must investigate the cause of the AWFCO, take appropriate corrective measures to minimize future AWFCOs, and record the findings and corrective measures in the operating record.

(vi) *Excessive exceedance reporting.* (A) For each set of 10 exceedances of an emission standard or operating requirement while hazardous waste remains in the combustion chamber (i.e., when the hazardous waste residence time has not transpired since the hazardous waste feed was cutoff) during a 60-day block

period, you must submit to the Administrator a written report within 5 calendar days of the 10th exceedance documenting the exceedances and results of the investigation and corrective measures taken.

(B) On a case-by-case basis, the Administrator may require excessive exceedance reporting when fewer than 10 exceedances occur during a 60-day block period.

(vii) *Testing.* The AWFCO system and associated alarms must be tested at least weekly to verify operability, unless you document in the operating record that weekly inspections will unduly restrict or upset operations and that less frequent inspection will be adequate. At a minimum, you must conduct operability testing at least monthly. You must document and record in the operating record AWFCO operability test procedures and results.

(viii) *Ramping down waste feed.* (A) You may ramp down the waste feedrate of pumpable hazardous waste over a period not to exceed one minute, except as provided by paragraph (c)(3)(viii)(B) of this section. If you elect to ramp down the waste feed, you must document ramp down procedures in the operating and maintenance plan. The procedures must specify that the ramp down begins immediately upon initiation of automatic waste feed cutoff and the procedures must prescribe a bona fide ramping down. If an emission standard or operating limit is exceeded during the ramp down, you have failed to comply with the emission standards or operating requirements of this subpart.

(B) If the automatic waste feed cutoff is triggered by an exceedance of any of the following operating limits, you may not ramp down the waste feed cutoff: Minimum combustion chamber temperature, maximum hazardous waste feedrate, or any hazardous waste firing system operating limits that may be established for your combustor.

(4) *ESV openings—(i) Failure to meet standards.* If an emergency safety vent (ESV) opens when hazardous waste remains in the combustion chamber (*i.e.*, when the hazardous waste residence time has not expired) during an event other than a malfunction as defined in the startup, shutdown, and malfunc-

tion plan such that combustion gases are not treated as during the most recent comprehensive performance test (*e.g.*, if the combustion gas by-passes any emission control device that was operating during the performance test), you must document in the operating record whether you remain in compliance with the emission standards of this subpart considering emissions during the ESV opening event.

(ii) *ESV operating plan.* (A) You must develop an ESV operating plan, comply with the operating plan, and keep the plan in the operating record.

(B) The ESV operating plan must provide detailed procedures for rapidly stopping the waste feed, shutting down the combustor, and maintaining temperature and negative pressure in the combustion chamber during the hazardous waste residence time, if feasible. The plan must include calculations and information and data documenting the effectiveness of the plan's procedures for ensuring that combustion chamber temperature and negative pressure are maintained as is reasonably feasible.

(iii) *Corrective measures.* After any ESV opening that results in a failure to meet the emission standards as defined in paragraph (c)(4)(i) of this section, you must investigate the cause of the ESV opening, take appropriate corrective measures to minimize such future ESV openings, and record the findings and corrective measures in the operating record.

(iv) *Reporting requirements.* You must submit to the Administrator a written report within 5 days of an ESV opening that results in failure to meet the emission standards of this subpart (as determined in paragraph (c)(4)(i) of this section) documenting the result of the investigation and corrective measures taken.

(5) *Combustion system leaks.* (i) Combustion system leaks of hazardous air pollutants must be controlled by:

(A) Keeping the combustion zone sealed to prevent combustion system leaks; or

(B) Maintaining the maximum combustion zone pressure lower than ambient pressure using an instantaneous monitor; or



(C) Upon prior written approval of the Administrator, an alternative means of control to provide control of combustion system leaks equivalent to maintenance of combustion zone pressure lower than ambient pressure; or

(D) Upon prior written approval of the Administrator, other technique(s) which can be demonstrated to prevent fugitive emissions without use of instantaneous pressure limits; and

(ii) You must specify in the performance test workplan and Notification of Compliance the method that will be used to control combustion system leaks. If you control combustion system leaks by maintaining the combustion zone pressure lower than ambient pressure using an instantaneous monitor, you must also specify in the performance test workplan and Notification of Compliance the monitoring and recording frequency of the pressure monitor, and specify how the monitoring approach will be integrated into the automatic waste feed cutoff system.

(6) *Operator training and certification.*  
 (i) You must establish training programs for all categories of personnel whose activities may reasonably be expected to directly affect emissions of hazardous air pollutants from the source. Such persons include, but are not limited to, chief facility operators, control room operators, continuous monitoring system operators, persons that sample and analyze feedstreams, persons that manage and charge feedstreams to the combustor, persons that operate emission control devices, and ash and waste handlers. Each training program shall be of a technical level commensurate with the person's job duties specified in the training manual. Each commensurate training program shall require an examination to be administered by the instructor at the end of the training course. Passing of this test shall be deemed the "certification" for personnel, except that, for control room operators, the training and certification program shall be as specified in paragraphs (c)(6)(iii) through (c)(6)(vi) of this section.

(ii) You must ensure that the source is operated and maintained at all times by persons who are trained and cer-

tified to perform these and any other duties that may affect emissions of hazardous air pollutants. A certified control room operator must be on duty at the site at all times the source is in operation.

(iii) Hazardous waste incinerator control room operators must:

(A) Be trained and certified under a site-specific, source-developed and implemented program that meets the requirements of paragraph (c)(6)(v) of this section; or

(B) Be trained under the requirements of, and certified under, one of the following American Society of Mechanical Engineers (ASME) standards: QHO-1-1994, QHO-1a-1996, or QHO-1-2004 (Standard for the Qualification and Certification of Hazardous Waste Incinerator Operators). If you elect to use the ASME program:

(1) Control room operators must, prior to the compliance date, achieve provisional certification, and must submit an application to ASME and be scheduled for the full certification exam. Within one year of the compliance date, control room operators must achieve full certification;

(2) New operators and operators of new sources must, before assuming their duties, achieve provisional certification, and must submit an application to ASME, and be scheduled for the full certification exam. Within one year of assuming their duties, these operators must achieve full certification; or

(C) Be trained and certified under a State program.

(iv) Control room operators of cement kilns, lightweight aggregate kilns, solid fuel boilers, liquid fuel boilers, and hydrochloric acid production furnaces must be trained and certified under:

(A) A site-specific, source-developed and implemented program that meets the requirements of paragraph (c)(6)(v) of this section; or

(B) A State program.

(v) Site-specific, source developed and implemented training programs for control room operators must include the following elements:

(A) Training on the following subjects:

(1) Environmental concerns, including types of emissions;

(2) Basic combustion principles, including products of combustion;

(3) Operation of the specific type of combustor used by the operator, including proper startup, waste firing, and shutdown procedures;

(4) Combustion controls and continuous monitoring systems;

(5) Operation of air pollution control equipment and factors affecting performance;

(6) Inspection and maintenance of the combustor, continuous monitoring systems, and air pollution control devices;

(7) Actions to correct malfunctions or conditions that may lead to malfunction;

(8) Residue characteristics and handling procedures; and

(9) Applicable Federal, state, and local regulations, including Occupational Safety and Health Administration workplace standards; and

(B) An examination designed and administered by the instructor; and

(C) Written material covering the training course topics that may serve as reference material following completion of the course.

(vi) To maintain control room operator qualification under a site-specific, source developed and implemented training program as provided by paragraph (c)(6)(v) of this section, control room operators must complete an annual review or refresher course covering, at a minimum, the following topics:

(A) Update of regulations;

(B) Combustor operation, including startup and shutdown procedures, waste firing, and residue handling;

(C) Inspection and maintenance;

(D) Responses to malfunctions or conditions that may lead to malfunction; and

(E) Operating problems encountered by the operator.

(vii) You must record the operator training and certification program in the operating record.

(7) *Operation and maintenance plan*—

(i) You must prepare and at all times operate according to an operation and maintenance plan that describes in detail procedures for operation, inspection, maintenance, and corrective

measures for all components of the combustor, including associated pollution control equipment, that could affect emissions of regulated hazardous air pollutants.

(ii) The plan must prescribe how you will operate and maintain the combustor in a manner consistent with good air pollution control practices for minimizing emissions at least to the levels achieved during the comprehensive performance test.

(iii) This plan ensures compliance with the operation and maintenance requirements of § 63.6(e) and minimizes emissions of pollutants, automatic waste feed cutoffs, and malfunctions.

(iv) You must record the plan in the operating record.

(8) *Bag leak detection system requirements.* (i) If your combustor is equipped with a baghouse (fabric filter), you must continuously operate either:

(A) A bag leak detection system that meets the specifications and requirements of paragraph (c)(8)(ii) of this section and you must comply with the corrective measures and notification requirements of paragraphs (c)(8)(iii) and (iv) of this section; or

(B) A particulate matter detection system under paragraph (c)(9) of this section.

(ii) *Bag leak detection system specification and requirements.* (A) The bag leak detection system must be certified by the manufacturer to be capable of continuously detecting and recording particulate matter emissions at concentrations of 1.0 milligrams per actual cubic meter unless you demonstrate, under § 63.1209(g)(1), that a higher detection limit would routinely detect particulate matter loadings during normal operations;

(B) The bag leak detection system shall provide output of relative or absolute particulate matter loadings;

(C) The bag leak detection system shall be equipped with an alarm system that will sound an audible alarm when an increase in relative particulate loadings is detected over a preset level;

(D) The bag leak detection system shall be installed and operated in a manner consistent with available written guidance from the U.S. Environmental Protection Agency or, in the absence of such written guidance, the

manufacturer's written specifications and recommendations for installation, operation, and adjustment of the system;

(E) The initial adjustment of the system shall, at a minimum, consist of establishing the baseline output by adjusting the sensitivity (range) and the averaging period of the device, and establishing the alarm set points and the alarm delay time;

(F) Following initial adjustment, you must not adjust the sensitivity or range, averaging period, alarm set points, or alarm delay time, except as detailed in the operation and maintenance plan required under paragraph (c)(7) of this section. You must not increase the sensitivity by more than 100 percent or decrease the sensitivity by more than 50 percent over a 365 day period unless such adjustment follows a complete baghouse inspection which demonstrates the baghouse is in good operating condition;

(G) For negative pressure or induced air baghouses, and positive pressure baghouses that are discharged to the atmosphere through a stack, the bag leak detector shall be installed downstream of the baghouse and upstream of any wet acid gas scrubber; and

(H) Where multiple detectors are required, the system's instrumentation and alarm system may be shared among the detectors.

(iii) *Bag leak detection system corrective measures requirements.* The operating and maintenance plan required by paragraph (c)(7) of this section must include a corrective measures plan that specifies the procedures you will follow in the case of a bag leak detection system alarm. The corrective measures plan must include, at a minimum, the procedures used to determine and record the time and cause of the alarm as well as the corrective measures taken to correct the control device malfunction or minimize emissions as specified below. Failure to initiate the corrective measures required by this paragraph is failure to ensure compliance with the emission standards in this subpart.

(A) You must initiate the procedures used to determine the cause of the alarm within 30 minutes of the time the alarm first sounds; and

(B) You must alleviate the cause of the alarm by taking the necessary corrective measure(s) which may include, but are not to be limited to, the following:

(1) Inspecting the baghouse for air leaks, torn or broken filter elements, or any other malfunction that may cause an increase in emissions;

(2) Sealing off defective bags or filter media;

(3) Replacing defective bags or filter media, or otherwise repairing the control device;

(4) Sealing off a defective baghouse compartment;

(5) Cleaning the bag leak detection system probe, or otherwise repairing the bag leak detection system; or

(6) Shutting down the combustor.

(iv) *Excessive exceedances notification.* If you operate the combustor when the detector response exceeds the alarm set-point more than 5 percent of the time during any 6-month block time period, you must submit a notification to the Administrator within 30 days of the end of the 6-month block time period that describes the causes of the exceedances and the revisions to the design, operation, or maintenance of the combustor or baghouse you are taking to minimize exceedances. To document compliance with this requirement:

(A) You must keep records of the date, time, and duration of each alarm, the time corrective action was initiated and completed, and a brief description of the cause of the alarm and the corrective action taken;

(B) You must record the percent of the operating time during each 6-month period that the alarm sounds;

(C) In calculating the operating time percentage, if inspection of the fabric filter demonstrates that no corrective action is required, no alarm time is counted; and

(D) If corrective action is required, each alarm shall be counted as a minimum of 1 hour.

(9) *Particulate matter detection system requirements for electrostatic precipitators and ionizing wet scrubbers.* If your combustor is equipped with an electrostatic precipitator or ionizing wet scrubber, and you elect not to establish under § 63.1209(m)(1)(iv) site-specific

control device operating parameter limits that are linked to the automatic waste feed cutoff system under paragraph (c)(3) of this section, you must continuously operate a particulate matter detection system that meets the specifications and requirements of paragraph (c)(9)(i) through (iii) of this section and you must comply with the corrective measures and notification requirements of paragraphs (c)(9)(iv) through (v) of this section.

(i) *Particulate matter detection system requirements.*—(A) The particulate matter detection system must be certified by the manufacturer to be capable of continuously detecting and recording particulate matter emissions at concentrations of 1.0 milligrams per actual cubic meter unless you demonstrate, under § 63.1209(g)(1), that a higher detection limit would routinely detect particulate matter loadings during normal operations;

(B) The particulate matter detector shall provide output of relative or absolute particulate matter loadings;

(C) The particulate matter detection system shall be equipped with an alarm system that will sound an audible alarm when an increase in relative or absolute particulate loadings is detected over the set-point

(D) You must install, operate, and maintain the particulate matter detection system in a manner consistent with the provisions of paragraph (c)(9) of this section and available written guidance from the U.S. Environmental Protection Agency or, in the absence of such written guidance, the manufacturer's written specifications and recommendations for installation, operation, maintenance and quality assurance of the system;

(E) You must include procedures for installation, operation, maintenance, and quality assurance of the particulate matter detection system in the site-specific continuous monitoring system test plan required under § 63.8(e)(3) of this chapter.

(F) Where multiple detectors are required to monitor multiple control devices, the system's instrumentation and alarm system may be shared among the detectors.

(G) You must establish the alarm set-point as provided by either paragraph

(c)(9)(ii) or paragraph (c)(9)(iii) of this section.

(ii) *Establishing the alarm set-point without extrapolation.* (A) The alarm set-point is the average of the test run averages of the detector response achieved during the comprehensive performance test demonstrating compliance with the particulate matter emission standard.

(B) During the comprehensive performance test, you may simulate emission concentrations at the upper end of the range of normal operations by means including feeding high levels of ash and detuning the emission control equipment.

(C) You must comply with the alarm set-point on a 6-hour rolling average, updated each hour with a one-hour block average that is the average of the detector responses over each 15-minute block;

(iii) *Establishing the alarm set-point with extrapolation.* You may extrapolate the average of the test run averages of the detector response achieved during the comprehensive performance test as provided by paragraph (c)(9)(iii)(A) of this section to establish an alarm level after you approximate the correlation of the detector response to particulate matter concentration as prescribed by paragraph (c)(9)(iii)(B) of this section. You must comply with the extrapolated alarm set-point on a 6-hour rolling average, updated each hour with a one-hour block average that is the average of the detector responses over each 15-minute block.

(A) You may extrapolate the detector response up to a particulate matter concentration that is 50% of the particulate matter emission standard or 125% of the highest particulate matter concentration used to develop the correlation under paragraph (c)(9)(iii)(B) of this section, whichever is greater. The extrapolated emission concentration must not exceed the particulate matter emission standard.

(B) To establish an approximate correlation of the detector response to particulate matter emission concentrations, you should use as guidance Performance Specification-11 for PM CEMS (40 CFR Part 60, Appendix B), except that you need only conduct 5 runs to establish the initial correlation

under Section 8.6 of Performance Specification 11.

(C) For quality assurance, you should use as guidance Procedure 2 of Appendix F to Part 60 of this chapter and the detector manufacturer's recommended procedures for periodic quality assurance checks and tests, except that:

(1) You must conduct annual Relative Response Audits as prescribed by Procedure 2 of Appendix F to Part 60 of this chapter (Section 10.3(6));

(2) You need only conduct Relative Response Audits on a 3-year interval after passing two sequential annual Relative Response Audits.

(D) An exceedance of the particulate matter emission standard by a particulate matter detection system for which particulate emission concentrations have been approximately correlated with the detector response under paragraph (c)(9)(iii) of this section is not evidence that the standard has been exceeded. The approximate correlation is used for compliance assurance to determine when corrective measures must be taken rather than for compliance monitoring.

(iv) *Particulate matter detection system corrective measures requirements.* The operating and maintenance plan required by paragraph (c)(7) of this section must include a corrective measures plan that specifies the procedures you will follow in the case of a particulate matter detection system alarm. The corrective measures plan must include, at a minimum, the procedures used to determine and record the time and cause of the alarm as well as the corrective measures taken to correct the control device malfunction or minimize emissions as specified below. Failure to initiate the corrective measures required by this paragraph is failure to ensure compliance with the emission standards in this subpart.

(A) You must initiate the procedures used to determine the cause of the alarm within 30 minutes of the time the alarm first sounds; and

(B) You must alleviate the cause of the alarm by taking the necessary corrective measure(s) which may include shutting down the combustor.

(v) *Excessive exceedances notification.* If you operate the combustor when the detector response exceeds the alarm

set-point more than 5 percent of the time during any 6-month block time period, you must submit a notification to the Administrator within 30 days of the end of the 6-month block time period that describes the causes of the exceedances and the revisions to the design, operation, or maintenance of the combustor or emission control device you are taking to minimize exceedances. To document compliance with this requirement:

(A) You must keep records of the date, time, and duration of each alarm, the time corrective action was initiated and completed, and a brief description of the cause of the alarm and the corrective action taken;

(B) You must record the percent of the operating time during each 6-month period that the alarm sounds;

(C) In calculating the operating time percentage, if inspection of the emission control device demonstrates that no corrective action is required, no alarm time is counted; and

(D) If corrective action is required, each alarm shall be counted as a minimum of 1 hour.

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#### § 63.1207 What are the performance testing requirements?

(a) *General.* The provisions of § 63.7 apply, except as noted below.

(b) *Types of performance tests—(1) Comprehensive performance test.* You must conduct comprehensive performance tests to demonstrate compliance with the emission standards provided by this subpart, establish limits for the operating parameters provided by § 63.1209, and demonstrate compliance with the performance specifications for continuous monitoring systems.

(2) *Confirmatory performance test.* You must conduct confirmatory performance tests to:

(i) Demonstrate compliance with the dioxin/furan emission standard when the source operates under normal operating conditions; and

(ii) Conduct a performance evaluation of continuous monitoring systems required for compliance assurance with the dioxin/furan emission standard under § 63.1209(k).

(3) *One-Time Dioxin/Furan Test for Sources Not Subject to a Numerical Dioxin/Furan Standard.* For solid fuel boilers and hydrochloric acid production furnaces, for lightweight aggregate kilns that are not subject to a numerical dioxin/furan emission standard under § 63.1221, and liquid fuel boilers that are not subject to a numerical dioxin/furan emission standard under § 63.1217, you must conduct a one-time emission test for dioxin/furan under feed and operating conditions that are most likely to reflect daily maximum operating variability, similar to a dioxin/furan comprehensive performance test.

(i) You must conduct the dioxin/furan emissions test no later than the deadline for conducting the initial comprehensive performance test.

(ii) You may use dioxin/furan emissions data from previous testing to meet this requirement, provided that:

(A) The testing was conducted under feed and operating conditions that are most likely to reflect daily maximum operating variability, similar to a dioxin/furan compliance test;

(B) You have not changed the design or operation of the source in a manner that could significantly affect stack gas dioxin/furan emission concentrations; and

(C) The data meet quality assurance objectives that may be determined on a site-specific basis.

(iii) You may use dioxin/furan emissions data from a source to represent emissions from another on-site source in lieu of testing (i.e., data in lieu of testing) if the design and operation, including hazardous waste feed and other feedstreams, of the sources are identical.

(iv) You must include the results of the one-time dioxin/furan emissions test with the results of the initial comprehensive performance test in the Notification of Compliance.

(v) You must repeat the dioxin/furan emissions test if you change the design or operation of the source in a manner

that may increase dioxin/furan emissions.

(c) *Initial comprehensive performance test—(1) Test date.* Except as provided by paragraphs (c)(2) and (c)(3) of this section, you must commence the initial comprehensive performance test not later than six months after the compliance date.

(2) *Data in lieu of the initial comprehensive performance test.* (i) You may request that previous emissions test data serve as documentation of conformance with the emission standards of this subpart provided that the previous testing:

(A) Was initiated after 54 months prior to the compliance date, except as provided by paragraphs (c)(2)(iii) or (c)(2)(iv) of this section;

(B) Results in data that meet quality assurance objectives (determined on a site-specific basis) such that the results demonstrate compliance with the applicable standards;

(C) Was in conformance with the requirements of paragraph (g)(1) of this section; and

(D) Was sufficient to establish the applicable operating parameter limits under § 63.1209.

(ii) You must submit data in lieu of the initial comprehensive performance test in lieu of (i.e., if the data are in lieu of all performance testing) or with the notification of performance test required under paragraph (e) of this section.

(iii) The data in lieu test age restriction provided in paragraph (c)(2)(i)(A) of this section does not apply for the duration of the interim standards (i.e., the standards published in the FEDERAL REGISTER on February 13, 2002, 67 FR 6792). See 40 CFR parts 63, 264, 265, 266, 270, and 271 revised as of July 1, 2002. Paragraph (c)(2)(i)(A) of this section does not apply until EPA promulgates permanent replacement standards pursuant to the Settlement Agreement noticed in the FEDERAL REGISTER on November 16, 2001 (66 FR 57715).

(iv) The data in lieu test age restriction provided in paragraph (c)(2)(i)(A) of this section does not apply to DRE data provided you do not feed hazardous waste at a location in the combustion system other than the normal flame zone.

(3) For incinerators, cement kilns, and lightweight aggregate kilns, you must commence the initial comprehensive performance test to demonstrate compliance with the standards under §§ 63.1219, 63.1220, and 63.1221 not later than 12 months after the compliance date.

(d) *Frequency of testing.* Except as otherwise specified in paragraph (d)(4) of this section, you must conduct testing periodically as prescribed in paragraphs (d)(1) through (d)(3) of this section. The date of commencement of the initial comprehensive performance test is the basis for establishing the deadline to commence the initial confirmatory performance test and the next comprehensive performance test. You may conduct performance testing at any time prior to the required date. The deadline for commencing subsequent confirmatory and comprehensive performance testing is based on the date of commencement of the previous comprehensive performance test. Unless the Administrator grants a time extension under paragraph (i) of this section, you must conduct testing as follows:

(1) *Comprehensive performance testing.* Except as otherwise specified in paragraph (d)(4) of this section, you must commence testing no later than 61 months after the date of commencing the previous comprehensive performance test. If you submit data in lieu of the initial performance test, you must commence the subsequent comprehensive performance test within 61 months of commencing the test used to provide the data in lieu of the initial performance test.

(2) *Confirmatory performance testing.* Except as otherwise specified in paragraph (d)(4) of this section, you must commence confirmatory performance testing no later than 31 months after the date of commencing the previous comprehensive performance test. If you submit data in lieu of the initial performance test, you must commence the initial confirmatory performance test within 31 months of the date six months after the compliance date. To ensure that the confirmatory test is conducted approximately midway between comprehensive performance tests, the Administrator will not ap-

prove a test plan that schedules testing within 18 months of commencing the previous comprehensive performance test.

(3) *Duration of testing.* You must complete performance testing within 60 days after the date of commencement, unless the Administrator determines that a time extension is warranted based on your documentation in writing of factors beyond your control that prevent you from meeting the 60-day deadline.

(4) *Applicable testing requirements under the interim standards.* (i) *Waiver of periodic comprehensive performance tests.* Except as provided in paragraph (c)(2) of this section, you must conduct only an initial comprehensive performance test under the interim standards (i.e., the standards published in the FEDERAL REGISTER on February 13, 2002); all subsequent comprehensive performance testing requirements are waived under the interim standards. The provisions in the introductory text to paragraph (d) and in paragraph (d)(1) of this section do not apply until EPA promulgates permanent replacement standards pursuant to the Settlement Agreement noticed in the FEDERAL REGISTER on November 16, 2001.

(ii) *Waiver of confirmatory performance tests.* You are not required to conduct a confirmatory test under the interim standards (i.e., the standards published in the FEDERAL REGISTER on February 13, 2002). The confirmatory testing requirements in the introductory text to paragraph (d) and in paragraph (d)(2) of this section are waived until EPA promulgates permanent replacement standards pursuant to the Settlement Agreement noticed in the FEDERAL REGISTER on November 16, 2001.

(e) *Notification of performance test and CMS performance evaluation, and approval of test plan and CMS performance evaluation plan.* (1) The provisions of § 63.7(b) and (c) and § 63.8(e) apply, except:

(i) *Comprehensive performance test.* You must submit to the Administrator a notification of your intention to conduct a comprehensive performance test and CMS performance evaluation and a site-specific test plan and CMS performance evaluation test plan at least one year before the performance test

and performance evaluation are scheduled to begin.

(A) The Administrator will notify you of approval or intent to deny approval of the site-specific test plan and CMS performance evaluation test plan within 9 months after receipt of the original plan.

(B) You must submit to the Administrator a notification of your intention to conduct the comprehensive performance test at least 60 calendar days before the test is scheduled to begin.

(ii) *Confirmatory performance test.* You must submit to the Administrator a notification of your intention to conduct a confirmatory performance test and CMS performance evaluation and a site-specific test plan and CMS performance evaluation test plan at least 60 calendar days before the performance test is scheduled to begin. The Administrator will notify you of approval or intent to deny approval of the site-specific test plan and CMS performance evaluation test plan within 30 calendar days after receipt of the original test plans.

(2) You must make your site-specific test plan and CMS performance evaluation test plan available to the public for review no later than 60 calendar days before initiation of the test. You must issue a public notice to all persons on your facility/public mailing list (developed pursuant to 40 CFR 70.7(h), 71.11(d)(3)(i)(E) and 124.10(c)(1)(ix)) announcing the availability of the test plans and the location where the test plans are available for review. The test plans must be accessible to the public for 60 calendar days, beginning on the date that you issue your public notice. The location must be unrestricted and provide access to the public during reasonable hours and provide a means for the public to obtain copies. The notification must include the following information at a minimum:

(i) The name and telephone number of the source's contact person;

(ii) The name and telephone number of the regulatory agency's contact person;

(iii) The location where the test plans and any necessary supporting documentation can be reviewed and copied;

(iv) The time period for which the test plans will be available for public review; and

(v) An expected time period for commencement and completion of the performance test and CMS performance evaluation test.

(3) *Petitions for time extension if Administrator fails to approve or deny test plans.* You may petition the Administrator under § 63.7(h) to obtain a "waiver" of any performance test—initial or periodic performance test; comprehensive or confirmatory test. The "waiver" would be implemented as an extension of time to conduct the performance test at a later date.

(i) *Qualifications for the waiver.* (A) You may not petition the Administrator for a waiver under this section if the Administrator has issued a notification of intent to deny your test plan(s) under § 63.7(c)(3)(i)(B);

(B) You must submit a site-specific emissions testing plan and a continuous monitoring system performance evaluation test plan at least one year before a comprehensive performance test is scheduled to begin as required by paragraph (c)(1) of this section, or at least 60 days before a confirmatory performance test is scheduled to begin as required by paragraph (d) of this section. The test plans must include all required documentation, including the substantive content requirements of paragraph (f) of this section and § 63.8(e); and

(C) You must make a good faith effort to accommodate the Administrator's comments on the test plans.

(ii) *Procedures for obtaining a waiver and duration of the waiver.* (A) You must submit to the Administrator a waiver petition or request to renew the petition under § 63.7(h) separately for each source at least 60 days prior to the scheduled date of the performance test;

(B) The Administrator will approve or deny the petition within 30 days of receipt and notify you promptly of the decision;

(C) The Administrator will not approve an individual waiver petition for a duration exceeding 6 months;

(D) The Administrator will include a sunset provision in the waiver ending the waiver within 6 months;



(E) You may submit a revised petition to renew the waiver under § 63.7(h)(3)(iii) at least 60 days prior to the end date of the most recently approved waiver petition;

(F) The Administrator may approve a revised petition for a total waiver period up to 12 months.

(iii) *Content of the waiver.* (A) You must provide documentation to enable the Administrator to determine that the source is meeting the relevant standard(s) on a continuous basis as required by § 63.7(h)(2). For extension requests for the initial comprehensive performance test, you must submit your Documentation of Compliance to assist the Administrator in making this determination.

(B) You must include in the petition information justifying your request for a waiver, such as the technical or economic infeasibility, or the impracticality, of the affected source performing the required test, as required by § 63.7(h)(3)(iii).

(iv) *Public notice.* At the same time that you submit your petition to the Administrator, you must notify the public (e.g., distribute a notice to the facility/public mailing list developed pursuant to 40 CFR 70.7(h), 71.11(d)(3)(i)(E) and 124.10(c)(1)(ix)) of your petition to waive a performance test. The notification must include all of the following information at a minimum:

(A) The name and telephone number of the source's contact person;

(B) The name and telephone number of the regulatory agency's contact person;

(C) The date the source submitted its site-specific performance test plan and CMS performance evaluation test plans; and

(D) The length of time requested for the waiver.

(f) *Content of performance test plan.* The provisions of §§ 63.7(c)(2)(i)-(iii) and (v) regarding the content of the test plan apply. In addition, you must include the following information in the test plan:

(1) *Content of comprehensive performance test plan.* (i) An analysis of each feedstream, including hazardous waste, other fuels, and industrial furnace feedstocks, as fired, that includes:

(A) Heating value, levels of ash (for hazardous waste incinerators only), levels of semivolatile metals, low volatile metals, mercury, and total chlorine (organic and inorganic); and

(B) Viscosity or description of the physical form of the feedstream;

(ii) For organic hazardous air pollutants established by 42 U.S.C. 7412(b)(1), excluding caprolactam (CAS number 105602) as provided by § 63.60:

(A) Except as provided by paragraph (f)(1)(ii)(D) of this section, an identification of such organic hazardous air pollutants that are present in each hazardous waste feedstream. You need not analyze for organic hazardous air pollutants that would reasonably not be expected to be found in the feedstream. You must identify any constituents you exclude from analysis and explain the basis for excluding them. You must conduct the feedstream analysis according to § 63.1208(b)(8);

(B) An approximate quantification of such identified organic hazardous air pollutants in the hazardous waste feedstreams, within the precision produced by analytical procedures of § 63.1208(b)(8); and

(C) A description of blending procedures, if applicable, prior to firing the hazardous waste feedstream, including a detailed analysis of the materials prior to blending, and blending ratios.

(D) The Administrator may approve on a case-by-case basis a hazardous waste feedstream analysis for organic hazardous air pollutants in lieu of the analysis required under paragraph (f)(1)(ii)(A) of this section if the reduced analysis is sufficient to ensure that the POHCs used to demonstrate compliance with the applicable DRE standards of this subpart continue to be representative of the most difficult to destroy organic compounds in your hazardous waste feedstreams;

(iii) A detailed engineering description of the hazardous waste combustor, including:

(A) Manufacturer's name and model number of the hazardous waste combustor;

(B) Type of hazardous waste combustor;

(C) Maximum design capacity in appropriate units;

(D) Description of the feed system for each feedstream;

(E) Capacity of each feed system;

(F) Description of automatic hazardous waste feed cutoff system(s);

(G) Description of the design, operation, and maintenance practices for any air pollution control system; and

(H) Description of the design, operation, and maintenance practices of any stack gas monitoring and pollution control monitoring systems;

(iv) A detailed description of sampling and monitoring procedures including sampling and monitoring locations in the system, the equipment to be used, sampling and monitoring frequency, and planned analytical procedures for sample analysis;

(v) A detailed test schedule for each hazardous waste for which the performance test is planned, including date(s), duration, quantity of hazardous waste to be burned, and other relevant factors;

(vi) A detailed test protocol, including, for each hazardous waste identified, the ranges of hazardous waste feedrate for each feed system, and, as appropriate, the feedrates of other fuels and feedstocks, and any other relevant parameters that may affect the ability of the hazardous waste combustor to meet the emission standards;

(vii) A description of, and planned operating conditions for, any emission control equipment that will be used;

(viii) Procedures for rapidly stopping the hazardous waste feed and controlling emissions in the event of an equipment malfunction;

(ix) A determination of the hazardous waste residence time as required by § 63.1206(b)(11);

(x) If you are requesting to extrapolate metal feedrate limits from comprehensive performance test levels under §§ 63.1209(l)(1)(v) or 63.1209(n)(2)(vii):

(A) A description of the extrapolation methodology and rationale for how the approach ensures compliance with the emission standards;

(B) Documentation of the historical range of normal (i.e., other than during compliance testing) metals feedrates for each feedstream;

(C) Documentation that the level of spiking recommended during the per-

formance test will mask sampling and analysis imprecision and inaccuracy to the extent that the extrapolated feedrate limits adequately assure compliance with the emission standards;

(xi) If you do not continuously monitor regulated constituents in natural gas, process air feedstreams, and feedstreams from vapor recovery systems under § 63.1209(c)(5), you must include documentation of the expected levels of regulated constituents in those feedstreams;

(xii) Documentation justifying the duration of system conditioning required to ensure the combustor has achieved steady-state operations under performance test operating conditions, as provided by paragraph (g)(1)(iii) of this section;

(xiii) For cement kilns with in-line raw mills, if you elect to use the emissions averaging provision of this subpart, you must notify the Administrator of your intent in the initial (and subsequent) comprehensive performance test plan, and provide the information required by the emission averaging provision;

(xiv) For preheater or preheater/precalciner cement kilns with dual stacks, if you elect to use the emissions averaging provision of this subpart, you must notify the Administrator of your intent in the initial (and subsequent) comprehensive performance test plan, and provide the information required by the emission averaging provision;

(xv) If you request to use Method 23 for dioxin/furan you must provide the information required under § 63.1208(b)(1)(i)(B);

(xvi) If you are not required to conduct performance testing to document compliance with the mercury, semivolatile metals, low volatile metals, or hydrogen chloride/chlorine gas emission standards under paragraph (m) of this section, you must include with the comprehensive performance test plan documentation of compliance with the provisions of that section.

(xvii) If you propose to use a surrogate for measuring or monitoring gas flowrate, you must document in the comprehensive performance test plan that the surrogate adequately correlates with gas flowrate, as required

by paragraph (m)(7) of this section, and § 63.1209(j)(2), (k)(3), (m)(2)(i), (n)(5)(i), and (o)(2)(i).

(xviii) You must submit an application to request alternative monitoring under § 63.1209(g)(1) not later than with the comprehensive performance test plan, as required by § 63.1209(g)(1)(iii)(A).

(xix) You must document the temperature location measurement in the comprehensive performance test plan, as required by §§ 63.1209(j)(1)(i) and 63.1209(k)(2)(i).

(xx) If your source is equipped with activated carbon injection, you must document in the comprehensive performance test plan:

(A) The manufacturer specifications for minimum carrier fluid flowrate or pressure drop, as required by § 63.1209(k)(6)(ii); and

(B) Key parameters that affect carbon adsorption, and the operating limits you establish for those parameters based on the carbon used during the performance test, if you elect not to specify and use the brand and type of carbon used during the comprehensive performance test, as required by § 63.1209(k)(6)(iii).

(xxi) If your source is equipped with a carbon bed system, and you elect not to specify and use the brand and type of carbon used during the comprehensive performance test, you must include in the comprehensive performance test plan key parameters that affect carbon adsorption, and the operating limits you establish for those parameters based on the carbon used during the performance test, as required by § 63.1209(k)(7)(ii).

(xxii) If you feed a dioxin/furan inhibitor into the combustion system, you must document in the comprehensive performance test plan key parameters that affect the effectiveness of the inhibitor, and the operating limits you establish for those parameters based on the inhibitor fed during the performance test, if you elect not to specify and use the brand and type of inhibitor used during the comprehensive performance test, as required by § 63.1209(k)(9)(ii).

(xxiii) If your source is equipped with a wet scrubber and you elect to monitor solids content of the scrubber liq-

uid manually but believe that hourly monitoring of solids content is not warranted, you must support an alternative monitoring frequency in the comprehensive performance test plan, as required by § 63.1209(m)(1)(i)(B)(1)(i).

(xxiv) If your source is equipped with a particulate matter control device other than a wet scrubber, baghouse, or electrostatic precipitator, you must include in the comprehensive performance test plan:

(A) Documentation to support the operating parameter limits you establish for the control device, as required by § 63.1209(m)(1)(iv)(A)(4); and

(B) Support for the use of manufacturer specifications if you recommend such specifications in lieu of basing operating limits on performance test operating levels, as required by § 63.1209(m)(1)(iv)(D).

(xxv) If your source is equipped with a dry scrubber to control hydrogen chloride and chlorine gas, you must document in the comprehensive performance test plan key parameters that affect adsorption, and the limits you establish for those parameters based on the sorbent used during the performance test, if you elect not to specify and use the brand and type of sorbent used during the comprehensive performance test, as required by § 63.1209(o)(4)(iii)(A); and

(xxvi) For purposes of calculating semivolatile metal, low volatile metal, mercury, and total chlorine (organic and inorganic), and ash feedrate limits, a description of how you will handle performance test feedstream analytical results that determines these constituents are not present at detectable levels.

(xxvii) Such other information as the Administrator reasonably finds necessary to determine whether to approve the performance test plan.

(2) *Content of confirmatory test plan.*

(i) A description of your normal hydrocarbon or carbon monoxide operating levels, as specified in paragraph (g)(2)(i) of this section, and an explanation of how these normal levels were determined;

(ii) A description of your normal applicable operating parameter levels, as specified in paragraph (g)(2)(ii) of this

section, and an explanation of how these normal levels were determined;

(iii) A description of your normal chlorine operating levels, as specified in paragraph (g)(2)(iii) of this section, and an explanation of how these normal levels were determined;

(iv) If you use carbon injection or a carbon bed, a description of your normal cleaning cycle of the particulate matter control device, as specified in paragraph (g)(2)(iv) of this section, and an explanation of how these normal levels were determined;

(v) A detailed description of sampling and monitoring procedures including sampling and monitoring locations in the system, the equipment to be used, sampling and monitoring frequency, and planned analytical procedures for sample analysis;

(vi) A detailed test schedule for each hazardous waste for which the performance test is planned, including date(s), duration, quantity of hazardous waste to be burned, and other relevant factors;

(vii) A detailed test protocol, including, for each hazardous waste identified, the ranges of hazardous waste feedrate for each feed system, and, as appropriate, the feedrates of other fuels and feedstocks, and any other relevant parameters that may affect the ability of the hazardous waste combustor to meet the dioxin/furan emission standard;

(viii) A description of, and planned operating conditions for, any emission control equipment that will be used;

(ix) Procedures for rapidly stopping the hazardous waste feed and controlling emissions in the event of an equipment malfunction; and

(x) Such other information as the Administrator reasonably finds necessary to determine whether to approve the confirmatory test plan.

(g) *Operating conditions during testing.* You must comply with the provisions of § 63.7(e). Conducting performance testing under operating conditions representative of the extreme range of normal conditions is consistent with the requirement of § 63.7(e)(1) to conduct performance testing under representative operating conditions.

(1) *Comprehensive performance testing—(i) Operations during testing.* For

the following parameters, you must operate the combustor during the performance test under normal conditions (or conditions that will result in higher than normal emissions):

(A) *Chlorine feedrate.* You must feed normal (or higher) levels of chlorine during the dioxin/furan performance test;

(B) *Ash feedrate.* For hazardous waste incinerators, you must conduct the following tests when feeding normal (or higher) levels of ash: The semivolatile metal and low volatile metal performance tests; and the dioxin/furan and mercury performance tests if activated carbon injection or a carbon bed is used; and

(C) *Cleaning cycle of the particulate matter control device.* You must conduct the following tests when the particulate matter control device undergoes its normal (or more frequent) cleaning cycle: The particulate matter, semivolatile metal, and low volatile metal performance tests; and the dioxin/furan and mercury performance tests if activated carbon injection or a carbon bed is used.

(ii) *Modes of operation.* Given that you must establish limits for the applicable operating parameters specified in § 63.1209 based on operations during the comprehensive performance test, you may conduct testing under two or more operating modes to provide operating flexibility.

(iii) *Steady-state conditions.* (A) Prior to obtaining performance test data, you must operate under performance test conditions until you reach steady-state operations with respect to emissions of pollutants you must measure during the performance test and operating parameters under § 63.1209 for which you must establish limits. During system conditioning, you must ensure that each operating parameter for which you must establish a limit is held at the level planned for the performance test. You must include documentation in the performance test plan under paragraph (f) of this section justifying the duration of system conditioning.

(B) If you own or operate a hazardous waste cement kiln that recycles collected particulate matter (i.e., cement

kiln dust) into the kiln, you must sample and analyze the recycled particulate matter prior to obtaining performance test data for levels of selected metals that must be measured during performance testing to document that the system has reached steady-state conditions (*i.e.*, that metals levels have stabilized). You must document the rationale for selecting metals that are indicative of system equilibrium and include the information in the performance test plan under paragraph (f) of this section. To determine system equilibrium, you must sample and analyze the recycled particulate matter hourly for each selected metal, unless you submit in the performance test plan a justification for reduced sampling and analysis and the Administrator approves in writing a reduced sampling and analysis frequency.

(2) *Confirmatory performance testing.* You must conduct confirmatory performance testing for dioxin/furan under normal operating conditions for the following parameters:

(i) Carbon monoxide (or hydrocarbon) CEMS emissions levels must be within the range of the average value to the maximum value allowed, except as provided by paragraph (g)(2)(iv) of this section. The average value is defined as the sum of the hourly rolling average values recorded (each minute) over the previous 12 months, divided by the number of rolling averages recorded during that time. The average value must not include calibration data, startup data, shutdown data, malfunction data, and data obtained when not burning hazardous waste;

(ii) Each operating limit (specified in § 63.1209) established to maintain compliance with the dioxin/furan emission standard must be held within the range of the average value over the previous 12 months and the maximum or minimum, as appropriate, that is allowed, except as provided by paragraph (g)(2)(iv) of this section. The average value is defined as the sum of the rolling average values recorded over the previous 12 months, divided by the number of rolling averages recorded during that time. The average value must not include calibration data, startup data, shutdown data, malfunc-

tion data, and data obtained when not burning hazardous waste;

(iii) You must feed chlorine at normal feedrates or greater; and

(iv) If the combustor is equipped with carbon injection or carbon bed, normal cleaning cycle of the particulate matter control device.

(v) The Administrator may approve an alternative range to that required by paragraphs (g)(2)(i) and (ii) of this section if you document in the confirmatory performance test plan that it may be problematic to maintain the required range during the test. In addition, when making the finding of compliance, the Administrator may consider test conditions outside of the range specified in the test plan based on a finding that you could not reasonably maintain the range specified in the test plan and considering factors including whether the time duration and level of the parameter when operations were out of the specified range were such that operations during the confirmatory test are determined to be reasonably representative of normal operations. In addition, the Administrator will consider the proximity of the emission test results to the standard.

(h) *Operating conditions during subsequent testing.* (1) Current operating parameter limits established under § 63.1209 are waived during subsequent comprehensive performance testing.

(2) Current operating parameter limits are also waived during pretesting prior to comprehensive performance testing for an aggregate time not to exceed 720 hours of operation (renewable at the discretion of the Administrator) under an approved test plan or if the source records the results of the pretesting. Pretesting means:

(i) Operations when stack emissions testing for dioxin/furan, mercury, semivolatile metals, low volatile metals, particulate matter, or hydrogen chloride/chlorine gas is being performed; and

(ii) Operations to reach steady-state operating conditions prior to stack emissions testing under paragraph (g)(1)(iii) of this section.

(i) *Time extension for subsequent performance tests.* After the initial comprehensive performance test, you may

request up to a one-year time extension for conducting a comprehensive or confirmatory performance test to consolidate performance testing with other state or federally required emission testing, or for other reasons deemed acceptable by the Administrator. If the Administrator grants a time extension for a comprehensive performance test, the deadlines for commencing the next comprehensive and confirmatory tests are based on the date that the subject comprehensive performance test commences.

(1) You must submit in writing to the Administrator any request under this paragraph for a time extension for conducting a performance test.

(2) You must include in the request for an extension for conducting a performance test the following:

(i) A description of the reasons for requesting the time extension;

(ii) The date by which you will commence performance testing.

(3) The Administrator will notify you in writing of approval or intention to deny approval of your request for an extension for conducting a performance test within 30 calendar days after receipt of sufficient information to evaluate your request. The 30-day approval or denial period will begin after you have been notified in writing that your application is complete. The Administrator will notify you in writing whether the application contains sufficient information to make a determination within 30 calendar days after receipt of the original application and within 30 calendar days after receipt of any supplementary information that you submit.

(4) When notifying you that your application is not complete, the Administrator will specify the information needed to complete the application. The Administrator will also provide notice of opportunity for you to present, in writing, within 30 calendar days after notification of the incomplete application, additional information or arguments to the Administrator to enable further action on the application.

(5) Before denying any request for an extension for performance testing, the Administrator will notify you in writ-

ing of the Administrator's intention to issue the denial, together with:

(i) Notice of the information and findings on which the intended denial is based; and

(ii) Notice of opportunity for you to present in writing, within 15 calendar days after notification of the intended denial, additional information or arguments to the Administrator before further action on the request.

(6) The Administrator's final determination to deny any request for an extension will be in writing and will set forth specific grounds upon which the denial is based. The final determination will be made within 30 calendar days after the presentation of additional information or argument (if the application is complete), or within 30 calendar days after the final date specified for the presentation if no presentation is made.

(j) *Notification of compliance*—(1) *Comprehensive performance test.* (i) Except as provided by paragraphs (j)(4) and (j)(5) of this section, within 90 days of completion of a comprehensive performance test, you must postmark a Notification of Compliance documenting compliance with the emission standards and continuous monitoring system requirements, and identifying operating parameter limits under § 63.1209.

(ii) Upon postmark of the Notification of Compliance, you must comply with all operating requirements specified in the Notification of Compliance in lieu of the limits specified in the Documentation of Compliance required under § 63.1211(c).

(2) *Confirmatory performance test.* Except as provided by paragraph (j)(4) of this section, within 90 days of completion of a confirmatory performance test, you must postmark a Notification of Compliance documenting compliance or noncompliance with the applicable dioxin/furan emission standard.

(3) See §§ 63.7(g), 63.9(h), and 63.1210(d) for additional requirements pertaining to the Notification of Compliance (*e.g.*, you must include results of performance tests in the Notification of Compliance).

(4) *Time extension.* You may submit a written request to the Administrator for a time extension documenting that,

for reasons beyond your control, you may not be able to meet the 90-day deadline for submitting the Notification of Compliance after completion of testing. The Administrator will determine whether a time extension is warranted.

(5) *Early compliance.* If you conduct the initial comprehensive performance test prior to the compliance date, you must postmark the Notification of Compliance within 90 days of completion of the performance test or by the compliance date, whichever is later.

(k) *Failure to submit a timely notification of compliance.* (1) If you fail to postmark a Notification of Compliance by the specified date, you must cease hazardous waste burning immediately.

(2) Prior to submitting a revised Notification of Compliance as provided by paragraph (k)(3) of this section, you may burn hazardous waste only for the purpose of pretesting or comprehensive performance testing and only for a maximum of 720 hours (renewable at the discretion of the Administrator).

(3) You must submit to the Administrator a Notification of Compliance subsequent to a new comprehensive performance test before resuming hazardous waste burning.

(1) *Failure of performance test*—(1) *Comprehensive performance test.* The provisions of this paragraph do not apply to the initial comprehensive performance test if you conduct the test prior to your compliance date.

(i) If you determine (based on CEM recordings, results of analyses of stack samples, or results of CMS performance evaluations) that you have exceeded any emission standard during a comprehensive performance test for a mode of operation, you must cease hazardous waste burning immediately under that mode of operation. You must make this determination within 90 days following completion of the performance test.

(ii) If you have failed to demonstrate compliance with the emission standards for any mode of operation:

(A) Prior to submitting a revised Notification of Compliance as provided by paragraph (1)(1)(ii)(C) of this section, you may burn hazardous waste only for the purpose of pretesting or comprehensive performance testing under

revised operating conditions, and only for a maximum of 720 hours (renewable at the discretion of the Administrator), except as provided by paragraph (1)(3) of this section;

(B) You must conduct a comprehensive performance test under revised operating conditions following the requirements for performance testing of this section; and

(C) You must submit to the Administrator a Notification of Compliance subsequent to the new comprehensive performance test.

(2) *Confirmatory performance test.* If you determine (based on CEM recordings, results of analyses of stack samples, or results of CMS performance evaluations) that you have failed the dioxin/furan emission standard during a confirmatory performance test, you must cease burning hazardous waste immediately. You must make this determination within 90 days following completion of the performance test. To burn hazardous waste in the future:

(i) You must submit to the Administrator for review and approval a test plan to conduct a comprehensive performance test to identify revised limits on the applicable dioxin/furan operating parameters specified in § 63.1209(k);

(ii) You must submit to the Administrator a Notification of Compliance with the dioxin/furan emission standard under the provisions of paragraphs (j) and (k) of this section and this paragraph (1). You must include in the Notification of Compliance the revised limits on the applicable dioxin/furan operating parameters specified in § 63.1209(k); and

(iii) Until the Notification of Compliance is submitted, you must not burn hazardous waste except for purposes of pretesting or confirmatory performance testing, and for a maximum of 720 hours (renewable at the discretion of the Administrator), except as provided by paragraph (1)(3) of this section.

(3) You may petition the Administrator to obtain written approval to burn hazardous waste in the interim prior to submitting a Notification of Compliance for purposes other than testing or pretesting. You must specify operating requirements, including limits on operating parameters, that you

determine will ensure compliance with the emission standards of this subpart based on available information including data from the failed performance test. The Administrator will review, modify as necessary, and approve if warranted the interim operating requirements. An approval of interim operating requirements will include a schedule for submitting a Notification of Compliance.

(m) *Waiver of performance test.* (1) The waiver provision of this paragraph applies in addition to the provisions of § 63.7(h).

(2) You are not required to conduct performance tests to document compliance with the mercury, semivolatile metals, low volatile metals, or hydrogen chloride/chlorine gas emission standards under the conditions specified in this paragraph (m)(2). You are deemed to be in compliance with an emission standard if the twelve-hour rolling average maximum theoretical emission concentration (MTEC) does not exceed the emission standard:

(i) Determine the feedrate of mercury, semivolatile metals, low volatile metals, or total chlorine and chloride from all feedstreams;

(ii) Determine the stack gas flowrate; and

(iii) Calculate a MTEC for each standard assuming all mercury, semivolatile metals, low volatile metals, or total chlorine (organic and inorganic) from all feedstreams is emitted;

(3) To document compliance with this provision, you must:

(i) Monitor and record the feedrate of mercury, semivolatile metals, low volatile metals, and total chlorine and chloride from all feedstreams according to § 63.1209(c);

(ii) Monitor with a CMS and record in the operating record the gas flowrate (either directly or by monitoring a surrogate parameter that you have correlated to gas flowrate);

(iii) Continuously calculate and record in the operating record the MTEC under the procedures of paragraph (m)(2) of this section; and

(iv) Interlock the MTEC calculated in paragraph (m)(2)(iii) of this section to the AWFCO system to stop hazardous waste burning when the MTEC exceeds the emission standard.

(4) In lieu of the requirement in paragraphs (m)(3)(iii) and (iv) of this section, you may:

(i) Identify in the Notification of Compliance a minimum gas flowrate limit and a maximum feedrate limit of mercury, semivolatile metals, low volatile metals, and/or total chlorine and chloride from all feedstreams that ensures the MTEC as calculated in paragraph (m)(2)(iii) of this section is below the applicable emission standard; and

(ii) Interlock the minimum gas flowrate limit and maximum feedrate limit of paragraph (m)(4)(i) of this section to the AWFCO system to stop hazardous waste burning when the gas flowrate or mercury, semivolatile metals, low volatile metals, and/or total chlorine and chloride feedrate exceeds the limits of paragraph (m)(4)(i) of this section.

(5) When you determine the feedrate of mercury, semivolatile metals, low volatile metals, or total chlorine and chloride for purposes of this provision, except as provided by paragraph (m)(6) of this section, you must assume that the analyte is present at the full detection limit when the feedstream analysis determines that the analyte is not detected in the feedstream.

(6) Owners and operators of hazardous waste burning cement kilns and lightweight aggregate kilns may assume that mercury is present in raw material at half the detection limit when the raw material feedstream analysis determines that mercury is not detected.

(7) You must state in the site-specific test plan that you submit for review and approval under paragraph (e) of this section that you intend to comply with the provisions of this paragraph. You must include in the test plan documentation that any surrogate that is proposed for gas flowrate adequately correlates with the gas flowrate.

[64 FR 53038, Sept. 30, 1999, as amended at 65 FR 42299, July 10, 2000; 65 FR 67271, Nov. 9, 2000; 66 FR 35106, July 3, 2001; 66 FR 63318, Dec. 6, 2001; 67 FR 6814, Feb. 13, 2002; 67 FR 6990, Feb. 14, 2002; 67 FR 77691, Dec. 19, 2002; 70 FR 59546, Oct. 12, 2005]

#### § 63.1208 What are the test methods?

(a) [Reserved]



(b) *Test methods.* You must use the following test methods to determine compliance with the emissions standards of this subpart:

(1) *Dioxins and furans.* (i) To determine compliance with the emission standard for dioxins and furans, you must use:

(A) Method 0023A, Sampling Method for Polychlorinated Dibenzo-*p*-Dioxins and Polychlorinated Dibenzofurans emissions from Stationary Sources, EPA Publication SW-846 (incorporated by reference—see § 63.14); or

(B) Method 23, provided in appendix A, part 60 of this chapter, after approval by the Administrator.

(1) You may request approval to use Method 23 in the performance test plan required under § 63.1207(e)(i) and (ii).

(2) In determining whether to grant approval to use Method 23, the Administrator may consider factors including whether dioxin/furan were detected at levels substantially below the emission standard in previous testing, and whether previous Method 0023 analyses detected low levels of dioxin/furan in the front half of the sampling train.

(3) Sources that emit carbonaceous particulate matter, such as coal-fired boilers, and sources equipped with activated carbon injection, will be deemed not suitable for use of Method 23 unless you document that there would not be a significant improvement in quality assurance with Method 0023A.

(ii) You must sample for a minimum of three hours, and you must collect a minimum sample volume of 2.5 dscm;

(iii) You may assume that nondetects are present at zero concentration.

(2) *Mercury.* You must use Method 29, provided in appendix A, part 60 of this chapter, to demonstrate compliance with emission standard for mercury.

(3) *Cadmium and lead.* You must use Method 29, provided in appendix A, part 60 of this chapter, to determine compliance with the emission standard for cadmium and lead (combined).

(4) *Arsenic, beryllium, and chromium.* You must use Method 29, provided in appendix A, part 60 of this chapter, to determine compliance with the emission standard for arsenic, beryllium, and chromium (combined).

(5) *Hydrogen chloride and chlorine gas—(i) Compliance with MACT standards.* To determine compliance with the emission standard for hydrogen chloride and chlorine gas (combined), you must use:

(A) Method 26/26A as provided in appendix A, part 60 of this chapter; or

(B) Methods 320 or 321 as provided in appendix A, part 63 of this chapter, or

(C) ASTM D 6735-01, Standard Test Method for Measurement of Gaseous Chlorides and Fluorides from Mineral Calcining Exhaust Sources—Impinger Method to measure emissions of hydrogen chloride, and Method 26/26A to measure emissions of chlorine gas, provided that you follow the provisions in paragraphs (b)(5)(C)(1) through (6) of this section. ASTM D 6735-01 is available for purchase from at least one of the following addresses: American Society for Testing and Materials (ASTM), 100 Barr Harbor Drive, Post Office Box C700, West Conshohocken, PA 19428-2959; or ProQuest, 300 North Zeeb Road, Ann Arbor, MI 48106.

(1) A test must include three or more runs in which a pair of samples is obtained simultaneously for each run according to section 11.2.6 of ASTM Method D6735-01.

(2) You must calculate the test run standard deviation of each set of paired samples to quantify data precision, according to Equation 1 of this section:

$$RSD_a = (100) \text{ Absolute Value } \left[ \frac{C1_a - C2_a}{C1_a + C2_a} \right] \quad (\text{Eq. 1})$$

Where:

RSD<sub>a</sub> = The test run relative standard deviation of sample pair a, percent.

C1<sub>a</sub> and C2<sub>a</sub> = The HCl concentrations, milligram/dry standard cubic meter (mg/dscm), from the paired samples.

(3) You must calculate the test average relative standard deviation according to Equation 2 of this section:

$$RSD_{TA} = \frac{\sum_{a=1}^p RSD_a}{p} \quad (\text{Eq. 2})$$

Where:

$RSD_{TA}$  = The test average relative standard deviation, percent.

$RSD_a$  = The test run relative standard deviation for sample pair a.

p = The number of test runs,  $\geq 3$ .

(4) If RSDTA is greater than 20 percent, the data are invalid and the test must be repeated.

(5) The post-test analyte spike procedure of section 11.2.7 of ASTM Method D6735-01 is conducted, and the percent recovery is calculated according to section 12.6 of ASTM Method D6735-01.

(6) If the percent recovery is between 70 percent and 130 percent, inclusive, the test is valid. If the percent recovery is outside of this range, the data are considered invalid, and the test must be repeated.

(ii) *Compliance with risk-based limits under § 63.1215.* To demonstrate compliance with emission limits established under § 63.1215, you must use Method 26/26A as provided in appendix A, part 60 of this chapter, Method 320 as provided in appendix A, part 63 of this chapter, Method 321 as provided in appendix A, part 63 of this chapter, or ASTM D 6735-01, Standard Test Method for Measurement of Gaseous Chlorides and Fluorides from Mineral Calcining Exhaust Sources—Impinger Method (following the provisions of paragraphs (b)(5)(C)(1) through (6) of this section), except:

(A) For cement kilns and sources equipped with a dry acid gas scrubber, you must use Methods 320 or 321 as provided in appendix A, part 63 of this chapter, or ASTM D 6735-01 to measure hydrogen chloride, and the back-half, caustic impingers of Method 26/26A as provided in appendix A, part 60 of this chapter to measure chlorine gas; and

(B) For incinerators, boilers, and lightweight aggregate kilns, you must use Methods 320 or 321 as provided in appendix A, part 63 of this chapter, or ASTM D 6735-01 to measure hydrogen

chloride, and Method 26/26A as provided in appendix A, part 60 of this chapter to measure total chlorine, and calculate chlorine gas by difference if:

(1) The bromine/chlorine ratio in feedstreams is greater than 5 percent; or

(2) The sulfur/chlorine ratio in feedstreams is greater than 50 percent.

(6) *Particulate matter.* You must use Methods 5 or 5I, provided in appendix A, part 60 of this chapter, to demonstrate compliance with the emission standard for particulate matter.

(7) *Other Test Methods.* You may use applicable test methods in EPA Publication SW-846, as incorporated by reference in paragraph (a) of this section, as necessary to demonstrate compliance with requirements of this subpart, except as otherwise specified in paragraphs (b)(2)–(b)(6) of this section.

(8) *Feedstream analytical methods.* You may use any reliable analytical method to determine feedstream concentrations of metals, chlorine, and other constituents. It is your responsibility to ensure that the sampling and analysis procedures are unbiased, precise, and that the results are representative of the feedstream.

(9) *Opacity.* If you determine compliance with the opacity standard under the monitoring requirements of §§ 63.1209(a)(1)(iv) and (a)(1)(v), you must use Method 9, provided in appendix A, part 60 of this chapter.

[64 FR 53038, Sept. 30, 1999, as amended at 69 FR 18803, Apr. 9, 2004; 70 FR 59547, Oct. 12, 2005]

#### § 63.1209 What are the monitoring requirements?

(a) *Continuous emissions monitoring systems (CEMS) and continuous opacity monitoring systems (COMS).* (1)(i) You must use either a carbon monoxide or hydrocarbon CEMS to demonstrate and monitor compliance with the carbon monoxide and hydrocarbon standard under this subpart. You must also use an oxygen CEMS to continuously correct the carbon monoxide or hydrocarbon level to 7 percent oxygen.

(ii) (A) *Cement kilns under § 63.1204—* Except as provided by paragraphs (a)(1)(iv) and (a)(1)(v) of the section, you must use a COMS to demonstrate

and monitor compliance with the opacity standard under §§ 63.1204(a)(7) and (b)(7) at each point where emissions are vented from these affected sources including the bypass stack of a preheater or preheater/precalciner kiln with dual stacks.

(B) *Cement kilns under § 63.1220*—Except as provided by paragraphs (a)(1)(iv) and (a)(1)(v) of the section and unless your source is equipped with a bag leak detection system under § 63.1206(c)(8) or a particulate matter detection system under § 63.1206(c)(9), you must use a COMS to demonstrate and monitor compliance with the opacity standard under §§ 63.1220(a)(7) and (b)(7) at each point where emissions are vented from these affected sources including the bypass stack of a preheater or preheater/precalciner kiln with dual stacks.

(C) You must maintain and operate each COMS in accordance with the requirements of § 63.8(c) except for the requirements under § 63.8(c)(3). The requirements of § 63.1211(c) shall be complied with instead of § 63.8(c)(3); and

(D) Compliance is based on a six-minute block average.

(iii) You must install, calibrate, maintain, and operate a particulate matter CEMS to demonstrate and monitor compliance with the particulate matter standards under this subpart. However, compliance with the requirements in this section to install, calibrate, maintain and operate the PM CEMS is not required until such time that the Agency promulgates all performance specifications and operational requirements applicable to PM CEMS.

(iv) If you operate a cement kiln subject to the provisions of this subpart and use a fabric filter with multiple stacks or an electrostatic precipitator with multiple stacks, you may, in lieu of installing the COMS required by paragraph (a)(1)(ii) of this section, comply with the opacity standard in accordance with the procedures of Method 9 to part 60 of this chapter:

(A) You must conduct the Method 9 test while the affected source is operating at the highest load or capacity level reasonably expected to occur within the day;

(B) The duration of the Method 9 test shall be at least 30 minutes each day;

(C) You must use the Method 9 procedures to monitor and record the average opacity for each six-minute block period during the test; and

(D) To remain in compliance, all six-minute block averages must not exceed the opacity standard.

(v) If you operate a cement kiln subject to the provisions of this subpart and use a particulate matter control device that exhausts through a monovent, or if the use of a COMS in accordance with the installation specification of Performance Specification 1 (PS-1) of appendix B to part 60 of this chapter is not feasible, you may, in lieu of installing the COMS required by paragraph (a)(1)(ii) of this section, comply with the opacity standard in accordance with the procedures of Method 9 to part 60 of this chapter:

(A) You must conduct the Method 9 test while the affected source is operating at the highest load or capacity level reasonably expected to occur within the day;

(B) The duration of the Method 9 test shall be at least 30 minutes each day;

(C) You must use the Method 9 procedures to monitor and record the average opacity for each six-minute block period during the test; and

(D) To remain in compliance, all six-minute block averages must not exceed the opacity standard.

(2) *Performance specifications.* You must install, calibrate, maintain, and continuously operate the CEMS and COMS in compliance with the quality assurance procedures provided in the appendix to this subpart and Performance Specifications 1 (opacity), 4B (carbon monoxide and oxygen), and 8A (hydrocarbons) in appendix B, part 60 of this chapter.

(3) *Carbon monoxide readings exceeding the span.* (i) Except as provided by paragraph (a)(3)(ii) of this section, if a carbon monoxide CEMS detects a response that results in a one-minute average at or above the 3,000 ppmv span level required by Performance Specification 4B in appendix B, part 60 of this chapter, the one-minute average must be recorded as 10,000 ppmv. The one-minute 10,000 ppmv value must be

used for calculating the hourly rolling average carbon monoxide level.

(ii) Carbon monoxide CEMS that use a span value of 10,000 ppmv when one-minute carbon monoxide levels are equal to or exceed 3,000 ppmv are not subject to paragraph (a)(3)(i) of this section. Carbon monoxide CEMS that use a span value of 10,000 are subject to the same CEMS performance and equipment specifications when operating in the range of 3,000 ppmv to 10,000 ppmv that are provided by Performance Specification 4B for other carbon monoxide CEMS, except:

(A) Calibration drift must be less than 300 ppmv; and

(B) Calibration error must be less than 500 ppmv.

(4) *Hydrocarbon readings exceeding the span.* (i) Except as provided by paragraph (a)(4)(ii) of this section, if a hydrocarbon CEMS detects a response that results in a one-minute average at or above the 100 ppmv span level required by Performance Specification 8A in appendix B, part 60 of this chapter, the one-minute average must be recorded as 500 ppmv. The one-minute 500 ppmv value must be used for calculating the hourly rolling average HC level.

(ii) Hydrocarbon CEMS that use a span value of 500 ppmv when one-minute hydrocarbon levels are equal to or exceed 100 ppmv are not subject to paragraph (a)(4)(i) of this section. Hydrocarbon CEMS that use a span value of 500 ppmv are subject to the same CEMS performance and equipment specifications when operating in the range of 100 ppmv to 500 ppmv that are provided by Performance Specification 8A for other hydrocarbon CEMS, except:

(A) The zero and high-level calibration gas must have a hydrocarbon level of between 0 and 100 ppmv, and between 250 and 450 ppmv, respectively;

(B) The strip chart recorder, computer, or digital recorder must be capable of recording all readings within the CEM measurement range and must have a resolution of 2.5 ppmv;

(C) The CEMS calibration must not differ by more than  $\pm 15$  ppmv after each 24-hour period of the seven day test at both zero and high levels;

(D) The calibration error must be no greater than 25 ppmv; and

(E) The zero level, mid-level, and high level calibration gas used to determine calibration error must have a hydrocarbon level of 0-200 ppmv, 150-200 ppmv, and 350-400 ppmv, respectively.

(5) *Petitions to use CEMS for other standards.* You may petition the Administrator to use CEMS for compliance monitoring for particulate matter, mercury, semivolatile metals, low volatile metals, and hydrogen chloride and chlorine gas under § 63.8(f) in lieu of compliance with the corresponding operating parameter limits under this section.

(6) *Calculation of rolling averages—(i) Calculation of rolling averages initially.* The carbon monoxide or hydrocarbon CEMS must begin recording one-minute average values by 12:01 a.m. and hourly rolling average values by 1:01 a.m., when 60 one-minute values will be available for calculating the initial hourly rolling average for those sources that come into compliance on the regulatory compliance date. Sources that elect to come into compliance before the regulatory compliance date must begin recording one-minute and hourly rolling average values within 60 seconds and 60 minutes (when 60 one-minute values will be available for calculating the initial hourly rolling average), respectively, from the time at which compliance begins.

(ii) *Calculation of rolling averages upon intermittent operations.* You must ignore periods of time when one-minute values are not available for calculating the hourly rolling average. When one-minute values become available again, the first one-minute value is added to the previous 59 values to calculate the hourly rolling average.

(iii) *Calculation of rolling averages when the hazardous waste feed is cutoff.* (A) Except as provided by paragraph (a)(6)(iii)(B) of this section, you must continue monitoring carbon monoxide and hydrocarbons when the hazardous waste feed is cutoff if the source is operating. You must not resume feeding hazardous waste if the emission levels exceed the standard.

(B) You are not subject to the CEMS requirements of this subpart during periods of time you meet the requirements of § 63.1206(b)(1)(ii) (compliance with emissions standards for nonhazardous waste burning sources when you are not burning hazardous waste).

(7) *Operating parameter limits for hydrocarbons.* If you elect to comply with the carbon monoxide and hydrocarbon emission standard by continuously monitoring carbon monoxide with a CEMS, you must demonstrate that hydrocarbon emissions during the comprehensive performance test do not exceed the hydrocarbon emissions standard. In addition, the limits you establish on the destruction and removal efficiency (DRE) operating parameters required under paragraph (j) of this section also ensure that you maintain compliance with the hydrocarbon emission standard. If you do not conduct the hydrocarbon demonstration and DRE tests concurrently, you must establish separate operating parameter limits under paragraph (j) of this section based on each test and the more restrictive of the operating parameter limits applies.

(b) *Other continuous monitoring systems (CMS).* (1) You must use CMS (e.g., thermocouples, pressure transducers, flow meters) to document compliance with the applicable operating parameter limits under this section.

(2) Except as specified in paragraphs (b)(2)(i) and (ii) of this section, you must install and operate continuous monitoring systems other than CEMS in conformance with § 63.8(c)(3) that requires you, at a minimum, to comply with the manufacturer's written specifications or recommendations for installation, operation, and calibration of the system:

(i) *Calibration of thermocouples and pyrometers.* The calibration of thermocouples must be verified at a frequency and in a manner consistent with manufacturer specifications, but no less frequent than once per year. You must operate and maintain optical pyrometers in accordance with manufacturer specifications unless otherwise approved by the Administrator. You must calibrate optical pyrometers in accordance with the frequency and procedures recommended by the manu-

facturer, but no less frequent than once per year, unless otherwise approved by the Administrator. And,

(ii) *Accuracy and calibration of weight measurement devices for activated carbon injection systems.* If you operate a carbon injection system, the accuracy of the weight measurement device must be  $\pm 1$  percent of the weight being measured. The calibration of the device must be verified at least once each calendar quarter at a frequency of approximately 120 days.

(3) CMS must sample the regulated parameter without interruption, and evaluate the detector response at least once each 15 seconds, and compute and record the average values at least every 60 seconds.

(4) The span of the non-CEMS CMS detector must not be exceeded. You must interlock the span limits into the automatic waste feed cutoff system required by § 63.1206(c)(3).

(5) *Calculation of rolling averages—(i) Calculation of rolling averages initially.* Continuous monitoring systems must begin recording one-minute average values by 12:01 a.m., hourly rolling average values by 1:01 a.m. (e.g., when 60 one-minute values will be available for calculating the initial hourly rolling average), and twelve-hour rolling averages by 12:01 p.m. (e.g., when 720 one-minute averages are available to calculate a 12-hour rolling average), for those sources that come into compliance on the regulatory compliance date. Sources that elect to come into compliance before the regulatory compliance date must begin recording one-minute, hourly rolling average, and 12-hour rolling average values within 60 seconds, 60 minutes (when 60 one-minute values will be available for calculating the initial hourly rolling average), and 720 minutes (when 720 one-minute values will be available for calculating the initial 12-hour hourly rolling average) respectively, from the time at which compliance begins.

(ii) *Calculation of rolling averages upon intermittent operations.* You must ignore periods of time when one-minute values are not available for calculating rolling averages. When one-minute values become available again, the first

one-minute value is added to the previous one-minute values to calculate rolling averages.

(iii) *Calculation of rolling averages when the hazardous waste feed is cutoff.*

(A) Except as provided by paragraph (b)(5)(iii)(B) of this section, you must continue monitoring operating parameter limits with a CMS when the hazardous waste feed is cutoff if the source is operating. You must not resume feeding hazardous waste if an operating parameter exceeds its limit.

(B) You are not subject to the CMS requirements of this subpart during periods of time you meet the requirements of § 63.1206(b)(1)(ii) (compliance with emissions standards for nonhazardous waste burning sources when you are not burning hazardous waste).

(c) *Analysis of feedstreams—(1) General.* Prior to feeding the material, you must obtain an analysis of each feedstream that is sufficient to document compliance with the applicable feedrate limits provided by this section.

(2) *Feedstream analysis plan.* You must develop and implement a feedstream analysis plan and record it in the operating record. The plan must specify at a minimum:

(i) The parameters for which you will analyze each feedstream to ensure compliance with the operating parameter limits of this section;

(ii) Whether you will obtain the analysis by performing sampling and analysis or by other methods, such as using analytical information obtained from others or using other published or documented data or information;

(iii) How you will use the analysis to document compliance with applicable feedrate limits (e.g., if you blend hazardous wastes and obtain analyses of the wastes prior to blending but not of the blended, as-fired, waste, the plan must describe how you will determine the pertinent parameters of the blended waste);

(iv) The test methods which you will use to obtain the analyses;

(v) The sampling method which you will use to obtain a representative sample of each feedstream to be analyzed using sampling methods described in appendix IX, part 266 of this chapter, or an equivalent method; and

(vi) The frequency with which you will review or repeat the initial analysis of the feedstream to ensure that the analysis is accurate and up to date.

(3) *Review and approval of analysis plan.* You must submit the feedstream analysis plan to the Administrator for review and approval, if requested.

(4) *Compliance with feedrate limits.* To comply with the applicable feedrate limits of this section, you must monitor and record feedrates as follows:

(i) Determine and record the value of the parameter for each feedstream by sampling and analysis or other method;

(ii) Determine and record the mass or volume flowrate of each feedstream by a CMS. If you determine flowrate of a feedstream by volume, you must determine and record the density of the feedstream by sampling and analysis (unless you report the constituent concentration in units of weight per unit volume (e.g., mg/l)); and

(iii) Calculate and record the mass feedrate of the parameter per unit time.

(5) *Waiver of monitoring of constituents in certain feedstreams.* You are not required to monitor levels of metals or chlorine in the following feedstreams to document compliance with the feedrate limits under this section provided that you document in the comprehensive performance test plan the expected levels of the constituent in the feedstream and account for those assumed feedrate levels in documenting compliance with feedrate limits: natural gas, process air, and feedstreams from vapor recovery systems.

(d) *Performance evaluations.* (1) The requirements of §§ 63.8(d) (Quality control program) and (e) (Performance evaluation of continuous monitoring systems) apply, except that you must conduct performance evaluations of components of the CMS under the frequency and procedures (for example, submittal of performance evaluation test plan for review and approval) applicable to performance tests as provided by § 63.1207.

(2) You must comply with the quality assurance procedures for CEMS prescribed in the appendix to this subpart.

(e) *Conduct of monitoring.* The provisions of § 63.8(b) apply.

(f) *Operation and maintenance of continuous monitoring systems.* The provisions of § 63.8(c) apply except:

(1) *Section 63.8(c)(3).* The requirements of § 63.1211(c), that requires CMSs to be installed, calibrated, and operational on the compliance date, shall be complied with instead of section 63.8(c)(3);

(2) *Section 63.8(c)(4)(ii).* The performance specifications for carbon monoxide, hydrocarbon, and oxygen CEMSs in subpart B, part 60 of this chapter that requires detectors to measure the sample concentration at least once every 15 seconds for calculating an average emission rate once every 60 seconds shall be complied with instead of section 63.8(c)(4)(ii); and

(3) Sections 63.8(c)(4)(i), (c)(5), and (c)(7)(i)(C) pertaining to COMS apply only to owners and operators of hazardous waste burning cement kilns.

(g) *Alternative monitoring requirements other than continuous emissions monitoring systems (CEMS)*—(1) *Requests to use alternatives to operating parameter monitoring requirements.* (i) You may submit an application to the Administrator under this paragraph for approval of alternative operating parameter monitoring requirements to document compliance with the emission standards of this subpart. For requests to use additional CEMS, however, you must use paragraph (a)(5) of this section and § 63.8(f). Alternative requests to operating parameter monitoring requirements that include unproven monitoring methods may not be made under this paragraph and must be made under § 63.8(f).

(ii) You may submit an application to waive an operating parameter limit specified in this section based on documentation that neither that operating parameter limit nor an alternative operating parameter limit is needed to ensure compliance with the emission standards of this subpart.

(iii) You must comply with the following procedures for applications submitted under paragraphs (g)(1)(i) and (ii) of this section:

(A) *Timing of the application.* You must submit the application to the Administrator not later than with the comprehensive performance test plan.

(B) *Content of the application.* You must include in the application:

(1) Data or information justifying your request for an alternative monitoring requirement (or for a waiver of an operating parameter limit), such as the technical or economic infeasibility or the impracticality of using the required approach;

(2) A description of the proposed alternative monitoring requirement, including the operating parameter to be monitored, the monitoring approach/technique (*e.g.*, type of detector, monitoring location), the averaging period for the limit, and how the limit is to be calculated; and

(3) Data or information documenting that the alternative monitoring requirement would provide equivalent or better assurance of compliance with the relevant emission standard, or that it is the monitoring requirement that best assures compliance with the standard and that is technically and economically practicable.

(C) *Approval of request to use an alternative monitoring requirement or waive an operating parameter limit.* The Administrator will notify you of approval or intention to deny approval of the request within 90 calendar days after receipt of the original request and within 60 calendar days after receipt of any supplementary information that you submit. The Administrator will not approve an alternative monitoring request unless the alternative monitoring requirement provides equivalent or better assurance of compliance with the relevant emission standard, or is the monitoring requirement that best assures compliance with the standard and that is technically and economically practicable. Before disapproving any request, the Administrator will notify you of the Administrator's intention to disapprove the request together with:

(1) Notice of the information and findings on which the intended disapproval is based; and

(2) Notice of opportunity for you to present additional information to the Administrator before final action on the request. At the time the Administrator notifies you of intention to disapprove the request, the Administrator will specify how much time you will

have after being notified of the intended disapproval to submit the additional information.

(D) *Responsibility of owners and operators.* You are responsible for ensuring that you submit any supplementary and additional information supporting your application in a timely manner to enable the Administrator to consider your application during review of the comprehensive performance test plan. Neither your submittal of an application, nor the Administrator's failure to approve or disapprove the application, relieves you of the responsibility to comply with the provisions of this subpart.

(iv) *Dual Standards that incorporate the Interim Standards for HAP metals.* (A) *Semivolatile and Low Volatile Metals.* You may petition the Administrator to waive a feedrate operating parameter limit under paragraph (n)(2) of this section for either the emission standards expressed in a thermal emissions format or the interim standards based on documentation that the feedrate operating parameter limit is not needed to ensure compliance with the relevant standard on a continuous basis.

(B) *Mercury.* You may petition the Administrator to waive a feedrate operating parameter limit under paragraph (l)(1) of this section for either the feed concentration standard under §§ 63.1220(a)(2)(i) and (b)(2)(i) or the interim standards based on documentation that the feedrate operating parameter limit is not needed to ensure compliance with the relevant standard on a continuous basis.

(2) *Administrator's discretion to specify additional or alternative requirements.* The Administrator may determine on a case-by-case basis at any time (e.g., during review of the comprehensive performance test plan, during compliance certification review) that you may need to limit additional or alternative operating parameters (e.g., opacity in addition to or in lieu of operating parameter limits on the particulate matter control device) or that alternative approaches to establish limits on operating parameters may be necessary to document compliance with the emission standards of this subpart.

(h) *Reduction of monitoring data.* The provisions of § 63.8(g) apply.

(i) *When an operating parameter is applicable to multiple standards.* Paragraphs (j) through (p) of this section require you to establish limits on operating parameters based on comprehensive performance testing to ensure you maintain compliance with the emission standards of this subpart. For several parameters, you must establish a limit for the parameter to ensure compliance with more than one emission standard. An example is a limit on minimum combustion chamber temperature to ensure compliance with both the DRE standard of paragraph (j) of this section and the dioxin/furan standard of paragraph (k) of this section. If the performance tests for such standards are not performed simultaneously, the most stringent limit for a parameter derived from independent performance tests applies.

(j) *DRE.* To remain in compliance with the destruction and removal efficiency (DRE) standard, you must establish operating limits during the comprehensive performance test (or during a previous DRE test under provisions of § 63.1206(b)(7)) for the following parameters, unless the limits are based on manufacturer specifications, and comply with those limits at all times that hazardous waste remains in the combustion chamber (i.e., the hazardous waste residence time has not transpired since the hazardous waste feed cutoff system was activated):

(1) *Minimum combustion chamber temperature.* (i) You must measure the temperature of each combustion chamber at a location that best represents, as practicable, the bulk gas temperature in the combustion zone. You must document the temperature measurement location in the test plan you submit under § 63.1207(e);

(ii) You must establish a minimum hourly rolling average limit as the average of the test run averages;

(2) *Maximum flue gas flowrate or production rate.* (i) As an indicator of gas residence time in the control device, you must establish and comply with a limit on the maximum flue gas flowrate, the maximum production rate, or another parameter that you document in the site-specific test plan



as an appropriate surrogate for gas residence time, as the average of the maximum hourly rolling averages for each run.

(ii) You must comply with this limit on a hourly rolling average basis;

(3) *Maximum hazardous waste feedrate.*

(i) You must establish limits on the maximum pumpable and total (i.e., pumpable and nonpumpable) hazardous waste feedrate for each location where hazardous waste is fed.

(ii) You must establish the limits as the average of the maximum hourly rolling averages for each run.

(iii) You must comply with the feedrate limit(s) on a hourly rolling average basis;

(4) *Operation of waste firing system.*

You must specify operating parameters and limits to ensure that good operation of each hazardous waste firing system is maintained.

(k) *Dioxins and furans.* You must comply with the dioxin and furans emission standard by establishing and complying with the following operating parameter limits. You must base the limits on operations during the comprehensive performance test, unless the limits are based on manufacturer specifications.

(1) *Gas temperature at the inlet to a dry particulate matter control device.* (i) For sources other than a lightweight aggregate kiln, if the combustor is equipped with an electrostatic precipitator, baghouse (fabric filter), or other dry emissions control device where particulate matter is suspended in contact with combustion gas, you must establish a limit on the maximum temperature of the gas at the inlet to the device on an hourly rolling average. You must establish the hourly rolling average limit as the average of the test run averages.

(ii) For hazardous waste burning lightweight aggregate kilns, you must establish a limit on the maximum temperature of the gas at the exit of the (last) combustion chamber (or exit of any waste heat recovery system) on an hourly rolling average. The limit must be established as the average of the test run averages;

(2) *Minimum combustion chamber temperature.* (i) For sources other than cement kilns, you must measure the tem-

perature of each combustion chamber at a location that best represents, as practicable, the bulk gas temperature in the combustion zone. You must document the temperature measurement location in the test plan you submit under §§ 63.1207(e) and (f);

(ii) You must establish a minimum hourly rolling average limit as the average of the test run averages.

(3) *Maximum flue gas flowrate or production rate.* (i) As an indicator of gas residence time in the control device,

you must establish and comply with a limit on the maximum flue gas flowrate, the maximum production rate, or another parameter that you document in the site-specific test plan as an appropriate surrogate for gas residence time, as the average of the maximum hourly rolling averages for each run.

(ii) You must comply with this limit on a hourly rolling average basis;

(4) *Maximum hazardous waste feedrate.*

(i) You must establish limits on the maximum pumpable and total (pumpable and nonpumpable) hazardous waste feedrate for each location where waste is fed.

(ii) You must establish the limits as the average of the maximum hourly rolling averages for each run.

(iii) You must comply with the feedrate limit(s) on a hourly rolling average basis;

(5) *Particulate matter operating limit.* If your combustor is equipped with an activated carbon injection system, you must establish operating parameter limits on the particulate matter control device as specified by paragraph (m)(1) of this section;

(6) *Activated carbon injection parameter limits.* If your combustor is equipped with an activated carbon injection system:

(i) *Carbon feedrate.* You must establish a limit on minimum carbon injection rate on an hourly rolling average calculated as the average of the test run averages. If your carbon injection system injects carbon at more than one location, you must establish a carbon feedrate limit for each location.

(ii) *Carrier fluid.* You must establish a limit on minimum carrier fluid (gas or liquid) flowrate or pressure drop as an hourly rolling average based on the

manufacturer's specifications. You must document the specifications in the test plan you submit under §§ 63.1207(e) and (f);

(iii) *Carbon specification.* (A) You must specify and use the brand (*i.e.*, manufacturer) and type of carbon used during the comprehensive performance test until a subsequent comprehensive performance test is conducted, unless you document in the site-specific performance test plan required under §§ 63.1207(e) and (f) key parameters that affect adsorption and establish limits on those parameters based on the carbon used in the performance test.

(B) You may substitute at any time a different brand or type of carbon provided that the replacement has equivalent or improved properties compared to the carbon used in the performance test and conforms to the key sorbent parameters you identify under paragraph (k)(6)(iii)(A) of this section. You must include in the operating record documentation that the substitute carbon will provide the same level of control as the original carbon.

(7) *Carbon bed parameter limits.* If your combustor is equipped with a carbon bed system:

(i) *Monitoring bed life.* You must:

(A) Monitor performance of the carbon bed consistent with manufacturer's specifications and recommendations to ensure the carbon bed (or bed segment for sources with multiple segments) has not reached the end of its useful life to minimize dioxin/furan and mercury emissions at least to the levels required by the emission standards;

(B) Document the monitoring procedures in the operation and maintenance plan;

(C) Record results of the performance monitoring in the operating record; and

(D) Replace the bed or bed segment before it has reached the end of its useful life to minimize dioxin/furan and mercury emissions at least to the levels required by the emission standards.

(ii) *Carbon specification.* (A) You must specify and use the brand (*i.e.*, manufacturer) and type of carbon used during the comprehensive performance test until a subsequent comprehensive performance test is conducted, unless you document in the site-specific per-

formance test plan required under §§ 63.1207(e) and (f) key parameters that affect adsorption and establish limits on those parameters based on the carbon used in the performance test.

(B) You may substitute at any time a different brand or type of carbon provided that the replacement has equivalent or improved properties compared to the carbon used in the performance test. You must include in the operating record documentation that the substitute carbon will provide an equivalent or improved level of control as the original carbon.

(iii) *Maximum temperature.* You must measure the temperature of the carbon bed at either the bed inlet or exit and you must establish a maximum temperature limit on an hourly rolling average as the average of the test run averages.

(8) *Catalytic oxidizer parameter limits.* If your combustor is equipped with a catalytic oxidizer, you must establish limits on the following parameters:

(i) *Minimum flue gas temperature at the entrance of the catalyst.* You must establish a limit on minimum flue gas temperature at the entrance of the catalyst on an hourly rolling average as the average of the test run averages.

(ii) *Maximum time in-use.* You must replace a catalytic oxidizer with a new catalytic oxidizer when it has reached the maximum service time specified by the manufacturer.

(iii) *Catalyst replacement specifications.* When you replace a catalyst with a new one, the new catalyst must be equivalent to or better than the one used during the previous comprehensive test, as measured by:

(A) Catalytic metal loading for each metal;

(B) Space time, expressed in the units  $s^{-1}$ , the maximum rated volumetric flow of combustion gas through the catalyst divided by the volume of the catalyst; and

(C) Substrate construction, including materials of construction, washcoat type, and pore density.

(iv) *Maximum flue gas temperature.* You must establish a maximum flue gas temperature limit at the entrance of the catalyst as an hourly rolling average, based on manufacturer's specifications.

(9) *Inhibitor feedrate parameter limits.* If you feed a dioxin/furan inhibitor into the combustion system, you must establish limits for the following parameters:

(i) *Minimum inhibitor feedrate.* You must establish a limit on minimum inhibitor feedrate on an hourly rolling average as the average of the test run averages.

(ii) *Inhibitor specifications.* (A) You must specify and use the brand (*i.e.*, manufacturer) and type of inhibitor used during the comprehensive performance test until a subsequent comprehensive performance test is conducted, unless you document in the site-specific performance test plan required under §§ 63.1207(e) and (f) key parameters that affect the effectiveness of the inhibitor and establish limits on those parameters based on the inhibitor used in the performance test.

(B) You may substitute at any time a different brand or type of inhibitor provided that the replacement has equivalent or improved properties compared to the inhibitor used in the performance test and conforms to the key parameters you identify under paragraph (k)(9)(ii)(A) of this section. You must include in the operating record documentation that the substitute inhibitor will provide the same level of control as the original inhibitor.

(1) *Mercury.* You must comply with the mercury emission standard by establishing and complying with the following operating parameter limits. You must base the limits on operations during the comprehensive performance test, unless the limits are based on manufacturer specifications.

(i) *Feedrate of mercury.* (i) For incinerators and solid fuel boilers, when complying with the mercury emission standards under §§ 63.1203, 63.1216 and 63.1219, you must establish a 12-hour rolling average limit for the total feedrate of mercury in all feedstreams as the average of the test run averages.

(ii) For liquid fuel boilers, when complying with the mercury emission standards of § 63.1217, you must establish a rolling average limit for the mercury feedrate as follows on an averaging period not to exceed an annual rolling average:

(A) You must calculate a mercury system removal efficiency for each test run and calculate the average system removal efficiency of the test run averages. If emissions exceed the mercury emission standard during the comprehensive performance test, it is not a violation because the averaging period for the mercury emission standard is (not-to-exceed) one year and compliance is based on compliance with the mercury feedrate limit with an averaging period not-to-exceed one year.

(B) If you burn hazardous waste with a heating value of 10,000 Btu/lb or greater, you must calculate the mercury feedrate limit as follows:

(1) The mercury feedrate limit is the emission standard divided by [1 - system removal efficiency].

(2) The mercury feedrate limit is a hazardous waste thermal concentration limit expressed as pounds of mercury in hazardous waste feedstreams per million Btu of hazardous waste fired.

(3) You must comply with the hazardous waste mercury thermal concentration limit by determining the feedrate of mercury in all hazardous waste feedstreams (lb/hr) at least once a minute and the hazardous waste thermal feedrate (MM Btu/hr) at least once a minute to calculate a 60-minute average thermal emission concentration as [hazardous waste mercury feedrate (lb/hr) / hazardous waste thermal feedrate (MM Btu/hr)].

(4) You must calculate a rolling average hazardous waste mercury thermal concentration that is updated each hour.

(5) If you select an averaging period for the feedrate limit that is greater than a 12-hour rolling average, you must calculate the initial rolling average as though you had selected a 12-hour rolling average, as provided by paragraph (b)(5)(i) of this section. You must calculate rolling averages thereafter as the average of the available one-minute values until enough one-minute values are available to calculate the rolling average period you select. At that time and thereafter, you update the rolling average feedrate each hour with a 60-minute average feedrate.

(C) If you burn hazardous waste with a heating value of less than 10,000 Btu/

lb, you must calculate the mercury feedrate limit as follows:

(1) You must calculate the mercury feedrate limit as the mercury emission standard divided by [1 - System Removal Efficiency].

(2) The feedrate limit is expressed as a mass concentration per unit volume of stack gas ( $\mu\text{g}/\text{dscm}$ ) and is converted to a mass feedrate ( $\text{lb}/\text{hr}$ ) by multiplying it by the average stack gas flowrate of the test run averages.

(3) You must comply with the feedrate limit by determining the mercury feedrate ( $\text{lb}/\text{hr}$ ) at least once a minute to calculate a 60-minute average feedrate.

(4) You must update the rolling average feedrate each hour with this 60-minute feedrate measurement.

(5) If you select an averaging period for the feedrate limit that is greater than a 12-hour rolling average, you must calculate the initial rolling average as though you had selected a 12-hour rolling average, as provided by paragraph (b)(5)(i) of this section. You must calculate rolling averages thereafter as the average of the available one-minute values until enough one-minute values are available to calculate the rolling average period you select. At that time and thereafter, you update the rolling average feedrate each hour with a 60-minute average feedrate.

(D) If your boiler is equipped with a wet scrubber, you must comply with the following unless you document in the performance test plan that you do not feed chlorine at rates that may substantially affect the system removal efficiency of mercury for purposes of establishing a mercury feedrate limit based on the system removal efficiency during the test:

(1) Scrubber blowdown must be minimized during a pretest conditioning period and during the performance test:

(2) Scrubber water must be preconditioned so that mercury in the water is at equilibrium with stack gas at the mercury feedrate level of the performance test; and

(3) You must establish an operating limit on minimum pH of scrubber water as the average of the test run averages and comply with the limit on an hourly rolling average.

(iii) For cement kilns:

(A) When complying with the emission standards under §§ 63.1220(a)(2)(i) and (b)(2)(i), you must:

(1) Comply with the mercury hazardous waste feed concentration operating requirement on a twelve-hour rolling average;

(2) Monitor and record in the operating record the as-fired mercury concentration in the hazardous waste (or the weighted-average mercury concentration for multiple hazardous waste feedstreams);

(3) Initiate an automatic waste feed cutoff that immediately and automatically cuts off the hazardous waste feed when the as-fired mercury concentration operating requirement is exceeded;

(B) When complying with the emission standards under §§ 63.1204, 63.1220(a)(2)(ii) and (b)(2)(ii), you must establish a 12-hour rolling average limit for the total feedrate of mercury in all feedstreams as the average of the test run averages;

(C) Except as provided by paragraph (1)(1)(iii)(D) of this section, when complying with the hazardous waste feedrate corresponding to a maximum theoretical emission concentration (MTEC) under §§ 63.1220(a)(2)(iii) and (b)(2)(iii), you must:

(1) Comply with the MTEC operating requirement on a twelve-hour rolling average;

(2) Monitor and record the feedrate of mercury for each hazardous waste feedstream according to § 63.1209(c);

(3) Monitor with a CMS and record in the operating record the gas flowrate (either directly or by monitoring a surrogate parameter that you have correlated to gas flowrate);

(4) Continuously calculate and record in the operating record a MTEC assuming mercury from all hazardous waste feedstreams is emitted;

(5) Initiate an automatic waste feed cutoff that immediately and automatically cuts off the hazardous waste feed when the MTEC operating requirement is exceeded;

(D) In lieu of complying with paragraph (1)(1)(iii)(C) of this section, you may:

(1) Identify in the Notification of Compliance a minimum gas flowrate

limit and a maximum feedrate limit of mercury from all hazardous waste feedstreams that ensures the MTEC calculated in paragraph (1)(1)(iii)(B)(4) of this section is below the operating requirement under paragraphs §§ 63.1220(a)(2)(iii) and (b)(2)(iii); and

(2) Initiate an automatic waste feed cutoff that immediately and automatically cuts off the hazardous waste feed when either the gas flowrate or mercury feedrate exceeds the limits identified in paragraph (1)(1)(iv)(D)(7) of this section.

(iv) For lightweight aggregate kilns:

(A) When complying with the emission standards under §§ 63.1205, 63.1221(a)(2)(i) and (b)(2)(i), you must establish a 12-hour rolling average limit for the total feedrate of mercury in all feedstreams as the average of the test run averages;

(B) Except as provided by paragraph (1)(1)(iv)(C) of this section, when complying with the hazardous waste feedrate corresponding to a maximum theoretical emission concentration (MTEC) under §§ 63.1221(a)(2)(ii) and (b)(2)(ii), you must:

(1) Comply with the MTEC operating requirement on a twelve-hour rolling average;

(2) Monitor and record the feedrate of mercury for each hazardous waste feedstream according to § 63.1209(c);

(3) Monitor with a CMS and record in the operating record the gas flowrate (either directly or by monitoring a surrogate parameter that you have correlated to gas flowrate);

(4) Continuously calculate and record in the operating record a MTEC assuming mercury from all hazardous waste feedstreams is emitted;

(5) Initiate an automatic waste feed cutoff that immediately and automatically cuts off the hazardous waste feed when the MTEC operating requirement is exceeded;

(C) In lieu of complying with paragraph (1)(1)(iv)(B) of this section, you may:

(1) Identify in the Notification of Compliance a minimum gas flowrate limit and a maximum feedrate limit of mercury from all hazardous waste feedstreams that ensures the MTEC calculated in paragraph (1)(1)(iv)(B)(4) of this section is below the operating

requirement under paragraphs §§ 63.1221(a)(2)(ii) and (b)(2)(ii); and

(2) Initiate an automatic waste feed cutoff that immediately and automatically cuts off the hazardous waste feed when either the gas flowrate or mercury feedrate exceeds the limits identified in paragraph (1)(1)(iv)(C)(7) of this section.

(v) *Extrapolation of feedrate levels.* In lieu of establishing mercury feedrate limits as specified in paragraphs (1)(1)(i) through (iv) of this section, you may request as part of the performance test plan under §§ 63.7(b) and (c) and §§ 63.1207 (e) and (f) to use the mercury feedrates and associated emission rates during the comprehensive performance test to extrapolate to higher allowable feedrate limits and emission rates. The extrapolation methodology will be reviewed and approved, as warranted, by the Administrator. The review will consider in particular whether:

(A) Performance test metal feedrates are appropriate (i.e., whether feedrates are at least at normal levels; depending on the heterogeneity of the waste, whether some level of spiking would be appropriate; and whether the physical form and species of spiked material is appropriate); and

(B) Whether the extrapolated feedrates you request are warranted considering historical metal feedrate data.

(2) *Wet scrubber.* If your combustor is equipped with a wet scrubber, you must establish operating parameter limits prescribed by paragraph (o)(3) of this section, except for paragraph (o)(3)(iv).

(3) *Activated carbon injection.* If your combustor is equipped with an activated carbon injection system, you must establish operating parameter limits prescribed by paragraphs (k)(5) and (k)(6) of this section.

(4) *Activated carbon bed.* If your combustor is equipped with an activated carbon bed system, you must comply with the requirements of (k)(7) of this section to assure compliance with the mercury emission standard.

(m) *Particulate matter*. You must comply with the particulate matter emission standard by establishing and complying with the following operating parameter limits. You must base the limits on operations during the comprehensive performance test, unless the limits are based on manufacturer specifications.

(1) *Control device operating parameter limits (OPLs)*. (i) *Wet scrubbers*. For sources equipped with wet scrubbers, including ionizing wet scrubbers, high energy wet scrubbers such as venturi, hydrosonic, collision, or free jet wet scrubbers, and low energy wet scrubbers such as spray towers, packed beds, or tray towers, you must establish limits on the following parameters:

(A) For high energy scrubbers only, minimum pressure drop across the wet scrubber on an hourly rolling average, established as the average of the test run averages;

(B) For all wet scrubbers:

(1) To ensure that the solids content of the scrubber liquid does not exceed levels during the performance test, you must either:

(i) Establish a limit on solids content of the scrubber liquid using a CMS or by manual sampling and analysis. If you elect to monitor solids content manually, you must sample and analyze the scrubber liquid hourly unless you support an alternative monitoring frequency in the performance test plan that you submit for review and approval; or

(ii) Establish a minimum blowdown rate using a CMS and either a minimum scrubber tank volume or liquid level using a CMS.

(2) For maximum solids content monitored with a CMS, you must establish a limit on a twelve-hour rolling average as the average of the test run averages.

(3) For maximum solids content measured manually, you must establish an hourly limit, as measured at least once per hour, unless you support an alternative monitoring frequency in the performance test plan that you submit for review and approval. You must establish the maximum hourly limit as the average of the manual measurement averages for each run.

(4) For minimum blowdown rate and either a minimum scrubber tank volume or liquid level using a CMS, you must establish a limit on an hourly rolling average as the average of the test run averages.

(C) For high energy wet scrubbers only, you must establish limits on either the minimum liquid to gas ratio or the minimum scrubber water flowrate and maximum flue gas flowrate on an hourly rolling average. If you establish limits on maximum flue gas flowrate under this paragraph, you need not establish a limit on maximum flue gas flowrate under paragraph (m)(2) of this section. You must establish these hourly rolling average limits as the average of the test run averages; and

(ii)-(iii) [Reserved]

(iv) *Other particulate matter control devices*. For each particulate matter control device that is not a fabric filter or high energy wet scrubber, or is not an electrostatic precipitator or ionizing wet scrubber for which you elect to monitor particulate matter loadings under § 63.1206(c)(9) of this chapter for process control, you must ensure that the control device is properly operated and maintained as required by § 63.1206(c)(7) and by monitoring the operation of the control device as follows:

(A) During each comprehensive performance test conducted to demonstrate compliance with the particulate matter emissions standard, you must establish a range of operating values for the control device that is a representative and reliable indicator that the control device is operating within the same range of conditions as during the performance test. You must establish this range of operating values as follows:

(1) You must select a set of operating parameters appropriate for the control device design that you determine to be a representative and reliable indicator of the control device performance.

(2) You must measure and record values for each of the selected operating parameters during each test run of the performance test. A value for each selected parameter must be recorded using a continuous monitor.

(3) For each selected operating parameter measured in accordance with

the requirements of paragraph (m)(1)(iv)(A)(7) of this section, you must establish a minimum operating parameter limit or a maximum operating parameter limit, as appropriate for the parameter, to define the operating limits within which the control device can operate and still continuously achieve the same operating conditions as during the performance test.

(4) You must prepare written documentation to support the operating parameter limits established for the control device and you must include this documentation in the performance test plan that you submit for review and approval. This documentation must include a description for each selected parameter and the operating range and monitoring frequency required to ensure the control device is being properly operated and maintained.

(B) You must install, calibrate, operate, and maintain a monitoring device equipped with a recorder to measure the values for each operating parameter selected in accordance with the requirements of paragraph (m)(1)(iv)(A)(7) of this section. You must install, calibrate, and maintain the monitoring equipment in accordance with the equipment manufacturer's specifications. The recorder must record the detector responses at least every 60 seconds, as required in the definition of continuous monitor.

(C) You must regularly inspect the data recorded by the operating parameter monitoring system at a sufficient frequency to ensure the control device is operating properly. An excursion is determined to have occurred any time that the actual value of a selected operating parameter is less than the minimum operating limit (or, if applicable, greater than the maximum operating limit) established for the parameter in accordance with the requirements of paragraph (m)(1)(iv)(A)(3) of this section.

(D) Operating parameters selected in accordance with paragraph (m)(1)(iv) of this section may be based on manufacturer specifications provided you support the use of manufacturer specifications in the performance test plan that you submit for review and approval.

(2) *Maximum flue gas flowrate or production rate.* (i) As an indicator of gas

residence time in the control device, you must establish a limit on the maximum flue gas flowrate, the maximum production rate, or another parameter that you document in the site-specific test plan as an appropriate surrogate for gas residence time, as the average of the maximum hourly rolling averages for each run.

(ii) You must comply with this limit on a hourly rolling average basis;

(3) *Maximum ash feedrate.* Owners and operators of hazardous waste incinerators, solid fuel boilers, and liquid fuel boilers must establish a maximum ash feedrate limit as a 12-hour rolling average based on the average of the test run averages. This requirement is waived, however, if you comply with the particulate matter detection system requirements under §63.1206(c)(9).

(n) *Semivolatile metals and low volatility metals.* You must comply with the semivolatile metal (cadmium and lead) and low volatile metal (arsenic, beryllium, and chromium) emission standards by establishing and complying with the following operating parameter limits. You must base the limits on operations during the comprehensive performance test, unless the limits are based on manufacturer specifications.

(1) *Maximum inlet temperature to dry particulate matter air pollution control device.* You must establish a limit on the maximum inlet temperature to the primary dry metals emissions control device (e.g., electrostatic precipitator, baghouse) on an hourly rolling average basis as the average of the test run averages.

(2) *Maximum feedrate of semivolatile and low volatile metals.* (i) *General.* You must establish feedrate limits for semivolatile metals (cadmium and lead) and low volatile metals (arsenic, beryllium, and chromium) as follows, except as provided by paragraph (n)(2)(vii) of this section.

(ii) For incinerators, cement kilns, and lightweight aggregate kilns, when complying with the emission standards under §§63.1203, 63.1204, 63.1205, and 63.1219, and for solid fuel boilers when complying with the emission standards under §63.1216, you must establish 12-hour rolling average limits for the total feedrate of semivolatile and low

volatile metals in all feedstreams as the average of the test run averages.

(iii) *Cement kilns under § 63.1220—(A)* When complying with the emission standards under §§ 63.1220(a)(3)(i), (a)(4)(i), (b)(3)(i), and (b)(4)(i), you must establish 12-hour rolling average feedrate limits for semivolatile and low volatile metals as the thermal concentration of semivolatile metals or low volatile metals in all hazardous waste feedstreams. You must calculate hazardous waste thermal concentrations for semivolatile metals and low volatile metals for each run as the total mass feedrate of semivolatile metals or low volatile metals for all hazardous waste feedstreams divided by the total heat input rate for all hazardous waste feedstreams. The 12-hour rolling average feedrate limits for semivolatile metals and low volatile metals are the average of the hazardous waste thermal concentrations for the runs.

(B) When complying with the emission standards under §§ 63.1220(a)(3)(ii), (a)(4)(ii), (b)(3)(ii), and (b)(4)(ii), you must establish 12-hour rolling average limits for the total feedrate of semivolatile and low volatile metals in all feedstreams as the average of the test run averages.

(iv) *Lightweight aggregate kilns under § 63.1221—(A)* When complying with the emission standards under §§ 63.1221(a)(3)(i), (a)(4)(i), (b)(3)(i), and (b)(4)(i), you must establish 12-hour rolling average feedrate limits for semivolatile and low volatile metals as the thermal concentration of semivolatile metals or low volatile metals in all hazardous waste feedstreams as specified in paragraphs (n)(2)(iii)(A) of this section.

(B) When complying with the emission standards under §§ 63.1221(a)(3)(ii), (a)(4)(ii), (b)(3)(ii), and (b)(4)(ii), you must establish 12-hour rolling average limits for the total feedrate of semivolatile and low volatile metals in all feedstreams as the average of the test run averages.

(v) *Liquid fuel boilers under § 63.1217.* (A) *Semivolatile metals.* You must establish a rolling average limit for the semivolatile metal feedrate as follows on an averaging period not to exceed an annual rolling average.

(1) *System removal efficiency.* You must calculate a semivolatile metal system removal efficiency for each test run and calculate the average system removal efficiency of the test run averages. If emissions exceed the semivolatile metal emission standard during the comprehensive performance test, it is not a violation because the averaging period for the semivolatile metal emission standard is one year and compliance is based on compliance with the semivolatile metal feedrate limit that has an averaging period not to exceed an annual rolling average.

(2) *Boilers that feed hazardous waste with a heating value of 10,000 Btu/lb or greater.* You must calculate the semivolatile metal feedrate limit as the semivolatile metal emission standard divided by [1 - System Removal Efficiency].

(i) The feedrate limit is a hazardous waste thermal concentration limit expressed as pounds of semivolatile metals in all hazardous waste feedstreams per million Btu of hazardous waste fed to the boiler.

(ii) You must comply with the hazardous waste semivolatile metal thermal concentration limit by determining the feedrate of semivolatile metal in all hazardous waste feedstreams (lb/hr) and the hazardous waste thermal feedrate (MM Btu/hr) at least once a minute to calculate a 60-minute average thermal emission concentration as [hazardous waste semivolatile metal feedrate (lb/hr) / hazardous waste thermal feedrate (MM Btu/hr)].

(iii) You must calculate a rolling average hazardous waste semivolatile metal thermal concentration that is updated each hour.

(iv) If you select an averaging period for the feedrate limit that is greater than a 12-hour rolling average, you must calculate the initial rolling average as though you had selected a 12-hour rolling average, as provided by paragraph (b)(5)(i) of this section. You must calculate rolling averages thereafter as the average of the available one-minute values until enough one-minute values are available to calculate the rolling average period you select. At that time and thereafter, you update the rolling average feedrate



each hour with a 60-minute average feedrate.

(3) *Boilers that feed hazardous waste with a heating value less than 10,000 Btu/lb.* (i) You must calculate the semivolatile metal feedrate limit as the semivolatile metal emission standard divided by [1 - System Removal Efficiency].

(ii) The feedrate limit is expressed as a mass concentration per unit volume of stack gas ( $\mu\text{g}/\text{dscm}$ ) and is converted to a mass feedrate ( $\text{lb}/\text{hr}$ ) by multiplying it by the average stack gas flowrate ( $\text{dscm}/\text{hr}$ ) of the test run averages.

(iii) You must comply with the feedrate limit by determining the semivolatile metal feedrate ( $\text{lb}/\text{hr}$ ) at least once a minute to calculate a 60-minute average feedrate.

(iv) You must update the rolling average feedrate each hour with this 60-minute feedrate measurement.

(v) If you select an averaging period for the feedrate limit that is greater than a 12-hour rolling average, you must calculate the initial rolling average as though you had selected a 12-hour rolling average, as provided by paragraph (b)(5)(i) of this section. You must calculate rolling averages thereafter as the average of the available one-minute values until enough one-minute values are available to calculate the rolling average period you select. At that time and thereafter, you update the rolling average feedrate each hour with a 60-minute average feedrate.

(B) *Chromium.* (1) *Boilers that feed hazardous waste with a heating value of 10,000 Btu/lb or greater.* (i) The feedrate limit is a hazardous waste thermal concentration limit expressed as pounds of chromium in all hazardous waste feedstreams per million Btu of hazardous waste fed to the boiler.

(ii) You must comply with the hazardous waste chromium thermal concentration limit by determining the feedrate of chromium in all hazardous waste feedstreams ( $\text{lb}/\text{hr}$ ) and the hazardous waste thermal feedrate (MM Btu/hr) at least once a minute to calculate a 60-minute average thermal emission concentration as [hazardous waste chromium feedrate ( $\text{lb}/\text{hr}$ ) / hazardous waste thermal feedrate (MM

Btu/hr)]. You must update the rolling average feedrate each hour with this 60-minute average feedrate measurement.

(2) *Boilers that feed hazardous waste with a heating value less than 10,000 Btu/lb.* You must establish a 12-hour rolling average limit for the total feedrate ( $\text{lb}/\text{hr}$ ) of chromium in all feedstreams as the average of the test run averages. You must update the rolling average feedrate each hour with a 60-minute average feedrate measurement.

(vi) *LVM limits for pumpable wastes.* You must establish separate feedrate limits for low volatile metals in pumpable feedstreams using the procedures prescribed above for total low volatile metals. Dual feedrate limits for both pumpable and total feedstreams are not required, however, if you base the total feedrate limit solely on the feedrate of pumpable feedstreams.

(vii) *Extrapolation of feedrate levels.* In lieu of establishing feedrate limits as specified in paragraphs (1)(1)(i) through (iii) of this section, you may request as part of the performance test plan under §§ 63.7(b) and (c) and §§ 63.1207(e) and (f) to use the semivolatile metal and low volatile metal feedrates and associated emission rates during the comprehensive performance test to extrapolate to higher allowable feedrate limits and emission rates. The extrapolation methodology will be reviewed and approved, as warranted, by the Administrator. The review will consider in particular whether:

(A) Performance test metal feedrates are appropriate (*i.e.*, whether feedrates are at least at normal levels; depending on the heterogeneity of the waste, whether some level of spiking would be appropriate; and whether the physical form and species of spiked material is appropriate); and

(B) Whether the extrapolated feedrates you request are warranted considering historical metal feedrate data.

(3) *Control device operating parameter limits (OPLs).* You must establish operating parameter limits on the particulate matter control device as specified by paragraph (m)(1) of this section;

(4) *Maximum total chlorine and chlorine feedrate.* You must establish a 12-hour rolling average limit for the feedrate of

total chlorine and chloride in all feedstreams as the average of the test run averages.

(5) *Maximum flue gas flowrate or production rate.* (i) As an indicator of gas residence time in the control device, you must establish a limit on the maximum flue gas flowrate, the maximum production rate, or another parameter that you document in the site-specific test plan as an appropriate surrogate for gas residence time, as the average of the maximum hourly rolling averages for each run.

(ii) You must comply with this limit on a hourly rolling average basis.

(c) *Hydrogen chloride and chlorine gas.* You must comply with the hydrogen chloride and chlorine gas emission standard by establishing and complying with the following operating parameter limits. You must base the limits on operations during the comprehensive performance test, unless the limits are based on manufacturer specifications.

(1) *Feedrate of total chlorine and chloride.* (i) *Incinerators, cement kilns, lightweight aggregate kilns, solid fuel boilers, and hydrochloric acid production furnaces.* You must establish a 12-hour rolling average limit for the total feedrate of chlorine (organic and inorganic) in all feedstreams as the average of the test run averages.

(ii) *Liquid fuel boilers.* (A) *Boilers that feed hazardous waste with a heating value not less than 10,000 Btu/lb.* (1) The feedrate limit is a hazardous waste thermal concentration limit expressed as pounds of chlorine (organic and inorganic) in all hazardous waste feedstreams per million Btu of hazardous waste fed to the boiler.

(2) You must establish a 12-hour rolling average feedrate limit as the average of the test run averages.

(3) You must comply with the feedrate limit by determining the mass feedrate of hazardous waste feedstreams (lb/hr) at least once a minute and by knowing the chlorine (organic and inorganic) content and heating value (million Btu/lb) of hazardous waste feedstreams at all times to calculate a 60-minute average feedrate measurement as [hazardous waste chlorine feedrate (lb/hr) / hazardous waste thermal feedrate (million

Btu/hr)]. You must update the rolling average feedrate each hour with this 60-minute average feedrate measurement.

(B) *Boilers that feed hazardous waste with a heating value less than 10,000 Btu/lb.* You must establish a 12-hour rolling average limit for the total feedrate of chlorine (organic and inorganic) in all feedstreams as the average of the test run averages. You must update the rolling average feedrate each hour with a 60-minute average feedrate measurement.

(2) *Maximum flue gas flowrate or production rate.* (i) As an indicator of gas residence time in the control device, you must establish a limit on the maximum flue gas flowrate, the maximum production rate, or another parameter that you document in the site-specific test plan as an appropriate surrogate for gas residence time, as the average of the maximum hourly rolling averages for each run.

(ii) You must comply with this limit on a hourly rolling average basis:

(3) *Wet scrubber.* If your combustor is equipped with a wet scrubber:

(i) If your source is equipped with a high energy wet scrubber such as a venturi, hydrosonic, collision, or free jet wet scrubber, you must establish a limit on minimum pressure drop across the wet scrubber on an hourly rolling average as the average of the test run averages;

(ii) If your source is equipped with a low energy wet scrubber such as a spray tower, packed bed, or tray tower, you must establish a minimum pressure drop across the wet scrubber based on manufacturer's specifications. You must comply with the limit on an hourly rolling average;

(iii) If your source is equipped with a low energy wet scrubber, you must establish a limit on minimum liquid feed pressure to the wet scrubber based on manufacturer's specifications. You must comply with the limit on an hourly rolling average;

(iv) You must establish a limit on minimum pH on an hourly rolling average as the average of the test run averages;

(v) You must establish limits on either the minimum liquid to gas ratio or the minimum scrubber water

flowrate and maximum flue gas flowrate on an hourly rolling average as the average of the test run averages. If you establish limits on maximum flue gas flowrate under this paragraph, you need not establish a limit on maximum flue gas flowrate under paragraph (o)(2) of this section; and

(4) *Dry scrubber.* If your combustor is equipped with a dry scrubber, you must establish the following operating parameter limits:

(i) *Minimum sorbent feedrate.* You must establish a limit on minimum sorbent feedrate on an hourly rolling average as the average of the test run averages.

(ii) *Minimum carrier fluid flowrate or nozzle pressure drop.* You must establish a limit on minimum carrier fluid (gas or liquid) flowrate or nozzle pressure drop based on manufacturer's specifications.

(iii) *Sorbent specifications.* (A) You must specify and use the brand (*i.e.*, manufacturer) and type of sorbent used during the comprehensive performance test until a subsequent comprehensive performance test is conducted, unless you document in the site-specific performance test plan required under §§ 63.1207(e) and (f) key parameters that affect adsorption and establish limits on those parameters based on the sorbent used in the performance test.

(B) You may substitute at any time a different brand or type of sorbent provided that the replacement has equivalent or improved properties compared to the sorbent used in the performance test and conforms to the key sorbent parameters you identify under paragraph (o)(4)(iii)(A) of this section. You must record in the operating record documentation that the substitute sorbent will provide the same level of control as the original sorbent.

(p) *Maximum combustion chamber pressure.* If you comply with the requirements for combustion system leaks under § 63.1206(c)(5) by maintaining the maximum combustion chamber zone pressure lower than ambient pressure to prevent combustion systems leaks from hazardous waste combustion, you must perform instantaneous monitoring of pressure and the automatic waste feed cutoff system must be en-

gaged when negative pressure is not adequately maintained.

(q) *Operating under different modes of operation.* If you operate under different modes of operation, you must establish operating parameter limits for each mode. You must document in the operating record when you change a mode of operation and begin complying with the operating limits for an alternative mode of operation.

(1) *Operating under otherwise applicable standards after the hazardous waste residence time has transpired.* As provided by § 63.1206(b)(1)(ii), you may operate under otherwise applicable requirements promulgated under sections 112 and 129 of the Clean Air Act in lieu of the substantive requirements of this subpart.

(i) The otherwise applicable requirements promulgated under sections 112 and 129 of the Clean Air Act are applicable requirements under this subpart.

(ii) You must specify (*e.g.*, by reference) the otherwise applicable requirements as a mode of operation in your Documentation of Compliance under § 63.1211(c), your Notification of Compliance under § 63.1207(j), and your title V permit application. These requirements include the otherwise applicable requirements governing emission standards, monitoring and compliance, and notification, reporting, and recordkeeping.

(2) *Calculating rolling averages under different modes of operation.* When you transition to a different mode of operation, you must calculate rolling averages as follows:

(i) *Retrieval approach.* Calculate rolling averages anew using the continuous monitoring system values previously recorded for that mode of operation (*i.e.*, you ignore continuous monitoring system values subsequently recorded under other modes of operation when you transition back to a mode of operation); or

(ii) *Start anew.* Calculate rolling averages anew without considering previous recordings.

(A) Rolling averages must be calculated as the average of the available one-minute values for the parameter until enough one-minute values are available to calculate hourly or 12-hour

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rolling averages, whichever is applicable to the parameter.

(B) You may not transition to a new mode of operation using this approach if the most recent operation in that mode resulted in an exceedance of an applicable emission standard measured with a CEMS or operating parameter limit prior to the hazardous waste residence time expiring; or

(iii) *Seamless transition.* Continue calculating rolling averages using data from the previous operating mode provided that both the operating limit and the averaging period for the parameter are the same for both modes of operation.

(r) *Averaging periods.* The averaging periods specified in this section for operating parameters are not-to-exceed

averaging periods. You may elect to use shorter averaging periods. For example, you may elect to use a 1-hour rolling average rather than the 12-hour rolling average specified in paragraph (1)(1)(i) of this section for mercury.

[64 FR 53038, Sept. 30, 1999, as amended at 65 FR 42300, July 10, 2000; 65 FR 67271, Nov. 9, 2000; 66 FR 24272, May 14, 2001; 66 FR 35106, July 3, 2001; 67 FR 6815, Feb. 13, 2002; 67 FR 6991, Feb. 14, 2002; 67 FR 77691, Dec. 19, 2002; 70 FR 59548, Oct. 12, 2005]

**NOTIFICATION, REPORTING AND  
RECORDKEEPING**

**§ 63.1210 What are the notification requirements?**

(a) *Summary of requirements.* (1) You must submit the following notifications to the Administrator:

Reference	Notification
63.9(b)	Initial notifications that you are subject to Subpart EEE of this Part.
63.9(d)	Notification that you are subject to special compliance requirements.
63.9(j)	Notification and documentation of any change in information already provided under §63.9.
63.1206(b)(5)(i)	Notification of changes in design, operation, or maintenance.
63.1206(c)(7)(ii)(C)	Notification of excessive bag leak detection system exceedances.
63.1207(e), 63.9(e), 63.9(g)(1) and (3)	Notification of performance test and continuous monitoring system evaluation, including the performance test plan and CMS performance evaluation plan. <sup>1</sup>
63.1210(b)	Notification of intent to comply.
63.1210(d), 63.1207(i), 63.1207(k), 63.1207(l), 63.9(n), 63.10(d)(2), 63.10(e)(2)	Notification of compliance, including results of performance tests and continuous monitoring system performance evaluations.

<sup>1</sup> You may also be required on a case-by-case basis to submit a feedstock analysis plan under §63.1209(c)(3).

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(2) You must submit the following notifications to the Administrator if you request or elect to comply with alternative requirements:

Reference	Notification, request, petition, or application
63.10(e)(3)(i)	You may request an adjustment to time periods or postmark deadlines for submittal and review of required information.
63.10(f)	You may request to reduce the frequency of excess emissions and CEMS performance reports.
63.1204(d)(2)(iii)	You may request to waive recordkeeping or reporting requirements.
63.1204(e)(2)(iii)	Notification that you elect to comply with the emission averaging requirements for cement kilns with in-line raw mills.
63.1206(b)(4)	Notification that you elect to comply with the emission averaging requirements for preheater or preheater/precalciner kilns with dual stacks.
63.1206(b)(5)(C)	You may request an extension of the compliance date for up to one year.
63.1206(b)(8)(iii)(B)	You may request to burn hazardous waste for more than 720 hours and for purposes other than testing or pretesting after making a change in the design or operation that could affect compliance with emission standards and prior to submitting a revised Notification of Compliance.
63.1206(b)(8)(v)	If you elect to conduct particulate matter CEMS correlation testing and wish to have federal particulate matter and opacity standards and associated operating limits waived during the testing, you must notify the Administrator by submitting the correlation test plan for review and approval.
63.1206(b)(9)	You may request approval to have the particulate matter and opacity standards and associated operating limits and conditions waived for more than 96 hours for a correlation test.
63.1206(b)(10)	Owners and operators of lightweight aggregate kilns may request approval of alternative emission standards for mercury, semivolatile metal, low volatile metal, and hydrogen chloride/chlorine gas under certain conditions.
63.1206(b)(14)	Owners and operators of cement kilns may request approval of alternative emission standards for mercury, semivolatile metal, low volatile metal, and hydrogen chloride/chlorine gas under certain conditions.
63.1206(b)(15)	Owners and operators of incinerators may elect to comply with an alternative to the particulate matter standard.
63.1206(c)(2)(ii)(C)	Owners and operators of cement and lightweight aggregate kilns may request to comply with the alternative to the interim standards for mercury.
63.1206(c)(5)(i)(C)	You may request an alternative means of control to provide control of combustion system leaks.
63.1206(c)(5)(i)(D)	You may request other techniques to prevent fugitive emissions without use of instantaneous pressure limits.
63.1207(c)(2)	You may request to base initial compliance on data in lieu of a comprehensive performance test.
63.1207(d)(3)	You may request more than 60 days to complete a performance test if additional time is needed for reasons beyond your control.
63.1207(e)(3)	You may request a time extension if the Administrator fails to approve or deny your test plan.
63.1207(h)(2)	You may request to waive current operating parameter limits during pretesting for more than 720 hours.
63.1207(i)(1)(ii)(D)	You may request a reduced hazardous waste feedstream analysis for organic hazardous air pollutants if the reduced analysis continues to be representative of organic hazardous air pollutants in your hazardous waste feedstreams.
63.1207(i)(2)(v)	You may request to operate under a wider operating range for a parameter during confirmatory performance testing.
63.1207(i)(4)	You may request up to a one-year time extension for conducting a performance test; other than the initial comprehensive performance test) to consolidate testing with other state or federally-required testing.
63.1207(i)(3)	You may request more than 90 days to submit a Notification of Compliance after completing a performance test if additional time is needed for reasons beyond your control.
63.1209(e)(5)	After failure of a performance test, you may request to burn hazardous waste for more than 720 hours and for purposes other than testing or pretesting.
63.1209(g)(1)	You may request: (1) Approval of alternative monitoring methods for compliance with standards that are monitored with a CEMS; and (2) approval to use a CEMS in lieu of operating parameter limits.
63.1209(h)(1)	You may request approval of: (1) Alternatives to operating parameter monitoring requirements, except for standards that you must monitor with a continuous emission monitoring system (CEMS) and except for requests to use a CEMS in lieu of operating parameter limits; or (2) a waiver of an operating parameter limit.
63.1209(h)(2)	You may request to extrapolate mercury feedrate limits.
63.1211(g)	You may request to extrapolate semivolatile and low volatile metal feedrate limits.
	You may request to use data compression techniques to record data on a less frequent basis than required by § 63.1209.

(b) *Notification of intent to comply (NIC)*. These procedures apply to sources that have not previously complied with the requirements of paragraph (b) of this section, and to sources that previously complied with the NIC requirements of § 63.1210, which were in effect prior to October 11, 2000, that must make a technology change requiring a Class 1 permit modification to meet the standards of §§ 63.1219, 63.1220, and 63.1221.

(1) You must prepare a Notification of Intent to Comply that includes all of the following information:

(i) General information:

(A) The name and address of the owner/operator and the source;

(B) Whether the source is a major or an area source;

(C) Waste minimization and emission control technique(s) being considered;

(D) Emission monitoring technique(s) you are considering;

(E) Waste minimization and emission control technique(s) effectiveness;

(F) A description of the evaluation criteria used or to be used to select waste minimization and/or emission control technique(s); and

(G) A general description of how you intend to comply with the emission standards of this subpart.

(ii) As applicable to each source, information on key activities and estimated dates for these activities that will bring the source into compliance with emission control requirements of this subpart. You must include all of the following key activities and dates in your NIC:

(A) The dates by which you anticipate you will develop engineering designs for emission control systems or process changes for emissions;

(B) The date by which you anticipate you will commit internal or external resources for installing emission control systems or making process changes for emission control, or the date by which you will issue orders for the purchase of component parts to accomplish emission control or process changes.

(C) The date by which you anticipate you will submit construction applications;

(D) The date by which you anticipate you will initiate on-site construction,

installation of emission control equipment, or process change;

(E) The date by which you anticipate you will complete on-site construction, installation of emission control equipment, or process change; and

(F) The date by which you anticipate you will achieve final compliance. The individual dates and milestones listed in paragraphs (b)(1)(ii)(A) through (F) of this section as part of the NIC are not requirements and therefore are not enforceable deadlines; the requirements of paragraphs (b)(1)(ii)(A) through (F) of this section must be included as part of the NIC only to inform the public of how you intend to comply with the emission standards of this subpart.

(iii) A summary of the public meeting required under paragraph (c) of this section;

(iv) If you intend to cease burning hazardous waste prior to or on the compliance date, the requirements of paragraphs (b)(1)(ii) and (b)(1)(iii) of this section do not apply. You must include in your NIC a schedule of key dates for the steps to be taken to stop hazardous waste activity at your combustion unit. Key dates include the date for submittal of RCRA closure documents required under subpart G, part 264 or subpart G, part 265 of this chapter.

(2) You must make a draft of the NIC available for public review no later than 30 days prior to the public meeting required under paragraph (c)(1) of this section or no later than 9 months after the effective date of the rule if you intend to cease burning hazardous waste prior to or on the compliance date.

(3) You must submit the final NIC to the Administrator no later than one year following the effective date of the emission standards of this subpart.

(c) *NIC public meeting and notice*. (1) Prior to the submission of the NIC to the permitting agency, and no later than 10 months after the effective date of the emission standards of this subpart, you must hold at least one informal meeting with the public to discuss anticipated activities described in the draft NIC for achieving compliance with the emission standards of this subpart. You must post a sign-in sheet



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or otherwise provide a voluntary opportunity for attendees to provide their names and addresses;

(2) You must submit a summary of the meeting, along with the list of attendees and their addresses developed under paragraph (b)(1) of this section, and copies of any written comments or materials submitted at the meeting, to the Administrator as part of the final NIC, in accordance with paragraph (b)(1)(iii) of this section;

(3) You must provide public notice of the NIC meeting at least 30 days prior to the meeting and you must maintain, and provide to the Administrator upon request, documentation of the notice. You must provide public notice in all of the following forms:

(i) *Newspaper advertisement.* You must publish a notice in a newspaper of general circulation in the county or equivalent jurisdiction of your facility. In addition, you must publish the notice in newspapers of general circulation in adjacent counties or equivalent jurisdiction where such publication would be necessary to inform the affected public. You must publish the notice as a display advertisement.

(ii) *Visible and accessible sign.* You must post a notice on a clearly marked sign at or near the source. If you place the sign on the site of the hazardous waste combustor, the sign must be large enough to be readable from the nearest spot where the public would pass by the site.

(iii) *Broadcast media announcement.* You must broadcast a notice at least once on at least one local radio station or television station.

(iv) *Notice to the facility mailing list.* You must provide a copy of the notice to the facility mailing list in accordance with §124.10(c)(1)(ix) of this chapter.

(4) You must include all of the following in the notices required under paragraph (c)(3) of this section:

(i) The date, time, and location of the meeting;

(ii) A brief description of the purpose of the meeting;

(iii) A brief description of the source and proposed operations, including the

address or a map (e.g., a sketched or copied street map) of the source location;

(iv) A statement encouraging people to contact the source at least 72 hours before the meeting if they need special access to participate in the meeting;

(v) A statement describing how the draft NIC (and final NIC, if requested) can be obtained; and

(vi) The name, address, and telephone number of a contact person for the NIC.

(5) The requirements of this paragraph do not apply to sources that intend to cease burning hazardous waste prior to or on the compliance date.

(d) *Notification of compliance.* (1) The Notification of Compliance status requirements of §63.9(h) apply, except that:

(i) The notification is a Notification of Compliance, rather than compliance status;

(ii) The notification is required for the initial comprehensive performance test and each subsequent comprehensive and confirmatory performance test; and

(iii) You must postmark the notification before the close of business on the 90th day following completion of relevant compliance demonstration activity specified in this subpart rather than the 60th day as required by §63.9(h)(2)(ii).

(2) Upon postmark of the Notification of Compliance, the operating parameter limits identified in the Notification of Compliance, as applicable, shall be complied with, the limits identified in the Documentation of Compliance or a previous Notification of Compliance are no longer applicable.

(3) The Notification of Compliance requirements of §63.1207(j) also apply.

[64 FR 53038, Sept. 30, 1999, as amended at 64 FR 63211, Nov. 19, 1999; 65 FR 42301, July 10, 2000; 66 FR 24272, May 14, 2001; 67 FR 6992, Feb. 14, 2002; 70 FR 59552, Oct. 12, 2005]

### §63.1211 What are the recordkeeping and reporting requirements?

(a) *Summary of reporting requirements.* You must submit the following reports to the Administrator:

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Reference	Report
63.10(d)(4) .....	Compliance progress reports, if required as a condition of an extension of the compliance date granted under §63.6(i).
63.10(d)(5)(i) .....	Periodic startup, shutdown, and malfunction reports.
63.10(d)(5)(ii) .....	Immediate startup, shutdown, and malfunction reports.
63.10(e)(3) .....	Excessive emissions and continuous monitoring system performance report and summary report.
63.1206(c)(2)(ii)(B) .....	Startup, shutdown, and malfunction plan.
63.1206(c)(3)(vi) .....	Excessive exceedances reports.
63.1206(c)(4)(iv) .....	Emergency safety vent opening reports.

(b) *Summary of recordkeeping requirements.* You must retain the following in the operating record:

Reference	Document, Data, or Information
63.1200, 63.10(b) and (c)	General information required to document and maintain compliance with the regulations of Subpart EEE, including data recorded by continuous monitoring systems (CMS), and copies of all notifications, reports, plans, and other documents submitted to the Administrator.
63.1204(d)(1)(ii), 63.1220(d)(1)(ii)	Documentation of mode of operation changes for cement kilns with in-line raw mills.
63.1204(d)(2)(ii), 63.1220(d)(2)(ii)	Documentation of compliance with the emission averaging requirements for cement kilns with in-line raw mills.
63.1204(e)(2)(ii), 63.1220(e)(2)(ii)	Documentation of compliance with the emission averaging requirements for preheater or preheater/precalciner kilns with dual stacks.
63.1206(b)(1)(ii)	If you elect to comply with all applicable requirements and standards promulgated under authority of the Clean Air Act, including Sections 112 and 129, in lieu of the requirements of Subpart EEE when not burning hazardous waste, you must document in the operating record that you are in compliance with those requirements.
63.1206(b)(5)(ii)	Documentation that a change will not adversely affect compliance with the emission standards or operating requirements.
63.1206(b)(11)	Calculation of hazardous waste residence time.
63.1206(c)(2)	Startup, shutdown, and malfunction plan.
63.1206(c)(2)(v)(A)	Documentation of your investigation and evaluation of excessive exceedances during malfunctions.
63.1206(c)(3)(v)	Corrective measures for any automatic waste feed cutoff that results in an exceedance of an emission standard or operating parameter limit.
63.1206(c)(3)(vii)	Documentation and results of the automatic waste feed cutoff operability testing.
63.1206(c)(4)(ii)	Emergency safety vent operating plan.
63.1206(c)(4)(iii)	Corrective measures for any emergency safety vent opening.
63.1206(c)(5)(ii)	Method used for control of combustion system leaks.
63.1206(c)(6)	Operator training and certification program.
63.1206(c)(7)(i)(D)	Operation and maintenance plan.
63.1209(c)(2)	Feedstream analysis plan.
63.1209(k)(5)(ii), 63.1209(k)(7)(ii), 63.1209(k)(9)(ii), 63.1209(o)(4)(ii)	Documentation that a substitute activated carbon, dioxin/furan formation reaction inhibitor, or dry scrubber sorbent will provide the same level of control as the original material.
63.1209(k)(7)(i)(C)	Results of carbon bed performance monitoring.
63.1209(g)	Documentation of changes in modes of operation.
63.1211(c)	Documentation of compliance.

(c) *Documentation of compliance.* (1) By the compliance date, you must develop and include in the operating record a Documentation of Compliance. You are not subject to this requirement, however, if you submit a Notification of Compliance under §63.1207(j) prior to the compliance date. Upon inclusion of the Documentation of Compliance in the operating record, hazardous waste burning incinerators, cement kilns, and lightweight aggregate kilns regulated under the interim standards of §§63.1203, 63.1204, and 63.1205 are no longer subject to compliance with the previously applicable Notification of Compliance.

(2) The Documentation of Compliance must identify the applicable emission standards under this subpart and the limits on the operating parameters under §63.1209 that will ensure compliance with those emission standards.

(3) You must include a signed and dated certification in the Documentation of Compliance that:

(i) Required CEMs and CMS are installed, calibrated, and continuously operating in compliance with the requirements of this subpart; and

(ii) Based on an engineering evaluation prepared under your direction or supervision in accordance with a system designed to ensure that qualified personnel properly gathered and evaluated the information and supporting documentation, and considering at a minimum the design, operation, and maintenance characteristics of the combustor and emissions control equipment, the types, quantities, and characteristics of feedstreams, and available emissions data:

(A) You are in compliance with the emission standards of this subpart; and

(B) The limits on the operating parameters under §63.1209 ensure compliance with the emission standards of this subpart.

(4) You must comply with the emission standards and operating parameter limits specified in the Documentation of Compliance.

(d) *Data compression.* You may submit a written request to the Administrator for approval to use data compression techniques to record data from CMS, including CEMS, on a frequency less than that required by §63.1209. You

must submit the request for review and approval as part of the comprehensive performance test plan.

(1) You must record a data value at least once each ten minutes.

(2) For each CEMS or operating parameter for which you request to use data compression techniques, you must recommend:

(i) A fluctuation limit that defines the maximum permissible deviation of a new data value from a previously generated value without requiring you to revert to recording each one-minute value.

(A) If you exceed a fluctuation limit, you must record each one-minute value for a period of time not less than ten minutes.

(B) If neither the fluctuation limit nor the data compression limit are exceeded during that period of time, you may reinitiate recording data values on a frequency of at least once each ten minutes; and

(ii) A data compression limit defined as the closest level to an operating parameter limit or emission standard at which reduced data recording is allowed.

(A) Within this level and the operating parameter limit or emission standard, you must record each one-minute average.

(B) The data compression limit should reflect a level at which you are unlikely to exceed the specific operating parameter limit or emission standard, considering its averaging period, with the addition of a new one-minute average.

[64 FR 53038, Sept. 30, 1999, as amended at 64 FR 63212, Nov. 19, 1999; 65 FR 42301, July 10, 2000; 66 FR 24272, May 14, 2001; 66 FR 35106, July 3, 2001; 67 FR 6993, Feb. 14, 2002; 70 FR 59554, Oct. 12, 2005]

#### OTHER

#### §63.1212 What are the other requirements pertaining to the NIC?

(a) *Certification of intent to comply.* The Notice of Intent to Comply (NIC) must contain the following certification signed and dated by a responsible official as defined under §63.2 of this chapter: I certify under penalty of law that I have personally examined and am familiar with the information

submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

(b) *New units.* Any source that files a RCRA permit application or permit modification request for construction of a hazardous waste combustion unit after October 12, 2005 must:

(1) Prepare a draft NIC according to § 63.1210(b) and make it available to the public upon issuance of the notice of NIC public meeting per § 63.1210(c)(3);

(2) Prepare a draft comprehensive performance test plan pursuant to the requirements of § 63.1207 and make it available for public review upon issuance of the notice of NIC public meeting;

(3) Provide notice to the public of a pre-application meeting pursuant to § 124.30 or notice to the public of a permit modification request pursuant to § 270.42 and;

(4) Hold an informal public meeting 30 days following notice of NIC public meeting and notice of the pre-application meeting or notice of the permit modification request.

(c) *Information Repository specific to new combustion units.* (1) Any source that files a RCRA permit application or modification request for construction of a new hazardous waste combustion unit after October 12, 2005 may be required to establish an information repository if deemed appropriate.

(2) The Administrator may assess the need, on a case-by-case basis for an information repository. When assessing the need for a repository, the Administrator shall consider the level of public interest, the presence of an existing repository, and any information available via the New Source Review and Title V permit processes. If the Administrator determines a need for a repository, then the Administrator shall notify the facility that it must establish and maintain an information repository.

(3) The information repository shall contain all documents, reports, data,

and information deemed necessary by the Administrator. The Administrator shall have the discretion to limit the contents of the repository.

(4) The information repository shall be located and maintained at a site chosen by the source. If the Administrator finds the site unsuitable for the purposes and persons for which it was established, due to problems with location, hours of availability, access, or other relevant considerations, then the Administrator shall specify a more appropriate site.

(5) The Administrator shall require the source to provide a written notice about the information repository to all individuals on the source mailing list.

(6) The source shall be responsible for maintaining and updating the repository with appropriate information throughout a period specified by the Administrator. The Administrator may close the repository at his or her discretion based on the considerations in paragraph (c)(2) of this section.

[70 FR 59555, Oct. 12, 2005]

**§ 63.1213 How can the compliance date be extended to install pollution prevention or waste minimization controls?**

(a) *Applicability.* You may request from the Administrator or State with an approved Title V program an extension of the compliance date of up to one year. An extension may be granted if you can reasonably document that the installation of pollution prevention or waste minimization measures will significantly reduce the amount and/or toxicity of hazardous wastes entering the feedstream(s) of the hazardous waste combustor(s), and that you could not install the necessary control measures and comply with the emission standards and operating requirements of this subpart by the compliance date.

(b) *Requirements for requesting an extension.* (1) You must make your requests for an (up to) one-year extension in writing in accordance with § 63.6(i)(4)(B) and (C). The request must contain the following information:

(i) A description of pollution prevention or waste minimization controls that, when installed, will significantly reduce the amount and/or toxicity of hazardous wastes entering the

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feedstream(s) of the hazardous waste combustor(s). Pollution prevention or waste minimization measures may include: equipment or technology modifications, reformulation or redesign of products, substitution of raw materials, improvements in work practices, maintenance, training, inventory control, or recycling practices conducted as defined in §261.1(c) of this chapter:

(ii) A description of other pollution controls to be installed that are necessary to comply with the emission standards and operating requirements;

(iii) A reduction goal or estimate of the annual reductions in quantity and/or toxicity of hazardous waste(s) entering combustion feedstream(s) that you will achieve by installing the proposed pollution prevention or waste minimization measures;

(iv) A comparison of reductions in the amounts and/or toxicity of hazardous wastes combusted after installation of pollution prevention or waste minimization measures to the amounts and/or toxicity of hazardous wastes combusted prior to the installation of these measures. If the difference is less than a fifteen percent reduction, include a comparison to pollution prevention and waste minimization reductions recorded during the previous five years;

(v) Reasonable documentation that installation of the pollution prevention or waste minimization changes will not result in a net increase (except for documented increases in production) of hazardous constituents released to the environment through other emissions, wastes or effluents;

(vi) Reasonable documentation that the design and installation of waste minimization and other measures that are necessary for compliance with the emission standards and operating requirements of this subpart cannot otherwise be installed within the three year compliance period, and

(vii) The information required in §63.6(i)(6)(i)(B) through (D).

(2) You may enclose documentation prepared under an existing State-required pollution prevention program that contains the information prescribed in paragraph (b) of this section with a request for extension in lieu of

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complying with the time extension requirements of that paragraph.

(c) *Approval of request for extension of compliance date.* Based on the information provided in any request made under paragraph (a) of this section, the Administrator or State with an approved title V program may grant an extension of the compliance date of this subpart. The extension will be in writing in accordance with §§63.6(i)(10)(i) through 63.6(i)(10)(v)(A).

[57 FR 61992, Dec. 29, 1992, as amended at 67 FR 6994, Feb. 14, 2002; 67 FR 77691, Dec. 19, 2002]

### §63.1214 Implementation and enforcement.

(a) This subpart can be implemented and enforced by the U.S. EPA, or a delegated authority such as the applicable State, local, or Tribal agency. If the U.S. EPA Administrator has delegated authority to a State, local, or Tribal agency, then that agency, in addition to the U.S. EPA, has the authority to implement and enforce this subpart. Contact the applicable U.S. EPA Regional Office to find out if this subpart is delegated to a State, local, or Tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or Tribal agency under subpart E of this part, the authorities contained in paragraph (c) of this section are retained by the Administrator of U.S. EPA and cannot be transferred to the State, local, or Tribal agency.

(c) The authorities that cannot be delegated to State, local, or Tribal agencies are as specified in paragraphs (c)(1) through (4) of this section.

(1) Approval of alternatives to requirements in §§63.1200, 63.1203, 63.1204, 63.1205, 63.1206(a), 63.1215, 63.1216, 63.1217, 63.1218, 63.1219, 63.1220, and 63.1221.

(2) Approval of major alternatives to test methods under §§63.7(e)(2)(ii) and (f), 63.1208(b), and 63.1209(a)(1), as defined under §63.90, and as required in this subpart.

(3) Approval of major alternatives to monitoring under §§63.8(f) and 63.1209(a)(5), as defined under §63.90, and as required in this subpart.

(4) Approval of major alternatives to recordkeeping and reporting under §§ 63.10(f) and 63.1211(a) through (c), as defined under § 63.90, and as required in this subpart.

[68 FR 37356, June 23, 2003, as amended at 70 FR 59555, Oct. 12, 2005]

**§ 63.1215 What are the health-based compliance alternatives for total chlorine?**

(a) *General*—(1) *Overview*. You may establish and comply with health-based compliance alternatives for total chlorine under the procedures prescribed in this section for your hazardous waste combustors other than hydrochloric acid production furnaces. You may comply with these health-based compliance alternatives in lieu of the emission standards for total chlorine provided under §§ 63.1216, 63.1217, 63.1219, 63.1220, and 63.1221. To identify and comply with the limits, you must:

(i) Identify a total chlorine emission concentration (ppmv) expressed as chloride (Cl<sup>-</sup>) equivalent for each on-site hazardous waste combustor. You may select total chlorine emission concentrations as you choose to demonstrate eligibility for the risk-based limits under this section, except as provided by paragraph (b)(4) of this section;

(ii) Apportion the total chlorine emission concentration between HCl and Cl<sub>2</sub> according to paragraph (b)(6)(i) of this section, and calculate HCl and Cl<sub>2</sub> emission rates (lb/hr) using the gas flowrate and other parameters from the most recent regulatory compliance test.

(iii) Calculate the annual average HCl-equivalent emission rate as prescribed in paragraph (b)(2) of this section.

(iv) Perform an eligibility demonstration to determine if your HCl-equivalent emission rate meets the national exposure standard and thus is below the annual average HCl-equivalent emission rate limit, as prescribed by paragraph (c) of this section;

(v) Submit your eligibility demonstration for review and approval, as prescribed by paragraph (e) of this section, which must include information to ensure that the 1-hour average HCl-equivalent emission rate limit is not

exceeded, as prescribed by paragraph (d) of this section;

(vi) Demonstrate compliance with the annual average HCl-equivalent emission rate limit during the comprehensive performance test, as prescribed by the testing and monitoring requirements under paragraph (e) of this section;

(vii) Comply with compliance monitoring requirements, including establishing feedrate limits on total chlorine and chloride, and operating parameter limits on emission control equipment, as prescribed by paragraph (f) of this section; and

(viii) Comply with the requirements for changes, as prescribed by paragraph (h) of this section.

(2) *Definitions*. In addition to the definitions under § 63.1201, the following definitions apply to this section:

*1-Hour Average HCl-Equivalent Emission Rate* means the HCl-equivalent emission rate (lb/hr) determined by equating the toxicity of chlorine to HCl using 1-hour RELs as the health risk metric for acute exposure.

*1-Hour Average HCl-Equivalent Emission Rate Limit* means the HCl-equivalent emission rate (lb/hr) determined by equating the toxicity of chlorine to HCl using 1-hour RELs as the health risk metric for acute exposure and which ensures that maximum 1-hour average ambient concentrations of HCl-equivalents do not exceed a Hazard Index of 1.0, rounded to the nearest tenths decimal place (0.1), at an off-site receptor location.

*Acute Reference Exposure Level (aREL)* means health thresholds below which there would be no adverse health effects for greater than once in a lifetime exposures of one hour. ARELs are developed by the California Office of Health Hazard Assessment and are available at [http://www.oehha.ca.gov/air/acute\\_rels/acuterel.html](http://www.oehha.ca.gov/air/acute_rels/acuterel.html).

*Annual Average HCl-Equivalent Emission Rate* means the HCl-equivalent emission rate (lb/hr) determined by equating the toxicity of chlorine to HCl using RfCs as the health risk metric for long-term exposure.

*Annual Average HCl-Equivalent Emission Rate Limit* means the HCl-equivalent emission rate (lb/hr) determined by equating the toxicity of chlorine to

HCl using RfCs as the health risk metric for long-term exposure and which ensures that maximum annual average ambient concentrations of HCl equivalents do not exceed a Hazard Index of 1.0, rounded to the nearest tenths decimal place (0.1), at an off-site receptor location.

*Hazard Index (HI)* means the sum of more than one Hazard Quotient for multiple substances and/or multiple exposure pathways. In this section, the Hazard Index is the sum of the Hazard Quotients for HCl and chlorine.

*Hazard Quotient (HQ)* means the ratio of the predicted media concentration of a pollutant to the media concentration at which no adverse effects are expected. For chronic inhalation exposures, the HQ is calculated under this section as the air concentration divided by the RfC. For acute inhalation exposures, the HQ is calculated under this section as the air concentration divided by the aREL.

*Look-up table analysis* means a risk screening analysis based on comparing the HCl-equivalent emission rate from the affected source to the appropriate HCl-equivalent emission rate limit specified in Tables 1 through 4 of this section.

*Reference Concentration (RfC)* means an estimate (with uncertainty spanning perhaps an order of magnitude) of a continuous inhalation exposure to the human population (including sensitive subgroups) that is likely to be without an appreciable risk of deleterious effects during a lifetime. It can be derived from various types of human or animal data, with uncertainty factors generally applied to reflect limitations of the data used.

(b) *HCl-equivalent emission rates.* (1) You must express total chlorine emission rates for each hazardous waste combustor as HCl-equivalent emission rates.

(2) *Annual average rates.* You must calculate annual average toxicity-weighted HCl-equivalent emission rates for each combustor as follows:

$$ER_{tw} = ER_{HCl} + ER_{Cl_2} \times (RfC_{HCl}/RfC_{Cl_2})$$

Where:

$ER_{tw}$  is the annual average HCl toxicity-weighted emission rate (HCl-equivalent emission rate) considering long-term exposures, lb/hr

$ER_{HCl}$  is the emission rate of HCl in lbs/hr  
 $ER_{Cl_2}$  is the emission rate of chlorine in lbs/hr  
 $RfC_{HCl}$  is the reference concentration of HCl  
 $RfC_{Cl_2}$  is the reference concentration of chlorine

(3) *1-hour average rates.* You must calculate 1-hour average toxicity-weighted HCl-equivalent emission rates for each combustor as follows:

$$ER_{STW} = ER_{HCl} + ER_{Cl_2} \times (aREL_{HCl}/aREL_{Cl_2})$$

Where:

$ER_{STW}$  is the 1-hour average HCl toxicity-weighted emission rate (HCl-equivalent emission rate) considering 1-hour (short-term) exposures, lb/hr

$ER_{HCl}$  is the emission rate of HCl in lbs/hr

$ER_{Cl_2}$  is the emission rate of chlorine in lbs/hr

$aREL_{HCl}$  is the 1-hour Reference Exposure Level of HCl

$aREL_{Cl_2}$  is the 1-hour Reference Exposure Level of chlorine

(4) You must use the RfC values for hydrogen chloride and chlorine found at <http://epa.gov/ttn/atw/toxsource/summary.html>.

(5) You must use the aREL values for hydrogen chloride and chlorine found at [http://www.oehha.ca.gov/air/acute\\_rels/acuterel.html](http://www.oehha.ca.gov/air/acute_rels/acuterel.html).

(6) *Cl<sub>2</sub>/HCl ratios—(i) Ratio for calculating annual average HCl-equivalent emission rates.* (A) To calculate the annual average HCl-equivalent emission rate (lb/hr) for each combustor, you must apportion the total chlorine emission concentration (ppmv chloride (Cl<sup>-</sup>) equivalent) between HCl and chlorine according to the historical average Cl<sub>2</sub>/HCl volumetric ratio for all regulatory compliance tests.

(B) You must calculate HCl and Cl<sub>2</sub> emission rates (lb/hr) using the apportioned emission concentrations and the gas flowrate and other parameters from the most recent regulatory compliance test.

(C) You must calculate the annual average HCl-equivalent emission rate using these HCl and Cl<sub>2</sub> emission rates and the equation in paragraph (b)(2) of this section.

(ii) *Ratio for calculating 1-hour average HCl-equivalent emission rates.* (A) To calculate the 1-hour average HCl-equivalent emission rate for each combustor as a criterion for you to determine



under paragraph (d) of this section if an hourly rolling average feedrate limit on total chlorine and chloride may be waived, you must apportion the total chlorine emission concentration (ppmv chloride (Cl<sup>-</sup>) equivalent) between HCl and chlorine according to the historical highest Cl<sub>2</sub>/HCl volumetric ratio for all regulatory compliance tests.

(B) You must calculate HCl and Cl<sub>2</sub> emission rates (lb/hr) using the apportioned emission concentrations and the gas flowrate and other parameters from the most recent regulatory compliance test.

(C) You must calculate the 1-hour average HCl-equivalent emission rate using the se HCl and Cl<sub>2</sub> emission rates and the equation in paragraph (b)(3) of this section.

(iii) *Ratios for new sources.* (A) You must use engineering information to estimate the Cl<sub>2</sub>/HCl volumetric ratio for a new source for the initial eligibility demonstration.

(B) You must use the Cl<sub>2</sub>/HCl volumetric ratio demonstrated during the initial comprehensive performance test to demonstrate in the Notification of Compliance that your HCl-equivalent emission rate does not exceed your HCl-equivalent emission rate limit.

(C) When approving the test plan for the initial comprehensive performance test, the permitting authority will establish a periodic testing requirement, such as every 3 months for 1 year, to establish a record of representative Cl<sub>2</sub>/HCl volumetric ratios.

(1) You must revise your HCl-equivalent emission rates and HCl-equivalent emission rate limits after each such test using the procedures prescribed in paragraphs (b)(6)(i) and (ii) of this section.

(2) If you no longer are eligible for the health-based compliance alternative, you must notify the permitting authority immediately and either:

(i) Submit a revised eligibility demonstration requesting lower HCl-equivalent emission rate limits, establishing lower HCl-equivalent emission rates, and establishing by downward extrapolation lower feedrate limits for total chlorine and chloride; or

(ii) Request a compliance schedule of up to three years to demonstrate com-

pliance with the emission standards under §§ 63.1216, 63.1217, 63.1219, 63.1220, and 63.1221.

(iv) *Unrepresentative or inadequate historical Cl<sub>2</sub>/HCl volumetric ratios.* (A) If you believe that the Cl<sub>2</sub>/HCl volumetric ratio for one or more historical regulatory compliance tests is not representative of the current ratio, you may request that the permitting authority allow you to screen those ratios from the analysis of historical ratios.

(B) If the permitting authority believes that too few historical ratios are available to calculate a representative average ratio or establish a maximum ratio, the permitting authority may require you to conduct periodic testing to establish representative ratios.

(v) *Updating Cl<sub>2</sub>/HCl ratios.* You must include the Cl<sub>2</sub>/HCl volumetric ratio demonstrated during each performance test in your data base of historical Cl<sub>2</sub>/HCl ratios to update the ratios you establish under paragraphs (b)(6)(i) and (ii) of this section for subsequent calculations of the annual average and 1-hour average HCl-equivalent emission rates.

(7) *Emission rates are capped.* The hydrogen chloride and chlorine emission rates you use to calculate the HCl-equivalent emission rate limit for incinerators, cement kilns, and lightweight aggregate kilns must not result in total chlorine emission concentrations exceeding:

(i) For incinerators that were existing sources on April 19, 1996: 77 parts per million by volume, combined emissions, expressed as chloride (Cl<sup>-</sup>) equivalent, dry basis and corrected to 7 percent oxygen;

(ii) For incinerators that are new or reconstructed sources after April 19, 1996: 21 parts per million by volume, combined emissions, expressed as chloride (Cl<sup>-</sup>) equivalent, dry basis and corrected to 7 percent oxygen;

(iii) For cement kilns that were existing sources on April 19, 1996: 130 parts per million by volume, combined emissions, expressed as chloride (Cl<sup>-</sup>) equivalent, dry basis and corrected to 7 percent oxygen;

(iv) For cement kilns that are new or reconstructed sources after April 19, 1996: 86 parts per million by volume,

combined emissions, expressed as chloride (Cl<sup>-</sup>) equivalent, dry basis and corrected to 7 percent oxygen;

(v) For lightweight aggregate kilns that were existing sources on April 19, 1996: 600 parts per million by volume, combined emissions, expressed as chloride (Cl<sup>-</sup>) equivalent, dry basis and corrected to 7 percent oxygen;

(vi) For lightweight aggregate kilns that are new or reconstructed sources after April 19, 1996: 600 parts per million by volume, combined emissions, expressed as chloride (Cl<sup>-</sup>) equivalent, dry basis and corrected to 7 percent oxygen.

(c) *Eligibility demonstration*—(1) *General*. (i) You must perform an eligibility demonstration to determine whether the total chlorine emission rates you select for each on-site hazardous waste combustor meet the national exposure standards using either a look-up table analysis prescribed by paragraph (c)(3) of this section, or a site-specific compliance demonstration prescribed by paragraph (c)(4) of this section.

(ii) You must also determine in your eligibility demonstration whether each combustor may exceed the 1-hour HCl-equivalent emission rate limit absent an hourly rolling average limit on the feedrate of total chlorine and chloride, as provided by paragraph (d) of this section.

(2) *Definition of eligibility*. (i) Eligibility for the risk-based total chlorine standard is determined by comparing the annual average HCl-equivalent emission rate for the total chlorine emission rate you select for each combustor to the annual average HCl-equivalent emission rate limit.

(ii) The annual average HCl-equivalent emission rate limit ensures that the Hazard Index for chronic exposure from HCl and chlorine emissions from all on-site hazardous waste combustors is less than or equal to 1.0, rounded to the nearest tenths decimal place (0.1), for the actual individual most exposed to the facility's emissions, considering off-site locations where people reside and where people congregate for work, school, or recreation.

(iii) Your facility is eligible for the health-based compliance alternative for total chlorine if either:

(A) The annual average HCl-equivalent emission rate for each on-site hazardous waste combustor is below the appropriate value in the look-up table determined under paragraph (c)(3) of this section; or

(B) The annual average HCl-equivalent emission rate for each on-site hazardous waste combustor is below the annual average HCl-equivalent emission rate limit you calculate based on a site-specific compliance demonstration under paragraph (c)(4) of this section.

(3) *Look-up table analysis*. Look-up tables for the eligibility demonstration are provided as Tables 1 and 2 to this section.

(i) Table 1 presents annual average HCl-equivalent emission rate limits for sources located in flat terrain. For purposes of this analysis, flat terrain is terrain that rises to a level not exceeding one half the stack height within a distance of 50 stack heights.

(ii) Table 2 presents annual average HCl-equivalent emission rate limits for sources located in simple elevated terrain. For purposes of this analysis, simple elevated terrain is terrain that rises to a level exceeding one half the stack height, but that does not exceed the stack height, within a distance of 50 stack heights.

(iii) To determine the annual average HCl-equivalent emission rate limit for a source from the look-up table, you must use the stack height and stack diameter for your hazardous waste combustors and the distance between the stack and the property boundary.

(iv) If any of these values for stack height, stack diameter, and distance to nearest property boundary do not match the exact values in the look-up table, you must use the next lowest table value.

(v) *Adjusted HCl-equivalent emission rate limit for multiple on-site combustors*.

(A) If you have more than one hazardous waste combustor on site, the sum across all hazardous waste combustors of the ratio of the adjusted HCl-equivalent emission rate limit to the HCl-equivalent emission rate limit provided by Tables 1 or 2 cannot exceed 1.0, according to the following equation:

$$\sum_{i=1}^n \frac{\text{HCl-Equivalent Emission Rate Limit Adjusted}_i}{\text{HCl-Equivalent Emission Rate Limit Table}_i} \leq 1.0$$

Where:

*i* = number of on-site hazardous waste combustors;

HCl-Equivalent Emission Rate Limit Adjusted, means the apportioned, allowable HCl-equivalent emission rate limit for combustor *i*, and

HCl-Equivalent Emission Rate Limit Table, means the HCl-equivalent emission rate limit from Table 1 or 2 to § 63.1215 for combustor *i*.

(B) The adjusted HCl-equivalent emission rate limit becomes the HCl-equivalent emission rate limit.

(4) *Site-specific compliance demonstration.* (i) You may use any scientifically-accepted peer-reviewed risk assessment methodology for your site-specific compliance demonstration to calculate an annual average HCl-equivalent emission rate limit for each on-site hazardous waste combustor. An example of one approach for performing the demonstration for air toxics can be found in the EPA's "Air Toxics Risk Assessment Reference Library, Volume 2. Site-Specific Risk Assessment Technical Resource Document," which may be obtained through the EPA's Air Toxics Web site at [http://www.epa.gov/ttn/fera/risk\\_atra\\_main.html](http://www.epa.gov/ttn/fera/risk_atra_main.html).

(ii) The annual average HCl-equivalent emission rate limit is the HCl-equivalent emission rate that ensures that the Hazard Index associated with maximum annual average exposures is not greater than 1.0 rounded to the nearest tenths decimal place (0.1).

(iii) To determine the annual average HCl-equivalent emission rate limit, your site-specific compliance demonstration must, at a minimum:

(A) Estimate long-term inhalation exposures through the estimation of annual or multi-year average ambient concentrations;

(B) Estimate the inhalation exposure for the actual individual most exposed to the facility's emissions from hazardous waste combustors, considering off-site locations where people reside and where people congregate for work, school, or recreation;

(C) Use site-specific, quality-assured data wherever possible;

(D) Use health-protective default assumptions wherever site-specific data are not available, and:

(E) Contain adequate documentation of the data and methods used for the assessment so that it is transparent and can be reproduced by an experienced risk assessor and emissions measurement expert.

(iv) Your site-specific compliance demonstration need not:

(A) Assume any attenuation of exposure concentrations due to the penetration of outdoor pollutants into indoor exposure areas;

(B) Assume any reaction or deposition of the emitted pollutants during transport from the emission point to the point of exposure.

(d) *Assurance that the 1-hour HCl-equivalent emission rate limit will not be exceeded.* To ensure that the 1-hour HCl-equivalent emission rate limit will not be exceeded when complying with the annual average HCl-equivalent emission rate limit, you must establish a 1-hour average HCl-equivalent emission rate for each combustor, establish a 1-hour average HCl-equivalent emission rate limit for each combustor, and consider site-specific factors including prescribed criteria to determine if the 1-hour average HCl-equivalent emission rate limit may be exceeded absent an hourly rolling average limit on the feedrate of total chlorine and chloride. If the 1-hour average HCl-equivalent emission rate limit may be exceeded, you must establish an hourly rolling average feedrate limit on total chlorine as provided by paragraph (f)(3) of this section.

(1) *1-hour average HCl-equivalent emission rate.* You must calculate the 1-hour average HCl-equivalent emission rate from the total chlorine emission concentration you select for each source as prescribed in paragraph (b)(6)(ii)(C) of this section.

(2) *1-hour average HCl-equivalent emission rate limit.* You must establish the

1-hour average HCl-equivalent emission rate limit for each affected source using either a look-up table analysis or site-specific analysis:

(i) *Look-up table analysis.* Look-up tables are provided for 1-hour average HCl-equivalent emission rate limits as Table 3 and Table 4 to this section. Table 3 provides limits for facilities located in flat terrain. Table 4 provides limits for facilities located in simple elevated terrain. You must use the Tables to establish 1-hour average HCl-equivalent emission rate limits as prescribed in paragraphs (c)(3)(iii) through (c)(3)(v) of this section for annual average HCl-equivalent emission rate limits.

(ii) *Site-specific analysis.* The 1-hour average HCl-equivalent emission rate limit is the HCl-equivalent emission rate that ensures that the Hazard Index associated with maximum 1-hour average exposures is not greater than 1.0 rounded to the nearest tenths decimal place (0.1). You must follow the risk assessment procedures under paragraph (c)(4) of this section to estimate short-term inhalation exposures through the estimation of maximum 1-hour average ambient concentrations.

(3) *Criteria for determining whether the 1-hour HCl-equivalent emission rate may be exceeded absent an hourly rolling average limit on the feedrate of total chlorine and chloride.* An hourly rolling average feedrate limit on total chlorine and chloride is waived if you determine considering the criteria listed below that the long-term feedrate limit (and averaging period) established under paragraph (c)(4)(i) of this section will also ensure that the 1-hour average HCl-equivalent emission rate will not exceed the 1-hour average HCl-equivalent emission rate limit you calculate for each combustor.

(i) The ratio of the 1-hour average HCl-equivalent emission rate based on the total chlorine emission rate you select for each hazardous waste combustor to the 1-hour average HCl-equivalent emission rate limit for the combustor; and

(ii) The potential for the source to vary total chlorine and chloride feedrates substantially over the averaging period for the feedrate limit es-

tablished under paragraph (c)(4)(i) of this section.

(e) *Review and approval of eligibility demonstrations—(1) Content of the eligibility demonstration—(i) General.* The eligibility demonstration must include the following information, at a minimum:

(A) Identification of each hazardous waste combustor combustion gas emission point (e.g., generally, the flue gas stack);

(B) The maximum and average capacity at which each combustor will operate, and the maximum rated capacity for each combustor, using the metric of stack gas volume (under both actual and standard conditions) emitted per unit of time, as well as any other metric that is appropriate for the combustor (e.g., million Btu/hr heat input for boilers; tons of dry raw material feed/hour for cement kilns);

(C) Stack parameters for each combustor, including, but not limited to stack height, stack diameter, stack gas temperature, and stack gas exit velocity;

(D) Plot plan showing all stack emission points, nearby residences and property boundary line;

(E) Identification of any stack gas control devices used to reduce emissions from each combustor;

(F) Identification of the RfC values used to calculate annual average HCl-equivalent emission rates and the aREL values used to calculate 1-hour average HCl-equivalent emission rates;

(G) Calculations used to determine the annual average and 1-hour average HCl-equivalent emission rates and rate limits, including calculation of the Cl<sub>2</sub>/HCl ratios as prescribed by paragraph (b)(6) of this section;

(ii) *Additional content to implement the annual average HCl-equivalent emission rate limit.* You must include the following in your eligibility demonstration to implement the annual average HCl-equivalent emission rate limit:

(A) For incinerators, cement kilns, and lightweight aggregate kilns, calculations to confirm that the annual average HCl-equivalent emission rate that you calculate from the total chlorine emission rate you select for each combustor does not exceed the limits

provided by paragraph (b)(7) of this section;

(B) Comparison of the annual average HCl-equivalent emission rate limit for each combustor to the annual average HCl-equivalent emission rate for the total chlorine emission rate you select for each combustor;

(C) The annual average HCl-equivalent emission rate limit for each hazardous waste combustor, and the limits on operating parameters required under paragraph (g)(1) of this section;

(D) Determination of the long-term chlorine feedrate limit, including the total chlorine system removal efficiency for sources that establish an (up to) annual rolling average feedrate limit under paragraph (g)(2)(ii) of this section;

(iii) *Additional content to implement the 1-hour average HCl-equivalent emission rate limit.* You must include the following in your eligibility demonstration to implement the 1-hour average HCl-equivalent emission rate limit:

(A) Determination of whether the combustor may exceed the 1-hour HCl-equivalent emission rate limit absent an hourly rolling average chlorine feedrate limit, including:

(1) Determination of the 1-hour average HCl-equivalent emission rate from the total chlorine emission rate you select for the combustor;

(2) Determination of the 1-hour average HCl-equivalent emission rate limit using either look-up Tables 3 and 4 to this section or site-specific risk analysis;

(3) Determination of the ratio of the 1-hour average HCl-equivalent emission rate to the 1-hour average HCl-equivalent emission rate limit for the combustor; and

(4) The potential for the source to vary total chlorine and chloride feedrates substantially over the averaging period for the long-term feedrate limit established under paragraphs (g)(2)(i) and (g)(2)(ii) of this section; and

(B) Determination of the hourly rolling average chlorine feedrate limit, including the total chlorine system removal efficiency.

(iv) *Additional content of a look-up table demonstration.* If you use the look-

up table analysis to establish HCl-equivalent emission rate limits, your eligibility demonstration must also contain, at a minimum, the following:

(A) Documentation that the facility is located in either flat or simple elevated terrain; and

(B) For facilities with more than one on-site hazardous waste combustor, documentation that the sum of the ratios for all such combustors of the HCl-equivalent emission rate to the HCl-equivalent emission rate limit does not exceed 1.0.

(v) *Additional content of a site-specific compliance demonstration.* If you use a site-specific compliance demonstration, your eligibility demonstration must also contain, at a minimum, the following information to support your determination of the annual average HCl-equivalent emission rate limit for each combustor:

(A) Identification of the risk assessment methodology used;

(B) Documentation of the fate and transport model used;

(C) Documentation of the fate and transport model inputs, including the stack parameters listed in paragraph (d)(1)(i)(C) of this section converted to the dimensions required for the model;

(D) As applicable:

(1) Meteorological data;

(2) Building, land use, and terrain data;

(3) Receptor locations and population data, including areas where people congregate for work, school, or recreation; and

(4) Other facility-specific parameters input into the model;

(E) Documentation of the fate and transport model outputs; and

(F) Documentation of any exposure assessment and risk characterization calculations.

(2) *Review and approval—(i) Existing sources.* (A) If you operate an existing source, you must submit the eligibility demonstration to your permitting authority for review and approval not later than 12 months prior to the compliance date. You must also submit a separate copy of the eligibility demonstration to: U.S. EPA, Risk and Exposure Assessment Group, Emission Standards Division (C404-01), Attn: Group Leader, Research Triangle Park,

North Carolina 27711, electronic mail address *REAG@epa.gov*.

(B) Your permitting authority should notify you of approval or intent to disapprove your eligibility demonstration within 6 months after receipt of the original demonstration, and within 3 months after receipt of any supplemental information that you submit. A notice of intent to disapprove your eligibility demonstration, whether before or after the compliance date, will identify incomplete or inaccurate information or noncompliance with prescribed procedures and specify how much time you will have to submit additional information or to achieve the MACT standards for total chlorine under §§ 63.1216, 63.1217, 63.1219, 63.1220, and 63.1221. If your eligibility demonstration is disapproved, the permitting authority may extend the compliance date of the total chlorine standards to allow you to make changes to the design or operation of the combustor or related systems as quickly as practicable to enable you to achieve compliance with the MACT total chlorine standards.

(C) If your permitting authority has not approved your eligibility demonstration by the compliance date, and has not issued a notice of intent to disapprove your demonstration, you may nonetheless begin complying, on the compliance date, with the HCl-equivalent emission rate limits you present in your eligibility demonstration.

(D) If your permitting authority issues a notice of intent to disapprove your eligibility demonstration after the compliance date, the authority will identify the basis for that notice and specify how much time you will have to submit additional information or to comply with the MACT standards for total chlorine under §§ 63.1216, 63.1217, 63.1219, 63.1220, and 63.1221. The permitting authority may extend the compliance date of the total chlorine standards to allow you to make changes to the design or operation of the combustor or related systems as quickly as practicable to enable you to achieve compliance with the MACT standards for total chlorine.

(ii) *New or reconstructed sources.* (A) *General.* The procedures for review and approval of eligibility demonstrations

applicable to existing sources under paragraph (e)(2)(i) of this section also apply to new or reconstructed sources, except that the date you must submit the eligibility demonstration is as prescribed in this paragraph (e)(2)(ii).

(B) If you operate a new or reconstructed source that starts up before April 12, 2007, or a solid fuel boiler or liquid fuel boiler that is an area source that increases its emissions or its potential to emit such that it becomes a major source of HAP before April 12, 2007, you must either:

(1) Comply with the final total chlorine emission standards under §§ 63.1216, 63.1217, 63.1219, 63.1220, and 63.1221, by October 12, 2005, or upon startup, whichever is later, except for a standard that is more stringent than the standard proposed on April 20, 2004 for your source. If a final standard is more stringent than the proposed standard, you may comply with the proposed standard until October 14, 2008, after which you must comply with the final standard; or

(2) Submit an eligibility demonstration for review and approval under this section by April 12, 2006, and comply with the HCl-equivalent emission rate limits and operating requirements you establish in the eligibility demonstration.

(C) If you operate a new or reconstructed source that starts up on or after April 12, 2007, or a solid fuel boiler or liquid fuel boiler that is an area source that increases its emissions or its potential to emit such that it becomes a major source of HAP on or after April 12, 2007, you must either:

(1) Comply with the final total chlorine emission standards under §§ 63.1216, 63.1217, 63.1219, 63.1220, and 63.1221 upon startup. If the final standard is more stringent than the standard proposed for your source on April 20, 2004, however, and if you start operations before October 14, 2008, you may comply with the proposed standard until October 14, 2008, after which you must comply with the final standard; or

(2) Submit an eligibility demonstration for review and approval under this section 12 months prior to startup.

(f) *Testing requirements*—(1) *General*. You must comply with the requirements for comprehensive performance testing under § 63.1207.

(2) *System removal efficiency*. (i) You must calculate the total chlorine removal efficiency of the combustor during each run of the comprehensive performance test.

(ii) You must calculate the average system removal efficiency as the average of the test run averages.

(iii) If your source does not control emissions of total chlorine, you must assume zero system removal efficiency.

(3) *Annual average HCl-equivalent emission rate limit*. If emissions during the comprehensive performance test exceed the annual average HCl-equivalent emission rate limit, eligibility for emission limits under this section is not affected. This emission rate limit is an annual average limit even though compliance is based on a 12-hour or (up to) an annual rolling average feedrate limit on total chlorine and chloride because the feedrate limit is also used for compliance assurance for the semivolatile metal emission standard.

(4) *1-hour average HCl-equivalent emission rate limit*. Total chlorine emissions during each run of the comprehensive performance test cannot exceed the 1-hour average HCl-equivalent emission rate limit.

(5) *Test methods*. (i) If you operate a cement kiln or a combustor equipped with a dry acid gas scrubber, you must use EPA Method 320/321 or ASTM D 6735-01, or an equivalent method, to measure hydrogen chloride, and the back-half (caustic impingers) of Method 26/26A, or an equivalent method, to measure chlorine gas.

(ii) *Bromine and sulfur considerations*. If you operate an incinerator, boiler, or lightweight aggregate kiln and your feedstreams contain bromine or sulfur during the comprehensive performance test at levels specified under paragraph (e)(2)(ii)(B) of this section, you must use EPA Method 320/321 or ASTM D 6735-01, or an equivalent method, to measure hydrogen chloride, and Method 26/26A, or an equivalent method, to measure chlorine and hydrogen chloride, and determine your chlorine emissions as follows:

(A) You must determine your chlorine emissions to be the higher of the value measured by Method 26/26A, or an equivalent method, or the value calculated by difference between the combined hydrogen chloride and chlorine levels measured by Method 26/26A, or an equivalent method, and the hydrogen chloride measurement from EPA Method 320/321 or ASTM D 6735-01, or an equivalent method.

(B) The procedures under paragraph (f)(2)(ii) of this section for determining hydrogen chloride and chlorine emissions apply if you feed bromine or sulfur during the performance test at the levels specified in this paragraph (f)(5)(ii)(B):

(1) If the bromine/chlorine ratio in feedstreams is greater than 5 percent by mass; or

(2) If the sulfur/chlorine ratio in feedstreams is greater than 50 percent by mass.

(g) *Monitoring requirements*—(1) *General*. You must establish and comply with limits on the same operating parameters that apply to sources complying with the MACT standard for total chlorine under § 63.1209(o), except that feedrate limits on total chlorine and chloride must be established according to paragraphs (g)(2) and (g)(3) of this section:

(2) *Feedrate limit to ensure compliance with the annual average HCl-equivalent emission rate limit*. (i) For sources subject to the feedrate limit for total chlorine and chloride under § 63.1209(n)(4) to ensure compliance with the semivolatile metals standard:

(A) The feedrate limit (and averaging period) for total chlorine and chloride to ensure compliance with the annual average HCl-equivalent emission rate limit is the same as required by § 63.1209(n)(4), except as provided by paragraph (g)(2)(i)(B) of this section.

(B) The numerical value of the total chlorine and chloride feedrate limit (i.e., not considering the averaging period) you establish under § 63.1209(n)(4) must not exceed the value you calculate as the annual average HCl-equivalent emission rate limit (lb/hr) divided by [1 - system removal efficiency], where the system removal efficiency is calculated as prescribed by paragraph (f)(2) of this section.

(ii) For sources exempt from the feedrate limit for total chlorine and chloride under § 63.1209(n)(4) because they comply with § 63.1207(m)(2), the feedrate limit for total chlorine and chloride to ensure compliance with the annual average HCl-equivalent emission rate must be established as follows:

(A) You must establish an average period for the feedrate limit that does not exceed an annual rolling average;

(B) The numerical value of the total chlorine and chloride feedrate limit (i.e., not considering the averaging period) must not exceed the value you calculate as the annual average HCl-equivalent emission rate limit (lb/hr) divided by [1 - system removal efficiency], where the system removal efficiency is calculated as prescribed by paragraph (f)(2) of this section.

(C) You must calculate the initial rolling average as though you had selected a 12-hour rolling average, as provided by paragraph (b)(5)(i) of this section. You must calculate rolling averages thereafter as the average of the available one-minute values until enough one-minute values are available to calculate the rolling average period you select. At that time and thereafter, you update the rolling average feedrate each hour with a 60-minute average feedrate.

(3) *Feedrate limit to ensure compliance with the 1-hour average HCl-equivalent emission rate limit.* (i) You must establish an hourly rolling average feedrate limit on total chlorine and chloride to ensure compliance with the 1-hour average HCl-equivalent emission rate limit unless you determine that the hourly rolling average feedrate limit is waived under paragraph (d) of this section.

(ii) You must calculate the hourly rolling average feedrate limit for total chlorine and chloride as the 1-hour average HCl-equivalent emission rate limit (lb/hr) divided by [1 - system removal efficiency], where the system removal efficiency is calculated as prescribed by paragraph (f)(2)(ii) of this section.

(h) *Changes—(1) Changes over which you have control.* (i) *Changes that would affect the HCl-equivalent emission rate limit.* (A) If you plan to change the de-

sign, operation, or maintenance of the facility in a manner than would decrease the annual average or 1-hour average HCl-equivalent emission rate limit, you must submit to the permitting authority prior to the change a revised eligibility demonstration documenting the lower emission rate limits and calculations of reduced total chlorine and chloride feedrate limits.

(B) If you plan to change the design, operation, or maintenance of the facility in a manner than would increase the annual average or 1-hour average HCl-equivalent emission rate limit, and you elect to increase your total chlorine and chloride feedrate limits. You must also submit to the permitting authority prior to the change a revised eligibility demonstration documenting the increased emission rate limits and calculations of the increased feedrate limits prior to the change.

(ii) *Changes that could affect system removal efficiency.* (A) If you plan to change the design, operation, or maintenance of the combustor in a manner than could decrease the system removal efficiency, you are subject to the requirements of § 63.1206(b)(5) for conducting a performance test to reestablish the combustor's system removal efficiency and you must submit a revised eligibility demonstration documenting the lower system removal efficiency and the reduced feedrate limits on total chlorine and chloride.

(B) If you plan to change the design, operation, or maintenance of the combustor in a manner than could increase the system removal efficiency, and you elect to document the increased system removal efficiency to establish higher feedrate limits on total chlorine and chloride, you are subject to the requirements of § 63.1206(b)(5) for conducting a performance test to reestablish the combustor's system removal efficiency. You must also submit to the permitting authority a revised eligibility demonstration documenting the higher system removal efficiency and the increased feedrate limits on total chlorine and chloride.

(2) *Changes over which you do not have control that may decrease the HCl-equivalent emission rate limits.* These requirements apply if you use a site-specific risk assessment under paragraph (c)(4)



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of this section to demonstrate eligibility for the health-based limits.

(i) *Proactive review.* You must review the documentation you use in your eligibility demonstration every five years from the date of the comprehensive performance test and submit for review and approval with the comprehensive performance test plan either a certification that the information used in your eligibility demonstration has not changed in a manner that would decrease the annual average or 1-hour average HCl-equivalent emission rate limit, or a revised eligibility demonstration.

(ii) *Reactive review.* If in the interim between your comprehensive performance tests you have reason to know of

changes that would decrease the annual average or 1-hour average HCl-equivalent emission rate limit, you must submit a revised eligibility demonstration as soon as practicable but not more frequently than annually.

(iii) *Compliance schedule.* If you determine that you cannot demonstrate compliance with a lower annual average HCl-equivalent emission rate limit during the comprehensive performance test because you need additional time to complete changes to the design or operation of the source, you may request that the permitting authority grant you additional time to make those changes as quickly as practicable.

**Table 1 of § 63.1215: Annual Average HCl-Equivalent Emission Rate Limits (lb/hr)—Flat Terrain**

Distance to property boundary (m)

Stack Diameter = 0.3 m	30	50	70	100	150	200	300	500	700	1000	2000	3000	5000
Stack Height (m)	30	3.7E+01	4.0E+01	7.3E+01	9.1E+01	1.0E+02	2.3E+02	4.1E+02	5.7E+02	8.1E+02	1.0E+03	1.0E+03	1.0E+03
5	1.0E+00	1.0E+00	1.1E+00	1.3E+00	1.5E+00	2.1E+00	4.8E+00	8.1E+00	1.1E+01	1.5E+01	2.8E+01	4.8E+01	8.1E+01
10	2.0E+00	2.0E+00	2.3E+00	2.8E+00	3.3E+00	4.8E+00	8.1E+00	1.3E+01	1.8E+01	2.8E+01	4.8E+01	8.1E+01	1.3E+02
20	4.0E+00	4.1E+00	4.1E+00	4.2E+00	4.7E+00	5.5E+00	9.5E+00	1.5E+01	2.1E+01	3.3E+01	5.5E+01	9.5E+01	1.5E+02
30	7.0E+00	7.2E+00	7.2E+00	7.4E+00	8.2E+00	9.5E+00	1.5E+01	2.1E+01	3.3E+01	5.5E+01	9.5E+01	1.5E+02	2.5E+02
Stack Diameter = 0.5 m	50	1.4E+01	1.5E+01	1.5E+01	1.6E+01	1.8E+01	3.0E+01	5.0E+01	7.0E+01	1.0E+02	1.5E+02	2.5E+02	4.0E+02
Stack Height (m)	50	8.0E+01	8.5E+01	8.5E+01	9.0E+01	1.0E+02	1.7E+02	2.8E+02	3.8E+02	5.0E+02	8.0E+02	1.3E+03	2.0E+03
5	1.4E+00	1.4E+00	1.4E+00	1.5E+00	1.6E+00	1.8E+00	3.0E+00	5.0E+00	7.0E+00	1.0E+01	1.5E+01	2.5E+01	4.0E+01
10	2.8E+00	2.8E+00	2.8E+00	3.0E+00	3.2E+00	3.6E+00	6.0E+00	1.0E+01	1.4E+01	2.1E+01	3.6E+01	6.0E+01	1.0E+02
20	5.6E+00	5.6E+00	5.6E+00	5.9E+00	6.4E+00	7.2E+00	1.2E+01	2.0E+01	3.0E+01	4.8E+01	8.0E+01	1.2E+02	2.0E+02
30	8.4E+00	8.4E+00	8.4E+00	8.8E+00	9.6E+00	1.1E+01	1.8E+01	3.0E+01	4.5E+01	7.0E+01	1.2E+02	2.0E+02	3.0E+02
Stack Diameter = 1.0 m	70	1.4E+01	1.5E+01	1.5E+01	1.6E+01	1.8E+01	3.0E+01	5.0E+01	7.0E+01	1.0E+02	1.5E+02	2.5E+02	4.0E+02
Stack Height (m)	70	8.0E+01	8.5E+01	8.5E+01	9.0E+01	1.0E+02	1.7E+02	2.8E+02	3.8E+02	5.0E+02	8.0E+02	1.3E+03	2.0E+03
10	3.2E+00	3.2E+00	3.2E+00	3.4E+00	3.6E+00	4.0E+00	6.0E+00	1.0E+01	1.4E+01	2.1E+01	3.6E+01	6.0E+01	1.0E+02
20	6.4E+00	6.4E+00	6.4E+00	6.8E+00	7.2E+00	8.0E+00	1.2E+01	2.0E+01	3.0E+01	4.8E+01	8.0E+01	1.2E+02	2.0E+02
30	9.6E+00	9.6E+00	9.6E+00	1.0E+01	1.1E+01	1.2E+01	2.0E+01	3.0E+01	4.5E+01	7.0E+01	1.2E+02	2.0E+02	3.0E+02
Stack Diameter = 1.5 m	70	1.4E+01	1.5E+01	1.5E+01	1.6E+01	1.8E+01	3.0E+01	5.0E+01	7.0E+01	1.0E+02	1.5E+02	2.5E+02	4.0E+02
Stack Height (m)	70	8.0E+01	8.5E+01	8.5E+01	9.0E+01	1.0E+02	1.7E+02	2.8E+02	3.8E+02	5.0E+02	8.0E+02	1.3E+03	2.0E+03
10	3.2E+00	3.2E+00	3.2E+00	3.4E+00	3.6E+00	4.0E+00	6.0E+00	1.0E+01	1.4E+01	2.1E+01	3.6E+01	6.0E+01	1.0E+02
20	6.4E+00	6.4E+00	6.4E+00	6.8E+00	7.2E+00	8.0E+00	1.2E+01	2.0E+01	3.0E+01	4.8E+01	8.0E+01	1.2E+02	2.0E+02
30	9.6E+00	9.6E+00	9.6E+00	1.0E+01	1.1E+01	1.2E+01	2.0E+01	3.0E+01	4.5E+01	7.0E+01	1.2E+02	2.0E+02	3.0E+02
Stack Diameter = 2.0 m	70	1.4E+01	1.5E+01	1.5E+01	1.6E+01	1.8E+01	3.0E+01	5.0E+01	7.0E+01	1.0E+02	1.5E+02	2.5E+02	4.0E+02
Stack Height (m)	70	8.0E+01	8.5E+01	8.5E+01	9.0E+01	1.0E+02	1.7E+02	2.8E+02	3.8E+02	5.0E+02	8.0E+02	1.3E+03	2.0E+03
10	3.2E+00	3.2E+00	3.2E+00	3.4E+00	3.6E+00	4.0E+00	6.0E+00	1.0E+01	1.4E+01	2.1E+01	3.6E+01	6.0E+01	1.0E+02
20	6.4E+00	6.4E+00	6.4E+00	6.8E+00	7.2E+00	8.0E+00	1.2E+01	2.0E+01	3.0E+01	4.8E+01	8.0E+01	1.2E+02	2.0E+02
30	9.6E+00	9.6E+00	9.6E+00	1.0E+01	1.1E+01	1.2E+01	2.0E+01	3.0E+01	4.5E+01	7.0E+01	1.2E+02	2.0E+02	3.0E+02
Stack Diameter = 3.0 m	70	1.4E+01	1.5E+01	1.5E+01	1.6E+01	1.8E+01	3.0E+01	5.0E+01	7.0E+01	1.0E+02	1.5E+02	2.5E+02	4.0E+02
Stack Height (m)	70	8.0E+01	8.5E+01	8.5E+01	9.0E+01	1.0E+02	1.7E+02	2.8E+02	3.8E+02	5.0E+02	8.0E+02	1.3E+03	2.0E+03
10	3.2E+00	3.2E+00	3.2E+00	3.4E+00	3.6E+00	4.0E+00	6.0E+00	1.0E+01	1.4E+01	2.1E+01	3.6E+01	6.0E+01	1.0E+02
20	6.4E+00	6.4E+00	6.4E+00	6.8E+00	7.2E+00	8.0E+00	1.2E+01	2.0E+01	3.0E+01	4.8E+01	8.0E+01	1.2E+02	2.0E+02
30	9.6E+00	9.6E+00	9.6E+00	1.0E+01	1.1E+01	1.2E+01	2.0E+01	3.0E+01	4.5E+01	7.0E+01	1.2E+02	2.0E+02	3.0E+02
Stack Diameter = 4.0 m	70	1.4E+01	1.5E+01	1.5E+01	1.6E+01	1.8E+01	3.0E+01	5.0E+01	7.0E+01	1.0E+02	1.5E+02	2.5E+02	4.0E+02
Stack Height (m)	70	8.0E+01	8.5E+01	8.5E+01	9.0E+01	1.0E+02	1.7E+02	2.8E+02	3.8E+02	5.0E+02	8.0E+02	1.3E+03	2.0E+03
10	3.2E+00	3.2E+00	3.2E+00	3.4E+00	3.6E+00	4.0E+00	6.0E+00	1.0E+01	1.4E+01	2.1E+01	3.6E+01	6.0E+01	1.0E+02
20	6.4E+00	6.4E+00	6.4E+00	6.8E+00	7.2E+00	8.0E+00	1.2E+01	2.0E+01	3.0E+01	4.8E+01	8.0E+01	1.2E+02	2.0E+02
30	9.6E+00	9.6E+00	9.6E+00	1.0E+01	1.1E+01	1.2E+01	2.0E+01	3.0E+01	4.5E+01	7.0E+01	1.2E+02	2.0E+02	3.0E+02

**Table 2 of § 63.1215: Annual Average HCl-Equivalent Emission Rate Limits (lbs/hr)—Simple Elevated Terrain**

Distance to property boundary (m)

Stack Diameter = 0.3 m	30	50	70	100	200	300	500	700	1000	2000	3000	5000
Stack height (m)	1.3E+01	1.8E+01	2.5E+01	3.7E+01	6.4E+01	8.9E+01	1.4E+02	2.0E+02	3.1E+02	4.7E+02	7.2E+02	1.1E+03
5	3.8E+01	3.8E+01	4.4E+01	6.1E+01	6.4E+01	8.9E+01	1.4E+02	2.0E+02	3.1E+02	4.7E+02	7.2E+02	1.1E+03
10	1.1E+02	1.1E+02	1.1E+02	1.2E+02	1.2E+02	1.5E+02	2.2E+02	3.4E+02	5.2E+02	7.9E+02	1.2E+03	1.8E+03
20	2.4E+02	2.4E+02	2.4E+02	2.4E+02	2.7E+02	3.5E+02	5.2E+02	7.9E+02	1.2E+03	1.8E+03	2.6E+03	3.9E+03
30	7.1E+02	7.1E+02	7.1E+02	7.7E+02	8.6E+02	1.1E+03	1.6E+03	2.4E+03	3.6E+03	5.4E+03	8.2E+03	1.2E+04
Stack Diameter = 0.5 m	30	50	70	100	200	300	500	700	1000	2000	3000	5000
Stack height (m)	1.1E+01	2.6E+01	3.5E+01	5.6E+01	1.4E+02	1.6E+02	2.3E+02	3.4E+02	5.2E+02	7.9E+02	1.1E+03	1.6E+03
5	5.2E+01	5.2E+01	6.1E+01	8.5E+01	1.4E+02	1.6E+02	2.3E+02	3.4E+02	5.2E+02	7.9E+02	1.1E+03	1.6E+03
10	1.3E+02	1.3E+02	1.3E+02	1.5E+02	1.5E+02	1.8E+02	2.7E+02	4.1E+02	6.2E+02	9.3E+02	1.4E+03	2.1E+03
20	2.9E+02	2.9E+02	2.9E+02	2.9E+02	3.5E+02	4.5E+02	6.8E+02	1.0E+03	1.5E+03	2.2E+03	3.4E+03	5.1E+03
30	8.0E+02	8.0E+02	8.0E+02	8.0E+02	1.0E+03	1.3E+03	2.0E+03	3.0E+03	4.5E+03	6.8E+03	1.0E+04	1.5E+04
Stack Diameter = 1.0 m	30	50	70	100	200	300	500	700	1000	2000	3000	5000
Stack height (m)	9.7E+01	9.7E+01	1.1E+02	1.7E+02	3.7E+02	4.2E+02	6.0E+02	9.0E+02	1.4E+03	2.1E+03	3.2E+03	4.7E+03
10	2.7E+02	2.7E+02	2.7E+02	3.0E+02	3.7E+02	4.2E+02	6.0E+02	9.0E+02	1.4E+03	2.1E+03	3.2E+03	4.7E+03
20	4.3E+02	4.3E+02	4.3E+02	4.3E+02	5.2E+02	6.0E+02	8.7E+02	1.3E+03	2.0E+03	3.0E+03	4.5E+03	6.6E+03
30	9.5E+02	9.5E+02	9.5E+02	9.5E+02	1.2E+03	1.6E+03	2.4E+03	3.6E+03	5.4E+03	8.2E+03	1.2E+04	1.8E+04
70	4.0E+03	4.0E+03	4.0E+03	4.0E+03	5.0E+03	6.5E+03	9.5E+03	1.4E+04	2.1E+04	3.2E+04	4.7E+04	6.9E+04
Stack Diameter = 1.5 m	30	50	70	100	200	300	500	700	1000	2000	3000	5000
Stack height (m)	2.0E+02	2.0E+02	2.3E+02	3.4E+02	7.2E+02	8.2E+02	1.2E+03	1.8E+03	2.7E+03	4.1E+03	6.2E+03	9.1E+03
10	5.5E+02	5.5E+02	5.5E+02	6.0E+02	7.2E+02	8.2E+02	1.2E+03	1.8E+03	2.7E+03	4.1E+03	6.2E+03	9.1E+03
20	6.0E+02	6.0E+02	6.0E+02	6.0E+02	7.2E+02	8.2E+02	1.2E+03	1.8E+03	2.7E+03	4.1E+03	6.2E+03	9.1E+03
30	1.1E+03	1.1E+03	1.1E+03	1.1E+03	1.4E+03	1.8E+03	2.7E+03	4.1E+03	6.2E+03	9.1E+03	1.4E+04	2.1E+04
70	5.1E+03	5.1E+03	5.1E+03	5.1E+03	6.5E+03	8.5E+03	1.3E+04	2.0E+04	3.0E+04	4.5E+04	6.8E+04	1.0E+05
Stack Diameter = 2.0 m	30	50	70	100	200	300	500	700	1000	2000	3000	5000
Stack height (m)	2.6E+02	2.6E+02	3.0E+02	4.2E+02	8.8E+02	1.0E+03	1.5E+03	2.2E+03	3.4E+03	5.1E+03	7.6E+03	1.1E+04
10	4.2E+02	4.2E+02	4.2E+02	4.7E+02	5.7E+02	6.8E+02	1.0E+03	1.5E+03	2.2E+03	3.4E+03	5.1E+03	7.6E+03
20	8.4E+02	8.4E+02	8.4E+02	8.4E+02	1.0E+03	1.3E+03	2.0E+03	3.0E+03	4.5E+03	6.8E+03	1.0E+04	1.5E+04
30	1.4E+03	1.4E+03	1.4E+03	1.4E+03	1.8E+03	2.4E+03	3.6E+03	5.4E+03	8.2E+03	1.2E+04	1.8E+04	2.6E+04
70	5.9E+03	5.9E+03	5.9E+03	5.9E+03	7.4E+03	9.8E+03	1.5E+04	2.2E+04	3.4E+04	5.1E+04	7.6E+04	1.1E+05
100	8.2E+03	8.2E+03	8.2E+03	8.2E+03	1.0E+04	1.3E+04	2.0E+04	3.0E+04	4.5E+04	6.8E+04	1.0E+05	1.5E+05
Stack Diameter = 3.0 m	30	50	70	100	200	300	500	700	1000	2000	3000	5000
Stack height (m)	3.3E+02	3.3E+02	3.9E+02	5.3E+02	1.1E+03	1.2E+03	1.8E+03	2.7E+03	4.1E+03	6.2E+03	9.1E+03	1.3E+04
10	6.1E+02	6.1E+02	6.1E+02	6.6E+02	8.0E+02	9.5E+02	1.4E+03	2.1E+03	3.2E+03	4.7E+03	6.9E+03	1.0E+04
20	1.1E+03	1.1E+03	1.1E+03	1.1E+03	1.4E+03	1.8E+03	2.7E+03	4.1E+03	6.2E+03	9.1E+03	1.4E+04	2.1E+04
30	1.7E+03	1.7E+03	1.7E+03	1.7E+03	2.1E+03	2.8E+03	4.2E+03	6.3E+03	9.4E+03	1.4E+04	2.1E+04	3.1E+04
70	8.0E+03	8.0E+03	8.0E+03	8.0E+03	1.0E+04	1.3E+04	2.0E+04	3.0E+04	4.5E+04	6.8E+04	1.0E+05	1.5E+05
100	1.2E+04	1.2E+04	1.2E+04	1.2E+04	1.5E+04	2.0E+04	3.0E+04	4.5E+04	6.8E+04	1.0E+05	1.5E+05	2.2E+05
Stack Diameter = 4.0 m	30	50	70	100	200	300	500	700	1000	2000	3000	5000
Stack height (m)	1.3E+03	1.3E+03	1.5E+03	2.1E+03	4.4E+03	5.0E+03	7.2E+03	1.1E+04	1.6E+04	2.4E+04	3.6E+04	5.4E+04
10	2.1E+03	2.1E+03	2.1E+03	2.1E+03	2.6E+03	3.4E+03	5.1E+03	7.7E+03	1.1E+04	1.6E+04	2.4E+04	3.6E+04
20	4.2E+03	4.2E+03	4.2E+03	4.2E+03	5.2E+03	6.8E+03	1.0E+04	1.5E+04	2.2E+04	3.4E+04	5.1E+04	7.6E+04
30	6.8E+03	6.8E+03	6.8E+03	6.8E+03	8.4E+03	1.1E+04	1.6E+04	2.4E+04	3.6E+04	5.4E+04	8.2E+04	1.2E+05
70	3.4E+04	3.4E+04	3.4E+04	3.4E+04	4.2E+04	5.5E+04	8.2E+04	1.2E+05	1.8E+05	2.7E+05	4.1E+05	6.1E+05
100	5.1E+04	5.1E+04	5.1E+04	5.1E+04	6.3E+04	8.2E+04	1.2E+05	1.8E+05	2.7E+05	4.1E+05	6.1E+05	9.1E+05

**Table 3 of § 63.1215: 1-Hour Average HCl-Equivalent Emission Rates (lb/hr)—Flat Terrain**  
Distance to property boundary [m]

Stack Diameter * 0.3 m	30	50	70	100	200	300	500	700	1000	2000	3000	5000
Stack Height [m]	5	3.0E+00	5.1E+00	7.0E+00	9.0E+00	1.0E+01	2.0E+01	4.0E+01	6.2E+01	1.1E+02	1.7E+02	3.1E+02
	10	9.7E+00	1.4E+01	1.9E+01	2.5E+01	3.0E+01	6.0E+01	1.2E+02	2.0E+02	3.5E+02	5.5E+02	1.0E+03
	20	2.2E+01	3.0E+01	4.0E+01	5.0E+01	6.0E+01	1.2E+02	2.0E+02	3.5E+02	6.0E+02	1.0E+03	1.8E+03
	30	3.0E+01	3.9E+01	5.0E+01	6.0E+01	7.0E+01	1.4E+02	2.5E+02	4.0E+02	7.0E+02	1.2E+03	2.0E+03
	50	1.2E+02	1.6E+02	2.0E+02	2.5E+02	3.0E+02	6.0E+02	1.0E+03	1.8E+03	3.0E+03	5.0E+03	9.0E+03
Stack Diameter = 0.5 m	30	5.0E+00	8.0E+00	1.1E+01	1.5E+01	2.0E+01	4.0E+01	7.0E+01	1.2E+02	2.0E+02	3.5E+02	6.0E+02
	50	1.3E+01	2.0E+01	2.8E+01	3.7E+01	4.6E+01	9.0E+01	1.6E+02	2.8E+02	4.8E+02	8.0E+02	1.4E+03
	70	1.8E+01	2.8E+01	3.8E+01	5.0E+01	6.2E+01	1.2E+02	2.2E+02	3.8E+02	6.5E+02	1.1E+03	2.0E+03
	100	2.5E+01	3.5E+01	4.6E+01	6.0E+01	7.5E+01	1.4E+02	2.6E+02	4.5E+02	7.8E+02	1.3E+03	2.5E+03
	200	5.0E+01	7.0E+01	9.0E+01	1.2E+02	1.5E+02	3.0E+02	5.0E+02	8.5E+02	1.5E+03	2.5E+03	4.5E+03
	300	7.0E+01	1.0E+02	1.3E+02	1.7E+02	2.1E+02	4.0E+02	7.0E+02	1.2E+03	2.0E+03	3.5E+03	6.0E+03
	500	1.3E+02	1.8E+02	2.3E+02	3.0E+02	3.8E+02	7.5E+02	1.3E+03	2.2E+03	3.8E+03	6.5E+03	1.2E+04
	700	1.8E+02	2.5E+02	3.2E+02	4.2E+02	5.2E+02	1.0E+03	1.8E+03	3.0E+03	5.0E+03	8.5E+03	1.5E+04
	1000	2.5E+02	3.5E+02	4.5E+02	6.0E+02	7.5E+02	1.5E+03	2.5E+03	4.0E+03	6.5E+03	1.1E+04	2.0E+04
Stack Diameter = 1.0 m	30	3.0E+01	4.5E+01	6.0E+01	8.0E+01	1.0E+02	2.0E+02	3.5E+02	6.0E+02	1.0E+03	1.8E+03	3.0E+03
	50	7.5E+01	1.1E+02	1.5E+02	2.0E+02	2.5E+02	5.0E+02	9.0E+02	1.5E+03	2.5E+03	4.5E+03	8.0E+03
	70	1.0E+02	1.5E+02	2.0E+02	2.8E+02	3.5E+02	7.0E+02	1.2E+03	2.0E+03	3.5E+03	6.0E+03	1.0E+04
	100	1.5E+02	2.0E+02	2.8E+02	3.8E+02	4.8E+02	9.5E+02	1.6E+03	2.8E+03	4.8E+03	8.0E+03	1.4E+04
	200	3.0E+02	4.0E+02	5.0E+02	6.5E+02	8.0E+02	1.6E+03	2.8E+03	4.8E+03	8.0E+03	1.4E+04	2.5E+04
	300	4.0E+02	5.5E+02	7.0E+02	9.0E+02	1.1E+03	2.2E+03	3.8E+03	6.5E+03	1.1E+04	1.9E+04	3.5E+04
	500	7.0E+02	9.5E+02	1.2E+03	1.6E+03	2.0E+03	4.0E+03	7.0E+03	1.2E+04	2.0E+04	3.5E+04	6.5E+04
	700	1.0E+03	1.3E+03	1.7E+03	2.2E+03	2.8E+03	5.5E+03	9.5E+03	1.6E+04	2.8E+04	5.0E+04	9.5E+04
	1000	1.5E+03	2.0E+03	2.5E+03	3.5E+03	4.5E+03	9.0E+03	1.6E+04	2.8E+04	5.0E+04	9.0E+04	1.7E+05
Stack Diameter = 1.5 m	30	4.0E+01	6.0E+01	8.0E+01	1.1E+02	1.4E+02	2.8E+02	5.0E+02	9.0E+02	1.5E+03	2.5E+03	4.5E+03
	50	1.0E+02	1.5E+02	2.0E+02	2.8E+02	3.5E+02	7.0E+02	1.2E+03	2.0E+03	3.5E+03	6.0E+03	1.0E+04
	70	1.4E+02	2.0E+02	2.8E+02	3.8E+02	4.8E+02	9.5E+02	1.6E+03	2.8E+03	4.8E+03	8.0E+03	1.4E+04
	100	2.0E+02	2.8E+02	3.8E+02	5.0E+02	6.5E+02	1.3E+03	2.2E+03	3.8E+03	6.5E+03	1.1E+04	2.0E+04
	200	4.0E+02	5.5E+02	7.0E+02	9.0E+02	1.1E+03	2.2E+03	3.8E+03	6.5E+03	1.1E+04	2.0E+04	3.5E+04
	300	5.5E+02	7.5E+02	1.0E+03	1.3E+03	1.6E+03	3.2E+03	5.5E+03	9.5E+03	1.6E+04	3.0E+04	5.5E+04
	500	9.5E+02	1.3E+03	1.7E+03	2.2E+03	2.8E+03	5.5E+03	9.5E+03	1.6E+04	3.0E+04	5.5E+04	1.0E+05
	700	1.3E+03	1.8E+03	2.4E+03	3.2E+03	4.0E+03	8.0E+03	1.4E+04	2.5E+04	4.5E+04	8.0E+04	1.5E+05
	1000	2.0E+03	2.8E+03	3.8E+03	5.0E+03	6.5E+03	1.3E+04	2.2E+04	4.0E+04	7.0E+04	1.2E+05	2.2E+05
Stack Diameter = 2.0 m	30	5.0E+01	7.5E+01	1.0E+02	1.4E+02	1.8E+02	3.5E+02	6.0E+02	1.0E+03	1.8E+03	3.0E+03	5.0E+03
	50	1.2E+02	1.8E+02	2.5E+02	3.5E+02	4.5E+02	9.0E+02	1.5E+03	2.5E+03	4.5E+03	8.0E+03	1.4E+04
	70	1.7E+02	2.5E+02	3.5E+02	4.8E+02	6.2E+02	1.2E+03	2.0E+03	3.5E+03	6.0E+03	1.0E+04	1.8E+04
	100	2.5E+02	3.5E+02	4.8E+02	6.5E+02	8.5E+02	1.7E+03	3.0E+03	5.0E+03	8.5E+03	1.5E+04	2.8E+04
	200	5.0E+02	7.0E+02	9.5E+02	1.3E+03	1.7E+03	3.5E+03	6.0E+03	1.0E+04	1.8E+04	3.0E+04	5.5E+04
	300	7.0E+02	1.0E+03	1.3E+03	1.8E+03	2.3E+03	4.5E+03	7.5E+03	1.3E+04	2.3E+04	4.0E+04	7.5E+04
	500	1.2E+03	1.6E+03	2.1E+03	2.8E+03	3.6E+03	7.0E+03	1.2E+04	2.0E+04	3.5E+04	6.0E+04	1.1E+05
	700	1.7E+03	2.2E+03	3.0E+03	4.0E+03	5.2E+03	1.0E+04	1.8E+04	3.0E+04	5.0E+04	9.0E+04	1.7E+05
	1000	2.5E+03	3.5E+03	4.8E+03	6.5E+03	8.5E+03	1.7E+04	3.0E+04	5.0E+04	8.5E+04	1.5E+05	2.8E+05
Stack Diameter = 3.0 m	30	6.5E+01	9.5E+01	1.3E+02	1.8E+02	2.4E+02	4.5E+02	8.0E+02	1.4E+03	2.5E+03	4.5E+03	8.0E+03
	50	1.6E+02	2.4E+02	3.2E+02	4.5E+02	6.0E+02	1.2E+03	2.0E+03	3.5E+03	6.0E+03	1.0E+04	1.8E+04
	70	2.2E+02	3.2E+02	4.2E+02	5.8E+02	7.8E+02	1.5E+03	2.5E+03	4.5E+03	8.0E+03	1.4E+04	2.5E+04
	100	3.0E+02	4.2E+02	5.5E+02	7.5E+02	1.0E+03	2.0E+03	3.5E+03	6.0E+03	1.0E+04	1.8E+04	3.5E+04
	200	6.0E+02	8.0E+02	1.1E+03	1.5E+03	2.0E+03	4.0E+03	7.0E+03	1.2E+04	2.0E+04	3.5E+04	6.5E+04
	300	8.0E+02	1.1E+03	1.4E+03	2.0E+03	2.6E+03	5.0E+03	9.0E+03	1.6E+04	2.8E+04	5.0E+04	9.5E+04
	500	1.4E+03	1.9E+03	2.5E+03	3.5E+03	4.5E+03	9.0E+03	1.6E+04	2.8E+04	5.0E+04	9.0E+04	1.7E+05
	700	2.0E+03	2.8E+03	3.8E+03	5.0E+03	6.5E+03	1.3E+04	2.2E+04	4.0E+04	7.0E+04	1.2E+05	2.2E+05
	1000	3.0E+03	4.0E+03	5.5E+03	7.5E+03	1.0E+04	2.0E+04	3.5E+04	6.0E+04	1.0E+05	1.8E+05	3.5E+05
Stack Diameter = 4.0 m	30	8.0E+01	1.2E+02	1.6E+02	2.2E+02	2.9E+02	5.5E+02	1.0E+03	1.8E+03	3.0E+03	5.0E+03	9.0E+03
	50	2.0E+02	3.0E+02	4.0E+02	5.5E+02	7.5E+02	1.5E+03	2.5E+03	4.5E+03	8.0E+03	1.4E+04	2.5E+04
	70	2.8E+02	4.0E+02	5.5E+02	7.5E+02	1.0E+03	2.0E+03	3.5E+03	6.0E+03	1.0E+04	1.8E+04	3.5E+04
	100	4.0E+02	5.5E+02	7.5E+02	1.0E+03	1.3E+03	2.5E+03	4.5E+03	8.0E+03	1.4E+04	2.5E+04	4.5E+04
	200	8.0E+02	1.1E+03	1.5E+03	2.0E+03	2.6E+03	5.0E+03	9.0E+03	1.6E+04	2.8E+04	5.0E+04	9.5E+04
	300	1.1E+03	1.5E+03	2.0E+03	2.8E+03	3.6E+03	7.0E+03	1.2E+04	2.0E+04	3.5E+04	6.0E+04	1.1E+05
	500	2.0E+03	2.8E+03	3.8E+03	5.0E+03	6.5E+03	1.3E+04	2.2E+04	4.0E+04	7.0E+04	1.2E+05	2.2E+05
	700	3.0E+03	4.0E+03	5.5E+03	7.5E+03	1.0E+04	2.0E+04	3.5E+04	6.0E+04	1.0E+05	1.8E+05	3.5E+05
	1000	4.5E+03	6.0E+03	8.0E+03	1.1E+04	1.4E+04	2.8E+04	5.0E+04	9.0E+04	1.6E+05	3.0E+05	5.5E+05

**Table 4 of § 63.1215: 1-Hour Average HCl-Equivalent Emission Rate Limits (lb/hr)—Simple Elevated Terrain**

Stack Diameter = 0.3 m	Stack Height (m)	Distance to property boundary (m)														
		30	50	70	100	200	300	500	700	1000	2000	3000	5000			
Stack Diameter = 0.3 m	5	1.4E+00	1.8E+00	2.0E+00	2.0E+00	0.8E+00	0.8E+00	0.4E+00	1.5E+01	3.3E+01	2.1E+01	1.5E+01	0.1E+01	1.4E+02	2.7E+02	4.0E+02
	10	4.0E+00	4.0E+00	4.0E+00	3.0E+00	0.8E+00	0.8E+00	0.4E+00	1.5E+01	3.3E+01	2.1E+01	1.5E+01	0.1E+01	1.4E+02	2.7E+02	4.0E+02
	20	1.1E+01	1.1E+01	1.1E+01	1.1E+01	1.1E+01	1.1E+01	1.1E+01	1.1E+01	1.1E+01	1.1E+01	1.1E+01	1.1E+01	1.1E+01	1.1E+01	1.1E+01
	30	2.3E+01	2.3E+01	2.3E+01	2.3E+01	2.3E+01	2.3E+01	2.3E+01	2.3E+01	2.3E+01	2.3E+01	2.3E+01	2.3E+01	2.3E+01	2.3E+01	2.3E+01
	60	7.3E+01	7.3E+01	7.3E+01	7.3E+01	7.3E+01	7.3E+01	7.3E+01	7.3E+01	7.3E+01	7.3E+01	7.3E+01	7.3E+01	7.3E+01	7.3E+01	7.3E+01
Stack Diameter = 0.5 m	5	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00
	10	2.7E+00	2.7E+00	2.7E+00	2.7E+00	2.7E+00	2.7E+00	2.7E+00	2.7E+00	2.7E+00	2.7E+00	2.7E+00	2.7E+00	2.7E+00	2.7E+00	2.7E+00
	20	1.8E+01	1.8E+01	1.8E+01	1.8E+01	1.8E+01	1.8E+01	1.8E+01	1.8E+01	1.8E+01	1.8E+01	1.8E+01	1.8E+01	1.8E+01	1.8E+01	1.8E+01
	30	2.7E+01	2.7E+01	2.7E+01	2.7E+01	2.7E+01	2.7E+01	2.7E+01	2.7E+01	2.7E+01	2.7E+01	2.7E+01	2.7E+01	2.7E+01	2.7E+01	2.7E+01
	60	7.8E+01	7.8E+01	7.8E+01	7.8E+01	7.8E+01	7.8E+01	7.8E+01	7.8E+01	7.8E+01	7.8E+01	7.8E+01	7.8E+01	7.8E+01	7.8E+01	7.8E+01
Stack Diameter = 1.0 m	5	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00
	10	2.0E+00	2.0E+00	2.0E+00	2.0E+00	2.0E+00	2.0E+00	2.0E+00	2.0E+00	2.0E+00	2.0E+00	2.0E+00	2.0E+00	2.0E+00	2.0E+00	2.0E+00
	20	4.2E+00	4.2E+00	4.2E+00	4.2E+00	4.2E+00	4.2E+00	4.2E+00	4.2E+00	4.2E+00	4.2E+00	4.2E+00	4.2E+00	4.2E+00	4.2E+00	4.2E+00
	30	8.0E+00	8.0E+00	8.0E+00	8.0E+00	8.0E+00	8.0E+00	8.0E+00	8.0E+00	8.0E+00	8.0E+00	8.0E+00	8.0E+00	8.0E+00	8.0E+00	8.0E+00
	60	3.8E+02	3.8E+02	3.8E+02	3.8E+02	3.8E+02	3.8E+02	3.8E+02	3.8E+02	3.8E+02	3.8E+02	3.8E+02	3.8E+02	3.8E+02	3.8E+02	3.8E+02
Stack Diameter = 1.5 m	5	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00
	10	2.0E+00	2.0E+00	2.0E+00	2.0E+00	2.0E+00	2.0E+00	2.0E+00	2.0E+00	2.0E+00	2.0E+00	2.0E+00	2.0E+00	2.0E+00	2.0E+00	2.0E+00
	20	4.2E+00	4.2E+00	4.2E+00	4.2E+00	4.2E+00	4.2E+00	4.2E+00	4.2E+00	4.2E+00	4.2E+00	4.2E+00	4.2E+00	4.2E+00	4.2E+00	4.2E+00
	30	8.0E+00	8.0E+00	8.0E+00	8.0E+00	8.0E+00	8.0E+00	8.0E+00	8.0E+00	8.0E+00	8.0E+00	8.0E+00	8.0E+00	8.0E+00	8.0E+00	8.0E+00
	60	3.8E+02	3.8E+02	3.8E+02	3.8E+02	3.8E+02	3.8E+02	3.8E+02	3.8E+02	3.8E+02	3.8E+02	3.8E+02	3.8E+02	3.8E+02	3.8E+02	3.8E+02
Stack Diameter = 2.0 m	5	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00
	10	2.0E+00	2.0E+00	2.0E+00	2.0E+00	2.0E+00	2.0E+00	2.0E+00	2.0E+00	2.0E+00	2.0E+00	2.0E+00	2.0E+00	2.0E+00	2.0E+00	2.0E+00
	20	4.2E+00	4.2E+00	4.2E+00	4.2E+00	4.2E+00	4.2E+00	4.2E+00	4.2E+00	4.2E+00	4.2E+00	4.2E+00	4.2E+00	4.2E+00	4.2E+00	4.2E+00
	30	8.0E+00	8.0E+00	8.0E+00	8.0E+00	8.0E+00	8.0E+00	8.0E+00	8.0E+00	8.0E+00	8.0E+00	8.0E+00	8.0E+00	8.0E+00	8.0E+00	8.0E+00
	60	3.8E+02	3.8E+02	3.8E+02	3.8E+02	3.8E+02	3.8E+02	3.8E+02	3.8E+02	3.8E+02	3.8E+02	3.8E+02	3.8E+02	3.8E+02	3.8E+02	3.8E+02
Stack Diameter = 3.0 m	5	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00
	10	2.0E+00	2.0E+00	2.0E+00	2.0E+00	2.0E+00	2.0E+00	2.0E+00	2.0E+00	2.0E+00	2.0E+00	2.0E+00	2.0E+00	2.0E+00	2.0E+00	2.0E+00
	20	4.2E+00	4.2E+00	4.2E+00	4.2E+00	4.2E+00	4.2E+00	4.2E+00	4.2E+00	4.2E+00	4.2E+00	4.2E+00	4.2E+00	4.2E+00	4.2E+00	4.2E+00
	30	8.0E+00	8.0E+00	8.0E+00	8.0E+00	8.0E+00	8.0E+00	8.0E+00	8.0E+00	8.0E+00	8.0E+00	8.0E+00	8.0E+00	8.0E+00	8.0E+00	8.0E+00
	60	3.8E+02	3.8E+02	3.8E+02	3.8E+02	3.8E+02	3.8E+02	3.8E+02	3.8E+02	3.8E+02	3.8E+02	3.8E+02	3.8E+02	3.8E+02	3.8E+02	3.8E+02
Stack Diameter = 4.0 m	5	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00
	10	2.0E+00	2.0E+00	2.0E+00	2.0E+00	2.0E+00	2.0E+00	2.0E+00	2.0E+00	2.0E+00	2.0E+00	2.0E+00	2.0E+00	2.0E+00	2.0E+00	2.0E+00
	20	4.2E+00	4.2E+00	4.2E+00	4.2E+00	4.2E+00	4.2E+00	4.2E+00	4.2E+00	4.2E+00	4.2E+00	4.2E+00	4.2E+00	4.2E+00	4.2E+00	4.2E+00
	30	8.0E+00	8.0E+00	8.0E+00	8.0E+00	8.0E+00	8.0E+00	8.0E+00	8.0E+00	8.0E+00	8.0E+00	8.0E+00	8.0E+00	8.0E+00	8.0E+00	8.0E+00
	60	3.8E+02	3.8E+02	3.8E+02	3.8E+02	3.8E+02	3.8E+02	3.8E+02	3.8E+02	3.8E+02	3.8E+02	3.8E+02	3.8E+02	3.8E+02	3.8E+02	3.8E+02

[70 FR 59565, Oct. 12, 2005]

**EMISSIONS STANDARDS AND OPERATING LIMITS FOR SOLID FUEL BOILERS, LIQUID FUEL BOILERS, AND HYDROCHLORIC ACID PRODUCTION FURNACES**

**§ 63.1216 What are the standards for solid fuel boilers that burn hazardous waste?**

(a) *Emission limits for existing sources.* You must not discharge or cause combustion gases to be emitted into the atmosphere that contain:

(1) For dioxins and furans, either carbon monoxide or hydrocarbon emissions in excess of the limits provided by paragraph (a)(5) of this section;

(2) Mercury in excess of 11 µg/dscm corrected to 7 percent oxygen;

(3) For cadmium and lead combined, except for an area source as defined under § 63.2, emissions in excess of 180 µg/dscm, corrected to 7 percent oxygen;

(4) For arsenic, beryllium, and chromium combined, except for an area source as defined under § 63.2, emissions in excess of 380 µg/dscm, corrected to 7 percent oxygen;

(5) For carbon monoxide and hydrocarbons, either:

(i) Carbon monoxide in excess of 100 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions

monitoring system), dry basis and corrected to 7 percent oxygen. If you elect to comply with this carbon monoxide standard rather than the hydrocarbon standard under paragraph (a)(5)(ii) of this section, you must also document that, during the destruction and removal efficiency (DRE) test runs or their equivalent as provided by § 63.1206(b)(7), hydrocarbons do not exceed 10 parts per million by volume during those runs, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; or

(ii) Hydrocarbons in excess of 10 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane;

(6) For hydrogen chloride and chlorine combined, except for an area source as defined under § 63.2, emissions in excess of 440 parts per million by volume, expressed as a chloride (Cl<sup>-</sup>) equivalent, dry basis and corrected to 7 percent oxygen; and

(7) For particulate matter, except for an area source as defined under § 63.2 or as provided by paragraph (e) of this section, emissions in excess of 68 mg/dscm corrected to 7 percent oxygen.

(b) *Emission limits for new sources.* You must not discharge or cause combustion gases to be emitted into the atmosphere that contain:

(1) For dioxins and furans, either carbon monoxide or hydrocarbon emissions in excess of the limits provided by paragraph (b)(5) of this section;

(2) Mercury in excess of 11 µg/dscm corrected to 7 percent oxygen;

(3) For cadmium and lead combined, except for an area source as defined under § 63.2, emissions in excess of 180 µg/dscm, corrected to 7 percent oxygen;

(4) For arsenic, beryllium, and chromium combined, except for an area source as defined under § 63.2, emissions in excess of 190 µg/dscm, corrected to 7 percent oxygen;

(5) For carbon monoxide and hydrocarbons, either:

(i) Carbon monoxide in excess of 100 parts per million by volume, over an

hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis and corrected to 7 percent oxygen. If you elect to comply with this carbon monoxide standard rather than the hydrocarbon standard under paragraph (b)(5)(ii) of this section, you must also document that, during the destruction and removal efficiency (DRE) test runs or their equivalent as provided by § 63.1206(b)(7), hydrocarbons do not exceed 10 parts per million by volume during those runs, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; or

(ii) Hydrocarbons in excess of 10 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane;

(6) For hydrogen chloride and chlorine combined, except for an area source as defined under § 63.2, emissions in excess of 73 parts per million by volume, expressed as a chloride (Cl<sup>-</sup>) equivalent, dry basis and corrected to 7 percent oxygen; and

(7) For particulate matter, except for an area source as defined under § 63.2 or as provided by paragraph (e) of this section, emissions in excess of 34 mg/dscm corrected to 7 percent oxygen.

(c) *Destruction and removal efficiency (DRE) standard—(1) 99.99% DRE.* Except as provided in paragraph (c)(2) of this section, you must achieve a DRE of 99.99% for each principle organic hazardous constituent (POHC) designated under paragraph (c)(3) of this section. You must calculate DRE for each POHC from the following equation:

$$DRE = [1 - (W_{out} + W_{in})] \times 100\%$$

Where:

$W_{in}$  = mass feedrate of one POHC in a waste feedstream; and

$W_{out}$  = mass emission rate of the same POHC present in exhaust emissions prior to release to the atmosphere.

(2) *99.9999% DRE.* If you burn the dioxin-listed hazardous wastes F020, F021, F022, F023, F026, or F027 (see § 261.31 of this chapter), you must achieve a DRE of 99.9999% for

each POHC that you designate under paragraph (c)(3) of this section. You must demonstrate this DRE performance on POHCs that are more difficult to incinerate than tetra-, penta-, and hexachlorodibenzo-*p*-dioxins and dibenzofurans. You must use the equation in paragraph (c)(1) of this section to calculate DRE for each POHC. In addition, you must notify the Administrator of your intent to incinerate hazardous wastes F020, F021, F022, F023, F026, or F027.

(3) *Principal organic hazardous constituents (POHCs)*. (i) You must treat the POHCs in the waste feed that you specify under paragraph (c)(3)(ii) of this section to the extent required by paragraphs (c)(1) and (c)(2) of this section.

(ii) You must specify one or more POHCs that are representative of the most difficult to destroy organic compounds in your hazardous waste feedstream. You must base this specification on the degree of difficulty of incineration of the organic constituents in the hazardous waste and on their concentration or mass in the hazardous waste feed, considering the results of hazardous waste analyses or other data and information.

(d) *Significant figures*. The emission limits provided by paragraphs (a) and (b) of this section are presented with two significant figures. Although you must perform intermediate calculations using at least three significant figures, you may round the resultant emission levels to two significant figures to document compliance.

(e) *Alternative to the particulate matter standard—(1) General*. In lieu of complying with the particulate matter standards of this section, you may elect to comply with the following alternative metal emission control requirement:

(2) *Alternative metal emission control requirements for existing solid fuel boilers*.

(i) You must not discharge or cause combustion gases to be emitted into the atmosphere that contain cadmium, lead, and selenium in excess of 180 µg/dscm, combined emissions, corrected to 7 percent oxygen; and,

(ii) You must not discharge or cause combustion gases to be emitted into the atmosphere that contain antimony, arsenic, beryllium, chromium, cobalt, manganese, and nickel in excess of 380

µg/dscm, combined emissions, corrected to 7 percent oxygen.

(3) *Alternative metal emission control requirements for new solid fuel boilers*. (i) You must not discharge or cause combustion gases to be emitted into the atmosphere that contain cadmium, lead, and selenium in excess of 180 µg/dscm, combined emissions, corrected to 7 percent oxygen; and,

(ii) You must not discharge or cause combustion gases to be emitted into the atmosphere that contain antimony, arsenic, beryllium, chromium, cobalt, manganese, and nickel in excess of 190 µg/dscm, combined emissions, corrected to 7 percent oxygen.

(4) *Operating limits*. Semivolatile and low volatile metal operating parameter limits must be established to ensure compliance with the alternative emission limitations described in paragraphs (e)(2) and (e)(3) of this section pursuant to § 63.1209(n), except that semivolatile metal feedrate limits apply to lead, cadmium, and selenium, combined, and low volatile metal feedrate limits apply to arsenic, beryllium, chromium, antimony, cobalt, manganese, and nickel, combined.

(f) *Elective standards for area sources*. Area sources as defined under § 63.2 are subject to the standards for cadmium and lead, the standards for arsenic, beryllium, and chromium, the standards for hydrogen chloride and chlorine, and the standards for particulate matter under this section if they elect under § 266.100(b)(3) of this chapter to comply with those standards in lieu of the standards under 40 CFR 266.105, 266.106, and 266.107 to control those pollutants.

[70 FR 59565, Oct. 12, 2005]

**§ 63.1217 What are the standards for liquid fuel boilers that burn hazardous waste?**

(a) *Emission limits for existing sources*. You must not discharge or cause combustion gases to be emitted into the atmosphere that contain:

(1)(i) Dioxins and furans in excess of 0.40 ng TEQ/dscm, corrected to 7 percent oxygen, for liquid fuel boilers equipped with a dry air pollution control system; or

(ii) Either carbon monoxide or hydrocarbon emissions in excess of the limits provided by paragraph (a)(5) of this

section for sources not equipped with a dry air pollution control system;

(iii) A source equipped with a wet air pollution control system followed by a dry air pollution control system is not considered to be a dry air pollution control system, and a source equipped with a dry air pollution control system followed by a wet air pollution control system is considered to be a dry air pollution control system for purposes of this emission limit;

(2) For mercury, except as provided for in paragraph (a)(2)(iii) of this section:

(i) When you burn hazardous waste with an as-fired heating value less than 10,000 Btu/lb, emissions in excess of 19 µg/dscm, corrected to 7 percent oxygen, on an (not-to-exceed) annual averaging period;

(ii) When you burn hazardous waste with an as-fired heating value 10,000 Btu/lb or greater, emissions in excess of  $4.2 \times 10^{-5}$  lbs mercury attributable to the hazardous waste per million Btu heat input from the hazardous waste on an (not-to-exceed) annual averaging period;

(iii) The boiler operated by Diversified Scientific Services, Inc. with EPA identification number TND982109142, and which burns radioactive waste mixed with hazardous waste, must comply with the mercury emission standard under § 63.1219(a)(2);

(3) For cadmium and lead combined, except for an area source as defined under § 63.2,

(i) When you burn hazardous waste with an as-fired heating value less than 10,000 Btu/lb, emissions in excess of 150 µg/dscm, corrected to 7 percent oxygen, on an (not-to-exceed) annual averaging period;

(ii) When you burn hazardous waste with an as-fired heating value of 10,000 Btu/lb or greater, emissions in excess of  $8.2 \times 10^{-5}$  lbs combined cadmium and lead emissions attributable to the hazardous waste per million Btu heat input from the hazardous waste on an (not-to-exceed) annual averaging period;

(4) For chromium, except for an area source as defined under § 63.2:

(i) When you burn hazardous waste with an as-fired heating value less than

10,000 Btu/lb, emissions in excess of 370 µg/dscm, corrected to 7 percent oxygen;

(ii) When you burn hazardous waste with an as-fired heating value of 10,000 Btu/lb or greater, emissions in excess of  $1.3 \times 10^{-4}$  lbs chromium emissions attributable to the hazardous waste per million Btu heat input from the hazardous waste;

(5) For carbon monoxide and hydrocarbons, either:

(i) Carbon monoxide in excess of 100 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis and corrected to 7 percent oxygen. If you elect to comply with this carbon monoxide standard rather than the hydrocarbon standard under paragraph (a)(5)(ii) of this section, you must also document that, during the destruction and removal efficiency (DRE) test runs or their equivalent as provided by § 63.1206(b)(7), hydrocarbons do not exceed 10 parts per million by volume during those runs, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; or

(ii) Hydrocarbons in excess of 10 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane;

(6) For hydrogen chloride and chlorine, except for an area source as defined under § 63.2:

(i) When you burn hazardous waste with an as-fired heating value less than 10,000 Btu/lb, emissions in excess of 31 parts per million by volume, combined emissions, expressed as a chloride (Cl<sup>-</sup>) equivalent, dry basis and corrected to 7 percent oxygen;

(ii) When you burn hazardous waste with an as-fired heating value of 10,000 Btu/lb or greater, emissions in excess of  $5.08 \times 10^{-2}$  lbs combined emissions of hydrogen chloride and chlorine gas attributable to the hazardous waste per million Btu heat input from the hazardous waste;

(7) For particulate matter, except for an area source as defined under § 63.2 or



as provided by paragraph (e) of this section, emissions in excess of 80 mg/dscm corrected to 7 percent oxygen.

(b) *Emission limits for new sources.* You must not discharge or cause combustion gases to be emitted into the atmosphere that contain:

(1)(i) Dioxins and furans in excess of 0.40 ng TEQ/dscm, corrected to 7 percent oxygen, for liquid fuel boilers equipped with a dry air pollution control system; or

(ii) Either carbon monoxide or hydrocarbon emissions in excess of the limits provided by paragraph (b)(5) of this section for sources not equipped with a dry air pollution control system;

(iii) A source equipped with a wet air pollution control system followed by a dry air pollution control system is not considered to be a dry air pollution control system, and a source equipped with a dry air pollution control system followed by a wet air pollution control system is considered to be a dry air pollution control system for purposes of this emission limit;

(2) For mercury:

(i) When you burn hazardous waste with an as-fired heating value less than 10,000 Btu/lb, emissions in excess of 6.8 µg/dscm, corrected to 7 percent oxygen, on an (not-to-exceed) annual averaging period;

(ii) When you burn hazardous waste with an as-fired heating value of 10,000 Btu/lb or greater, emissions in excess of  $1.2 \times 10^{-6}$  lbs mercury emissions attributable to the hazardous waste per million Btu heat input from the hazardous waste on an (not-to-exceed) annual averaging period;

(3) For cadmium and lead combined, except for an area source as defined under §63.2:

(i) When you burn hazardous waste with an as-fired heating value less than 10,000 Btu/lb, emissions in excess of 78 µg/dscm, corrected to 7 percent oxygen, on an (not-to-exceed) annual averaging period;

(ii) When you burn hazardous waste with an as-fired heating value greater than or equal to 10,000 Btu/lb, emissions in excess of  $6.2 \times 10^{-6}$  lbs combined cadmium and lead emissions attributable to the hazardous waste per million Btu heat input from the haz-

ardous waste on an (not-to-exceed) annual averaging period;

(4) For chromium, except for an area source as defined under §63.2:

(i) When you burn hazardous waste with an as-fired heating value less than 10,000 Btu/lb, emissions in excess of 12 µg/dscm, corrected to 7 percent oxygen;

(ii) When you burn hazardous waste with an as-fired heating value of 10,000 Btu/lb or greater, emissions in excess of  $1.4 \times 10^{-5}$  lbs chromium emissions attributable to the hazardous waste per million Btu heat input from the hazardous waste;

(5) For carbon monoxide and hydrocarbons, either:

(i) Carbon monoxide in excess of 100 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis and corrected to 7 percent oxygen. If you elect to comply with this carbon monoxide standard rather than the hydrocarbon standard under paragraph (b)(5)(ii) of this section, you must also document that, during the destruction and removal efficiency (DRE) test runs or their equivalent as provided by §63.1206(b)(7), hydrocarbons do not exceed 10 parts per million by volume during those runs, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; or

(ii) Hydrocarbons in excess of 10 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane;

(6) For hydrogen chloride and chlorine, except for an area source as defined under §63.2:

(i) When you burn hazardous waste with an as-fired heating value less than 10,000 Btu/lb, emissions in excess of 31 parts per million by volume, combined emissions, expressed as a chloride (Cl<sup>-</sup>) equivalent, dry basis and corrected to 7 percent oxygen;

(ii) When you burn hazardous waste with an as-fired heating value of 10,000 Btu/lb or greater, emissions in excess of  $5.08 \times 10^{-2}$  lbs combined emissions of

hydrogen chloride and chlorine gas attributable to the hazardous waste per million Btu heat input from the hazardous waste;

(7) For particulate matter, except for an area source as defined under § 63.2 or as provided by paragraph (e) of this section, emissions in excess of 20 mg/dscm corrected to 7 percent oxygen.

(c) *Destruction and removal efficiency (DRE) standard*—(1) *99.99% DRE*. Except as provided in paragraph (c)(2) of this section, you must achieve a DRE of 99.99% for each principle organic hazardous constituent (POHC) designated under paragraph (c)(3) of this section. You must calculate DRE for each POHC from the following equation:

$$DRE = [1 - (W_{out} + W_{in})] \times 100\%$$

Where:

$W_{in}$  = mass feedrate of one POHC in a waste feedstream; and

$W_{out}$  = mass emission rate of the same POHC present in exhaust emissions prior to release to the atmosphere.

(2) *99.9999% DRE*. If you burn the dioxin-listed hazardous wastes F020, F021, F022, F023, F026, or F027 (see § 261.31 of this chapter), you must achieve a DRE of 99.9999% for each POHC that you designate under paragraph (c)(3) of this section. You must demonstrate this DRE performance on POHCs that are more difficult to incinerate than tetra-, penta-, and hexachlorodibenzo-*p*-dioxins and dibenzofurans. You must use the equation in paragraph (c)(1) of this section to calculate DRE for each POHC. In addition, you must notify the Administrator of your intent to incinerate hazardous wastes F020, F021, F022, F023, F026, or F027.

(3) *Principal organic hazardous constituents (POHCs)*. (i) You must treat the POHCs in the waste feed that you specify under paragraph (c)(3)(ii) of this section to the extent required by paragraphs (c)(1) and (c)(2) of this section.

(ii) You must specify one or more POHCs that are representative of the most difficult to destroy organic compounds in your hazardous waste feedstream. You must base this specification on the degree of difficulty of incineration of the organic constituents in the hazardous waste and on

their concentration or mass in the hazardous waste feed, considering the results of hazardous waste analyses or other data and information.

(d) *Significant figures*. The emission limits provided by paragraphs (a) and (b) of this section are presented with two significant figures. Although you must perform intermediate calculations using at least three significant figures, you may round the resultant emission levels to two significant figures to document compliance.

(e) *Alternative to the particulate matter standard*—(1) *General*. In lieu of complying with the particulate matter standards of this section, you may elect to comply with the following alternative metal emission control requirement:

(2) *Alternative metal emission control requirements for existing liquid fuel boilers*. (i) When you burn hazardous waste with a heating value less than 10,000 Btu/lb:

(A) You must not discharge or cause combustion gases to be emitted into the atmosphere that contain cadmium, lead, and selenium, combined, in excess of 150 µg/dscm, corrected to 7 percent oxygen; and

(B) You must not discharge or cause combustion gases to be emitted into the atmosphere that contain antimony, arsenic, beryllium, chromium, cobalt, manganese, and nickel, combined, in excess of 370 µg/dscm, corrected to 7 percent oxygen;

(ii) When you burn hazardous waste with a heating value of 10,000 Btu/lb or greater:

(A) You must not discharge or cause combustion gases to be emitted into the atmosphere that contain in excess of  $8.2 \times 10^{-5}$  lbs combined emissions of cadmium, lead, and selenium attributable to the hazardous waste per million Btu heat input from the hazardous waste; and

(B) You must not discharge or cause combustion gases to be emitted into the atmosphere that contain either in excess of  $1.3 \times 10^{-4}$  lbs combined emissions of antimony, arsenic, beryllium, chromium, cobalt, manganese, and nickel attributable to the hazardous waste per million Btu heat input from the hazardous waste;

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(3) *Alternative metal emission control requirements for new liquid fuel boilers.*

(i) When you burn hazardous waste with a heating value less than 10,000 Btu/lb:

(A) You must not discharge or cause combustion gases to be emitted into the atmosphere that contain cadmium, lead, and selenium, combined, in excess of 78 µg/dscm, corrected to 7 percent oxygen; and

(B) You must not discharge or cause combustion gases to be emitted into the atmosphere that contain antimony, arsenic, beryllium, chromium, cobalt, manganese, and nickel, combined, in excess of 12 µg/dscm, corrected to 7 percent oxygen;

(ii) When you burn hazardous waste with a heating value greater than or equal to 10,000 Btu/lb:

(A) You must not discharge or cause combustion gases to be emitted into the atmosphere that contain in excess of  $6.2 \times 10^{-6}$  lbs combined emissions of cadmium, lead, and selenium attributable to the hazardous waste per million Btu heat input from the hazardous waste; and

(B) You must not discharge or cause combustion gases to be emitted into the atmosphere that contain either in excess of  $1.4 \times 10^{-5}$  lbs combined emissions of antimony, arsenic, beryllium, chromium, cobalt, manganese, and nickel attributable to the hazardous waste per million Btu heat input from the hazardous waste;

(4) *Operating limits.* Semivolatile and low volatile metal operating parameter limits must be established to ensure compliance with the alternative emission limitations described in paragraphs (e)(2) and (e)(3) of this section pursuant to § 63.1209(n), except that semivolatile metal feedrate limits apply to lead, cadmium, and selenium, combined, and low volatile metal feedrate limits apply to arsenic, beryllium, chromium, antimony, cobalt, manganese, and nickel, combined.

(f) *Elective standards for area sources.* Area sources as defined under § 63.2 are subject to the standards for cadmium and lead, the standards for chromium, the standards for hydrogen chloride and chlorine, and the standards for particulate matter under this section if they elect under § 266.100(b)(3) of this

chapter to comply with those standards in lieu of the standards under 40 CFR 266.105, 266.106, and 266.107 to control those pollutants.

[70 FR 59567, Oct. 12, 2005]

§ 63.1218 **What are the standards for hydrochloric acid production furnaces that burn hazardous waste?**

(a) *Emission limits for existing sources.* You must not discharge or cause combustion gases to be emitted into the atmosphere that contain:

(1) For dioxins and furans, either carbon monoxide or hydrocarbon emissions in excess of the limits provided by paragraph (a)(5) of this section;

(2) For mercury, hydrogen chloride and chlorine gas emissions in excess of the levels provided by paragraph (a)(6) of this section;

(3) For lead and cadmium, except for an area source as defined under § 63.2, hydrogen chloride and chlorine gas emissions in excess of the levels provided by paragraph (a)(6) of this section;

(4) For arsenic, beryllium, and chromium, except for an area source as defined under § 63.2, hydrogen chloride and chlorine gas emissions in excess of the levels provided by paragraph (a)(6) of this section;

(5) For carbon monoxide and hydrocarbons, either:

(i) Carbon monoxide in excess of 100 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis and corrected to 7 percent oxygen. If you elect to comply with this carbon monoxide standard rather than the hydrocarbon standard under paragraph (a)(5)(ii) of this section, you must also document that, during the destruction and removal efficiency (DRE) test runs or their equivalent as provided by § 63.1206(b)(7), hydrocarbons do not exceed 10 parts per million by volume during those runs, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; or

(ii) Hydrocarbons in excess of 10 parts per million by volume, over an hourly

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rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane;

(6) For hydrogen chloride and chlorine gas, either:

(i) Emission in excess of 150 parts per million by volume, combined emissions, expressed as a chloride ( $\text{Cl}^-$ ) equivalent, dry basis and corrected to 7 percent oxygen; or

(ii) Emissions greater than the levels that would be emitted if the source is achieving a system removal efficiency (SRE) of less than 99.923 percent for total chlorine and chloride fed to the combustor. You must calculate SRE from the following equation:

$$\text{SRE} = [1 - (\text{Cl}_{\text{out}} / \text{Cl}_{\text{in}})] \times 100\%$$

Where:

$\text{Cl}_{\text{in}}$  = mass feedrate of total chlorine or chloride in all feedstreams, reported as chloride; and

$\text{Cl}_{\text{out}}$  = mass emission rate of hydrogen chloride and chlorine gas, reported as chloride, in exhaust emissions prior to release to the atmosphere.

(7) For particulate matter, except for an area source as defined under § 63.2, hydrogen chloride and chlorine gas emissions in excess of the levels provided by paragraph (a)(6) of this section.

(b) *Emission limits for new sources.* You must not discharge or cause combustion gases to be emitted into the atmosphere that contain:

(1) For dioxins and furans, either carbon monoxide or hydrocarbon emissions in excess of the limits provided by paragraph (b)(5) of this section;

(2) For mercury, hydrogen chloride and chlorine gas emissions in excess of the levels provided by paragraph (b)(6) of this section;

(3) For lead and cadmium, except for an area source as defined under § 63.2, hydrogen chloride and chlorine gas emissions in excess of the levels provided by paragraph (b)(6) of this section;

(4) For arsenic, beryllium, and chromium, except for an area source as defined under § 63.2, hydrogen chloride and chlorine gas emissions in excess of the levels provided by paragraph (b)(6) of this section;

(5) For carbon monoxide and hydrocarbons, either:

(i) Carbon monoxide in excess of 100 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis and corrected to 7 percent oxygen. If you elect to comply with this carbon monoxide standard rather than the hydrocarbon standard under paragraph (b)(5)(ii) of this section, you must also document that, during the destruction and removal efficiency (DRE) test runs or their equivalent as provided by § 63.1206(b)(7), hydrocarbons do not exceed 10 parts per million by volume during those runs, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; or

(ii) Hydrocarbons in excess of 10 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane;

(6) For hydrogen chloride and chlorine gas, either:

(i) Emission in excess of 25 parts per million by volume, combined emissions, expressed as a chloride ( $\text{Cl}^-$ ) equivalent, dry basis and corrected to 7 percent oxygen; or

(ii) Emissions greater than the levels that would be emitted if the source is achieving a system removal efficiency (SRE) of less than 99.987 percent for total chlorine and chloride fed to the combustor. You must calculate SRE from the following equation:

$$\text{SRE} = [1 - (\text{Cl}_{\text{out}} / \text{Cl}_{\text{in}})] \times 100\%$$

Where:

$\text{Cl}_{\text{in}}$  = mass feedrate of total chlorine or chloride in all feedstreams, reported as chloride; and

$\text{Cl}_{\text{out}}$  = mass emission rate of hydrogen chloride and chlorine gas, reported as chloride, in exhaust emissions prior to release to the atmosphere.

(7) For particulate matter, except for an area source as defined under § 63.2, hydrogen chloride and chlorine gas

emissions in excess of the levels provided by paragraph (b)(6) of this section.

(c) *Destruction and removal efficiency (DRE) standard*—(1) *99.99% DRE*. Except as provided in paragraph (c)(2) of this section, you must achieve a DRE of 99.99% for each principle organic hazardous constituent (POHC) designated under paragraph (c)(3) of this section. You must calculate DRE for each POHC from the following equation:

$$\text{DRE} = [1 - (W_{\text{out}} / W_{\text{in}})] \times 100\%$$

Where:

Win = mass feedrate of one POHC in a waste feedstream; and

Wout = mass emission rate of the same POHC present in exhaust emissions prior to release to the atmosphere.

(2) *99.9999% DRE*. If you burn the dioxin-listed hazardous wastes F020, F021, F022, F023, F026, or F027 (see § 261.31 of this chapter), you must achieve a DRE of 99.9999% for each POHC that you designate under paragraph (c)(3) of this section. You must demonstrate this DRE performance on POHCs that are more difficult to incinerate than tetra-, penta-, and hexachlorodibenzo-*p*-dioxins and dibenzofurans. You must use the equation in paragraph (c)(1) of this section to calculate DRE for each POHC. In addition, you must notify the Administrator of your intent to incinerate hazardous wastes F020, F021, F022, F023, F026, or F027.

(3) *Principal organic hazardous constituents (POHCs)*. (i) You must treat the POHCs in the waste feed that you specify under paragraph (c)(3)(ii) of this section to the extent required by paragraphs (c)(1) and (c)(2) of this section.

(ii) You must specify one or more POHCs that are representative of the most difficult to destroy organic compounds in your hazardous waste feedstream. You must base this specification on the degree of difficulty of incineration of the organic constituents in the hazardous waste and on their concentration or mass in the hazardous waste feed, considering the results of hazardous waste analyses or other data and information.

(d) *Significant figures*. The emission limits provided by paragraphs (a) and

(b) of this section are presented with two significant figures. Although you must perform intermediate calculations using at least three significant figures, you may round the resultant emission levels to two significant figures to document compliance.

(e) *Elective standards for area sources*. Area sources as defined under § 63.2 are subject to the standards for cadmium and lead, the standards for arsenic, beryllium, and chromium, the standards for hydrogen chloride and chlorine, and the standards for particulate matter under this section if they elect under § 266.100(b)(3) of this chapter to comply with those standards in lieu of the standards under 40 CFR 266.105, 266.106, and 266.107 to control those pollutants.

[70 FR 59569, Oct. 12, 2005]

#### REPLACEMENT EMISSIONS STANDARDS AND OPERATING LIMITS FOR INCINERATORS, CEMENT KILNS, AND LIGHT-WEIGHT AGGREGATE KILNS

##### § 63.1219 What are the replacement standards for hazardous waste incinerators?

(a) *Emission limits for existing sources*. You must not discharge or cause combustion gases to be emitted into the atmosphere that contain:

(1) For dioxins and furans:

(i) For incinerators equipped with either a waste heat boiler or dry air pollution control system, either:

(A) Emissions in excess of 0.20 ng TEQ/dscm, corrected to 7 percent oxygen; or

(B) Emissions in excess of 0.40 ng TEQ/dscm, corrected to 7 percent oxygen, provided that the combustion gas temperature at the inlet to the initial particulate matter control device is 400 °F or lower based on the average of the test run average temperatures. (For purposes of compliance, operation of a wet particulate matter control device is presumed to meet the 400 °F or lower requirement);

(ii) Emissions in excess of 0.40 ng TEQ/dscm, corrected to 7 percent oxygen, for incinerators not equipped with either a waste heat boiler or dry air pollution control system;

(iii) A source equipped with a wet air pollution control system followed by a dry air pollution control system is not

considered to be a dry air pollution control system, and a source equipped with a dry air pollution control system followed by a wet air pollution control system is considered to be a dry air pollution control system for purposes of this standard;

(2) Mercury in excess of 130 µg/dscm, corrected to 7 percent oxygen;

(3) Cadmium and lead in excess of 230 µg/dscm, combined emissions, corrected to 7 percent oxygen;

(4) Arsenic, beryllium, and chromium in excess of 92 µg/dscm, combined emissions, corrected to 7 percent oxygen;

(5) For carbon monoxide and hydrocarbons, either:

(i) Carbon monoxide in excess of 100 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis and corrected to 7 percent oxygen. If you elect to comply with this carbon monoxide standard rather than the hydrocarbon standard under paragraph (a)(5)(ii) of this section, you must also document that, during the destruction and removal efficiency (DRE) test runs or their equivalent as provided by §63.1206(b)(7), hydrocarbons do not exceed 10 parts per million by volume during those runs, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; or

(ii) Hydrocarbons in excess of 10 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane;

(6) Hydrogen chloride and chlorine gas (total chlorine) in excess of 32 parts per million by volume, combined emissions, expressed as a chloride (Cl<sup>-</sup>) equivalent, dry basis and corrected to 7 percent oxygen; and

(7) Except as provided by paragraph (e) of this section, particulate matter in excess of 0.013 gr/dscf corrected to 7 percent oxygen.

(b) *Emission limits for new sources.* You must not discharge or cause combustion gases to be emitted into the atmosphere that contain:

(1)(i) Dioxins and furans in excess of 0.11 ng TEQ/dscm corrected to 7 percent oxygen for incinerators equipped with either a waste heat boiler or dry air pollution control system; or

(ii) Dioxins and furans in excess of 0.20 ng TEQ/dscm corrected to 7 percent oxygen for sources not equipped with either a waste heat boiler or dry air pollution control system;

(iii) A source equipped with a wet air pollution control system followed by a dry air pollution control system is not considered to be a dry air pollution control system, and a source equipped with a dry air pollution control system followed by a wet air pollution control system is considered to be a dry air pollution control system for purposes of this standard;

(2) Mercury in excess of 8.1 µg/dscm, corrected to 7 percent oxygen;

(3) Cadmium and lead in excess of 10 µg/dscm, combined emissions, corrected to 7 percent oxygen;

(4) Arsenic, beryllium, and chromium in excess of 23 µg/dscm, combined emissions, corrected to 7 percent oxygen;

(5) For carbon monoxide and hydrocarbons, either:

(i) Carbon monoxide in excess of 100 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis and corrected to 7 percent oxygen. If you elect to comply with this carbon monoxide standard rather than the hydrocarbon standard under paragraph (b)(5)(ii) of this section, you must also document that, during the destruction and removal efficiency (DRE) test runs or their equivalent as provided by §63.1206(b)(7), hydrocarbons do not exceed 10 parts per million by volume during those runs, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; or

(ii) Hydrocarbons in excess of 10 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane;

(6) Hydrogen chloride and chlorine gas in excess of 21 parts per million by volume, combined emissions, expressed as a chloride (Cl<sup>-</sup>) equivalent, dry basis and corrected to 7 percent oxygen; and

(7) Except as provided by paragraph (e) of this section, particulate matter in excess of 0.0015 gr/dscf, corrected to 7 percent oxygen.

(c) *Destruction and removal efficiency (DRE) standard.* (1) 99.99% DRE. Except as provided in paragraph (c)(2) of this section, you must achieve a destruction and removal efficiency (DRE) of 99.99% for each principle organic hazardous constituent (POHC) designated under paragraph (c)(3) of this section. You must calculate DRE for each POHC from the following equation:

$$DRE = [1 - (W_{out} / W_{in})] \times 100\%$$

Where:

$W_{in}$  = mass feedrate of one POHC in a waste feedstream; and

$W_{out}$  = mass emission rate of the same POHC present in exhaust emissions prior to release to the atmosphere.

(2) 99.9999% DRE. If you burn the dioxin-listed hazardous wastes F020, F021, F022, F023, F026, or F027 (see § 261.31 of this chapter), you must achieve a DRE of 99.9999% for each POHC that you designate under paragraph (c)(3) of this section. You must demonstrate this DRE performance on POHCs that are more difficult to incinerate than tetra-, penta-, and hexachlorodibenzo-*p*-dioxins and dibenzofurans. You must use the equation in paragraph (c)(1) of this section to calculate DRE for each POHC. In addition, you must notify the Administrator of your intent to incinerate hazardous wastes F020, F021, F022, F023, F026, or F027.

(3) *Principal organic hazardous constituent (POHC).* (i) You must treat each POHC in the waste feed that you specify under paragraph (c)(3)(ii) of this section to the extent required by paragraphs (c)(1) and (c)(2) of this section.

(ii) You must specify one or more POHCs that are representative of the most difficult to destroy organic compounds in your hazardous waste feedstream. You must base this specification on the degree of difficulty of

incineration of the organic constituents in the hazardous waste and on their concentration or mass in the hazardous waste feed, considering the results of hazardous waste analyses or other data and information.

(d) *Significant figures.* The emission limits provided by paragraphs (a) and (b) of this section are presented with two significant figures. Although you must perform intermediate calculations using at least three significant figures, you may round the resultant emission levels to two significant figures to document compliance.

(e) *Alternative to the particulate matter standard.* (1) *General.* In lieu of complying with the particulate matter standards of this section, you may elect to comply with the following alternative metal emission control requirement:

(2) *Alternative metal emission control requirements for existing incinerators.* (i) You must not discharge or cause combustion gases to be emitted into the atmosphere that contain cadmium, lead, and selenium in excess of 230 µg/dscm, combined emissions, corrected to 7 percent oxygen; and,

(ii) You must not discharge or cause combustion gases to be emitted into the atmosphere that contain antimony, arsenic, beryllium, chromium, cobalt, manganese, and nickel in excess of 92 µg/dscm, combined emissions, corrected to 7 percent oxygen.

(3) *Alternative metal emission control requirements for new incinerators.* (i) You must not discharge or cause combustion gases to be emitted into the atmosphere that contain cadmium, lead, and selenium in excess of 10 µg/dscm, combined emissions, corrected to 7 percent oxygen; and,

(ii) You must not discharge or cause combustion gases to be emitted into the atmosphere that contain antimony, arsenic, beryllium, chromium, cobalt, manganese, and nickel in excess of 23 µg/dscm, combined emissions, corrected to 7 percent oxygen.

(4) *Operating limits.* Semivolatile and low volatile metal operating parameter limits must be established to ensure compliance with the alternative emission limitations described in paragraphs (e)(2) and (e)(3) of this section pursuant to § 63.1209(n), except that

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semivolatile metal feedrate limits apply to lead, cadmium, and selenium, combined, and low volatile metal feedrate limits apply to arsenic, beryllium, chromium, antimony, cobalt, manganese, and nickel, combined.

[70 FR 59570, Oct. 12, 2005]

**§ 63.1220 What are the replacement standards for hazardous waste burning cement kilns?**

(a) *Emission and hazardous waste feed limits for existing sources.* You must not discharge or cause combustion gases to be emitted into the atmosphere or feed hazardous waste that contain:

(1) For dioxins and furans, either:

(i) Emissions in excess of 0.20 ng TEQ/dscm corrected to 7 percent oxygen; or  
(ii) Emissions in excess of 0.40 ng TEQ/dscm corrected to 7 percent oxygen provided that the combustion gas temperature at the inlet to the initial dry particulate matter control device is 400 °F or lower based on the average of the test run average temperatures;

(2) For mercury, both:

(i) An average as-fired concentration of mercury in all hazardous waste feedstreams in excess of 3.0 parts per million by weight; and

(ii) Emissions in excess of 120 µg/dscm, corrected to 7 percent oxygen; or

(iii) A hazardous waste feedrate corresponding to a maximum theoretical emission concentration (MTEC) in excess of 120 µg/dscm;

(3) For cadmium and lead, both:

(i) Emissions in excess of  $7.6 \times 10^{-4}$  lbs combined emissions of cadmium and lead attributable to the hazardous waste per million Btu heat input from the hazardous waste; and

(ii) Emissions in excess of 330 µg/dscm, combined emissions, corrected to 7 percent oxygen;

(4) For arsenic, beryllium, and chromium, both:

(i) Emissions in excess of  $2.1 \times 10^{-5}$  lbs combined emissions of arsenic, beryllium, and chromium attributable to the hazardous waste per million Btu heat input from the hazardous waste; and

(ii) Emissions in excess of 56 µg/dscm, combined emissions, corrected to 7 percent oxygen;

(5) *Carbon monoxide and hydrocarbons.*

(i) For kilns equipped with a by-pass

duct or midkiln gas sampling system, either:

(A) Carbon monoxide in the by-pass duct or mid-kiln gas sampling system in excess of 100 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis and corrected to 7 percent oxygen. If you elect to comply with this carbon monoxide standard rather than the hydrocarbon standard under paragraph (a)(5)(1)(B) of this section, you must also document that, during the destruction and removal efficiency (DRE) test runs or their equivalent as provided by § 63.1206(b)(7), hydrocarbons in the by-pass duct or mid-kiln gas sampling system do not exceed 10 parts per million by volume during those runs, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; or

(B) Hydrocarbons in the by-pass duct or midkiln gas sampling system in excess of 10 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane;

(ii) For kilns not equipped with a by-pass duct or midkiln gas sampling system, either:

(A) Hydrocarbons in the main stack in excess of 20 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; or

(B) Carbon monoxide in the main stack in excess of 100 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis and corrected to 7 percent oxygen. If you elect to comply with this carbon monoxide standard rather than the hydrocarbon standard under paragraph (a)(5)(ii)(A) of this section, you also must document that, during the destruction and removal efficiency (DRE) test runs or their equivalent as provided by § 63.1206(b)(7), hydrocarbons in the main stack do not exceed 20 parts per million by volume



during those runs, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane.

(6) Hydrogen chloride and chlorine gas in excess of 120 parts per million by volume, combined emissions, expressed as a chloride (Cl<sup>-</sup>) equivalent, dry basis, corrected to 7 percent oxygen; and

(7) For particulate matter, both:

(i) Emissions in excess of 0.028 gr/dscf corrected to 7 percent oxygen; and

(ii) Opacity greater than 20 percent, unless your source is equipped with a bag leak detection system under § 63.1206(c)(8) or a particulate matter detection system under § 63.1206(c)(9).

(b) *Emission and hazardous waste feed limits for new sources.* You must not discharge or cause combustion gases to be emitted into the atmosphere or feed hazardous waste that contain:

(1) For dioxins and furans, either:

(i) Emissions in excess of 0.20 ng TEQ/dscm corrected to 7 percent oxygen; or

(ii) Emissions in excess of 0.40 ng TEQ/dscm corrected to 7 percent oxygen provided that the combustion gas temperature at the inlet to the initial dry particulate matter control device is 400 °F or lower based on the average of the test run average temperatures;

(2) For mercury, both:

(i) An average as-fired concentration of mercury in all hazardous waste feedstreams in excess of 1.9 parts per million by weight; and

(ii) Emissions in excess of 120 µg/dscm, corrected to 7 percent oxygen; or

(iii) A hazardous waste feedrate corresponding to a maximum theoretical emission concentration (MTEC) in excess of 120 µg/dscm;

(3) For cadmium and lead, both:

(i) Emissions in excess of  $6.2 \times 10^{-5}$  lbs combined emissions of cadmium and lead attributable to the hazardous waste per million Btu heat input from the hazardous waste; and

(ii) Emissions in excess of 180 µg/dscm, combined emissions, corrected to 7 percent oxygen;

(4) For arsenic, beryllium, and chromium, both:

(i) Emissions in excess of  $1.5 \times 10^{-5}$  lbs combined emissions of arsenic, be-

ryllium, and chromium attributable to the hazardous waste per million Btu heat input from the hazardous waste; and

(ii) Emissions in excess of 54 µg/dscm, combined emissions, corrected to 7 percent oxygen;

(5) *Carbon monoxide and hydrocarbons.*

(i) For kilns equipped with a by-pass duct or midkiln gas sampling system, carbon monoxide and hydrocarbons emissions are limited in both the by-pass duct or midkiln gas sampling system and the main stack as follows:

(A) Emissions in the by-pass or midkiln gas sampling system are limited to either:

(1) Carbon monoxide in excess of 100 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis and corrected to 7 percent oxygen. If you elect to comply with this carbon monoxide standard rather than the hydrocarbon standard under paragraph (b)(5)(i)(A)(2) of this section, you also must document that, during the destruction and removal efficiency (DRE) test runs or their equivalent as provided by § 63.1206(b)(7), hydrocarbons do not exceed 10 parts per million by volume during those runs, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; or

(2) Hydrocarbons in the by-pass duct or midkiln gas sampling system in excess of 10 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; and

(B) Hydrocarbons in the main stack are limited, if construction of the kiln commenced after April 19, 1996 at a plant site where a cement kiln (whether burning hazardous waste or not) did not previously exist, to 50 parts per million by volume, over a 30-day block average (monitored continuously with a continuous monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane.

(ii) For kilns not equipped with a bypass duct or midkiln gas sampling system, hydrocarbons and carbon monoxide are limited in the main stack to either:

(A) Hydrocarbons not exceeding 20 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; or

(B)(1) Carbon monoxide not exceeding 100 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen; and

(2) Hydrocarbons not exceeding 20 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane at any time during the destruction and removal efficiency (DRE) test runs or their equivalent as provided by § 63.1206(b)(7); and

(3) If construction of the kiln commenced after April 19, 1996 at a plant site where a cement kiln (whether burning hazardous waste or not) did not previously exist, hydrocarbons are limited to 50 parts per million by volume, over a 30-day block average (monitored continuously with a continuous monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane.

(6) Hydrogen chloride and chlorine gas in excess of 86 parts per million by volume, combined emissions, expressed as a chloride (Cl<sup>-</sup>) equivalent, dry basis and corrected to 7 percent oxygen; and

(7) For particulate matter:

(i) Except as provided by paragraph (b)(7)(iii) of this section, particulate matter emissions in excess of 0.0023 gr/dscf corrected to 7 percent oxygen.

(ii) Opacity greater than 20 percent, unless your source is equipped with a bag leak detection system under § 63.1206(c)(8) or a particulate matter detection system under § 63.1206(c)(9).

(iii) The particulate matter standard specified in paragraph (b)(7)(i) of this section is stayed from March 23, 2006 to June 23, 2006. During the period that

this stay is in effect, you must not emit particulate matter in excess of 0.15 kg/Mg dry feed, as determined according to the requirements under § 63.1204(b)(7)(i) through (iii).

(c) *Destruction and removal efficiency (DRE) standard.* (1) 99.99% DRE. Except as provided in paragraph (c)(2) of this section, you must achieve a destruction and removal efficiency (DRE) of 99.99% for each principle organic hazardous constituent (POHC) designated under paragraph (c)(3) of this section. You must calculate DRE for each POHC from the following equation:

$$DRE = [1 - (W_{out}/W_{in})] \times 100\%$$

Where:

$W_{in}$  = mass feedrate of one POHC in a waste feedstream; and

$W_{out}$  = mass emission rate of the same POHC present in exhaust emissions prior to release to the atmosphere.

(2) 99.9999% DRE. If you burn the dioxin-listed hazardous wastes F020, F021, F022, F023, F026, or F027 (see § 261.31 of this chapter), you must achieve a DRE of 99.9999% for each POHC that you designate under paragraph (c)(3) of this section. You must demonstrate this DRE performance on POHCs that are more difficult to incinerate than tetra-, penta-, and hexachlorodibenzo-*p*-dioxins and dibenzofurans. You must use the equation in paragraph (c)(1) of this section to calculate DRE for each POHC. In addition, you must notify the Administrator of your intent to incinerate hazardous wastes F020, F021, F022, F023, F026, or F027.

(3) *Principal organic hazardous constituent (POHC).* (i) You must treat each POHC in the waste feed that you specify under paragraph (c)(3)(ii) of this section to the extent required by paragraphs (c)(1) and (c)(2) of this section.

(ii) You must specify one or more POHCs that are representative of the most difficult to destroy organic compounds in your hazardous waste feedstream. You must base this specification on the degree of difficulty of incineration of the organic constituents in the hazardous waste and on

their concentration or mass in the hazardous waste feed, considering the results of hazardous waste analyses or other data and information.

(d) *Cement kilns with in-line kiln raw mills*—(1) *General.* (i) You must conduct performance testing when the raw mill is on-line and when the mill is off-line to demonstrate compliance with the emission standards, and you must establish separate operating parameter limits under § 63.1209 for each mode of operation, except as provided by paragraphs (d)(1)(iv) and (d)(1)(v) of this section.

(ii) You must document in the operating record each time you change from one mode of operation to the alternate mode and begin complying with the operating parameter limits for that alternate mode of operation.

(iii) You must calculate rolling averages for operating parameter limits as provided by § 63.1209(q)(2).

(iv) If your in-line kiln raw mill has dual stacks, you may assume that the dioxin/furan emission levels in the by-pass stack and the operating parameter limits determined during performance testing of the by-pass stack when the raw mill is off-line are the same as when the mill is on-line.

(v) In lieu of conducting a performance test to demonstrate compliance with the dioxin/furan emission standards for the mode of operation when the raw mill is on-line, you may specify in the performance test workplan and Notification of Compliance the same operating parameter limits required under § 63.1209(k) for the mode of operation when the raw mill is on-line as you establish during performance testing for the mode of operation when the raw mill is off-line.

(2) *Emissions averaging.* You may comply with the mercury, semivolatile metal, low volatile metal, and hydrogen chloride/chlorine gas emission standards on a time-weighted average basis under the following procedures:

(i) *Averaging methodology.* You must calculate the time-weighted average emission concentration with the following equation:

$$C_{\text{total}} = \{C_{\text{mill-off}} \times (T_{\text{mill-off}} / (T_{\text{mill-off}} + T_{\text{mill-on}}))\} + \{C_{\text{mill-on}} \times (T_{\text{mill-on}} / (T_{\text{mill-off}} + T_{\text{mill-on}}))\}$$

Where:

$C_{\text{total}}$  = time-weighted average concentration of a regulated constituent considering both raw mill on time and off time;

$C_{\text{mill-off}}$  = average performance test concentration of regulated constituent with the raw mill off-line;

$C_{\text{mill-on}}$  = average performance test concentration of regulated constituent with the raw mill on-line;

$T_{\text{mill-off}}$  = time when kiln gases are not routed through the raw mill; and

$T_{\text{mill-on}}$  = time when kiln gases are routed through the raw mill.

(ii) *Compliance.* (A) If you use this emission averaging provision, you must document in the operating record compliance with the emission standards on an annual basis by using the equation provided by paragraph (d)(2) of this section.

(B) Compliance is based on one-year block averages beginning on the day you submit the initial notification of compliance.

(iii) *Notification.* (A) If you elect to document compliance with one or more emission standards using this emission averaging provision, you must notify the Administrator in the initial comprehensive performance test plan submitted under § 63.1207(e).

(B) You must include historical raw mill operation data in the performance test plan to estimate future raw mill down-time and document in the performance test plan that estimated emissions and estimated raw mill down-time will not result in an exceedance of an emission standard on an annual basis.

(C) You must document in the notification of compliance submitted under § 63.1207(j) that an emission standard will not be exceeded based on the documented emissions from the performance test and predicted raw mill down-time.

(e) *Preheater or preheater/precalciner kilns with dual stacks*—(1) *General.* You must conduct performance testing on each stack to demonstrate compliance with the emission standards, and you must establish operating parameter limits under § 63.1209 for each stack, except as provided by paragraph (d)(1)(iv) of this section for dioxin/furan emissions testing and operating parameter limits for the by-pass stack of in-line raw mills.

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(2) *Emissions averaging.* You may comply with the mercury, semivolatile metal, low volatile metal, and hydrogen chloride/chlorine gas emission standards specified in this section on a gas flowrate-weighted average basis under the following procedures:

(i) *Averaging methodology.* You must calculate the gas flowrate-weighted average emission concentration using the following equation:

$$C_{tot} = \{C_{main} \times (Q_{main}/(Q_{main} + Q_{bypass}))\} + \{C_{bypass} \times (Q_{bypass}/(Q_{main} + Q_{bypass}))\}$$

Where:

$C_{tot}$  = gas flowrate-weighted average concentration of the regulated constituent;

$C_{main}$  = average performance test concentration demonstrated in the main stack;

$C_{bypass}$  = average performance test concentration demonstrated in the bypass stack;

$Q_{main}$  = volumetric flowrate of main stack effluent gas; and

$Q_{bypass}$  = volumetric flowrate of bypass effluent gas.

(ii) *Compliance.* (A) You must demonstrate compliance with the emission standard(s) using the emission concentrations determined from the performance tests and the equation provided by paragraph (e)(1) of this section; and

(B) You must develop operating parameter limits for bypass stack and main stack flowrates that ensure the emission concentrations calculated with the equation in paragraph (e)(1) of this section do not exceed the emission standards on a 12-hour rolling average basis. You must include these flowrate limits in the Notification of Compliance.

(iii) *Notification.* If you elect to document compliance under this emissions averaging provision, you must:

(A) Notify the Administrator in the initial comprehensive performance test plan submitted under § 63.1207(e). The performance test plan must include, at a minimum, information describing the flowrate limits established under paragraph (e)(2)(ii)(B) of this section; and

(B) Document in the Notification of Compliance submitted under § 63.1207(j) the demonstrated gas flowrate-weighted average emissions that you calculate with the equation provided by paragraph (e)(2) of this section.

(f) *Significant figures.* The emission limits provided by paragraphs (a) and

(b) of this section are presented with two significant figures. Although you must perform intermediate calculations using at least three significant figures, you may round the resultant emission levels to two significant figures to document compliance.

(g) [Reserved]

(h) When you comply with the particulate matter requirements of paragraphs (a)(7) or (b)(7) of this section, you are exempt from the New Source Performance Standard for particulate matter and opacity under § 60.60 of this chapter.

[70 FR 59571, Oct. 12, 2005]

**§ 63.1221 What are the replacement standards for hazardous waste burning lightweight aggregate kilns?**

(a) *Emission and hazardous waste feed limits for existing sources.* You must not discharge or cause combustion gases to be emitted into the atmosphere or feed hazardous waste that contain:

(1) For dioxins and furans, either:

(i) Emissions in excess of 0.20 ng TEQ/dscm corrected to 7 percent oxygen; or

(ii) Rapid quench of the combustion gas temperature at the exit of the (last) combustion chamber (or exit of any waste heat recovery system that immediately follows the last combustion chamber) to 400 °F or lower based on the average of the test run average temperatures. You must also notify in writing the RCRA authority that you are complying with this option;

(2) For mercury, either:

(i) Emissions in excess of 120 µg/dscm, corrected to 7 percent oxygen; or

(ii) A hazardous waste feedrate corresponding to a maximum theoretical emission concentration (MTEC) in excess of 120 µg/dscm;

(3) For cadmium and lead, both:

(i) Emissions in excess of  $3.0 \times 10^{-4}$  lbs combined emissions of cadmium and lead attributable to the hazardous waste per million Btu heat input from the hazardous waste; and

(ii) Emissions in excess of 250 µg/dscm, combined emissions, corrected to 7 percent oxygen;

(4) For arsenic, beryllium, and chromium, both:

(i) In excess of  $9.5 \times 10^{-5}$  lbs combined emissions of arsenic, beryllium, and

chromium attributable to the hazardous waste per million Btu heat input from the hazardous waste;

(ii) Emissions in excess of 110 µg/dscm, combined emissions, corrected to 7 percent oxygen;

(5) *Carbon monoxide and hydrocarbons.*

(i) Carbon monoxide in excess of 100 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis and corrected to 7 percent oxygen. If you elect to comply with this carbon monoxide standard rather than the hydrocarbon standard under paragraph (a)(5)(ii) of this section, you also must document that, during the destruction and removal efficiency (DRE) test runs or their equivalent as provided by § 63.1206(b)(7), hydrocarbons do not exceed 20 parts per million by volume during those runs, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; or

(ii) Hydrocarbons in excess of 20 parts per million by volume, over an hourly rolling average, dry basis, corrected to 7 percent oxygen, and reported as propane;

(6) Hydrogen chloride and chlorine gas in excess of 600 parts per million by volume, combined emissions, expressed as a chloride (Cl<sup>-</sup>) equivalent, dry basis and corrected to 7 percent oxygen; and

(7) Particulate matter emissions in excess of 0.025 gr/dscf, corrected to 7 percent oxygen.

(b) *Emission and hazardous waste feed limits for new sources.* You must not discharge or cause combustion gases to be emitted into the atmosphere or feed hazardous waste that contain:

(1) For dioxins and furans, either:

(i) Emissions in excess of 0.20 ng TEQ/dscm corrected to 7 percent oxygen; or

(ii) Rapid quench of the combustion gas temperature at the exit of the (last) combustion chamber (or exit of any waste heat recovery system that immediately follows the last combustion chamber) to 400 °F or lower based on the average of the test run average temperatures. You must also notify in

writing the RCRA authority that you are complying with this option;

(2) For mercury, either:

(i) Emissions in excess of 120 µg/dscm, corrected to 7 percent oxygen; or

(ii) A hazardous waste feedrate corresponding to a maximum theoretical emission concentration (MTEC) in excess of 120 µg/dscm;

(3) For cadmium and lead, both:

(i) Emissions in excess of  $3.7 \times 10^{-5}$  lbs combined emissions of cadmium and lead attributable to the hazardous waste per million Btu heat input from the hazardous waste; and

(ii) Emissions in excess of 43 µg/dscm, combined emissions, corrected to 7 percent oxygen;

(4) For arsenic, beryllium, and chromium, both:

(i) In excess of  $3.3 \times 10^{-5}$  lbs combined emissions of arsenic, beryllium, and chromium attributable to the hazardous waste per million Btu heat input from the hazardous waste;

(ii) Emissions in excess of 110 µg/dscm, combined emissions, corrected to 7 percent oxygen;

(5) *Carbon monoxide and hydrocarbons.*

(i) Carbon monoxide in excess of 100 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis and corrected to 7 percent oxygen. If you elect to comply with this carbon monoxide standard rather than the hydrocarbon standard under paragraph (b)(5)(ii) of this section, you also must document that, during the destruction and removal efficiency (DRE) test runs or their equivalent as provided by § 63.1206(b)(7), hydrocarbons do not exceed 20 parts per million by volume during those runs, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; or

(ii) Hydrocarbons in excess of 20 parts per million by volume, over an hourly rolling average, dry basis, corrected to 7 percent oxygen, and reported as propane;

(6) Hydrogen chloride and chlorine gas in excess of 600 parts per million by volume, combined emissions, expressed as a chloride (Cl<sup>-</sup>) equivalent, dry

basis and corrected to 7 percent oxygen; and

(7) Particulate matter emissions in excess of 0.0098 gr/dscf corrected to 7 percent oxygen.

(c) *Destruction and removal efficiency (DRE) standard.* (1) *99.99% DRE.* Except as provided in paragraph (c)(2) of this section, you must achieve a destruction and removal efficiency (DRE) of 99.99% for each principal organic hazardous constituent (POHC) designated under paragraph (c)(3) of this section. You must calculate DRE for each POHC from the following equation:

$$DRE = [1 - (W_{out} / W_{in})] \times 100\%$$

Where:

$W_{in}$  = mass feedrate of one POHC in a waste feedstream; and

$W_{out}$  = mass emission rate of the same POHC present in exhaust emissions prior to release to the atmosphere.

(2) *99.9999% DRE.* If you burn the dioxin-listed hazardous wastes F020, F021, F022, F023, F026, or F027 (see §261.31 of this chapter), you must achieve a destruction and removal efficiency (DRE) of 99.9999% for each POHC that you designate under paragraph (c)(3) of this section. You must demonstrate this DRE performance on POHCs that are more difficult to incinerate than tetra-, penta-, and hexachlorodibenzo-dioxins and dibenzofurans. You must use the equa-

tion in paragraph (c)(1) of this section to calculate DRE for each POHC. In addition, you must notify the Administrator of your intent to burn hazardous wastes F020, F021, F022, F023, F026, or F027.

(3) *Principal organic hazardous constituents (POHCs).* (i) You must treat each POHC in the waste feed that you specify under paragraph (c)(3)(ii) of this section to the extent required by paragraphs (c)(1) and (c)(2) of this section.

(ii) You must specify one or more POHCs that are representative of the most difficult to destroy organic compounds in your hazardous waste feedstream. You must base this specification on the degree of difficulty of incineration of the organic constituents in the hazardous waste and on their concentration or mass in the hazardous waste feed, considering the results of hazardous waste analyses or other data and information.

(d) *Significant figures.* The emission limits provided by paragraphs (a) and (b) of this section are presented with two significant figures. Although you must perform intermediate calculations using at least three significant figures, you may round the resultant emission levels to two significant figures to document compliance.

[70 FR 59574, Oct. 12, 2005]

TABLE 1 TO SUBPART EEE OF PART 63—GENERAL PROVISIONS APPLICABLE TO SUBPART EEE

Reference	Applies to subpart EEE	Explanation
63.1	Yes.	
63.2	Yes.	
63.3	Yes.	
63.4	Yes.	
63.5	Yes.	
63.6(a), (b), (c), (d), and (e)	Yes.	
63.6(f)	Yes	Except that the performance test requirements of Sec. 63.1207 apply instead of § 63.6(f)(2)(iii)(B).
63.6(g) and (h)	Yes.	
63.6(i)	Yes	Section 63.1213 specifies that the compliance date may also be extended for inability to install necessary emission control equipment by the compliance date because of implementation of pollution prevention or waste minimization controls.
63.6(j)	Yes.	
63.7(a)	Yes	Except § 63.1207(e)(3) allows you to petition the Administrator under § 63.7(h) to provide an extension of time to conduct a performance test.
63.7(b)	Yes	Except § 63.1207(e) requires you to submit the site-specific test plan for approval at least one year before the comprehensive performance test is scheduled to begin.

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Reference	Applies to subpart EEE	Explanation
63.7(c)	Yes	Except § 63.1207(e) requires you to submit the site-specific test plan (including the quality assurance provisions under § 63.7(c)) for approval at least one year before the comprehensive performance test is scheduled to begin.
63.7(d)	Yes.	Except § 63.1207 prescribes operations during performance testing and § 63.1209 specifies operating limits that will be established during performance testing (such that testing is likely to be representative of the extreme range of normal performance).
63.7(e)	Yes	
63.7(f)	Yes.	Except § 63.1207(j) requiring that you submit the results of the performance test (and the notification of compliance) within 90 days of completing the test, unless the Administrator grants a time extension, applies instead of § 63.7(g)(1).
63.7(g)	Yes	
63.7(h)	Yes	Except § 63.1207(c)(2) allows data in lieu of the initial comprehensive performance test, and § 63.1207(m) provides a waiver of certain performance tests. You must submit requests for these waivers with the site-specific test plan.
63.8(a) and (b)	Yes.	Except: (1) § 63.1211(c) that requires you to install, calibrate, and operate CMS by the compliance date applies instead of § 63.8(c)(3); and (2) the performance specifications for CO, HC, and O <sub>2</sub> CEMS in subpart B, of this chapter requiring that the detectors measure the sample concentration at least once every 15 seconds for calculating an average emission level once every 60 seconds apply instead of § 63.8(c)(4)(ii).
63.8(c)	Yes	
63.8(d)	Yes.	Except § 63.1207(e) requiring you to submit the site-specific comprehensive performance test plan and the CMS performance evaluation test plan for approval at least one year prior to the planned test date applies instead of §§ 63.8(e)(2) and (3)(iii).
63.8(e)	Yes	
63.8(f) and (g)	Yes.	Note: Section 63.9(b)(1)(ii) pertains to notification requirements for area sources that become a major source, and § 63.9(b)(2)(v) requires a major source determination. Although area sources are subject to all provisions of this subpart (Subpart EEE), these sections nonetheless apply because the major source determination may affect the applicability of part 63 standards or title V permit requirements to other sources (i.e., other than a hazardous waste combustor) of hazardous air pollutants at the facility.
63.9(a)	Yes.	
63.9(b)	Yes	
63.9(c) and (d)	Yes.	Except § 63.1207(e) which requires you to submit the comprehensive performance test plan for approval one year prior to the planned performance test date applies instead of § 63.9(e).
63.9(e)	Yes	
63.9(f)	Yes	Section 63.9(f) applies if you are allowed under § 63.1209(a)(1)(v) to use visible determination of opacity for compliance in lieu of a COMS.
63.9(g)	Yes	Except § 63.9(g)(2) pertaining to COMS does not apply. Except § 63.1207(j) requiring you to submit the notification of compliance within 90 days of completing a performance test unless the Administrator grants a time extension applies instead of § 63.9(h)(2)(iii). Note: Even though area sources are subject to this subpart, the major source determination required by § 63.9(h)(2)(i)(E) is applicable to hazardous waste combustors for the reasons discussed above.
63.9(h)	Yes	
63.9(i) and (j)	Yes.	Except reports of performance test results required under § 63.10(d)(2) may be submitted up to 90 days after completion of the test.
63.10	Yes	
63.11	No.	
63.12-63.15	Yes.	

[67 FR 6994, Feb. 14, 2002]

APPENDIX TO SUBPART EEE OF PART  
63—QUALITY ASSURANCE PROCEDURE  
S FOR CONTINUOUS EMISSIONS  
MONITORS USED FOR HAZARDOUS  
WASTE COMBUSTORS

1. *Applicability and Principle*

1.1 *Applicability.* These quality assurance requirements are used to evaluate the effectiveness of quality control (QC) and quality assurance (QA) procedures and the quality of data produced by continuous emission monitoring systems (CEMS) that are used for determining compliance with the emission standards on a continuous basis as specified in the applicable regulation. The QA procedures specified by these requirements represent the minimum requirements necessary for the control and assessment of the quality of CEMS data used to demonstrate compliance with the emission standards provided under this subpart EEE of part 63. Owners and operators must meet these minimum requirements and are encouraged to develop and implement a more extensive QA program. These requirements supersede those found in part 60, Appendix F, of this chapter. Appendix F does not apply to hazardous waste-burning devices.

1.2 *Principle.* The QA procedures consist of two distinct and equally important functions. One function is the assessment of the quality of the CEMS data by estimating accuracy. The other function is the control and improvement of the quality of the CEMS data by implementing QC policies and corrective actions. These two functions form a control loop. When the assessment function indicates that the data quality is inadequate, the source must immediately stop burning hazardous waste. The CEM data control effort must be increased until the data quality is acceptable before hazardous waste burning can resume.

a. In order to provide uniformity in the assessment and reporting of data quality, this procedure explicitly specifies the assessment methods for response drift and accuracy. The methods are based on procedures included in the applicable performance specifications provided in appendix B to part 60 of this chapter. These procedures also require the analysis of the EPA audit samples concurrent with certain reference method (RM) analyses as specified in the applicable RM's.

b. Because the control and corrective action function encompasses a variety of policies, specifications, standards, and corrective measures, this procedure treats QC requirements in general terms to allow each source owner or operator to develop a QC system that is most effective and efficient for the circumstances.

2. *Definitions*

2.1 *Continuous Emission Monitoring System (CEMS).* The total equipment required for the determination of a pollutant concentration. The system consists of the following major subsystems:

2.1.1 *Sample Interface.* That portion of the CEMS used for one or more of the following: sample acquisition, sample transport, and sample conditioning, or protection of the monitor from the effects of the stack effluent.

2.1.2 *Pollutant Analyzer.* That portion of the CEMS that senses the pollutant concentration and generates a proportional output.

2.1.3 *Diluent Analyzer.* That portion of the CEMS that senses the diluent gas (O<sub>2</sub>) and generates an output proportional to the gas concentration.

2.1.4 *Data Recorder.* That portion of the CEMS that provides a permanent record of the analyzer output. The data recorder may provide automatic data reduction and CEMS control capabilities.

2.2 *Relative Accuracy (RA).* The absolute mean difference between the pollutant concentration determined by the CEMS and the value determined by the reference method (RM) plus the 2.5 percent error confidence coefficient of a series of test divided by the mean of the RM tests or the applicable emission limit.

2.3 *Calibration Drift (CD).* The difference in the CEMS output readings from the established reference value after a stated period of operation during which no unscheduled maintenance, repair, or adjustment took place.

2.4 *Zero Drift (ZD).* The difference in CEMS output readings at the zero pollutant level after a stated period of operation during which no unscheduled maintenance, repair, or adjustment took place.

2.5 *Calibration Standard.* Calibration standards produce a known and unchanging response when presented to the pollutant analyzer portion of the CEMS, and are used to calibrate the drift or response of the analyzer.

2.6 *Relative Accuracy Test Audit (RATA).* Comparison of CEMS measurements to reference method measurements in order to evaluate relative accuracy following procedures and specification given in the appropriate performance specification.

2.7 *Absolute Calibration Audit (ACA).* Equivalent to calibration error (CE) test defined in the appropriate performance specification using NIST traceable calibration standards to challenge the CEMS and assess accuracy.



2.8 *Rolling Average.* The average emissions, based on some (specified) time period, calculated every minute from a one-minute average of four measurements taken at 15-second intervals.

### 3. QA/QC Requirements

3.1 QC Requirements. a. Each owner or operator must develop and implement a QC program. At a minimum, each QC program must include written procedures describing in detail complete, step-by-step procedures and operations for the following activities.

1. Checks for component failures, leaks, and other abnormal conditions.
2. Calibration of CEMS.
3. CD determination and adjustment of CEMS.
4. Integration of CEMS with the automatic waste feed cutoff (AWFCO) system.
5. Preventive Maintenance of CEMS (including spare parts inventory).
6. Data recording, calculations, and reporting.
7. Checks of record keeping.
8. Accuracy audit procedures, including sampling and analysis methods.
9. Program of corrective action for malfunctioning CEMS.
10. Operator training and certification.
11. Maintaining and ensuring current certification or naming of cylinder gasses, metal solutions, and particulate samples used for audit and accuracy tests, daily checks, and calibrations.

b. Whenever excessive inaccuracies occur for two consecutive quarters, the current written procedures must be revised or the CEMS modified or replaced to correct the deficiency causing the excessive inaccuracies. These written procedures must be kept on record and available for inspection by the enforcement agency.

3.2 QA Requirements. Each source owner or operator must develop and implement a QA plan that includes, at a minimum, the following.

1. QA responsibilities (including maintaining records, preparing reports, reviewing reports).
2. Schedules for the daily checks, periodic audits, and preventive maintenance.
3. Check lists and data sheets.
4. Preventive maintenance procedures.
5. Description of the media, format, and location of all records and reports.
6. Provisions for a review of the CEMS data at least once a year. Based on the results of the review, the owner or operator must revise or update the QA plan, if necessary.

#### 4. CD and ZD Assessment and Daily System Audit

4.1 *CD and ZD Requirement.* Owners and operators must check, record, and quantify the ZD and the CD at least once daily (ap-

proximately 24 hours) in accordance with the method prescribed by the manufacturer. The CEMS calibration must, at a minimum, be adjusted whenever the daily ZD or CD exceeds the limits in the Performance Specifications. If, on any given ZD and/or CD check the ZD and/or CD exceed(s) two times the limits in the Performance Specifications, or if the cumulative adjustment to the ZD and/or CD (see Section 4.2) exceed(s) three times the limits in the Performance Specifications, hazardous waste burning must immediately cease and the CEMS must be serviced and recalibrated. Hazardous waste burning cannot resume until the owner or operator documents that the CEMS is in compliance with the Performance Specifications by carrying out an ACA.

4.2 *Recording Requirements for Automatic ZD and CD Adjusting Monitors.* Monitors that automatically adjust the data to the corrected calibration values must record the unadjusted concentration measurement prior to resetting the calibration, if performed, or record the amount of the adjustment.

4.3 *Daily System Audit.* The audit must include a review of the calibration check data, an inspection of the recording system, an inspection of the control panel warning lights, and an inspection of the sample transport and interface system (e.g., flowmeters, filters, etc.) as appropriate.

4.4 *Data Recording and Reporting.* All measurements from the CEMS must be retained in the operating record for at least 5 years.

### 5. Performance Evaluation for CO, O<sub>2</sub>, and HC CEMS

Carbon Monoxide (CO), Oxygen (O<sub>2</sub>), and Hydrocarbon (HC) CEMS. An Absolute Calibration Audit (ACA) must be conducted quarterly, and a Relative Accuracy Test Audit (RATA) (if applicable, see sections 5.1 and 5.2) must be conducted yearly. An Interference Response Tests must be performed whenever an ACA or a RATA is conducted. When a performance test is also required under §63.1207 to document compliance with emission standards, the RATA must coincide with the performance test. The audits must be conducted as follows.

5.1 *Relative Accuracy Test Audit (RATA).* This requirement applies to O<sub>2</sub> and CO CEMS. The RATA must be conducted at least yearly. Conduct the RATA as described in the RA test procedure (or alternate procedures section) described in the applicable Performance Specifications. In addition, analyze the appropriate performance audit samples received from the EPA as described in the applicable sampling methods.

5.2 *Absolute Calibration Audit (ACA).* The ACA must be conducted at least quarterly except in a quarter when a RATA (if applicable, see section 5.1) is conducted instead.

Conduct an ACA as described in the calibration error (CE) test procedure described in the applicable Performance Specifications.

5.3 *Interference Response Test.* The interference response test must be conducted whenever an ACA or RATA is conducted. Conduct an interference response test as described in the applicable Performance Specifications.

5.4 *Excessive Audit Inaccuracy.* If the RA from the RATA or the CE from the ACA exceeds the criteria in the applicable Performance Specifications, hazardous waste burning must cease immediately. Hazardous waste burning cannot resume until the owner or operator takes corrective measures and audit the CEMS with a RATA to document that the CEMS is operating within the specifications.

#### 6. Other Requirements

6.1 *Performance Specifications.* CEMS used by owners and operators of HWCs must comply with the following performance specifications in appendix B to part 60 of this chapter:

TABLE 1: PERFORMANCE SPECIFICATIONS FOR CEMS

CEMS	Performance specification
Carbon monoxide .....	4B
Oxygen .....	4B
Total hydrocarbons .....	8A

6.2 *Downtime due to Calibration.* Facilities may continue to burn hazardous waste for a maximum of 20 minutes while calibrating the CEMS. If all CEMS are calibrated at once, the facility must have twenty minutes to calibrate all the CEMS. If CEMS are calibrated individually, the facility must have twenty minutes to calibrate each CEMS. If the CEMS are calibrated individually, other CEMS must be operational while the individual CEMS is being calibrated.

6.3 *Span of the CEMS.*

6.3.1 *CO CEMS.* The CO CEM must have two ranges, a low range with a span of 200 ppmv and a high range with a span of 3000 ppmv at an oxygen correction factor of 1. A one-range CEM may be used, but it must meet the performance specifications for the low range in the specified span of the low range.

6.3.2 *O<sub>2</sub> CEMS.* The O<sub>2</sub> CEM must have a span of 25 percent. The span may be higher than 25 percent if the O<sub>2</sub> concentration at the sampling point is greater than 25 percent.

6.3.3 *HC CEMS.* The HC CEM must have a span of 100 ppmv, expressed as propane, at an oxygen correction factor of 1.

6.3.4 *CEMS Span Values.* When the Oxygen Correction Factor is Greater than 2. When an owner or operator installs a CEMS at a location of high ambient air dilution, i.e., where the maximum oxygen correction factor as determined by the permitting agency is greater than 2, the owner or operator must install a CEM with a lower span(s), proportionate to the larger oxygen correction factor, than those specified above.

6.3.5 *Use of Alternative Spans.* Owner or operators may request approval to use alternative spans and ranges to those specified. Alternate spans must be approved in writing in advance by the Administrator. In considering approval of alternative spans and ranges, the Administrator will consider that measurements beyond the span will be recorded as values at the maximum span for purposes of calculating rolling averages.

6.3.6 *Documentation of Span Values.* The span value must be documented by the CEMS manufacturer with laboratory data.

6.4.1 *Moisture Correction.* Method 4 of appendix A, part 60 of this chapter, must be used to determine moisture content of the stack gasses.

6.4.2 *Oxygen Correction Factor.* Measured pollutant levels must be corrected for the amount of oxygen in the stack according to the following formula:

$$P_c = P_m \times 14 / (E - Y)$$

Where:

$P_c$  = concentration of the pollutant or standard corrected to 7 percent oxygen, dry basis;

$P_m$  = measured concentration of the pollutant, dry basis;

$E$  = volume fraction of oxygen in the combustion air fed into the device, on a dry basis (normally 21 percent or 0.21 if only air is fed);

$Y$  = measured fraction of oxygen on a dry basis at the sampling point.

The oxygen correction factor is:

$$OCF = 14 / (E - Y)$$

6.4.3 *Temperature Correction.* Correction values for temperature are obtainable from standard reference materials.

6.5 *Rolling Average.* A rolling average is the arithmetic average of all one-minute averages over the averaging period.

6.5.1 *One-Minute Average for CO and HHC CEMS.* One-minute averages are the arithmetic average of the four most recent 15-second observations and must be calculated using the following equation:

$$\bar{c} = \sum_{i=1}^4 \frac{c_i}{4}$$

Where:

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$\bar{c}$  = the one minute average  
 $c_i$  = a fifteen-second observation from the CEM

Fifteen second observations must not be rounded or smoothed. Fifteen-second observations may be disregarded only as a result of a failure in the CEMS and allowed in the source's quality assurance plan at the time of the CEMS failure. One-minute averages must not be rounded, smoothed, or disregarded.

6.5.2 Ten Minute Rolling Average Equation. The ten minute rolling average must be calculated using the following equation:

$$C_{RA} = \sum_{i=1}^{10} \frac{\bar{c}_i}{10}$$

Where:

$C_{RA}$  = The concentration of the standard, expressed as a rolling average

$\bar{c}_i$  = a one minute average

6.5.3 Hourly Rolling Average Equation for CO and THC CEMS and Operating Parameter Limits. The rolling average, based on a specific number integer of hours, must be calculated using the following equation:

$$C_{RA} = \sum_{i=1}^{60} \frac{\bar{c}_i}{60}$$

Where:

$C_{RA}$  = The concentration of the standard, expressed as a rolling average

$\bar{c}_i$  = a one minute average

6.5.4 Averaging Periods for CEMS other than CO and THC. The averaging period for CEMS other than CO and THC CEMS must be calculated as a rolling average of all one-hour values over the averaging period. An hourly average is comprised of 4 measurements taken at equally spaced time intervals, or at most every 15 minutes. Fewer than 4 measurements might be available within an hour for reasons such as facility downtime or CEMS calibration. If at least two measurements (30 minutes of data) are available, an hourly average must be calculated. The  $n$ -hour rolling average is calculated by averaging the  $n$  most recent hourly averages.

6.6 Units of the Standards for the Purposes of Recording and Reporting Emissions. Emissions must be recorded and reported expressed after correcting for oxygen, temperature, and moisture. Emissions must be reported in metric, but may also be reported in the English system of units, at 7 percent oxygen, 20 °C, and on a dry basis.

6.7 Rounding and Significant Figures. Emissions must be rounded to two significant figures using ASTM procedure E-29-90

or its successor. Rounding must be avoided prior to rounding for the reported value.

### 7. Bibliography

1. 40 CFR part 60, appendix F, "Quality Assurance Procedures: Procedure 1. Quality Assurance Requirements for Gas continuous Emission Monitoring Systems Used For Compliance Determination".

[64 FR 53038, Sept. 30, 1999, as amended at 65 FR 42301, July 16, 2000]

## Subpart FFF [Reserved]

## Subpart GGG—National Emission Standards for Pharmaceutical Production

SOURCE: 63 FR 50326, Sept. 21, 1998, unless otherwise noted.

### § 63.1250 Applicability.

(a) *Definition of affected source.* (1) The affected source subject to this subpart consists of the pharmaceutical manufacturing operations as defined in § 63.1251. Except as specified in paragraph (d) of this section, the provisions of this subpart apply to pharmaceutical manufacturing operations that meet the criteria specified in paragraphs (a)(1) (i) through (iii) of this section:

(i) Manufacture a pharmaceutical product as defined in § 63.1251;

(ii) Are located at a plant site that is a major source as defined in section 112(a) of the Act; and

(iii) Process, use, or produce HAP.

(2) Determination of the applicability of this subpart shall be reported as part of an operating permit application or as otherwise specified by the permitting authority.

(b) *New source applicability.* A new affected source subject to this subpart and to which the requirements for new sources apply is: An affected source for which construction or reconstruction commenced after April 2, 1997, and the standard was applicable at the time of construction or reconstruction; or a pharmaceutical manufacturing process unit (PMPU) dedicated to manufacturing a single product that has the potential to emit 10 tons per year of any



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$\bar{c}$  = the one minute average

$c_i$  = a fifteen-second observation from the CEM

Fifteen second observations must not be rounded or smoothed. Fifteen-second observations may be disregarded only as a result of a failure in the CEMS and allowed in the source's quality assurance plan at the time of the CEMS failure. One-minute averages must not be rounded, smoothed, or disregarded.

6.5.2 Ten Minute Rolling Average Equation. The ten minute rolling average must be calculated using the following equation:

$$C_{RA} = \sum_{i=1}^{10} \frac{\bar{c}_i}{10}$$

Where:

$C_{RA}$  = The concentration of the standard, expressed as a rolling average

$\bar{c}_i$  = a one minute average

6.5.3 Hourly Rolling Average Equation for CO and THC CEMS and Operating Parameter Limits. The rolling average, based on a specific number integer of hours, must be calculated using the following equation:

$$C_{RA} = \sum_{i=1}^{60} \frac{\bar{c}_i}{60}$$

Where:

$C_{RA}$  = The concentration of the standard, expressed as a rolling average

$\bar{c}_i$  = a one minute average

6.5.4 Averaging Periods for CEMS other than CO and THC. The averaging period for CEMS other than CO and THC CEMS must be calculated as a rolling average of all one-hour values over the averaging period. An hourly average is comprised of 4 measurements taken at equally spaced time intervals, or at most every 15 minutes. Fewer than 4 measurements might be available within an hour for reasons such as facility downtime or CEMS calibration. If at least two measurements (30 minutes of data) are available, an hourly average must be calculated. The  $n$ -hour rolling average is calculated by averaging the  $n$  most recent hourly averages.

6.6 Units of the Standards for the Purposes of Recording and Reporting Emissions. Emissions must be recorded and reported expressed after correcting for oxygen, temperature, and moisture. Emissions must be reported in metric, but may also be reported in the English system of units, at 7 percent oxygen, 20 °C, and on a dry basis.

6.7 Rounding and Significant Figures. Emissions must be rounded to two significant figures using ASTM procedure E-29-90

or its successor. Rounding must be avoided prior to rounding for the reported value.

### 7. Bibliography

1. 40 CFR part 60, appendix F, "Quality Assurance Procedures: Procedure 1. Quality Assurance Requirements for Gas continuous Emission Monitoring Systems Used For Compliance Determination".

[64 FR 53038, Sept. 30, 1999, as amended at 65 FR 42301, July 10, 2000]

## Subpart FFF [Reserved]

## Subpart GGG—National Emission Standards for Pharmaceuticals Production

SOURCE: 63 FR 50326, Sept. 21, 1998, unless otherwise noted.

### § 63.1250 Applicability.

(a) *Definition of affected source.* (1) The affected source subject to this subpart consists of the pharmaceutical manufacturing operations as defined in § 63.1251. Except as specified in paragraph (d) of this section, the provisions of this subpart apply to pharmaceutical manufacturing operations that meet the criteria specified in paragraphs (a)(1) (i) through (iii) of this section:

(i) Manufacture a pharmaceutical product as defined in § 63.1251;

(ii) Are located at a plant site that is a major source as defined in section 112(a) of the Act; and

(iii) Process, use, or produce HAP.

(2) Determination of the applicability of this subpart shall be reported as part of an operating permit application or as otherwise specified by the permitting authority.

(b) *New source applicability.* A new affected source subject to this subpart and to which the requirements for new sources apply is: An affected source for which construction or reconstruction commenced after April 2, 1997, and the standard was applicable at the time of construction or reconstruction; or a pharmaceutical manufacturing process unit (PMPU) dedicated to manufacturing a single product that has the potential to emit 10 tons per year of any

one HAP or 25 tons per year of combined HAP for which construction commenced after April 2, 1997 or reconstruction commenced after October 21, 1999.

(c) *General Provisions.* Table 1 of this subpart specifies and clarifies the provisions of subpart A of this part that apply to an owner or operator of an affected source subject to this subpart. The provisions of subpart A specified in Table 1 are the only provisions of subpart A that apply to an affected source subject to this subpart.

(d) *Processes exempted from the affected source.* The provisions of this subpart do not apply to research and development facilities.

(e) *Storage tank ownership determination.* The owner or operator shall follow the procedures specified in paragraphs (e)(1) through (5) of this section to determine to which PMPU a storage tank shall belong. If an owner or operator produces only pharmaceutical products, the procedures specified in paragraphs (e)(1) through (5) of this section are required only to determine applicability and demonstrate compliance with the pollution-prevention alternative specified in § 63.1252(e), or to determine new source applicability for a PMPU dedicated to manufacturing a single product as specified in paragraph (b) of this section.

(1) If a storage tank is dedicated to a single PMPU, the storage tank shall belong to that PMPU.

(2) If a storage tank is shared among process units (including at least one PMPU), then the storage tank shall belong to the process unit located on the same plant site as the storage tank that has the greatest annual volume input into or output from the storage tank (i.e., said PMPU or process unit has the predominant use of the storage tank).

(3) If predominant use cannot be determined for a storage tank that is shared among process units (including at least one PMPU), then the owner or operator shall assign the storage tank to any one of the PMPU's that shares it and is also subject to this subpart.

(4) If the predominant use of a storage tank varies from year to year, then predominant use shall be determined based on the utilization that occurred

during the year preceding September 21, 1998 for existing affected sources. For new affected sources, predominant use will be based on the first year after initial startup. The determination of predominant use shall be reported in the Notification of Compliance Status required by § 63.1260(f). If the predominant use changes, the redetermination of predominant use shall be reported in the next Periodic report.

(5) If the storage tank begins receiving material from (or sending material to) another PMPU, or ceases to receive material from (or send material to) a PMPU, or if the applicability of this subpart to a storage tank has been determined according to the provisions of paragraphs (e)(1) through (4) of this section and there is a significant change in the use of the storage tank that could reasonably change the predominant use, the owner or operator shall reevaluate the applicability of this subpart to the storage tank and report such changes to EPA in the next Periodic report.

(f) *Compliance dates.* The compliance dates for affected sources are as follows:

(1) An owner or operator of an existing affected source must comply with the provisions of this subpart no later than October 21, 2002.

(2) An owner or operator of a new or reconstructed affected source must comply with the provisions of this subpart on August 29, 2000 or upon startup, whichever is later.

(3) Notwithstanding the requirements of paragraph (f)(2) of this section, a new source which commences construction or reconstruction after April 2, 1997 and before September 21, 1998 shall not be required to comply with this subpart until September 21, 2001 if:

(i) The requirements of this subpart are more stringent than the requirements of this subpart in effect before August 29, 2000 and contained in the 40 CFR, part (63.1200-end), edition revised as of July 1, 2000; and

(ii) The owner or operator complies with the requirements published on April 2, 1997 (62 FR 15754) during the period until September 21, 2001.

(4) Notwithstanding the requirements of paragraph (f)(2) of this section, a

new source which commences construction or reconstruction after September 21, 1998 and before April 10, 2000 shall not be required to comply with this subpart until October 21, 2002 if:

(i) The requirements of this subpart are more stringent than the requirements of this subpart in effect before August 29, 2000; and

(ii) The owner or operator complies with the requirements of this subpart in effect before August 29, 2000 during the period between startup and October 21, 2002.

(5) Notwithstanding the requirements of paragraph (f)(2) of this section, a new source which commences construction or reconstruction after April 10, 2000 and before August 29, 2000 shall not be required to comply with this subpart until August 29, 2001 if:

(i) The requirements of this subpart are more stringent than the requirements published on April 10, 2000 (65 FR 19152); and

(ii) The owner or operator complies with the requirements of this subpart in effect before August 29, 2000 during the period between startup and August 29, 2001.

(6) Pursuant to section 112(i)(3)(B) of the Act, an owner or operator may request an extension allowing the existing source up to 1 additional year to comply with section 112(d) standards.

(i) For purposes of this subpart, a request for an extension shall be submitted no later than 120 days prior to the compliance dates specified in paragraphs (f) (1) through (5) of this section, except as provided in paragraph (f)(6)(ii) of this section. The dates specified in § 63.6(i) for submittal of requests for extensions shall not apply to sources subject to this subpart.

(ii) An owner or operator may submit a compliance extension request after the date specified in paragraph (f)(6)(i) of this section provided the need for the compliance extension arose after that date and before the otherwise applicable compliance date, and the need arose due to circumstances beyond reasonable control of the owner or operator. This request shall include the data described in § 63.6(i)(6)(i) (A), (B), (C), and (D).

(g) *Applicability of this subpart except during periods of startup, shutdown, and*

*malfunction.* (1) Each provision set forth in this subpart shall apply at all times except that emission limitations shall not apply during periods of: startup; shutdown; and malfunction, if the startup, shutdown, and malfunction precludes the ability of a particular emission point of an affected source to comply with one or more specific emission limitations to which it is subject and the owner or operator follows the provisions for periods of startup, shutdown, and malfunction, as specified in §§ 63.1259(a)(3) and 63.1260(i). Startup, shutdown, and malfunction are defined in § 63.1251.

(2) The provisions set forth in § 63.1255 of this subpart shall apply at all times except during periods of nonoperation of the PMPU (or specific portion thereof) in which the lines are drained and depressurized resulting in the cessation of the emissions to which § 63.1255 of this subpart applies.

(3) The owner or operator shall not shut down items of equipment that are required or utilized for compliance with the emissions limitations of this subpart during times when emissions (or, where applicable, wastewater streams or residuals) are being routed to such items of equipment, if the shutdown would contravene emissions limitations of this subpart applicable to such items of equipment. This paragraph does not apply if the item of equipment is malfunctioning, or if the owner or operator must shut down the equipment to avoid damage due to a malfunction of the PMPU or portion thereof.

(4) During startups, shutdowns, and malfunctions when the emissions limitations of this subpart do not apply pursuant to paragraphs (g)(1) through (3) of this section, the owner or operator shall implement, to the extent reasonably available, measures to prevent or minimize excess emissions to the extent practical. For purposes of this paragraph, "excess emissions" means emissions in excess of those that would have occurred if there were no startup, shutdown, or malfunction and the owner or operator complied with the relevant provisions of this subpart. The measures to be taken shall be identified in the applicable startup, shutdown, and malfunction plan, and may

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include, but are not limited to, air pollution control technologies, work practices, pollution prevention, monitoring, and/or changes in the manner of operation of the source. Back-up control devices are not required, but may be used if available.

(h) *Consistency with other regulations.*—(1) *Compliance with other MACT standards.* (i) After the compliance dates specified in this section, an affected source subject to the provisions of this subpart that is also subject to the provisions of any other subpart of this part 63 may elect to comply with either the provisions of this subpart or the provisions of another applicable subpart governing the maintenance of records and reporting to EPA. The affected source shall identify in the Notification of Compliance Status report required by § 63.1260(f) under which authority such records will be maintained.

(ii) After the compliance dates specified in paragraph (f) of this section, at an offsite reloading or cleaning facility subject to § 63.1253(f), compliance with the emission standards and associated initial compliance, monitoring, recordkeeping, and reporting provisions of any other subpart of this part 63 constitutes compliance with the provisions of § 63.1253(f)(7) (ii) or (iii). The owner or operator of the affected storage tank shall identify in the Notification of Compliance Status report required by § 63.1260(f) the subpart of this part 63 with which the owner or operator of the offsite reloading or cleaning facility complies.

(2) *Consistency with 40 CFR parts 264 and 265, subparts AA, BB, and/or CC.* (i) After the compliance dates specified in this section, if any control device subject to this subpart is also subject to monitoring, recordkeeping, and reporting requirements in 40 CFR part 264, subpart AA, BB, or CC, or is subject to monitoring and recordkeeping requirements in 40 CFR part 265, subpart AA, BB, or CC, and the owner or operator complies with the periodic reporting requirements under 40 CFR part 264, subpart AA, BB, or CC that would apply to the device if the facility had final-permitted status, the owner or operator may elect to comply either with the monitoring, recordkeeping,

and reporting requirements of this subpart, or with the monitoring, recordkeeping, and reporting requirements in 40 CFR parts 264 and/or 265, as described in this paragraph, which shall constitute compliance with the monitoring, recordkeeping, and reporting requirements of this subpart. If the owner or operator elects to comply with the monitoring, recordkeeping, and reporting requirements in 40 CFR parts 264 and/or 265, the owner or operator shall report all information required by § 63.1260(g) and (i). The owner or operator shall identify in the Notification of Compliance Status, required by § 63.1260(f), the monitoring, recordkeeping, and reporting authority under which the owner or operator will comply.

(ii) After the compliance dates specified in this section, if any equipment at an affected source that is subject to § 63.1255, is also subject to 40 CFR part 264, subpart BB, or to 40 CFR part 265, subpart BB, then compliance with the recordkeeping and reporting requirements of 40 CFR parts 264 and/or 265 may be used to comply with the recordkeeping and reporting requirements of § 63.1255, to the extent that the requirements of 40 CFR parts 264 and/or 265 duplicate the requirements of § 63.1255. The owner or operator shall identify in the Notification of Compliance Status, required by § 63.1260(f), if the owner or operator will comply with the recordkeeping and reporting authority under 40 CFR parts 264 and/or 265.

(3) *Compliance with 40 CFR 60.112(b).* After the compliance dates specified in this section, a storage tank controlled with a floating roof and in compliance with the provisions of 40 CFR 60.112b, subpart Kb, constitutes compliance with the provisions of this subpart GGG. A storage tank with a fixed roof, closed vent system, and control device in compliance with the provisions of 40 CFR 60.112b, subpart Kb must comply with the monitoring, recordkeeping, and reporting provisions of this subpart GGG. The owner or operator shall identify in the Notification of Compliance Status report required by § 63.1260(f) which tanks are in compliance with subpart Kb.



(4) *Compliance with subpart I of this part.* After the compliance dates specified in this section, an affected source with equipment subject to subpart I of this part may elect to comply with either the provisions of § 63.1255 or the provisions of subpart H of this part for all such equipment. The owner or operator shall identify in the Notification of Compliance Status report required by § 63.1260(f) the provisions with which the owner elects to comply.

(5) *Compliance with other regulations for wastewater.* After the compliance dates specified in this section, the owner or operator of an affected wastewater stream that is also subject to provisions in 40 CFR parts 260 through 272 may elect to determine whether this subpart or 40 CFR parts 260 through 272 contain the more stringent control requirements (e.g., design, operation, and inspection requirements for waste management units; numerical treatment standards; etc.) and the more stringent testing, monitoring, recordkeeping, and reporting. Compliance with provisions of 40 CFR parts 260 through 272 that are determined to be more stringent than the requirements of this subpart constitutes compliance with this subpart. For example, provisions of 40 CFR parts 260 through 272 for treatment units that meet the conditions specified in § 63.1256(g)(13) constitute compliance with this subpart. In the Notification of Compliance Status report required by § 63.1260(f), the owner or operator shall identify the more stringent provisions of 40 CFR parts 260 through 272 with which the owner or operator will comply. The owner or operator shall also identify in the Notification of Compliance Status report required by § 63.1260(f) the information and procedures used to make any stringency determinations. If the owner or operator does not elect to determine the more stringent requirements, the owner or operator must comply with both the provisions of 40 CFR parts 260 through 272 and the provisions of this subpart.

(6) *Compliance with subpart PPP of this part.* After the compliance dates specified in this section, an affected source with equipment in a pharmaceutical manufacturing process unit that is also part of an affected source under sub-

part PPP of this part may elect to demonstrate compliance with § 63.1254 by controlling all process vents in accordance with § 63.1425 (b), (c)(1), (c)(3), (d), and/or (f). Alternatively, the owner or operator may elect to determine which process vents must be controlled to comply with the percent reduction requirements of § 63.1254 and control only those vents in accordance with § 63.1425 (b), (c)(1), (c)(3), (d), and/or (f). For any pharmaceutical manufacturing process unit controlled in accordance with the requirements of § 63.1425, the owner or operator must also comply with all other requirements in subpart PPP of this part. In the Notification of Compliance Status report required by § 63.1260(f), the owner or operator shall identify which pharmaceutical manufacturing process units are meeting the control requirements for process vents and all other requirements of subpart PPP of this part, and the owner or operator shall describe the calculations and other information used to identify which process vents must be controlled to comply with the percent reduction requirements of § 63.1254, if applicable.

(i) For the purposes of establishing whether a person is in violation of this subpart, nothing in this subpart shall preclude the use of any credible evidence or information relevant to whether a source would have been in compliance with applicable requirements.

[63 FR 50326, Sept. 21, 1998, as amended at 65 FR 52596, Aug. 29, 2000; 66 FR 40131, Aug. 2, 2001]

#### § 63.1251 Definitions.

Terms used in this subpart are defined in the Act, in subpart A of this part, or in this section. If the same term is defined in subpart A of this part and in this section, it shall have the meaning given in this section for the purposes of this subpart.

*Active ingredient* means any material that is intended to furnish pharmacological activity or other direct effect in the diagnosis, cure, mitigation, treatment, or prevention of disease, or to affect the structure or any function of the body of man or other animals. This term does not include food, food additives (except vitamins and other materials described by SIC code 2833 or

2834), color additives, cosmetics, in-vitro diagnostic substances, x-ray film, test indicator devices, and medical devices such as implants, artificial joints, surgical bandages, and stitching material.

*Actual HAP emissions* means the HAP emitted to the atmosphere from either uncontrolled or controlled emission points.

*Air pollution control device or Control device* means equipment installed on a process vent, storage tank, wastewater treatment exhaust stack, or combination thereof that reduces the mass of HAP emitted to the air. The equipment may consist of an individual device or a series of devices. Examples include, but are not limited to, incinerators, carbon adsorption units, condensers, flares, boilers, process heaters, and gas absorbers. Process condensers are not considered air pollution control devices or control devices.

*Annual average concentration*, as used in the wastewater provisions in § 63.1256, means the total mass of partially soluble and/or soluble HAP compounds in a wastewater stream during the calendar year divided by the total mass of the wastewater stream discharged during the same calendar year, as determined according to the procedures specified in § 63.1257(e)(1) (i) and (ii).

*Automated monitoring and recording system* means any means of measuring values of monitored parameters and creating a hard copy or computer record of the measured values that does not require manual reading of monitoring instruments and manual transcription of data values. Automated monitoring and recording systems include, but are not limited to, computerized systems and strip charts.

*Batch emission episode* means a discrete venting episode that may be associated with a single unit operation. A unit operation may have more than one batch emission episode. For example, a displacement of vapor resulting from the charging of a vessel with HAP will result in a discrete emission episode that will last through the duration of the charge and will have an average flowrate equal to the rate of the charge. If the vessel is then heated, there will also be another discrete

emission episode resulting from the expulsion of expanded vapor. Both emission episodes may occur in the same vessel or unit operation. There are possibly other emission episodes that may occur from the vessel or other process equipment, depending on process operations.

*Batch operation or Batch process* means a noncontinuous operation involving intermittent or discontinuous feed into equipment, and, in general, involves the emptying of the equipment after the batch operation ceases and prior to beginning a new operation. Addition of raw material and withdrawal of product do not occur simultaneously in a batch operation.

*Bench-scale batch process* means a batch process (other than a research and development facility) that is capable of being located on a laboratory bench top. This bench-scale equipment will typically include reagent feed vessels, a small reactor and associated product separator, recovery and holding equipment. These processes are only capable of producing small quantities of product.

*Block* means a time period that comprises a single batch.

*Boiler* means any enclosed combustion device that extracts useful energy in the form of steam and is not an incinerator. Boiler also means any industrial furnace as defined in 40 CFR 260.10.

*Centralized combustion control device (CCCD)* means enclosed combustion devices that are used to control process vent emissions from non-dedicated PMPU's at a facility. Centralized combustion control devices may also be used to control emissions from source types including, but not limited to, storage tanks, waste management units, and equipment leaks.

*Cleaning operation* means routine rinsing, washing, or boil-off of equipment in batch operations between batches.

*Closed biological treatment process* means a tank or surface impoundment where biological treatment occurs and air emissions from the treatment process are routed to either a control device by means of a closed-vent system or by means of hard-piping. The tank or surface impoundment has a fixed

roof, as defined in this section, or a floating flexible membrane cover that meets the requirements specified in § 63.1256(c).

*Closed-loop system* means an enclosed system that returns process fluid to the process and is not vented to the atmosphere except through a closed-vent system.

*Closed-purge system* means a system or combination of system and portable containers, to capture purged liquids. Containers must be covered or closed when not being filled or emptied.

*Closed-vent system* means a system that is not open to the atmosphere and is composed of piping, ductwork, connections, and, if necessary, flow inducing devices that transport gas or vapor from an emission point to a control device.

*Combustion device* means an individual unit of equipment, such as a flare, incinerator, process heater, or boiler, used for the combustion of HAP vapors.

*Combustion device burner* means a device designed to mix and ignite fuel and air to provide a flame to heat and oxidize waste organic vapors in a combustion device.

*Connector* means flanged, screwed, or other joined fittings used to connect two pipe lines or a pipe line and a piece of equipment. A common connector is a flange. Joined fittings welded completely around the circumference of the interface are not considered connectors for the purpose of this regulation. For the purpose of reporting and recordkeeping, connector means joined fittings that are not inaccessible, ceramic, or ceramic-lined as described in § 63.1255(b)(1)(vii) and § 63.1255(f)(3).

*Construction* means the onsite fabrication, erection, or installation of an affected source or a PMPU. Addition of new equipment to a PMPU subject to existing source standards does not constitute construction, but it may constitute reconstruction of the affected source or PMPU if it satisfies the definition of reconstruction in this section.

*Consumption* means the quantity of all HAP raw materials entering a process in excess of the theoretical amount used as reactant, assuming 100 percent stoichiometric conversion. The raw materials include reactants, solvents,

and any other additives. If a HAP is generated in the process as well as added as a raw material, consumption includes the quantity generated in the process.

*Container*, as used in the wastewater provisions, means any portable waste management unit that has a capacity greater than or equal to 0.1 m<sup>3</sup> in which a material is stored, transported, treated, or otherwise handled. Examples of containers are drums, barrels, tank trucks, barges, dumpsters, tank cars, dump trucks, and ships.

*Continuous process* means a process where the inputs and outputs flow continuously throughout the duration of the process. Continuous processes are typically steady state.

*Continuous recorder* means a data recording device that either records an instantaneous data value at least once every 15 minutes or records 15-minute or more frequent block average values.

*Continuous seal* means a seal that forms a continuous closure that completely covers the space between the wall of the storage tank and the edge of the floating roof. A continuous seal may be a vapor-mounted, liquid-mounted, or metallic shoe seal.

*Control device*, for purposes of this § 63.1255, means any equipment used for recovering or oxidizing organic hazardous air pollutant vapors. Such equipment includes, but is not limited to, absorbers, carbon adsorbers, condensers, flares, boilers, and process heaters.

*Controlled HAP emissions* means the quantity of HAP discharged to the atmosphere from an air pollution control device.

*Cover*, as used in the wastewater provisions, means a device or system which is placed on or over a waste management unit containing wastewater or residuals so that the entire surface area is enclosed to minimize air emissions. A cover may have openings necessary for operation, inspection, and maintenance of the waste management unit such as access hatches, sampling ports, and gauge wells provided that each opening is closed when not in use. Examples of covers include a fixed roof installed on a wastewater tank, a lid installed on a container, and an air-supported enclosure

installed over a waste management unit.

*Dedicated PMPU* means a PMPU that is composed of equipment that is used to manufacture the same product for a continuous period of 6 months or greater. The PMPU includes any shared storage tank(s) that are determined to belong to the PMPU according to the procedures in § 63.1250(e).

*Dense gas system* means a conveyance system operated to limit oxygen levels below 12 percent.

*Double block and bleed system* means two block valves connected in series with a bleed valve or line that can vent the line between the two block valves.

*Duct work* means a conveyance system such as those commonly used for heating and ventilation systems. It is often made of sheet metal and often has sections connected by screws or crimping. Hard-piping is not ductwork.

*Enhanced biological treatment system or enhanced biological treatment process* means an aerated, thoroughly mixed treatment unit(s) that contains biomass suspended in water followed by a clarifier that removes biomass from the treated water and recycles recovered biomass to the aeration unit. The mixed liquor volatile suspended solids (biomass) is greater than 1 kilogram per cubic meter throughout each aeration unit. The biomass is suspended and aerated in the water of the aeration unit(s) by either submerged air flow or mechanical agitation. A thoroughly mixed treatment unit is a unit that is designed and operated to approach or achieve uniform biomass distribution and organic compound concentration throughout the aeration unit by quickly dispersing the recycled biomass and the wastewater entering the unit.

*Equipment*, for purposes of § 63.1255, means each pump, compressor, agitator, pressure relief device, sampling connection system, open-ended valve or line, valve, connector, and instrumentation system in organic hazardous air pollutant service; and any control devices or closed-vent systems required by this subpart.

*Excipient* means any substance other than the active drug or product which has been appropriately evaluated for safety and is included in a drug deliv-

ery system to either aid the processing of the drug delivery system during its manufacture; protect, support, or enhance stability, bioavailability, or patient acceptability; assist in product identification; or enhance any other attribute of the overall safety and effectiveness of the drug delivery system during storage or use.

*External floating roof* means a pontoon-type or double-deck type cover that rests on the liquid surface in a storage tank or waste management unit with no fixed roof.

*Fill or filling* means the introduction of material into a storage tank or the introduction of a wastewater stream or residual into a waste management unit, but not necessarily to complete capacity.

*First attempt at repair* means to take action for the purpose of stopping or reducing leakage of organic material to the atmosphere.

*Fired roof* means a cover that is mounted on a waste management unit or storage tank in a stationary manner and that does not move with fluctuations in liquid level.

*Floating roof* means a cover consisting of a double deck, pontoon single deck, internal floating cover or covered floating roof, which rests upon and is supported by the liquid being contained, and is equipped with a closure seal or seals to close the space between the roof edge and waste management unit or storage tank wall.

*Flow indicator* means a device which indicates whether gas flow is, or whether the valve position would allow gas flow to be, present in a line.

*Formulation* means the process of mixing, blending, or diluting one or more active or inert ingredients with one or more active or inert ingredients, without an intended chemical reaction, to obtain a pharmaceutical dosage form. Formulation operations include mixing, compounding, blending, and tablet coating.

*Group of processes* means all of the equipment associated with processes in a building, processing area, or facility-wide. For a dedicated process, a group of processes may consist of a single process.

*Halogen atoms* mean atoms of chlorine or fluorine.

*Halogenated compounds* means organic HAP compounds that contain halogen atoms.

*Halogenated vent stream or Halogenated stream* means a process, storage tank, or waste management unit vent determined to have a concentration of halogenated compounds of greater than 20 ppmv, as determined through process knowledge, test results using Method 18 of 40 CFR part 60, appendix A, or test results using any other test method that has been validated according to the procedures in Method 301 of appendix A of this part.

*Hard-piping* means piping or tubing that is manufactured and properly installed using good engineering judgment and standards, such as ANSI B31-3.

*Hydrogen halides and halogens* means hydrogen chloride (HCl), chlorine (Cl<sup>2</sup>), and hydrogen fluoride (HF).

*In gas/vapor service* means that a piece of equipment in organic hazardous air pollutant service contains a gas or vapor at operating conditions.

*In heavy liquid service* means that a piece of equipment in organic hazardous air pollutant service is not in gas/vapor service or in light liquid service.

*In light liquid service* means that a piece of equipment in organic hazardous air pollutant service contains a liquid that meets the following conditions:

(1) The vapor pressure of one or more of the organic compounds is greater than 0.3 kilopascals at 20 °C;

(2) The total concentration of the pure organic compounds constituents having a vapor pressure greater than 0.3 kilopascals at 20 °C is equal to or greater than 20 percent by weight of the total process stream; and

(3) The fluid is a liquid at operating conditions. (Note: Vapor pressures may be determined by the methods described in 40 CFR 60.485(e)(1).)

*In liquid service* means that a piece of equipment in organic hazardous air pollutant service is not in gas/vapor service.

*In organic hazardous air pollutant or in organic HAP service* means that a piece of equipment either contains or contacts a fluid (liquid or gas) that is at least 5 percent by weight of total or-

ganic HAP's as determined according to the provisions of § 63.180(d). The provisions of § 63.180(d) also specify how to determine that a piece of equipment is not in organic HAP service.

*In vacuum service* means that equipment is operating at an internal pressure which is at least 5 kilopascals below ambient pressure.

*In-situ sampling systems* means non-extractive samplers or in-line samplers.

*Individual drain system* means the stationary system used to convey wastewater streams or residuals to a waste management unit. The term includes hard piping; all process drains and junction boxes; and associated sewer lines, other junction boxes, manholes, sumps, and lift stations conveying wastewater streams or residuals. A segregated stormwater sewer system, which is a drain and collection system designed and operated for the sole purpose of collecting rainfall-runoff at a facility, and which is segregated from all other individual drain systems, is excluded from this definition.

*Initial startup* means the first time a new or reconstructed source begins production. Initial startup does not include operation solely for testing equipment. Initial startup does not include subsequent start ups (as defined in this section) of processes following malfunctions or process shutdowns.

*Internal floating roof* means a cover that rests or floats on the liquid surface (but not necessarily in complete contact with it) inside a storage tank or waste management unit that has a permanently affixed roof.

*Instrumentation system* means a group of equipment components used to condition and convey a sample of the process fluid to analyzers and instruments for the purpose of determining process operating conditions (e.g., composition, pressure, flow, etc.). Valves and connectors are the predominant type of equipment used in instrumentation systems; however, other types of equipment may also be included in these systems. Only valves nominally 0.5 inches and smaller, and connectors nominally 0.75 inches and smaller in diameter are considered instrumentation systems for the purposes of this subpart. Valves greater than nominally 0.5

inches and connectors greater than nominally 0.75 inches associated with instrumentation systems are not considered part of instrumentation systems and must be monitored individually.

*Isolated intermediate* means a product of a process. An isolated intermediate is usually a product of a chemical synthesis, fermentation, or biological extraction process; several different isolated intermediates may be produced in the manufacture of a finished dosage form of a drug. Precursors, active ingredients, or finished dosage forms are considered isolated intermediates. An isolated intermediate is stored before subsequent processing. Storage occurs at any time the intermediate is placed in equipment used solely for storage, such as drums, totes, day tanks, and storage tanks. The storage of an isolated intermediate marks the end of a process.

*Junction box* means a manhole or access point to a wastewater sewer system line or a lift station.

*Large control device* means a control device that controls total HAP emissions of greater than or equal to 10 tons/yr. before control.

*Liquid-mounted seal* means a foam- or liquid-filled seal mounted in contact with the liquid between the wall of the storage tank or waste management unit and the floating roof. The seal is mounted continuously around the tank or unit.

*Liquids dripping* means any visible leakage from the seal including dripping, spraying, misting, clouding, and ice formation. Indications of liquid dripping include puddling or new stains that are indicative of an existing evaporated drip.

*Maintenance wastewater* means wastewater generated by the draining of process fluid from components in the pharmaceutical manufacturing process unit into an individual drain system in preparation for or during maintenance activities. Maintenance wastewater can be generated during planned and unplanned shutdowns and during periods not associated with a shutdown. Examples of activities that can generate maintenance wastewater include descaling of heat exchanger tubing bundles, cleaning of distillation col-

umn traps, draining of pumps into an individual drain system, and draining of portions of the pharmaceutical manufacturing process unit for repair. Wastewater from cleaning operations is not considered maintenance wastewater.

*Malfunction* means any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, emissions monitoring equipment, process equipment, or a process to operate in a normal or usual manner which causes, or has the potential to cause, the emission limitations in an applicable standard to be exceeded. Failures that are caused all or in part by poor maintenance or careless operation are not malfunctions.

*Maximum true vapor pressure* means the equilibrium partial pressure exerted by the total organic HAP in the stored or transferred liquid at the temperature equal to the highest calendar-month average of the liquid storage or transferred temperature for liquids stored or transferred above or below the ambient temperature or at the local maximum monthly average temperature as reported by the National Weather Service for liquids stored or transferred at the ambient temperature, as determined:

(1) In accordance with methods described in Chapter 19.2 of the American Petroleum Institute's Manual of Petroleum Measurement Standards, Evaporative Loss From Floating-Roof Tanks (incorporated by reference as specified in § 63.14); or

(2) As obtained from standard reference texts; or

(3) As determined by the American Society for Testing and Materials Method D2879-97, Test Method for Vapor Pressure-Temperature Relationship and Initial Decomposition Temperature of Liquids by Isoteniscope (incorporated by reference as specified in § 63.14); or

(4) Any other method approved by the Administrator.

*Metallic shoe seal or mechanical shoe seal* means metal sheets that are held vertically against the wall of the storage tank by springs, weighted levers, or other mechanisms and connected to the floating roof by braces or other

means. A flexible coated fabric (envelope) spans the annular space between the metal sheet and the floating roof.

*Nondedicated formulation operations* means equipment used to formulate numerous products.

*Nondedicated recovery device(s)* means a recovery device that receives material from more than one PMPU.

*Nonrepairable* means that it is technically infeasible to repair a piece of equipment from which a leak has been detected without a process shutdown.

*Open biological treatment process* means a biological treatment process that is not a closed biological treatment process as defined in this section.

*Open-ended valve or line* means any valve, except pressure relief valves, having one side of the valve seat in contact with process fluid and one side open to atmosphere, either directly or through open piping.

*Operating scenario* for the purposes of reporting and recordkeeping, means any specific operation of a PMPU and includes for each process:

(1) A description of the process and the type of process equipment used;

(2) An identification of related process vents and their associated emissions episodes and durations, wastewater PODs, and storage tanks;

(3) The applicable control requirements of this subpart, including the level of required control, and for vents, the level of control for each vent;

(4) The control or treatment devices used, as applicable, including a description of operating and/or testing conditions for any associated control device;

(5) The process vents, wastewater PODs, and storage tanks (including those from other processes) that are simultaneously routed to the control or treatment device(s);

(6) The applicable monitoring requirements of this subpart and any parametric level that assures compliance for all emissions routed to the control or treatment device;

(7) Calculations and engineering analyses required to demonstrate compliance; and

(8) For reporting purposes, a change to any of these elements not previously reported, except for paragraph (5) of this definition, shall constitute a new operating scenario.

*Partially soluble HAP* means a HAP listed in Table 2 of this subpart.

*Pharmaceutical manufacturing operations* means the facilitywide collection of PMPU and any other equipment such as heat exchanger systems, wastewater and waste management units, or cooling towers that are not associated with an individual PMPU, but that are located at a facility for the purpose of manufacturing pharmaceutical products and are under common control.

*Pharmaceutical manufacturing process unit (PMPU)* means the process, as defined in this subpart, and any associated storage tanks, equipment identified in § 63.1252(f), and components such as pumps, compressors, agitators, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, connectors, and instrumentation systems that are used in the manufacturing of a pharmaceutical product.

*Pharmaceutical product* means any of the following materials, excluding any material that is a nonreactive solvent, excipient, binder, or filler, or any material that is produced in a chemical manufacturing process unit that is subject to the requirements of subparts F and G of this part 63:

(1) Any material described by the standard industrial classification (SIC) code 2833 or 2834; or

(2) Any material whose manufacturing process is described by North American Industrial Classification System (NAICS) code 325411 or 325412; or

(3) A finished dosage form of a drug, for example, a tablet, capsule, solution, etc.; or

(4) Any active ingredient or precursor that is produced at a facility whose primary manufacturing operations are described by SIC code 2833 or 2834; or

(5) At a facility whose primary operations are not described by SIC code 2833 or 2834, any material whose primary use is as an active ingredient or precursor.

*Plant site* means all contiguous or adjoining property that is under common control, including properties that are separated only by a road or other public right-of-way. Common control includes properties that are owned, leased, or operated by the same entity,

parent entity, subsidiary, or any combination thereof.

*Point of determination (POD)* means the point where a wastewater stream exits the process, storage tank, or last recovery device. If soluble and/or partially soluble HAP compounds are not recovered from water before discharge, the discharge point from the process equipment or storage tank is a POD. If water streams are routed to a recovery device, the discharge from the recovery device is a POD. There can be more than 1 POD per process or PMPU.

*Precursor* means a material that is manufactured to undergo further chemical change or processing to ultimately manufacture an active ingredient or finished dosage form of a drug. This term does not include commodity chemicals produced by the synthetic organic chemical manufacturing industry.

*Pressure release* means the emission of materials resulting from the system pressure being greater than the set pressure of the pressure relief device. This release can be one release or a series of releases over a short time period due to a malfunction in the process.

*Pressure relief device or valve* means a safety device used to prevent operating pressures from exceeding the maximum allowable working pressure of the process equipment. A common pressure relief device is a spring-loaded pressure relief valve. Devices that are actuated either by a pressure of less than or equal to 2.5 psig or by a vacuum are not pressure relief devices.

*Primary use* means 50 percent or more of a material is used for a particular purpose.

*Process* means all equipment which collectively function to produce a pharmaceutical product or isolated intermediate (which is also a pharmaceutical product). A process may consist of one or more unit operations. For the purposes of this subpart, process includes any, all, or a combination of reaction, recovery, separation, purification, or other activity, operation, manufacture, or treatment which are used to produce a pharmaceutical product or isolated intermediate. Cleaning operations conducted are considered part of the process. Nondedicated solvent recovery operations located with-

in a contiguous area within the affected source are considered single processes. A storage tank that is used to accumulate used solvent from multiple batches of a single process for purposes of solvent recovery does not represent the end of the process. Nondedicated formulation operations occurring within a contiguous area are considered a single process that is used to formulate numerous materials and/or products. Quality assurance and quality control laboratories are not considered part of any process. Ancillary activities are not considered a process or part of any process. Ancillary activities include boilers and incinerators (not used to comply with the provisions of § 63.1253, § 63.1254, or § 63.1256(h)), chillers and refrigeration systems, and other equipment and activities that are not directly involved (i.e., they operate within a closed system and materials are not combined with process fluids) in the processing of raw materials or the manufacturing of a pharmaceutical product.

*Process condenser* means a condenser whose primary purpose is to recover material as an integral part of a process. The condenser must support a vapor-to-liquid phase change for periods of source equipment operation that are at or above the boiling or bubble point of substance(s) at the liquid surface. Examples of process condensers include distillation condensers, reflux condensers, and condensers used in stripping or flashing operations. In a series of condensers, all condensers up to and including the first condenser with an exit gas temperature below the boiling or bubble point of the substance(s) at the liquid surface are considered to be process condensers. All condensers in line prior to a vacuum source are included in this definition.

*Process shutdown* means a work practice or operational procedure that stops production from a process or part of a process during which it is technically feasible to clear process material from a process or part of a process consistent with safety constraints and during which repairs can be effected. An unscheduled work practice or operational procedure that stops production from a process or part of a process for less than 24 hours is not a process



shutdown. An unscheduled work practice or operational procedure that would stop production from a process or part of a process for a shorter period of time than would be required to clear the process or part of the process of materials and start up the process, and would result in greater emissions than delay of repair of leaking components until the next scheduled process shutdown, is not a process shutdown. The use of spare equipment and technically feasible bypassing of equipment without stopping production are not process shutdowns.

*Process tank* means a tank that is used to collect material discharged from a feedstock storage tank or unit operation and to transfer this material to another unit operation within the process or to a product storage tank. Surge control vessels and bottoms receivers that fit these conditions are considered process tanks. Product storage tanks are considered process tanks and are part of the PMPU that produce the stored material. For the purposes of this subpart, vents from process tanks are considered process vents.

*Process vent* means a vent from a unit operation or vents from multiple unit operations within a process that are manifolded together into a common header, through which a HAP-containing gas stream is, or has the potential to be, released to the atmosphere. Examples of process vents include, but are not limited to, vents on condensers used for product recovery, bottom receivers, surge control vessels, reactors, filters, centrifuges, and process tanks. Emission streams that are undiluted and uncontrolled containing less than 50 ppmv HAP, as determined through process knowledge that no HAP are present in the emission stream or using an engineering assessment as discussed in § 63.1257(d)(2)(ii), test data using Methods 18 of 40 CFR part 60, appendix A, or any other test method that has been validated according to the procedures in Method 301 of appendix A of this part, are not considered process vents. Process vents do not include vents on storage tanks regulated under § 63.1253, vents on wastewater emission sources regulated under § 63.1256, or pieces of equipment regulated under § 63.1255.

*Production-indexed HAP consumption factor* is the result of dividing the annual consumption of total HAP by the annual production rate, per process.

*Production-indexed volatile organic compound (VOC) consumption factor* is the result of dividing the annual consumption of total VOC by the annual production rate, per process.

*Publicly owned treatment works (POTW)* means any devices and systems used in the storage, treatment, recycling, and reclamation of municipal sewage or industrial wastes of a liquid nature as defined in section 212(2)(A) of the Clean Water Act, as amended [33 U.S.C. § 1292(2)(A)]. A POTW includes the treatment works, intercepting sewers, outfall sewers, sewage collection systems, pumping, power, and other equipment. The POTW is defined at 40 CFR 403.3(o).

*Reactor* means a device or vessel in which one or more chemicals or reactants, other than air, are combined or decomposed in such a way that their molecular structures are altered and one or more new organic compounds are formed.

*Reconstruction*, as used in § 63.1250(b), shall have the meaning given in § 63.2, except that "affected or previously unaffected stationary source" shall mean either "affected facility" or "PMPU." As used in § 63.1254(a)(3)(ii)(A)(3), reconstruction shall have the meaning given in § 63.2, except that "source" shall mean "control device."

*Recovery device*, as used in the wastewater provisions, means an individual unit of equipment used for the purpose of recovering chemicals for fuel value (i.e., net positive heating value), use, reuse, or for sale for fuel value, use or reuse. Examples of equipment that may be recovery devices include organic removal devices such as decanters, strippers, or thin-film evaporation units. To be a recovery device, a decanter and any other equipment based on the operating principle of gravity separation must receive only two-phase liquid streams.

*Repaired* means that equipment:

(1) Is adjusted, or otherwise altered, to eliminate a leak as defined in the applicable paragraphs of § 63.1255, and;

(2) Is, unless otherwise specified in applicable provisions of § 63.1255, monitored as specified in § 63.180(b) and (c) as appropriate, to verify that emissions from the equipment are below the applicable leak definition.

*Research and development facility* means any stationary source whose primary purpose is to conduct research and development into new processes and products, where such source is operated under the close supervision of technically trained personnel, and is not engaged in the manufacture of products for commercial sale in commerce, except in a de minimis manner.

*Residual* means any HAP-containing liquid or solid material that is removed from a wastewater stream by a waste management unit or treatment process that does not destroy organics (non-destructive unit). Examples of residuals from nondestructive waste management units are: the organic layer and bottom residue removed by a decanter or organic-water separator and the overheads from a steam stripper or air stripper. Examples of materials which are not residuals are: silt; mud; leaves; bottoms from a steam stripper or air stripper; and sludges, ash, or other materials removed from wastewater being treated by destructive devices such as biological treatment units and incinerators.

*Safety device* means a closure device such as a pressure relief valve, frangible disc, fusible plug, or any other type of device which functions exclusively to prevent physical damage or permanent deformation to a unit or its air emission control equipment by venting gases or vapors directly to the atmosphere during unsafe conditions resulting from an unplanned, accidental, or emergency event. For the purposes of this subpart, a safety device is not used for routine venting of gases or vapors from the vapor headspace underneath a cover such as during filling of the unit or to adjust the pressure in this vapor headspace in response to normal daily diurnal ambient temperature fluctuations. A safety device is designed to remain in a closed position during normal operations and open only when the internal pressure, or another relevant parameter, exceeds the device threshold setting applicable

to the air emission control equipment as determined by the owner or operator based on manufacturer recommendations, applicable regulations, fire protection and prevention codes, standard engineering codes and practices, or other requirements for the safe handling of flammable, combustible, explosive, reactive, or hazardous materials.

*Sampling connection system* means an assembly of equipment within a process unit used during periods of representative operation to take samples of the process fluid. Equipment used to take nonroutine grab samples is not considered a sampling connection system.

*Sensor* means a device that measures a physical quantity or the change in a physical quantity, such as temperature, pressure, flow rate, pH, or liquid level.

*Set pressure* means the pressure at which a properly operating pressure relief device begins to open to relieve atypical process system operating pressure.

*Sewer line* means a lateral, trunk line, branch line, or other conduit including, but not limited to, grates, trenches, etc., used to convey wastewater streams or residuals to a downstream waste management unit.

*Shutdown* means the cessation of operation of a continuous process for any purpose. Shutdown also means the cessation of a batch process or any related individual piece of equipment required or used to comply with this subpart as a result of a malfunction or for replacement of equipment, repair, or any other purpose not excluded from this definition. Shutdown also applies to emptying and degassing storage vessels. Shutdown does not apply to cessation of a batch process at the end of a campaign, for routine maintenance, for rinsing or washing of equipment between batches, or other routine operations.

*Single-seal system* means a floating roof having one continuous seal that completely covers the space between the wall of the storage tank and the edge of the floating roof. This seal may be a vapor-mounted, liquid-mounted, or metallic shoe seal.

*Small control device* means a control device that controls total HAP emissions of less than 10 tons/yr, before control.

*Soluble HAP* means a HAP listed in Table 3 of this subpart.

*Standard batch* means a batch process operated within a range of operating conditions that are documented in an operating scenario. Emissions from a standard batch are based on the operating conditions that result in highest emissions. The standard batch defines the uncontrolled and controlled emissions for each emission episode defined under the operating scenario.

*Startup* means the setting in operation of a continuous process unit for any purpose; the first time a new or reconstructed batch process unit begins production; for new equipment added, including equipment used to comply with this subpart, the first time the equipment is put into operation; or, for the introduction of a new product/process, the first time the product or process is run in equipment. For batch process units, startup does not apply to the first time the equipment is put into operation at the start of a campaign to produce a product that has been produced in the past, after a shutdown for maintenance, or when the equipment is put into operation as part of a batch within a campaign. As used in § 63.1255, startup means the setting in operation of a piece of equipment or a control device that is subject to this subpart.

*Storage tank* means a tank or other vessel that is used to store organic liquids that contain one or more HAP as raw material feedstocks. Storage tank also means a tank or other vessel in a tank farm that receives and accumulates used solvent from multiple batches of a process or processes for purposes of solvent recovery. The following are not considered storage tanks for the purposes of this subpart:

(1) Vessels permanently attached to motor vehicles such as trucks, railcars, barges, or ships;

(2) Pressure vessels designed to operate in excess of 204.9 kilopascals and without emissions to the atmosphere;

(3) Vessels storing organic liquids that contain HAP only as impurities;

(4) Wastewater storage tanks; and

(5) Process tanks (including product tanks and isolated intermediate tanks).

*Supplemental gases* are any gaseous streams that are not defined as process vents, or closed-vent systems from wastewater management and treatment units, storage tanks, or equipment components and that contain less than 50 ppmv TOC, as determined through process knowledge, that are introduced into vent streams or manifolds. Air required to operate combustion device burner(s) is not considered supplemental gas.

*Surface impoundment* means a waste management unit which is a natural topographic depression, manmade excavation, or diked area formed primarily of earthen materials (although it may be lined with manmade materials), which is designed to hold an accumulation of liquid wastes or waste containing free liquids. A surface impoundment is used for the purpose of treating, storing, or disposing of wastewater or residuals, and is not an injection well. Examples of surface impoundments are equalization, settling, and aeration pits, ponds, and lagoons.

*System flowrate* means the flowrate of gas entering the control device.

*Total organic compounds (TOC)* means those compounds measured according to the procedures of Method 18 or Method 25A, 40 CFR part 60, appendix A.

*Treatment process* means a specific technique that removes or destroys the organics in a wastewater or residual stream such as a steam stripping unit, thin-film evaporation unit, waste incinerator, biological treatment unit, or any other process applied to wastewater streams or residuals to comply with § 63.1256. Most treatment processes are conducted in tanks. Treatment processes are a subset of waste management units.

*Uncontrolled HAP emissions* means a gas stream containing HAP which has exited the process (or process condenser, if any), but which has not yet been introduced into an air pollution control device to reduce the mass of HAP in the stream. If the process vent is not routed to an air pollution control device, uncontrolled emissions are

those HAP emissions released to the atmosphere.

*Unit operation* means those processing steps that occur within distinct equipment that are used, among other things, to prepare reactants, facilitate reactions, separate and purify products, and recycle materials. Equipment used for these purposes includes but is not limited to reactors, distillation columns, extraction columns, absorbers, decanters, dryers, condensers, and filtration equipment.

*Vapor-mounted seal* means a continuous seal that completely covers the annular space between the wall of the storage tank or waste management unit and the edge of the floating roof and is mounted such that there is a vapor space between the stored liquid and the bottom of the seal.

*Volatile organic compounds (VOC)* means those materials defined in 40 CFR 51.100.

*Waste management unit* means the equipment, structure(s) and or devices used to convey, store, treat, or dispose of wastewater streams or residuals. Examples of waste management units include wastewater tanks, air flotation units, surface impoundments, containers, oil-water or organic-water separators, individual drain systems, biological wastewater treatment units, waste incinerators, and organic removal devices such as steam and air stripper units, and thin film evaporation units. If such equipment is used for recovery then it is part of a pharmaceutical process and is not a waste management unit.

*Wastewater* means any portion of an individual wastewater stream or any aggregation of wastewater streams.

*Wastewater stream* means water that is discarded from a PMPU through a single POD, that contains an annual average concentration of partially soluble and/or soluble HAP compounds of at least 5 parts per million by weight and a load of at least 0.05 kg/yr. The following are not considered wastewater streams for the purposes of this subpart:

- (1) Stormwater from segregated sewers;
- (2) Water from fire-fighting and deluge systems, including testing of such systems;

- (3) Spills;
- (4) Water from safety showers;
- (5) Samples of a size not greater than reasonably necessary for the method of analysis that is used;
- (6) Equipment leaks;
- (7) Wastewater drips from procedures such as disconnecting hoses after clearing lines; and
- (8) Noncontact cooling water.

*Wastewater tank* means a stationary waste management unit that is designed to contain an accumulation of wastewater or residuals and is constructed primarily of nonearthen materials (e.g., wood, concrete, steel, plastic) which provide structural support. Wastewater tanks used for flow equalization are included in this definition.

*Water seal controls* means a seal pot, p-leg trap, or other type of trap filled with water (e.g., flooded sewers that maintain water levels adequate to prevent air flow through the system) that creates a water barrier between the sewer line and the atmosphere. The water level of the seal must be maintained in the vertical leg of a drain in order to be considered a water seal.

[63 FR 50326, Sept. 21, 1998, as amended at 65 FR 52598, Aug. 29, 2000; 71 FR 20459, Apr. 20, 2006]

#### § 63.1252 Standards: General.

Each owner or operator of any affected source subject to the provisions of this subpart shall control HAP emissions to the level specified in this section on and after the compliance dates specified in §63.1250(f). Initial compliance with the emission limits is demonstrated in accordance with the provisions of §63.1257, and continuous compliance is demonstrated in accordance with the provisions of §63.1258.

(a) *Opening of a safety device.* Opening of a safety device, as defined in §63.1251, is allowed at any time conditions require it to do so to avoid unsafe conditions.

(b) *Closed-vent systems.* The owner or operator of a closed-vent system that contains bypass lines that could divert a vent stream away from a control device used to comply with the requirements in §§63.1253, 63.1254, and 63.1256 shall comply with the requirements of Table 4 to this subpart and paragraph (b)(1) or (2) of this section. Equipment

such as low leg drains, high point bleeds, analyzer vents, open-ended valves or lines, rupture disks and pressure relief valves needed for safety purposes are not subject to this paragraph.

(1) Install, calibrate, maintain, and operate a flow indicator that determines whether vent stream flow is present at least once every 15 minutes. Records shall be maintained as specified in § 63.1259(i)(6)(i). The flow indicator shall be installed at the entrance to any bypass line that could divert the vent stream away from the control device to the atmosphere; or

(2) Secure the bypass line valve in the closed position with a car seal or lock and key type configuration. A visual inspection of the seal or closure mechanism shall be performed at least once every month to ensure that the valve is maintained in the closed position and the vent stream is not diverted through the bypass line. Records shall be maintained as specified in § 63.1259(i)(6)(ii).

(c) *Heat exchange systems.* Except as provided in paragraph (c)(2) of this section, owners and operators of affected sources shall comply with the requirements in paragraph (c)(1) of this section for heat exchange systems that cool process equipment or materials used in pharmaceutical manufacturing operations.

(1) The heat exchange system shall be treated according to the provisions of § 63.104, except that the monitoring frequency shall be no less than quarterly.

(2) For identifying leaking equipment, the owner or operator of heat exchange systems on equipment which meet current good manufacturing practice (CGMP) requirements of 21 CFR part 211 may elect to use the physical integrity of the reactor as the surrogate indicator of heat exchange system leaks around the reactor.

(d) *Emissions averaging provisions.* Except as specified in paragraphs (d)(1) through (5) of this section, owners or operators of storage tanks or processes subject to the provisions of §§ 63.1253 and 63.1254 may choose to comply by using emissions averaging requirements specified in § 63.1257(g) or (h) for any storage tank or process.

(1) A State may prohibit averaging of HAP emissions and require the owner

or operator of an existing source to comply with the provisions in §§ 63.1253 and 63.1254.

(2) Only emission sources subject to the requirements of § 63.1253(b)(1) or (c)(1)(i) or § 63.1254(a)(1)(i) may be included in any averaging group.

(3) Processes which have been permanently shutdown or storage tanks permanently taken out of HAP service may not be included in any averaging group.

(4) Processes and storage tanks already controlled on or before November 15, 1990 may not be included in an emissions averaging group, except where the level of control is increased after November 15, 1990. In these cases, the uncontrolled emissions shall be the controlled emissions as calculated on November 15, 1990 for the purpose of determining the uncontrolled emissions as specified in § 63.1257(g) and (h).

(5) Emission points controlled to comply with a State or Federal rule other than this subpart may not be credited in an emission averaging group, unless the level of control has been increased after November 15, 1990 above what is required by the other State or Federal rule. Only the control above what is required by the other State or Federal rule will be credited. However, if an emission point has been used to generate emissions averaging credit in an approved emissions average, and the point is subsequently made subject to a State or Federal rule other than this subpart, the point can continue to generate emissions averaging credit for the purpose of complying with the previously approved average.

(6) Not more than 20 processes subject to § 63.1254(a)(1)(i), and 20 storage tanks subject to § 63.1253(b)(1) or (c)(1)(i) at an affected source may be included in an emissions averaging group.

(7) Compliance with the emission standards in § 63.1253 shall be satisfied when the annual percent reduction efficiency is greater than or equal to 90 percent for those tanks meeting the criteria of § 63.1253(a)(1) and 95 percent for those tanks meeting the criteria of § 63.1253(a)(2), as demonstrated using the test methods and compliance procedures specified in § 63.1257(g).

(8) Compliance with the emission standards in § 63.1254(a)(1)(i) shall be satisfied when the annual percent reduction efficiency is greater than or equal to 93 percent, as demonstrated using the test methods and compliance procedures specified in § 63.1257(h).

(e) *Pollution prevention alternative.* Except as provided in paragraph (e)(1) of this section, an owner or operator may choose to meet the pollution prevention alternative requirement specified in either paragraph (e)(2) or (3) of this section for any PMPU or for any situation described in paragraph (e)(4) of this section, in lieu of the requirements specified in §§ 63.1253, 63.1254, 63.1255, and 63.1256. Compliance with paragraphs (e)(2) and (3) of this section shall be demonstrated through the procedures in § 63.1257(f). Any PMPU for which the owner or operator seeks to comply by using the pollution prevention alternative shall begin with the same starting material(s) and end with the same product(s). The owner or operator may not comply with the pollution prevention alternative by eliminating any steps of a process by transferring the step offsite (to another manufacturing location).

(1) The HAP that are generated in the PMPU that are not part of the production-indexed consumption factor must be controlled according to the requirements of §§ 63.1253, 63.1254, 63.1255, and 63.1256. The hydrogen halides that are generated as a result of combustion control of emissions must be controlled according to the requirements of paragraph (g)(1) of this section.

(2) The production-indexed HAP consumption factor (kg HAP consumed/kg produced) shall be reduced by at least 75 percent from a 3 year average baseline established no earlier than the 1987 calendar year, or for the time period from startup of the process until the present in which the PMPU was operational and data are available, whichever is the lesser time period. If a time period less than 3 years is used to set the baseline, the data must represent at least 1 year's worth of data. For any reduction in the HAP factor achieved by reducing a HAP that is also a VOC, an equivalent reduction in the VOC factor is also required. For any reduction in the HAP factor that is achieved

by reducing a HAP that is not a VOC, the VOC factor may not be increased.

(3) Both requirements specified in paragraphs (e)(3)(i) and (ii) of this section are met.

(i) The production-indexed HAP consumption factor (kg HAP consumed/kg produced) shall be reduced by at least 50 percent from a 3-year average baseline established no earlier than the 1987 calendar year, or for the time period from startup of the process until the present in which the PMPU was operational and data are available, whichever is less. If a time period less than 3 years is used to set the baseline, the data must represent at least 1 year's worth of data. For any reduction in the HAP factor achieved by reducing a HAP that is also a VOC, an equivalent reduction in the VOC factor is also required. For any reduction in the HAP factor that is achieved by reducing a HAP that is not a VOC, the VOC factor may not be increased.

(ii) The total PMPU HAP emissions shall be reduced by an amount, in kg/yr, that, when divided by the annual production rate, in kg/yr, and added to the reduction of the production-indexed HAP consumption factor, in kg/kg, yields a value of at least 75 percent of the average baseline HAP production-indexed consumption factor established according to paragraph (e)(3)(i) of this section according to the equation provided in § 63.1257(f)(2)(ii)(A). The total PMPU VOC emissions shall be reduced by an amount calculated according to the equation provided in § 63.1257(f)(2)(ii)(B). The annual reduction in HAP and VOC air emissions must be due to the use of the following control devices:

(A) Combustion control devices such as incinerators, flares or process heaters.

(B) Control devices such as condensers and carbon adsorbers whose recovered product is destroyed or shipped offsite for destruction.

(C) Any control device that does not ultimately allow for recycling of material back to the PMPU.

(D) Any control device for which the owner or operator can demonstrate that the use of the device in controlling HAP emissions will have no effect

on the production-indexed consumption factor for the PMPU.

(4) The owner or operator may comply with the requirements in either paragraph (e)(2) or (3) of this section for a series of processes, including situations where multiple processes are merged, subject to the following conditions:

(i) The baseline period shall be a single year beginning no earlier than the 1992 calendar year.

(ii) The term "PMPU" shall have the meaning provided in § 63.1251 except that the baseline and modified PMPU may include multiple processes (*i.e.*, precursors, active ingredients, and final dosage form) if the owner or operator demonstrates to the satisfaction of the Administrator that the multiple processes were merged after the baseline period into an existing process or processes.

(iii) Nondedicated formulation and solvent recovery processes may not be merged with any other processes.

(f) *Control requirements for certain liquid streams in open systems within a PMPU.* (1) The owner or operator shall comply with the provisions of Table 5 of this subpart, for each item of equipment meeting all the criteria specified in paragraphs (f)(2) through (4) and either paragraph (f)(5)(i) or (ii) of this section.

(2) The item of equipment is of a type identified in Table 5 of this subpart;

(3) The item of equipment is part of a PMPU, as defined in § 63.1251;

(4) The item of equipment is controlled less stringently than in Table 5 of this subpart and the item of equipment is not otherwise exempt from controls by the provisions of this subpart or subpart A of this part; and

(5) The item of equipment:

(i) Is a drain, drain hub, manhole, lift station, trench, pipe, or oil/water separator that conveys water with an annual average concentration greater than or equal to 1,300 parts per million by weight (ppmw) of partially soluble HAP compounds; or an annual average concentration greater than or equal to 5,200 ppmw of partially soluble and/or soluble HAP compounds. The annual average concentration shall be determined according to the procedures in § 63.1257(e)(1)(ii).

(ii) Is a tank that receives one or more streams that contain water with an annual average concentration greater than or equal to 1,300 ppmw of partially soluble HAP compounds, or greater than or equal to 5,200 ppmw of total partially soluble and/or soluble HAP compounds. The owner or operator of the source shall determine the average concentration of the stream at the inlet to the tank and according to the procedures in § 63.1257(e)(1)(ii).

(g) *Control requirements for halogenated vent streams that are controlled by combustion devices.* If a combustion device is used to comply with the provisions of §§ 63.1253 (storage tanks), 63.1254 (process vents), 63.1256(h) (wastewater vent streams) for a halogenated vent stream, then the vent stream shall be ducted to a halogen reduction device such as, but not limited to, a scrubber, before it is discharged to the atmosphere. The halogen reduction device must reduce emissions by the amounts specified in either paragraph (g)(1) or (2) of this section.

(1) A halogen reduction device after the combustion control device must reduce overall emissions of hydrogen halides and halogens, as defined in § 63.1251, by 95 percent or to a concentration less than or equal to 20 ppmv.

(2) A halogen reduction device located before the combustion control device must reduce the halogen atom content of the vent stream to a concentration less than or equal to 20 ppmv.

(h) *Planned routine maintenance for centralized combustion control devices.* The owner or operator may operate non-dedicated PMPU's during periods of planned routine maintenance for CCGD in accordance with the provisions specified in paragraphs (h)(1) through (6) of this section.

(1) For equipment leaks and wastewater emissions that normally are controlled by the CCGD, if any, the owner or operator must continue to comply with the requirements in §§ 63.1255(b)(4)(ii) and 63.1256(h), respectively, using other control devices during the planned routine maintenance period for the CCGD.

(2) During the planned routine maintenance period, the owner or operator

must route emissions from process vents with organic HAP emissions greater than 15 pounds per day (lb/day) through a closed-vent system to a condenser that meets the conditions specified in paragraphs (h)(2)(i) through (iii) of this section.

(i) The outlet gas temperature must be less than  $-50\text{ }^{\circ}\text{C}$  ( $-58\text{ }^{\circ}\text{F}$ ) when the emission stream contains organic HAP with a partial pressure greater than 20 kPa (2.9 psia).

(ii) The outlet gas temperature must be less than  $-5\text{ }^{\circ}\text{C}$  ( $23\text{ }^{\circ}\text{F}$ ) when the emission stream contains organic HAP with a partial pressure less than or equal to 20 kPa (2.9 psia).

(iii) The HAP partial pressures in paragraphs (h)(2)(i) and (ii) of this section must be determined at  $25\text{ }^{\circ}\text{C}$ .

(3) The owner or operator must route HCl emissions from process vents with HCl emissions greater than 15 lb/day through a closed-vent system to a caustic scrubber, and the pH of the scrubber effluent must be maintained at or above 9.

(4) For the purposes of the emission calculations required in paragraphs (h)(2) and (3) of this section, the term "process vent" shall mean each vent from a unit operation. The emission calculation shall not be performed on the aggregated emission stream from multiple unit operations that are manifolded together into a common header. Once an affected process vent has been controlled in accordance with this section, it is no longer subject to the requirements of this section or § 63.1254 during the routine maintenance period.

(5) The total period of planned routine maintenance, during which non-dedicated PMPUs that are normally controlled by the CCD continue to operate, and process vent emissions are controlled as specified in paragraphs (h)(2) and (3) of this section, must not exceed 240 hours in any 365-day period.

(6) While being controlled as specified in paragraphs (h)(2) and (3) of this section, the process vents may not be used in emissions averaging.

[63 FR 50326, Sept. 21, 1998, as amended at 65 FR 52600, Aug. 29, 2000; 66 FR 40131, Aug. 2, 2001]

#### § 63.1253 Standards: Storage tanks.

(a) Except as provided in paragraphs (d), (e), and (f) of this section, the owner or operator of a storage tank meeting the criteria of paragraph (a)(1) of this section is subject to the requirements of paragraph (b) of this section. Except as provided in paragraphs (d), (e), and (f) of this section, the owner or operator of a storage tank meeting the criteria of paragraph (a)(2) of this section is subject to the requirements of paragraph (c) of this section. Compliance with the provisions of paragraphs (b) and (c) of this section is demonstrated using the initial compliance procedures in § 63.1257(c) and the monitoring requirements in § 63.1258.

(1) A storage tank with a design capacity greater than or equal to  $38\text{ m}^3$  but less than  $75\text{ m}^3$  storing a liquid for which the maximum true vapor pressure of total HAP is greater than or equal to 13.1 kPa.

(2) A storage tank with a design capacity greater than or equal to  $75\text{ m}^3$  storing a liquid for which the maximum true vapor pressure of total HAP is greater than or equal to 13.1 kPa.

(b) The owner or operator of a storage tank shall equip the affected storage tank with either a fixed roof with internal floating roof, an external floating roof, an external floating roof converted to an internal floating roof, or a closed-vent system meeting the conditions of § 63.1252(b) with a control device that meets any of the following conditions:

(1) Reduces inlet emissions of total HAP by 90 percent by weight or greater;

(2) Reduces emissions to outlet concentrations less than or equal to 20 ppmv as TOC and less than or equal to 20 ppmv as hydrogen halides and halogens;

(3) Is an enclosed combustion device that provides a minimum residence time of 0.5 seconds at a minimum temperature of  $760\text{ }^{\circ}\text{C}$ ;

(4) Is a flare that meets the requirements of § 63.11(b); or

(5) Is a control device specified in § 63.1257(a)(4).

(c) The owner or operator of a storage tank shall equip the affected storage tank with either a fixed roof with internal floating roof, an external



floating roof, an external floating roof converted to an internal floating roof, or a closed-vent system meeting the conditions of § 63.1252(b) with a control device that meets any of the following conditions:

(1) Reduces inlet emissions of total HAP as specified in paragraph (c)(1) (i) or (ii) of this section:

(i) By 95 percent by weight or greater; or (ii) If the owner or operator can demonstrate that a control device installed on a storage tank on or before April 2, 1997 is designed to reduce inlet emissions of total HAP by greater than or equal to 90 percent by weight but less than 95 percent by weight, then the control device is required to be operated to reduce inlet emissions of total HAP by 90 percent or greater.

(2) Reduces emissions to outlet concentrations less than or equal to 20 ppmv as TOC and less than or equal to 20 ppmv as hydrogen halides and halogens;

(3) Is an enclosed combustion device that provides a minimum residence time of 0.5 seconds at a minimum temperature of 760 °C;

(4) Is a flare that meets the requirements of § 63.11(b); or

(5) Is a control device specified in § 63.1257(a)(4).

(d) As an alternative standard, the owner or operator of an existing or new affected source may comply with the storage tank standards by routing storage tank vents to a combustion control device achieving an outlet TOC concentration, as calibrated on methane or the predominant HAP, of 20 ppmv or less, and an outlet concentration of hydrogen halides and halogens of 20 ppmv or less. If the owner or operator is routing emissions to a noncombustion control device, it must achieve an outlet TOC concentration, as calibrated on methane or the predominant HAP, of 50 ppmv or less, and an outlet concentration of hydrogen halides and halogens of 50 ppmv or less. Compliance with the outlet concentrations shall be determined by the initial compliance procedures of § 63.1257(c)(4) and the continuous emission monitoring requirements of § 63.1258(b)(5).

(e) *Planned routine maintenance.* The specifications and requirements in paragraphs (b) through (d) of this sec-

tion for control devices do not apply during periods of planned routine maintenance. Periods of planned routine maintenance of the control devices (including CCCD subject to § 63.1252(h)), during which the control device does not meet the specifications of paragraphs (b) through (d) of this section, as applicable, shall not exceed 240 hours in any 365-day period. The owner or operator may submit an application to the Administrator requesting an extension of this time limit to a total of 360 hours in any 365-day period. The application must explain why the extension is needed, it must specify that no material will be added to the storage tank between the time the 240-hour limit is exceeded and the control device is again operational, and it must be submitted at least 60 days before the 240-hour limit will be exceeded.

(f) *Vapor balancing alternative.* As an alternative to the requirements in paragraphs (b) and (c) of this section, the owner or operator of an existing or new affected source may implement vapor balancing in accordance with paragraphs (f)(1) through (7) of this section.

(1) The vapor balancing system must be designed and operated to route organic HAP vapors displaced from loading of the storage tank to the railcar or tank truck from which the storage tank is filled.

(2) Tank trucks and railcars must have a current certification in accordance with the U.S. Department of Transportation (DOT) pressure test requirements of 49 CFR part 180 for tank trucks and 49 CFR 173.31 for railcars.

(3) Hazardous air pollutants must only be unloaded from tank trucks or railcars when vapor collection systems are connected to the storage tank's vapor collection system.

(4) No pressure relief device on the storage tank, or on the railcar, or tank truck shall open during loading or as a result of diurnal temperature changes (breathing losses).

(5) Pressure relief devices on affected storage tanks must be set to no less than 2.5 psig at all times to prevent breathing losses. The owner or operator shall record the setting as specified in § 63.1259(b)(12) and comply with

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the requirements for each pressure relief valve in paragraphs (f)(5)(i) through (iii) of this section:

(i) The pressure relief valve shall be monitored quarterly using the method described in § 63.180(b).

(ii) An instrument reading of 500 ppmv or greater defines a leak.

(iii) When a leak is detected, it shall be repaired as soon as practicable, but no later than 5 days after it is detected, and the owner or operator shall comply with the recordkeeping requirements of § 63.1255(g)(4)(i) through (iv).

(6) Railcars or tank trucks that deliver HAP to an affected storage tank must be reloaded or cleaned at a facility that utilizes one of the control techniques in paragraph (f)(6)(i) through (ii) of this section:

(i) The railcar or tank truck must be connected to a closed-vent system with a control device that reduces inlet emissions of HAP by 90 percent by weight or greater; or

(ii) A vapor balancing system designed and operated to collect organic HAP vapor displaced from the tank truck or railcar during reloading must be used to route the collected HAP vapor to the storage tank from which the liquid being transferred originated.

(7) The owner or operator of the facility where the railcar or tank truck is reloaded or cleaned must comply with the requirements in paragraph (f)(7)(i) through (iii) of this section:

(i) Submit to the owner or operator of the affected storage tank and to the Administrator a written certification that the reloading or cleaning facility will meet the requirements of this section. The certifying entity may revoke the written certification by sending a written statement to the owner or operator of the affected storage tank giving at least 90 days notice that the certifying entity is rescinding acceptance of responsibility for compliance with the requirements of this paragraph (b)(7).

(ii) If complying with paragraph (f)(6)(i) of this section, demonstrate initial compliance in accordance with § 63.1257(c), demonstrate continuous compliance in accordance with § 63.1258, keep records as specified in § 63.1259,

and prepare reports as specified in § 63.1260.

(iii) If complying with paragraph (f)(6)(ii) of this section, keep records of:

(A) The equipment to be used and the procedures to be followed when reloading the railcar or tank truck and displacing vapors to the storage tank from which the liquid originates, and

(B) Each time the vapor balancing system is used to comply with paragraph (f)(6)(ii) of this section.

[63 FR 50326, Sept. 21, 1998, as amended at 65 FR 52601, Aug. 29, 2000; 66 FR 40132, Aug. 2, 2001; 70 FR 25669, May 13, 2005]

§ 63.1254 Standards: Process vents.

(a) *Existing sources.* For each process, the owner or operator of an existing affected source must comply with the requirements in paragraphs (a)(1) and (3) of this section or paragraphs (a)(2) and (3) of this section. Initial compliance with the required emission limits or reductions in paragraphs (a)(1) through (3) of this section is demonstrated in accordance with the initial compliance procedures described in § 63.1257(d), and continuous compliance is demonstrated in accordance with the monitoring requirements described in § 63.1258.

(1) *Process-based emission reduction requirement.* (i) Uncontrolled HAP emissions from the sum of all process vents within a process that are not subject to the requirements of paragraph (a)(3) of this section shall be reduced by 93 percent or greater by weight, or as specified in paragraph (a)(1)(ii) of this section. Notification of changes in the compliance method shall be reported according to the procedures in § 63.1260(h).

(ii) Any one or more vents within a process may be controlled in accordance with any of the procedures in paragraphs (a)(1)(ii)(A) through (D) of this section. All other vents within the process must be controlled as specified in paragraph (a)(1)(i) of this section.

(A) To outlet concentrations less than or equal to 20 ppmv as TOC and less than or equal to 20 ppmv as hydrogen halides and halogens;

(B) By a flare that meets the requirements of § 63.11(b);

(C) By a control device specified in § 63.1257(a)(4); or

(D) In accordance with the alternative standard specified in paragraph (c) of this section.

(2) *Process-based annual mass limit.* (i) Actual HAP emissions from the sum of all process vents within a process must not exceed 900 kilograms (kg) in any 365-day period.

(ii) Actual HAP emissions from the sum of all process vents within processes complying with paragraph (a)(2)(i) of this section are limited to a maximum of 1,800 kg in any 365-day period.

(iii) Emissions from vents that are subject to the requirements of paragraph (a)(3) of this section and emissions from vents that are controlled in accordance with the procedures in paragraph (c) of this section may be excluded from the sums calculated in paragraphs (a)(2)(i) and (ii) of this section.

(iv) The owner or operator may switch from compliance with paragraph (a)(2) of this section to compliance with paragraph (a)(1) of this section only after at least 1 year of operation in compliance with paragraph (a)(2) of this section. Notification of such a change in the compliance method shall be reported according to the procedures in § 63.1260(h).

(3) *Individual vent emission reduction requirements.* (i) Except as provided in paragraph (a)(3)(ii) of this section, uncontrolled HAP emissions from a process vent must be reduced by 98 percent or in accordance with any of the procedures in paragraphs (a)(1)(ii)(A) through (D) of this section if the uncontrolled HAP emissions from the vent exceed 25 tons per year, and the flow-weighted average flowrate (FR<sub>a</sub>) calculated using Equation 1 of this subpart is less than or equal to the flowrate index (FRI) calculated using Equation 2 of this subpart.

$$FR_a = \frac{\sum_{i=1}^n (D_i)(FR_i)}{\sum_{i=1}^n (D_i)} \quad (\text{Eq. 1})$$

$$FRI = 0.02 * (HL) - 1,000 \quad (\text{Eq. 2})$$

Where:

FR<sub>a</sub> = flow-weighted average flowrate for the vent, scfm

D<sub>i</sub> = duration of each emission event, min

FR<sub>i</sub> = flowrate of each emission event, scfm

n = number of emission events

FRI = flowrate index, scfm

HL = annual uncontrolled HAP emissions, lb/yr, as defined in § 63.1251

(ii) *Grandfathering provisions.* As an alternative to the requirements in paragraph (a)(3)(i) of this section, the owner or operator may comply with the provisions in paragraph (a)(3)(ii)(A), (B), or (C) of this section, if applicable.

(A) *Control device operation.* If the owner or operator can demonstrate that a process vent is controlled by a control device meeting the criteria specified in paragraph (a)(3)(ii)(A)(1) of this section, then the control device is required to be operated according to paragraphs (a)(3)(ii)(A)(2), (3), and (4) of this section:

(1) The control device was installed on any process vent that met the conditions of paragraph (a)(3)(i) of this section on or before April 2, 1997, and was operated to reduce uncontrolled emissions of total HAP by greater than or equal to 93 percent by weight, but less than 98 percent by weight;

(2) The device must be operated to reduce inlet emissions of total HAP by 93 percent or by the percent reduction specified for that control device in any preconstruction permit issued pursuant to regulations approved or promulgated through rulemaking under title I (including parts C or D) of the Clean Air Act, whichever is greater;

(3) The device must be replaced or upgraded to achieve at least 98 percent reduction of HAP or meet any of the conditions specified in paragraphs (a)(1)(ii)(A) through (D) of this section upon reconstruction or replacement.

(4) The device must be replaced or upgraded to achieve at least 98 percent reduction of HAP or meet any of the conditions specified in paragraphs (a)(1)(ii)(A) through (D) of this section by April 2, 2007, or 15 years after issuance of the preconstruction permit, whichever is later.

(B) *Process operations.* If a process meets all of the conditions specified in paragraphs (a)(3)(ii)(B)(1) through (3) of this section, the required level of control for the process is the level that

was achieved on or before April 2, 1997. This level of control is demonstrated using the same procedures that are used to demonstrate compliance with paragraph (a)(1) of this section.

(1) At least one vent in the process met the conditions of paragraph (a)(3)(i) of this section on or before April 2, 1997; and

(2) The overall control for the process on or before April 2, 1997 was greater than or equal to 93 percent by weight, but less than 98 percent by weight; and

(3) The production-indexed HAP consumption factor for the 12-month period in which the process was operated prior to the compliance date is less than one-half of the 3-year average baseline value established no earlier than the 1987 through 1989 calendar years.

(C) *Hydrogenation vents.* Processes meeting the conditions of paragraphs (a)(3)(ii)(C)(1) through (3) of this section are required to be operated to maintain the level of control achieved on or before April 2, 1997. For all other processes meeting the conditions of paragraph (a)(3)(ii)(C)(3) of this section, uncontrolled HAP emissions from the sum of all process vents within the process must be reduced by 95 percent or greater by weight.

(1) Processes containing a process vent that met the conditions of paragraph (a)(3)(i) of this section on or before April 2, 1997; and

(2) Processes that are controlled to greater than or equal to 93 percent by weight, but less than 98 percent by weight; and

(3) Processes with a hydrogenation vent that, in conjunction with all other process vents from the process that do not meet the conditions of paragraph (a)(3)(i) of this section, cannot meet the requirements of paragraph (a)(1) or (2) of this section.

(4) *Planned routine maintenance.* For each PMPU that is controlled with a CCCD, the owner or operator must comply with the provisions specified in either paragraph (a)(4)(i), (ii), or (iii) of this section during periods of planned routine maintenance of the CCCD. The owner or operator is not required to comply with the same provision for all of the PMPU's controlled by the CCCD.

(i) Shutdown the affected process.

(ii) Comply with the requirements of paragraphs (a)(1) through (3) of this section by using other means.

(iii) For a non-dedicated PMPU, implement the procedures described in paragraphs (a)(4)(iii)(A) through (C) of this section for those process vents that are normally controlled by the CCCD. This option is not available for process vents from dedicated PMPU's.

(A) If the owner or operator uses a CCCD to comply with the 93 percent reduction requirement in paragraph (a)(1)(i) or (ii) of this section, the outlet concentration limit in paragraph (a)(1)(ii)(A) of this section, the alternative standard as specified in paragraphs (a)(1)(ii)(D) and (c) of this section, or the annual mass limit in paragraph (a)(2) of this section, implement the provisions in § 63.1252(h) during planned routine maintenance of the CCCD.

(B) If the owner or operator reduces HAP emissions from process vents by using a CCCD that is also a control device specified in § 63.1257(a)(4), implement the provisions in § 63.1252(h) during planned routine maintenance of the CCCD.

(C) If the owner or operator uses a CCCD to reduce emissions from a process vent subject to paragraph (a)(3) of this section, implement the planned routine maintenance provisions in § 63.1252(h) for that vent only if the reason the planned routine maintenance is needed, and the reason it cannot be performed at a time when the vent subject to paragraph (a)(3) of this section is not operating, has been described in the Notification of Compliance Status Report or a periodic report submitted before the planned routine maintenance event.

(b) *New sources.* (1) Except as provided in paragraph (b)(2) of this section, uncontrolled HAP emissions from the sum of all process vents within a process at a new affected source shall be reduced by 98 percent or greater by weight or controlled in accordance with any of requirements of paragraphs (a)(1)(ii)(A) through (D) of this section. Initial compliance with the required emission limit or reduction is demonstrated in accordance with the initial compliance procedures in § 63.1257(d), and continuous compliance

is demonstrated in accordance with the monitoring requirements described in § 63.1258.

(2) *Annual mass limit.* The actual HAP emissions from the sum of all process vents for which the owner or operator is not complying with paragraph (b)(1) of this section are limited to 900 kg in any 365-day period.

(c) *Alternative standard.* As an alternative standard, the owner or operator of an existing or new affected source may comply with the process vent standards by routing vents from a process to a combustion control device achieving an outlet TOC concentration, as calibrated on methane or the predominant HAP, of 20 ppmv or less, and an outlet concentration of hydrogen halides and halogens of 20 ppmv or less. If the owner or operator is routing emissions to a noncombustion control device, it must achieve an outlet TOC concentration, as calibrated on methane or the predominant HAP, of 50 ppmv or less, and an outlet concentration of hydrogen halides and halogens of 50 ppmv or less. Any process vents within a process that are not routed to this control device must be controlled in accordance with the provisions of paragraph (a) or (b) of this section, as applicable. Initial compliance with the outlet concentrations is demonstrated in accordance with the initial compliance procedures described in § 63.1257(d)(1)(iv), and continuous compliance is demonstrated in accordance with the emission monitoring requirements described in § 63.1258(b)(5).

[65 FR 52601, Aug. 29, 2000, as amended at 66 FR 40132, Aug. 2, 2001]

#### § 63.1255 Standards: Equipment leaks.

(a) *General Equipment Leak Requirements.* (1) The provisions of this section apply to pumps, compressors, agitators, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, connectors, instrumentation systems, control devices, and closed-vent systems required by this section that are intended to operate in organic hazardous air pollutant service 300 hours or more during the calendar year within a source subject to the provisions of this subpart.

(2) *Consistency with other regulations.* After the compliance date for a proc-

ess, equipment subject to both this section and either of the following will be required to comply only with the provisions of this subpart:

(i) 40 CFR part 60.

(ii) 40 CFR part 61.

(3) [Reserved]

(4) The provisions in § 63.1(a)(3) of subpart A of this part do not alter the provisions in paragraph (a)(2) of this section.

(5) Lines and equipment not containing process fluids are not subject to the provisions of this section. Utilities, and other nonprocess lines, such as heating and cooling systems which do not combine their materials with those in the processes they serve, are not considered to be part of a process.

(6) The provisions of this section do not apply to bench-scale processes, regardless of whether the processes are located at the same plant site as a process subject to the provisions of this subpart.

(7) Equipment to which this section applies shall be identified such that it can be distinguished readily from equipment that is not subject to this section. Identification of the equipment does not require physical tagging of the equipment. For example, the equipment may be identified on a plant site plan, in log entries, or by designation of process boundaries by some form of weatherproof identification. If changes are made to the affected source subject to the leak detection requirements, equipment identification for each type of component shall be updated, if needed, within 90 calendar days or by the next Periodic Report following the end of the monitoring period for that component, whichever is later.

(8) Equipment that is in vacuum service is excluded from the requirements of this section.

(9) Equipment that is in organic HAP service, but is in such service less than 300 hours per calendar year, is excluded from the requirements of this section if it is identified as required in paragraph (g)(9) of this section.

(10) When each leak is detected by visual, audible, or olfactory means, or by monitoring as described in § 63.180(b) or (c), the following requirements apply:

(i) A weatherproof and readily visible identification, marked with the equipment identification number, shall be attached to the leaking equipment.

(ii) The identification on a valve in light liquid or gas/vapor service may be removed after it has been monitored as specified in paragraph (e)(7)(iii) of this section, and no leak has been detected during the follow-up monitoring.

(iii) The identification on equipment, except on a valve in light liquid or gas/vapor service, may be removed after it has been repaired.

(11) Except as provided in paragraph (a)(11)(i) of this section, all terms in this subpart that define a period of time for completion of required tasks (e.g., weekly, monthly, quarterly, annual) refer to the standard calendar periods unless specified otherwise in the section or paragraph that imposes the requirement.

(i) If the initial compliance date does not coincide with the beginning of the standard calendar period, an owner or operator may elect to utilize a period beginning on the compliance date, or may elect to comply in accordance with the provisions of paragraph (a)(11)(ii) or (iii) of this section.

(ii) Time periods specified in this subpart for completion of required tasks may be changed by mutual agreement between the owner or operator and the Administrator, as specified in subpart A of this part. For each time period that is changed by agreement, the revised period shall remain in effect until it is changed. A new request is not necessary for each recurring period.

(iii) Except as provided in paragraph (a)(11)(i) or (ii) of this section, where the period specified for compliance is a standard calendar period, if the initial compliance date does not coincide with the beginning of the calendar period, compliance shall be required according to the schedule specified in paragraph (a)(11)(iii)(A) or (B) of this section, as appropriate.

(A) Compliance shall be required before the end of the standard calendar period within which the initial compliance date occurs if there remain at least 3 days for tasks that must be performed weekly, at least 2 weeks for tasks that must be performed monthly,

at least 1 month for tasks that must be performed each quarter, or at least 3 months for tasks that must be performed annually; or

(B) In all other cases, compliance shall be required before the end of the first full standard calendar period after the period within which the initial compliance date occurs.

(iv) In all instances where a provision of this subpart requires completion of a task during each of multiple successive periods, an owner or operator may perform the required task at any time during each period, provided the task is conducted at a reasonable interval after completion of the task during the previous period.

(12) In all cases where the provisions of this subpart require an owner or operator to repair leaks by a specified time after the leak is detected, it is a violation of this section to fail to take action to repair the leaks within the specified time. If action is taken to repair the leaks within the specified time, failure of that action to successfully repair the leak is not a violation of this section. However, if the repairs are unsuccessful, a leak is detected and the owner or operator shall take further action as required by applicable provisions of this section.

(b) *References.* (1) The owner or operator of a source subject to this section shall comply with the provisions of subpart H of this part, as specified in paragraphs (b)(2) through (4) of this section. The term "process unit" as used in subpart H of this part shall be considered to be defined the same as "group of processes" for sources subject to this subpart GGG. The term "fuel gas system," as used in subpart H of this part, shall not apply for the purposes of this subpart GGG.

(2) Sections 63.160, 63.161, 63.162, 63.163, 63.167, 63.168, 63.170, 63.173, 63.175, 63.176, 63.181, and 63.182 shall not apply for the purposes of this subpart GGG. The owner or operator shall comply with the provisions specified in paragraphs (b)(2)(i) through (viii) of this section.

(i) Sections 63.160 and 63.162 shall not apply; instead, the owner or operator shall comply with paragraph (a) of this section:

(ii) Section 63.161 shall not apply; instead, the owner or operator shall comply with § 63.1251;

(iii) Sections 63.163 and 63.173 shall not apply; instead, the owner or operator shall comply with paragraph (c) of this section;

(iv) Section 63.167 shall not apply; instead, the owner or operator shall comply with paragraph (d) of this section;

(v) Section 63.168 shall not apply; instead, the owner or operator shall comply with paragraph (e) of this section;

(vi) Section 63.170 shall not apply; instead, the owner or operator shall comply with § 63.1254;

(vii) Section 63.181 shall not apply; instead, the owner or operator shall comply with paragraph (g) of this section; and

(viii) Section 63.182 shall not apply; instead, the owner or operator shall comply with paragraph (h) of this section.

(3) The owner or operator shall comply with §§ 63.164, 63.165, 63.166, 63.169, 63.177, and 63.179 in their entirety, except that when these sections reference other sections of subpart H of this part, the references shall mean the sections specified in paragraphs (b)(2) and (4) of this section. Section 63.164 applies to compressors. Section 63.165 applies to pressure relief devices in gas/vapor service. Section 63.166 applies to sampling connection systems. Section 63.169 applies to pumps, valves, connectors, and agitators in heavy liquid service; instrumentation systems; and pressure relief devices in liquid service. Section 63.177 applies to general alternative means of emission limitation. Section 63.179 applies to alternative means of emission limitation for enclosed-vented process units.

(4) The owner or operator shall comply with §§ 63.171, 63.172, 63.174, 63.178, and 63.180, except as specified in paragraphs (b)(4)(i) through (vi) of this section.

(i) Section 63.171 shall apply, except § 63.171(a) shall not apply. Instead, delay of repair of equipment for which leaks have been detected is allowed if one of the conditions in paragraphs (b)(4)(i)(A) through (B) exists:

(A) The repair is technically infeasible without a process shutdown. Repair of this equipment shall occur by the

end of the next scheduled process shutdown.

(B) The owner or operator determines that repair personnel would be exposed to an immediate danger if attempting to repair without a process shutdown. Repair of this equipment shall occur by the end of the next scheduled process shutdown.

(ii) Section 63.172 shall apply for closed-vent systems used to comply with this section, and for control devices used to comply with this section only, except:

(A) Section 63.172(k) and (l) shall not apply. The owner or operator shall instead comply with paragraph (f) of this section.

(B) Owners or operators may, instead of complying with the provisions of § 63.172(f), design a closed-vent system to operate at a pressure below atmospheric pressure. The system shall be equipped with at least one pressure gage or other pressure measurement device that can be read from a readily accessible location to verify that negative pressure is being maintained in the closed-vent system when the associated control device is operating.

(C) The requirements apply at all times, except as specified in § 63.1250(g). The owner or operator may not comply with the planned routine maintenance provisions in § 63.1252(h).

(iii) Section 63.174 shall apply except:

(A) Section 63.174(f), (g), and (h) shall not apply. Instead of § 63.174(f), (g), and (h), the owner or operator shall comply with paragraph (f) of this section. Section 63.174(b)(3) shall not apply. Instead of § 63.174(b)(3), the owner or operator shall comply with paragraphs (b)(4)(iii)(B) through (F) of this section.

(B) If the percent leaking connectors in a group of processes was greater than or equal to 0.5 percent during the initial monitoring period, monitoring shall be performed once per year until the percent leaking connectors is less than 0.5 percent.

(C) If the percent leaking connectors in the group of processes was less than 0.5 percent, but equal to or greater than 0.25 percent, during the initial or last required monitoring period, the owner or operator may elect to monitor once every 4 years. An owner or

operator may comply with the requirements of this paragraph by monitoring at least 40 percent of the connectors in the first 2 years and the remainder of the connectors within the next 2 years. The percent leaking connectors will be calculated for the total of all required monitoring performed during the 4-year period.

(D) Except as provided in paragraph (b)(4)(iii)(B) of this section, if leaking connectors comprise at least 0.5 percent but less than 1.0 percent of the connectors during the last monitoring period, the owner or operator shall monitor at least once every 2 years for the next monitoring period. At the end of that 2-year monitoring period, if the percent leaking connectors is greater than or equal to 0.5 percent, the owner or operator shall monitor once per year until the percent leaking connectors is less than 0.5 percent. If, at the end of a monitoring period, the percent leaking connectors is less than 0.5 percent, the owner or operator shall monitor in accordance with paragraph (b)(4)(iii)(C) or (F) of this section, as appropriate.

(E) If an owner or operator determines that 1 percent or greater of the connectors in a group of processes are leaking, the owner or operator shall monitor the connectors once per year. The owner or operator may elect to use the provisions of paragraph (b)(4)(iii)(C), (D), or (F) of this section, as appropriate, after a monitoring period in which less than 1 percent of the connectors are determined to be leaking.

(F) The owner or operator may elect to perform monitoring once every 8 years if the percent leaking connectors in the group of processes was less than 0.25 percent during the initial or last required monitoring period. An owner or operator shall monitor at least 50 percent of the connectors in the first 4 years and the remainder of the connectors within the next 4 years. If the percent leaking connectors in the first 4 years is equal to or greater than 0.35 percent, the monitoring program shall revert at that time to the appropriate monitoring frequency specified in paragraph (b)(4)(iii)(C), (D), or (E) of this section.

(iv) Section 63.178 shall apply except:

(A) Section 63.178(b), requirements for pressure testing, may be applied to all processes (not just batch processes) and to supply lines between storage and processing areas.

(B) For pumps, the phrase "at the frequencies specified in Table 1 of this subpart" in § 63.178(c)(3)(iii) shall mean "quarterly" for the purposes of this subpart.

(v) Section 63.180 shall apply except § 63.180(b)(4)(ii)(A) through (C) shall not apply. Instead, calibration gases shall be a mixture of methane and air at a concentration of approximately, but less than, 10,000 parts per million methane for agitators; 2,000 parts per million for pumps; and 500 parts per million for all other equipment, except as provided in § 63.180(b)(4)(iii).

(vi) When §§ 63.171, 63.172, 63.174, 63.178, and 63.180 reference other sections in subpart H of this part, the references shall mean those sections specified in paragraphs (b)(2) and (b)(4)(i) through (v) of this section, as applicable.

(c) *Standards for Pumps in Light Liquid Service and Agitators in Gas/Vapor Service and in Light Liquid Service.* (1) The provisions of this section apply to each pump that is in light organic HAP liquid service, and to each agitator in organic HAP gas/vapor service or in light organic HAP liquid service.

(2)(i) *Monitoring.* Each pump and agitator subject to this section shall be monitored quarterly to detect leaks by the method specified in § 63.180(b) except as provided in §§ 63.177, 63.178, paragraph (f) of this section, and paragraphs (c)(5) through (9) of this section.

(ii) *Leak definition.* The instrument reading, as determined by the method as specified in § 63.180(b), that defines a leak is:

(A) For agitators, an instrument reading of 10,000 parts per million or greater.

(B) For pumps, an instrument reading of 2,000 parts per million or greater.

(iii) *Visual Inspections.* Each pump and agitator shall be checked by visual inspection each calendar week for indications of liquids dripping from the pump or agitator seal. If there are indications of liquids dripping from the pump or agitator seal at the time of



the weekly inspection, the owner or operator shall follow the procedure specified in either paragraph (c)(2)(iii)(A) or (B) of this section prior to the next weekly inspection.

(A) The owner or operator shall monitor the pump or agitator by the method specified in §63.180(b). If the instrument reading indicates a leak as specified in paragraph (c)(2)(ii) of this section, a leak is detected.

(B) The owner or operator shall eliminate the visual indications of liquids dripping.

(3) *Repair provisions.* (i) When a leak is detected pursuant to paragraph (c)(2)(i), (c)(2)(iii)(A), (c)(5)(iv)(A), or (c)(5)(vi)(B) of this section, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in paragraph (b)(4)(i) of this section.

(ii) A first attempt at repair shall be made no later than 5 calendar days after the leak is detected. First attempts at repair include, but are not limited to, the following practices where practicable:

(A) Tightening of packing gland nuts.

(B) Ensuring that the seal flush is operating at design pressure and temperature.

(4) *Calculation of percent leakers.* (i) The owner or operator shall decide no later than the end of the first monitoring period what groups of processes will be developed. Once the owner or operator has decided, all subsequent percent calculations shall be made on the same basis.

(ii) If, calculated on a 1-year rolling average, the greater of either 10 percent or three of the pumps in a group of processes leak, the owner or operator shall monitor each pump once per month, until the calculated 1-year rolling average value drops below 10 percent or three pumps, as applicable.

(iii) The number of pumps in a group of processes shall be the sum of all the pumps in organic HAP service, except that pumps found leaking in a continuous process within 1 quarter after startup of the pump shall not count in the percent leaking pumps calculation for that one monitoring period only.

(iv) Percent leaking pumps shall be determined by the following Equation 3:

$$\%P_L = [(P_L - P_S) / (P_T - P_S)] \times 100 \text{ (Eq. 3)}$$

Where:

$\%P_L$  = percent leaking pumps

$P_L$  = number of pumps found leaking as determined through periodic monitoring as required in paragraphs (c)(2)(i) and (ii) of this section.

$P_T$  = total pumps in organic HAP service, including those meeting the criteria in paragraphs (c)(5) and (6) of this section.

$P_S$  = number of pumps in a continuous process leaking within 1 quarter of startup during the current monitoring period.

(5) *Exemptions.* Each pump or agitator equipped with a dual mechanical seal system that includes a barrier fluid system is exempt from the requirements of paragraphs (c)(1) through (c)(4)(iii) of this section, provided the following requirements are met:

(i) Each dual mechanical seal system is:

(A) Operated with the barrier fluid at a pressure that is at all times greater than the pump/agitator stuffing box pressure; or

(B) Equipped with a barrier fluid degassing reservoir that is connected by a closed-vent system to a control device that complies with the requirements of paragraph (b)(4)(ii) of this section; or

(C) Equipped with a closed-loop system that purges the barrier fluid into a process stream.

(ii) The barrier fluid is not in light liquid service.

(iii) Each barrier fluid system is equipped with a sensor that will detect failure of the seal system, the barrier fluid system, or both.

(iv) Each pump/agitator is checked by visual inspection each calendar week for indications of liquids dripping from the pump/agitator seal. If there are indications of liquids dripping from the pump or agitator seal at the time of the weekly inspection, the owner or operator shall follow the procedures specified in either paragraph (c)(5)(iv)(A) or (B) of this section prior to the next required inspection.

(A) The owner or operator shall monitor the pump or agitator using the method specified in §63.180(b) to determine if there is a leak of organic HAP in the barrier fluid. If the instrument reading indicates a leak, as specified in

paragraph (c)(2)(ii) of this section, a leak is detected.

(B) The owner or operator shall eliminate the visual indications of liquids dripping.

(v) Each sensor as described in paragraph (c)(5)(iii) of this section is observed daily or is equipped with an alarm unless the pump is located within the boundary of an unmanned plant site.

(vi)(A) The owner or operator determines, based on design considerations and operating experience, criteria applicable to the presence and frequency of drips and to the sensor that indicate failure of the seal system, the barrier fluid system, or both.

(B) If indications of liquids dripping from the pump/agitator seal exceed the criteria established in paragraph (c)(5)(vi)(A) of this section, or if, based on the criteria established in paragraph (c)(5)(vi)(A) of this section, the sensor indicates failure of the seal system, the barrier fluid system, or both, a leak is detected.

(vii) When a leak is detected pursuant to paragraph (c)(5)(iv)(A) or (B) of this section, the leak must be repaired as specified in paragraph (c)(3) of this section.

(6) Any pump/agitator that is designed with no externally actuated shaft penetrating the pump/agitator housing is exempt from the requirements of paragraphs (c)(1) through (3) of this section.

(7) Any pump/agitator equipped with a closed-vent system capable of capturing and transporting any leakage from the seal or seals back to the process or to a control device that complies with the requirements of paragraph (b)(4)(ii) of this section is exempt from the requirements of paragraphs (c)(2) through (5) of this section.

(8) Any pump/agitator that is located within the boundary of an unmanned plant site is exempt from the weekly visual inspection requirement of paragraphs (c)(2)(iii) and (c)(5)(iv) of this section, and the daily requirements of paragraph (c)(5)(v) of this section, provided that each pump/agitator is visually inspected as often as practicable and at least monthly.

(9) If more than 90 percent of the pumps in a group of processes meet the

criteria in either paragraph (c)(5) or (6) of this section, the group of processes is exempt from the requirements of paragraph (c)(4) of this section.

(d) *Standards: Open-Ended Valves or Lines.* (1)(i) Each open-ended valve or line shall be equipped with a cap, blind flange, plug, or a second valve, except as provided in § 63.177 and paragraphs (d)(4) through (6) of this section.

(ii) The cap, blind flange, plug, or second valve shall seal the open end at all times except during operations requiring process fluid flow through the open-ended valve or line, or during maintenance or repair. The cap, blind flange, plug, or second valve shall be in place within 1 hour of cessation of operations requiring process fluid flow through the open-ended valve or line, or within 1 hour of cessation of maintenance or repair. The owner or operator is not required to keep a record documenting compliance with the 1-hour requirement.

(2) Each open-ended valve or line equipped with a second valve shall be operated in a manner such that the valve on the process fluid end is closed before the second valve is closed.

(3) When a double block and bleed system is being used, the bleed valve or line may remain open during operations that require venting the line between the block valves but shall comply with paragraph (d)(1) of this section at all other times.

(4) Open-ended valves or lines in an emergency shutdown system which are designed to open automatically in the event of a process upset are exempt from the requirements of paragraphs (d)(1) through (d)(3) of this section.

(5) Open-ended valves or lines containing materials which would autocatalytically polymerize are exempt from the requirements of paragraphs (d)(1) through (d)(3) of this section.

(6) Open-ended valves or lines containing materials which could cause an explosion, serious overpressure, or other safety hazard if capped or equipped with a double block and bleed system as specified in paragraphs (d)(1) through (d)(3) of this section are exempt from the requirements of paragraphs (d)(1) through (d)(3) of this section.

(e) *Standards: Valves in Gas/Vapor Service and in Light Liquid Service.* (1) The provisions of this section apply to valves that are either in gas organic HAP service or in light liquid organic HAP service.

(2) For existing and new affected sources, all valves subject to this section shall be monitored, except as provided in paragraph (f) of this section and in § 63.177, by no later than 1 year after the compliance date.

(3) *Monitoring.* The owner or operator of a source subject to this section shall monitor all valves, except as provided in paragraph (f) of this section and in § 63.177, at the intervals specified in paragraph (e)(4) of this section and shall comply with all other provisions of this section, except as provided in paragraph (b)(4)(i) of this section, §§ 63.178 and 63.179.

(i) The valves shall be monitored to detect leaks by the method specified in § 63.180(b).

(ii) An instrument reading of 500 parts per million or greater defines a leak.

(4) *Subsequent monitoring frequencies.* After conducting the initial survey required in paragraph (e)(2) of this section, the owner or operator shall monitor valves for leaks at the intervals specified below:

(i) For a group of processes with 2 percent or greater leaking valves, calculated according to paragraph (e)(6) of this section, the owner or operator shall monitor each valve once per month, except as specified in paragraph (e)(9) of this section.

(ii) For a group of processes with less than 2 percent leaking valves, the owner or operator shall monitor each valve once each quarter, except as provided in paragraphs (e)(4)(iii) through (e)(4)(v) of this section.

(iii) For a group of processes with less than 1 percent leaking valves, the owner or operator may elect to monitor each valve once every 2 quarters.

(iv) For a group of processes with less than 0.5 percent leaking valves, the owner or operator may elect to monitor each valve once every 4 quarters.

(v) For a group of processes with less than 0.25 percent leaking valves, the owner or operator may elect to monitor each valve once every 2 years.

(5) *Calculation of percent leakers.* For a group of processes to which this subpart applies, an owner or operator may choose to subdivide the valves in the applicable group of processes and apply the provisions of paragraph (e)(4) of this section to each subgroup. If the owner or operator elects to subdivide the valves in the applicable group of processes, then the provisions of paragraphs (e)(5)(i) through (e)(5)(viii) of this section apply.

(i) The overall performance of total valves in the applicable group of processes must be less than 2 percent leaking valves, as detected according to paragraphs (e)(3) (i) and (ii) of this section and as calculated according to paragraphs (e)(6) (ii) and (iii) of this section.

(ii) The initial assignment or subsequent reassignment of valves to subgroups shall be governed by the provisions of paragraphs (e)(5)(ii) (A) through (C) of this section.

(A) The owner or operator shall determine which valves are assigned to each subgroup. Valves with less than 1 year of monitoring data or valves not monitored within the last 12 months must be placed initially into the most frequently monitored subgroup until at least 1 year of monitoring data has been obtained.

(B) Any valve or group of valves can be reassigned from a less frequently monitored subgroup to a more frequently monitored subgroup provided that the valves to be reassigned were monitored during the most recent monitoring period for the less frequently monitored subgroup. The monitoring results must be included with the less frequently monitored subgroup's monitoring event and associated next percent leaking valves calculation for that group.

(C) Any valve or group of valves can be reassigned from a more frequently monitored subgroup to a less frequently monitored subgroup provided that the valves to be reassigned have not leaked for the period of the less frequently monitored subgroup (e.g., for the last 12 months, if the valve or group of valves is to be reassigned to a subgroup being monitored annually).

Nonrepairable valves may not be reassigned to a less frequently monitored subgroup.

(iii) The owner or operator shall determine every 6 months if the overall performance of total valves in the applicable group of processes is less than 2 percent leaking valves and so indicate the performance in the next periodic report. If the overall performance of total valves in the applicable group of processes is 2 percent leaking valves or greater, the owner or operator shall revert to the program required in paragraphs (e)(2) through (e)(4) of this section. The overall performance of total valves in the applicable group of processes shall be calculated as a weighted average of the percent leaking valves of each subgroup according to the following Equation 4:

$$\%V_{LO} = \frac{\sum_{i=1}^n (\%V_{Li} \times V_i)}{\sum_{i=1}^n V_i} \quad (\text{Eq. 4})$$

where:

$\%V_{LO}$  = overall performance of total valves in the applicable process or group of processes

$\%V_{Li}$  = percent leaking valves in subgroup i, most recent value calculated according to the procedures in paragraphs (e)(6)(ii) and (iii) of this section

$V_i$  = number of valves in subgroup i

(iv) *Records.* In addition to records required by paragraph (g) of this section, the owner or operator shall maintain records specified in paragraphs (e)(5)(iv)(A) through (D) of this section.

(A) Which valves are assigned to each subgroup.

(B) Monitoring results and calculations made for each subgroup for each monitoring period.

(C) Which valves are reassigned and when they were reassigned, and

(D) The results of the semiannual overall performance calculation required in paragraph (e)(5)(iii) of this section.

(v) The owner or operator shall notify the Administrator no later than 30 days prior to the beginning of the next monitoring period of the decision to subgroup valves. The notification shall identify the participating processes

and the valves assigned to each subgroup.

(vi) *Semiannual reports.* In addition to the information required by paragraph (h)(3) of this section, the owner or operator shall submit in the periodic reports the information specified in paragraphs (e)(5)(vi)(A) and (B) of this section.

(A) Valve reassignments occurring during the reporting period, and

(B) Results of the semiannual overall performance calculation required by paragraph (e)(5)(iii) of this section.

(vii) To determine the monitoring frequency for each subgroup, the calculation procedures of paragraph (e)(6)(iii) of this section shall be used.

(viii) Except for the overall performance calculations required by paragraphs (e)(5)(i) and (e)(5)(iii) of this section, each subgroup shall be treated as if it were a process for the purposes of applying the provisions of this section.

(6)(i) The owner or operator shall decide no later than the implementation date of this subpart or upon revision of an operating permit how to group the processes. Once the owner or operator has decided, all subsequent percentage calculations shall be made on the same basis.

(ii) Percent leaking valves for each group of processes or subgroup shall be determined by the following Equation 5:

$$\%V_L = [V_L/V_T] \times 100 \quad (\text{Eq. 5})$$

Where:

$\%V_L$  = percent leaking valves as determined through periodic monitoring required in paragraphs (e)(2) through (4) of this section.

$V_T$  = total valves monitored, in a monitoring period excluding valves monitored as required by (e)(7)(iii) of this section

(iii) When determining monitoring frequency for each group of processes or subgroup subject to monthly, quarterly, or semiannual monitoring frequencies, the percent leaking valves shall be the arithmetic average of the percent leaking valves from the last two monitoring periods. When determining monitoring frequency for each group of processes or subgroup subject to annual or biennial (once every 2 years) monitoring frequencies, the percent leaking valves shall be the arithmetic average of the percent leaking

valves from the last three monitoring periods.

(iv)(A) Nonrepairable valves shall be included in the calculation of percent leaking valves the first time the valve is identified as leaking and nonrepairable and as required to comply with paragraph (e)(6)(iv)(B) of this section. Otherwise, a number of nonrepairable valves (identified and included in the percent leaking calculation in a previous period) up to a maximum of 1 percent of the total number of valves in organic HAP service at a process may be excluded from calculation of percent leaking valves for subsequent monitoring periods.

(B) If the number of nonrepairable valves exceeds 1 percent of the total number of valves in organic HAP service at a process, the number of nonrepairable valves exceeding 1 percent of the total number of valves in organic HAP service shall be included in the calculation of percent leaking valves.

(7) *Repair provisions.* (i) When a leak is detected, it shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected, except as provided in paragraph (b)(4)(i) of this section.

(ii) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(iii) When a leak is repaired, the valve shall be monitored at least once within the first 3 months after its repair. Days that the valve is not in organic HAP service shall not be considered part of this 3 month period. The monitoring required by this paragraph is in addition to the monitoring required to satisfy the definitions of "repaired" and "first attempt at repair."

(A) The monitoring shall be conducted as specified in § 63.180(b) and (c) as appropriate to determine whether the valve has resumed leaking.

(B) Periodic monitoring required by paragraphs (e)(2) through (4) of this section may be used to satisfy the requirements of paragraph (e)(7)(iii) of this section, if the timing of the monitoring period coincides with the time specified in paragraph (e)(7)(iii) of this section. Alternatively, other monitoring may be performed to satisfy the requirements of paragraph (e)(7)(iii) of this section, regardless of whether the

timing of the monitoring period for periodic monitoring coincides with the time specified in paragraph (e)(7)(iii) of this section.

(C) If a leak is detected by monitoring that is conducted pursuant to paragraph (e)(7)(iii) of this section, the owner or operator shall follow the provisions of paragraphs (e)(7)(iii)(C)(1) and (2) of this section to determine whether that valve must be counted as a leaking valve for purposes of paragraph (e)(6) of this section.

(1) If the owner or operator elects to use periodic monitoring required by paragraphs (e)(2) through (4) of this section to satisfy the requirements of paragraph (e)(7)(iii) of this section, then the valve shall be counted as a leaking valve.

(2) If the owner or operator elects to use other monitoring prior to the periodic monitoring required by paragraphs (e)(2) through (4) of this section to satisfy the requirements of paragraph (e)(7)(iii) of this section, then the valve shall be counted as a leaking valve unless it is repaired and shown by periodic monitoring not to be leaking.

(8) First attempts at repair include, but are not limited to, the following practices where practicable:

- (i) Tightening of bonnet bolts,
- (ii) Replacement of bonnet bolts,
- (iii) Tightening of packing gland nuts, and
- (iv) Injection of lubricant into lubricated packing.

(9) Any equipment located at a plant site with fewer than 250 valves in organic HAP service in the affected source is exempt from the requirements for monthly monitoring specified in paragraph (e)(4)(i) of this section. Instead, the owner or operator shall monitor each valve in organic HAP service for leaks once each quarter, or comply with paragraph (e)(4)(iii), (iv), or (v) of this section, except as provided in paragraph (f) of this section.

(f) *Unsafe to monitor/inspect, difficult to monitor/inspect, and inaccessible equipment.* (1) Equipment that is designated as unsafe to monitor, unsafe to inspect, difficult to monitor, difficult to inspect, or inaccessible is exempt from

the monitoring requirements as specified in paragraphs (f)(1)(i) through (iv) of this section provided the owner or operator meets the requirements specified in paragraph (f)(2), (3), or (4) of this section, as applicable. All equipment must be assigned to a group of processes. Ceramic or ceramic-lined connectors are subject to the same requirements as inaccessible connectors.

(i) For pumps and agitators, paragraphs (c)(2), (3), and (4) of this section do not apply.

(ii) For valves, paragraphs (e)(2) through (7) of this section do not apply.

(iii) For connectors, § 63.174(b) through (e) and paragraphs (b)(4)(iii)(B) through (F) of this section do not apply.

(iv) For closed-vent systems, § 63.172(f)(1) and (2) and § 63.172(g) do not apply.

(2) *Equipment that is unsafe to monitor or unsafe to inspect.* (i) Valves, connectors, agitators, and pumps may be designated as unsafe to monitor if the owner or operator determines that monitoring personnel would be exposed to an immediate danger as a consequence of complying with the monitoring requirements referred to in paragraphs (f)(1)(i) through (iii) of this section.

(ii) Any part of a closed-vent system may be designated as unsafe to inspect if the owner or operator determines that monitoring personnel would be exposed to an immediate danger as a consequence of complying with the monitoring requirements referred to in paragraph (f)(1)(iv) of this section.

(iii) The owner or operator of equipment that is designated as unsafe to monitor must have a written plan that requires monitoring of the equipment as frequently as practicable during safe to monitor times, but not more frequently than the periodic monitoring schedule otherwise applicable to the group of processes in which the equipment is located.

(iv) For any parts of a closed-vent system designated as unsafe to inspect, the owner or operator must have a written plan that requires inspection of the closed-vent systems as frequently as practicable during safe to inspect times, but not more frequently than annually.

(3) *Equipment that is difficult to monitor or difficult to inspect.* (i) A valve, agitator, or pump may be designated as difficult to monitor if the owner or operator determines that the valve, agitator, or pump cannot be monitored without elevating the monitoring personnel more than 2 meters above a support surface, or it is not accessible in a safe manner when it is in organic HAP service.

(ii) Any part of a closed-vent system may be designated as difficult to inspect if the owner or operator determines that the equipment cannot be inspected without elevating the monitoring personnel more than 2 meters above a support surface, or it is not accessible in a safe manner when it is in organic HAP service.

(iii) At an existing source, any valve, agitator or pump within a group of processes that meets the criteria of paragraph (f)(3)(i) of this section may be designated as difficult to monitor, and any parts of a closed-vent system that meet the requirements of paragraph (f)(3)(ii) of this section may be designated as difficult to inspect. At a new affected source, an owner or operator may designate no more than 3 percent of valves as difficult to monitor.

(iv) The owner or operator of valves, agitators, or pumps designated as difficult to monitor must have a written plan that requires monitoring of the equipment at least once per calendar year or on the periodic monitoring schedule otherwise applicable to the group of processes in which the equipment is located, whichever is less frequent. For any part of a closed-vent system designated as difficult to inspect, the owner or operator must have a written plan that requires inspection of the closed-vent system at least once every 5 years.

(4) *Inaccessible, ceramic, or ceramic-lined connectors.* (i) A connector may be designated as inaccessible if it is:

(A) Buried;

(B) Insulated in a manner that prevents access to the connector by a monitor probe;

(C) Obstructed by equipment or piping that prevents access to the connector by a monitor probe;

(D) Unable to be reached from a wheeled scissor-lift or hydraulic-type

scaffold which would allow access to equipment up to 7.6 meters (25 feet) above the ground; or

(E) Not able to be accessed at any time in a safe manner to perform monitoring. Unsafe access includes, but is not limited to, the use of a wheeled scissor-lift on unstable or uneven terrain, the use of a motorized man-lift basket in areas where an ignition potential exists, or access would require near proximity to hazards such as electrical lines, or would risk damage to equipment.

(ii) A connector may be designated as inaccessible if it would require elevating the monitoring personnel more than 2 meters above a permanent support surface or would require the erection of scaffold.

(iii) At an existing source, any connector that meets the criteria of paragraph (f)(4)(i) or (ii) of this section may be designated as inaccessible. At a new affected source, an owner or operator may designate no more than 3 percent of connectors as inaccessible.

(iv) If any inaccessible, ceramic, or ceramic-lined connector is observed by visual, audible, olfactory, or other means to be leaking, the leak shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected, except as provided in paragraph (b)(4)(i) of this section.

(v) Any connector that is inaccessible or that is ceramic or ceramic-lined is exempt from the recordkeeping and reporting requirements of paragraphs (g) and (h) of this section.

(g) *Recordkeeping Requirements.* (1) An owner or operator of more than one group of processes subject to the provisions of this section may comply with the recordkeeping requirements for the groups of processes in one recordkeeping system if the system identifies with each record the program being implemented (e.g., quarterly monitoring) for each type of equipment. All records and information required by this section shall be maintained in a manner that can be readily accessed at the plant site. This could include physically locating the records at the plant site or accessing the records from a central location by computer at the plant site.

(2) *General recordkeeping.* Except as provided in paragraph (g)(5)(i) of this section and in paragraph (a)(9) of this section, the following information pertaining to all equipment subject to the requirements in this section shall be recorded:

(i)(A) A list of identification numbers for equipment (except connectors that are subject to paragraph (f)(4) of this section) subject to the requirements of this section. Except for equipment subject to the recordkeeping requirements in paragraphs (g)(2)(ii) through (viii) of this section, equipment need not be individually identified if, for a particular type of equipment, all items of that equipment in a designated area or length of pipe subject to the provisions of this section are identified as a group, and the number of subject items of equipment is indicated. The list for each type of equipment shall be completed no later than the completion of the initial survey required for that component. The list of identification numbers shall be updated, if needed, to incorporate equipment changes identified during the course of each monitoring period within 90 calendar days, or by the next Periodic Report, following the end of the monitoring period for the type of equipment component monitored, whichever is later.

(B) A schedule for monitoring connectors subject to the provisions of § 63.174(a) and valves subject to the provisions of paragraph (e)(4) of this section.

(C) Physical tagging of the equipment to indicate that it is in organic HAP service is not required. Equipment subject to the provisions of this section may be identified on a plant site plan, in log entries, or by other appropriate methods.

(ii)(A) A list of identification numbers for equipment that the owner or operator elects to equip with a closed-vent system and control device, under the provisions of paragraph (c)(7) of this section, § 63.164(h), or § 63.165(c).

(B) A list of identification numbers for compressors that the owner or operator elects to designate as operating with an instrument reading of less than 500 parts per million above background, under the provisions of § 63.164(i).

(iii)(A) A list of identification numbers for pressure relief devices subject to the provisions in § 63.165(a).

(B) A list of identification numbers for pressure relief devices equipped with rupture disks, under the provisions of § 63.165(d).

(iv) Identification of instrumentation systems subject to the provisions of this section. Individual components in an instrumentation system need not be identified.

(v) The following information shall be recorded for each dual mechanical seal system:

(A) Design criteria required by paragraph (c)(5)(vi)(A) of this section and § 63.164(e)(2), and an explanation of the design criteria; and

(B) Any changes to these criteria and the reasons for the changes.

(vi) A list of equipment designated as unsafe to monitor/inspect or difficult to monitor/inspect under paragraph (f) of this section and a copy of the plan for monitoring or inspecting this equipment.

(vii) A list of connectors removed from and added to the process, as described in § 63.174(i)(1), and documentation of the integrity of the weld for any removed connectors, as required in § 63.174(j). This is not required unless the net credits for removed connectors is expected to be used.

(viii) For equipment that the owner or operator elects to monitor as provided under § 63.178(c), a list of equipment added to batch product processes since the last monitoring period required in § 63.178(c)(3)(ii) and (iii). This list must be completed for each type of equipment within 90 calendar days, or by the next Periodic Report, following the end of the monitoring period for the type of equipment monitored, whichever is later. Also, if the owner or operator elects to adjust monitoring frequency by the time in use, as provided in § 63.178(c)(3)(iii), records demonstrating the proportion of the time during the calendar year the equipment is in use in a manner subject to the provisions of this section are required. Examples of suitable documentation are records of time in use for individual pieces of equipment or average time in use for the process unit.

(3) *Records of visual inspections.* For visual inspections of equipment subject to the provisions of paragraphs (c)(2)(iii) and (c)(5)(iv) of this section, the owner or operator shall document that the inspection was conducted and the date of the inspection. The owner or operator shall maintain records as specified in paragraph (g)(4) of this section for leaking equipment identified in this inspection, except as provided in paragraph (g)(5) of this section. These records shall be retained for 2 years.

(4) *Monitoring records.* When each leak is detected as specified in paragraph (c) of this section and § 63.164, paragraph (e) of this section and § 63.169, and §§ 63.172 and 63.174, the following information shall be recorded and kept for 5 years (at least 2 years onsite, with the remaining 3 years either onsite or off-site):

(i) The instrument and the equipment identification number and the operator name, initials, or identification number.

(ii) The date the leak was detected and the date of the first attempt to repair the leak.

(iii) The date of successful repair of the leak.

(iv) The maximum instrument reading measured by Method 21 of 40 CFR part 60, appendix A, after the leak is successfully repaired or determined to be nonrepairable.

(v) "Repair delayed" and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.

(A) The owner or operator may develop a written procedure that identifies the conditions that justify a delay of repair. The written procedures shall be included either as part of the start-up/shutdown/malfunction plan, required by § 63.1259(a)(3), or in a separate document that is maintained at the plant site. Reasons for delay of repair may be documented by citing the relevant sections of the written procedure.

(B) If delay of repair was caused by depletion of stocked parts, there must be documentation that the spare parts were sufficiently stocked onsite before depletion and the reason for depletion.



(vi) If repairs were delayed, dates of process shutdowns that occur while the equipment is unrepaired.

(vii)(A) If the alternative in § 63.174(c)(1)(ii) is not in use for the monitoring period, identification, either by list, location (area or grouping), or tagging of connectors disturbed since the last monitoring period required in § 63.174(b), as described in § 63.174(c)(1).

(B) The date and results of follow-up monitoring as required in § 63.174(c)(1)(i) and (c)(2)(ii). If identification of disturbed connectors is made by location, then all connectors within the designated location shall be monitored.

(viii) The date and results of the monitoring required in § 63.178(c)(3)(i) for equipment added to a batch process since the last monitoring period required in § 63.178(c)(3)(ii) and (iii). If no leaking equipment is found in this monitoring, the owner or operator shall record that the inspection was performed. Records of the actual monitoring results are not required.

(ix) Copies of the periodic reports as specified in paragraph (h)(3) of this section, if records are not maintained on a computerized data base capable of generating summary reports from the records.

(5) *Records of pressure tests.* The owner or operator who elects to pressure test a process equipment train or supply lines between storage and processing areas to demonstrate compliance with this section is exempt from the requirements of paragraphs (g)(2), (3), (4), and (6) of this section. Instead, the owner or operator shall maintain records of the following information:

(i) The identification of each product, or product code, produced during the calendar year. It is not necessary to identify individual items of equipment in the process equipment train.

(ii) Physical tagging of the equipment to identify that it is in organic HAP service and subject to the provisions of this section is not required. Equipment in a process subject to the provisions of this section may be identified on a plant site plan, in log entries, or by other appropriate methods.

(iii) The dates of each pressure test required in § 63.178(b), the test pressure,

and the pressure drop observed during the test.

(iv) Records of any visible, audible, or olfactory evidence of fluid loss.

(v) When a process equipment train does not pass two consecutive pressure tests, the following information shall be recorded in a log and kept for 2 years:

(A) The date of each pressure test and the date of each leak repair attempt.

(B) Repair methods applied in each attempt to repair the leak.

(C) The reason for the delay of repair.

(D) The expected date for delivery of the replacement equipment and the actual date of delivery of the replacement equipment.

(E) The date of successful repair.

(6) *Records of compressor and relief device compliance tests.* The dates and results of each compliance test required for compressors subject to the provisions in § 63.164(i) and the dates and results of the monitoring following a pressure release for each pressure relief device subject to the provisions in §§ 63.165(a) and (b). The results shall include:

(i) The background level measured during each compliance test.

(ii) The maximum instrument reading measured at each piece of equipment during each compliance test.

(7) *Records for closed-vent systems.* The owner or operator shall maintain records of the information specified in paragraphs (g)(7)(i) through (iii) of this section for closed-vent systems and control devices subject to the provisions of paragraph (b)(4)(ii) of this section. The records specified in paragraph (g)(7)(i) of this section shall be retained for the life of the equipment. The records specified in paragraphs (g)(7)(ii) and (g)(7)(iii) of this section shall be retained for 2 years.

(i) The design specifications and performance demonstrations specified in paragraphs (g)(7)(i)(A) through (g)(7)(i)(D) of this section.

(A) Detailed schematics, design specifications of the control device, and piping and instrumentation diagrams.

(B) The dates and descriptions of any changes in the design specifications.

(C) The flare design (i.e., steam assisted, air assisted, or nonassisted) and

the results of the compliance demonstration required by § 63.11(b).

(D) A description of the parameter or parameters monitored, as required in paragraph (b)(4)(ii) of this section, to ensure that control devices are operated and maintained in conformance with their design and an explanation of why that parameter (or parameters) was selected for the monitoring.

(ii) Records of operation of closed-vent systems and control devices.

(A) Dates and durations when the closed-vent systems and control devices required in paragraph (c) of this section and §§ 63.164 through 63.166 are not operated as designed as indicated by the monitored parameters, including periods when a flare pilot light system does not have a flame.

(B) Dates and durations during which the monitoring system or monitoring device is inoperative.

(C) Dates and durations of startups and shutdowns of control devices required in paragraph (c)(7) of this section and §§ 63.164 through 63.166.

(iii) Records of inspections of closed-vent systems subject to the provisions of § 63.172.

(A) For each inspection conducted in accordance with the provisions of § 63.172(f)(1) or (f)(2) during which no leaks were detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected.

(B) For each inspection conducted in accordance with the provisions of § 63.172(f)(1) or (f)(2) during which leaks were detected, the information specified in paragraph (g)(4) of this section shall be recorded.

(8) *Records for components in heavy liquid service.* Information, data, and analysis used to determine that a piece of equipment or process is in heavy liquid service shall be recorded. Such a determination shall include an analysis or demonstration that the process fluids do not meet the criteria of "in light liquid or gas service." Examples of information that could document this include, but are not limited to, records of chemicals purchased for the process, analyses of process stream composition, engineering calculations, or process knowledge.

(9) *Records of exempt components.* Identification, either by list, location (area or group) of equipment in organic HAP service less than 300 hours per year subject to the provisions of this section.

(10) *Records of alternative means of compliance determination.* Owners and operators choosing to comply with the requirements of § 63.179 shall maintain the following records:

(i) Identification of the process(es) and the organic HAP they handle.

(ii) A schematic of the process, enclosure, and closed-vent system.

(iii) A description of the system used to create a negative pressure in the enclosure to ensure that all emissions are routed to the control device.

(h) *Reporting Requirements.* (1) Each owner or operator of a source subject to this section shall submit the reports listed in paragraphs (h)(1)(i) through (ii) of this section.

(i) A Notification of Compliance Status Report described in paragraph (h)(2) of this section.

(ii) Periodic reports described in paragraph (h)(3) of this section.

(2) *Notification of compliance status report.* Each owner or operator of a source subject to this section shall submit the information specified in paragraphs (h)(2)(i) through (iii) of this section in the Notification of Compliance Status Report described in § 63.126(f).

(i) The notification shall provide the information listed in paragraphs (h)(2)(i)(A) through (C) of this section for each process subject to the requirements of paragraphs (b) through (g) of this section.

(A) Process group identification.

(B) Number of each equipment type (e.g., valves, pumps) in organic HAP service, excluding equipment in vacuum service.

(C) Method of compliance with the standard (for example, "monthly leak detection and repair" or "equipped with dual mechanical seals").

(ii) The notification shall provide the information listed in paragraphs (h)(2)(ii)(A) and (B) of this section for each process subject to the requirements of paragraph (b)(4)(iv) of this section and § 63.178(b).

(A) Products or product codes subject to the provisions of this section, and

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(B) Planned schedule for pressure testing when equipment is configured for production of products subject to the provisions of this section.

(iii) The notification shall provide the information listed in paragraphs (h)(2)(iii)(A) and (B) of this section for each process subject to the requirements in § 63.179.

(A) Process identification.

(B) A description of the system used to create a negative pressure in the enclosure and the control device used to comply with the requirements of paragraph (b)(4)(ii) of this section.

(iv) Section 63.9(j) shall not apply to the Notification of Compliance Status report described in this paragraph (h)(2).

(3) *Periodic reports.* The owner or operator of a source subject to this section shall submit Periodic Reports.

(i) A report containing the information in paragraphs (h)(3)(ii), (iii), and (iv) of this section shall be submitted semiannually. The first report shall be submitted no later than 240 days after the Notification of Compliance Status Report is due and shall cover the 6-month period beginning on the date the Notification of Compliance Status Report is due. Each subsequent report shall cover the 6-month period following the preceding period.

(ii) For equipment complying with the provisions of paragraphs (b) through (g) of this section, except paragraph (b)(4)(iv) of this section and § 63.179, the summary information listed in paragraphs (h)(3)(ii)(A) through (L) of this section for each monitoring period during the 6-month period.

(A) The number of valves for which leaks were detected as described in paragraph (e)(3) of this section, the percent leakers, and the total number of valves monitored;

(B) The number of valves for which leaks were not repaired as required in paragraph (e)(7) of this section, identifying the number of those that are determined nonrepairable;

(C) Separately, the number of pumps and agitators for which leaks were detected as described in paragraph (c)(2) of this section, the total number of pumps and agitators monitored, and, for pumps, the percent leakers;

(D) Separately, the number of pumps and agitators for which leaks were not repaired as required in paragraph (c)(3) of this section;

(E) The number of compressors for which leaks were detected as described in § 63.164(f);

(F) The number of compressors for which leaks were not repaired as required in § 63.164(g);

(G) The number of connectors for which leaks were detected as described in § 63.174(a), the percent of connectors leaking, and the total number of connectors monitored;

(H) The number of connectors for which leaks were not repaired as required in § 63.174(d), identifying the number of those that are determined nonrepairable;

(I) The facts that explain any delay of repairs and, where appropriate, why a process shutdown was technically infeasible.

(J) The results of all monitoring to show compliance with §§ 63.164(i), 63.165(a), and 63.172(f) conducted within the semiannual reporting period.

(K) If applicable, the initiation of a monthly monitoring program under either paragraph (c)(4)(ii) or paragraph (e)(4)(i) of this section.

(L) If applicable, notification of a change in connector monitoring alternatives as described in § 63.174(c)(1).

(iii) For owners or operators electing to meet the requirements of § 63.178(b), the report shall include the information listed in paragraphs (h)(3)(iii)(A) through (E) of this paragraph for each process.

(A) Product process equipment train identification;

(B) The number of pressure tests conducted;

(C) The number of pressure tests where the equipment train failed either the retest or two consecutive pressure tests;

(D) The facts that explain any delay of repairs; and

(E) The results of all monitoring to determine compliance with § 63.172(f) of subpart H.

(iv) Any revisions to items reported in earlier Notification of Compliance

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Status report, if the method of compliance has changed since the last report.

[63 FR 50326, Sept. 21, 1998, as amended at 65 FR 52603, Aug. 29, 2000; 66 FR 40132, Aug. 2, 2001]

## § 63.1256 Standards: Wastewater.

(a) *General.* Each owner or operator of any affected source (existing or new) shall comply with the general wastewater requirements in paragraphs (a)(1) through (3) of this section and the maintenance wastewater provisions in paragraph (a)(4) of this section. An owner or operator may transfer wastewater to a treatment operation not owned by the owner or operator in accordance with paragraph (a)(5) of this section.

(1) *Identify wastewater that requires control.* For each POD, the owner or operator shall comply with the requirements in either paragraph (a)(1)(i) or (ii) of this section to determine whether a wastewater stream is an affected wastewater stream that requires control for soluble and/or partially soluble HAP compounds or to designate the wastewater stream as an affected wastewater stream, respectively. The owner or operator may use a combination of the approaches in paragraphs (a)(1)(i) and (ii) of this section for different affected wastewater generated at the source.

(i) *Determine characteristics of a wastewater stream.* At new and existing sources, a wastewater stream is an affected wastewater stream if the annual average concentration and annual load exceed any of the criteria specified in paragraph (a)(1)(i)(A) through (C) of this section. At new sources, a wastewater stream is subject to additional control requirements if the annual average concentration and annual load exceed the criteria specified in paragraphs (a)(1)(i)(D) of this section. The owner or operator shall comply with the provisions of § 63.1257(e)(1) to determine the annual average concentrations and annual load of partially soluble and soluble HAP compounds.

(A) The wastewater stream contains partially soluble HAP compounds at an annual average concentration greater than 1,300 ppmw, and the total soluble and partially soluble HAP load in all

wastewater from the PMPU exceeds 0.25 Mg/yr.

(B) The wastewater stream contains partially soluble and/or soluble HAP compounds at an annual average concentration greater than 5,200 ppmw, and the total soluble and partially soluble HAP load in all wastewater from the PMPU exceeds 0.25 Mg/yr.

(C) The wastewater stream contains partially soluble and/or soluble HAP at an annual average concentration of greater than 10,000 ppmw, and the total partially soluble and/or soluble HAP load in all wastewater from the affected source is greater than 1 Mg/yr.

(D) The wastewater stream contains soluble HAP compounds at an annual average concentration greater than 110,000 ppmw, and the total soluble and partially soluble HAP load in all wastewater from the PMPU exceeds 1 Mg/yr.

(ii) *Designate wastewater as affected wastewater.* For existing sources, the owner or operator may elect to designate wastewater streams as meeting the criteria of either paragraphs (a)(1)(i)(A),(B), or (C) of this section. For new sources, the owner or operator may elect to designate wastewater streams meeting the criterion in paragraph (a)(1)(i)(D) or for wastewater known to contain no soluble HAP, as meeting the criterion in paragraph (a)(1)(i)(A) of this section. For designated wastewater the procedures specified in paragraphs (a)(1)(ii)(A) and (B) of this section shall be followed, except as specified in paragraphs (g)(8)(i), (g)(9)(i), and (g)(10) of this section. The owner or operator is not required to determine the annual average concentration or load for each designated wastewater stream for the purposes of this section.

(A) From the POD for the wastewater stream that is designated as an affected wastewater stream to the location where the owner or operator elects to designate such wastewater stream as an affected wastewater stream, the owner or operator shall comply with all applicable emission suppression requirements specified in paragraphs (b) through (f) of this section.

(B) From the location where the owner or operator designates a wastewater stream as an affected wastewater stream, such wastewater stream shall

be managed in accordance with all applicable emission suppression requirements specified in paragraphs (b) through (f) of this section and with the treatment requirements in paragraph (g) of this section.

(iii) *Scrubber Effluent*. Effluent from a water scrubber that has been used to control Table 2 HAP-containing vent streams that are controlled in order to meet the process vent requirements in § 63.1254 of this subpart is considered an affected wastewater stream.

(2) *Requirements for affected wastewater*. (i) An owner or operator of a facility shall comply with the applicable requirements for wastewater tanks, surface impoundments, containers, individual drain systems, and oil/water separators as specified in paragraphs (b) through (f) of this section, except as provided in paragraph (g)(3) of this section.

(ii) Comply with the applicable requirements for control of soluble and partially soluble compounds as specified in paragraph (g) of this section. Alternatively, the owner or operator may elect to comply with the treatment provisions specified in paragraph (a)(5) of this section.

(iii) Comply with the applicable monitoring and inspection requirements specified in § 63.1258.

(iv) Comply with the applicable recordkeeping and reporting requirements specified in §§ 63.1259 and 63.1260.

(3) *Requirements for multiphase discharges*. The owner or operator shall not discharge a separate phase that can be isolated through gravity separation from the aqueous phase to a waste management or treatment unit, unless the stream is discharged to a treatment unit in compliance with paragraph (g)(13) of this section.

(4) *Maintenance wastewater requirements*. Each owner or operator of a source subject to this subpart shall comply with the requirements of paragraphs (a)(4)(i) through (iv) of this section for maintenance wastewater containing partially soluble or soluble HAP listed in Tables 2 and 3 of this subpart. Maintenance wastewater is exempt from all other provisions of this subpart.

(i) The owner or operator shall prepare a description of maintenance pro-

cedures for management of wastewater generated from the emptying and purging of equipment in the process during temporary shutdowns for inspections, maintenance, and repair (i.e., a maintenance turnaround) and during periods which are not shutdowns (i.e., routine maintenance). The descriptions shall:

(A) Specify the process equipment or maintenance tasks that are anticipated to create wastewater during maintenance activities; and

(B) Specify the procedures that will be followed to properly manage the wastewater and minimize organic HAP emissions to the atmosphere; and

(C) Specify the procedures to be followed when clearing materials from process equipment.

(i) The owner or operator shall modify and update the information required by paragraph (a)(4)(i) of this section as needed following each maintenance procedure based on the actions taken and the wastewater generated in the preceding maintenance procedure.

(iii) The owner or operator shall incorporate the procedures described in paragraphs (a)(4)(i) and (ii) of this section as part of the startup, shutdown, and malfunction plan required under § 63.6(e)(3).

(iv) The owner or operator shall maintain a record of the information required by paragraphs (a)(4)(i) and (ii) of this section as part of the startup, shutdown, and malfunction plan required under § 63.6(e)(3).

(5) *Offsite treatment or onsite treatment not owned or operated by the source*. The owner or operator may elect to transfer affected wastewater streams or a residual removed from such affected wastewater to an onsite treatment operation not owned or operated by the owner or operator of the source generating the wastewater or residual, or to an offsite treatment operation.

(i) The owner or operator transferring the wastewater or residual shall:

(A) Comply with the provisions specified in paragraphs (b) through (f) of this section for each waste management unit that receives or manages affected wastewater or a residual removed from affected wastewater prior to shipment or transport.

(B) Include a notice with each shipment or transport of affected wastewater or residual removed from affected wastewater. The notice shall state that the affected wastewater or residual contains organic HAP that are to be treated in accordance with the provisions of this subpart. When the transport is continuous or ongoing (for example, discharge to a publicly-owned treatment works), the notice shall be submitted to the treatment operator initially and whenever there is a change in the required treatment. The owner or operator shall keep a record of the notice in accordance with § 63.1259(g).

(ii) The owner or operator may not transfer the affected wastewater or residual unless the transferee has submitted to the EPA a written certification that the transferee will manage and treat any affected wastewater or residual removed from affected wastewater received from a source subject to the requirements of this subpart in accordance with the requirements of either:

(A) Paragraphs (b) through (i) of this section; or

(B) Subpart D of this part if alternative emission limitations have been granted the transferor in accordance with those provisions; or

(C) Section 63.6(g); or

(D) If the affected wastewater streams or residuals removed from affected wastewater streams received by the transferee contain less than 50 ppmw of partially soluble HAP, then the transferee must, at a minimum, manage and treat the affected wastewater streams and residuals in accordance with one of the following:

(1) Comply with paragraph (g)(10) of this section and cover the waste management units up to the activated sludge unit; or

(2) Comply with paragraphs (g)(11)(i), (ii), and (h) of this section and cover the waste management units up to the activated sludge unit; or

(3) Comply with paragraph (g)(10) of this section provided that the owner or operator of the affected source demonstrates that less than 5 percent of the total soluble HAP is emitted from waste management units up to the activated sludge unit; or

(4) Comply with paragraphs (g)(11)(i), (ii), and (h) of this section provided that the owner or operator of the affected source demonstrates that less than 5 percent of the total soluble HAP is emitted from waste management units up to the activated sludge unit.

(iii) The certifying entity may revoke the written certification by sending a written statement to the EPA and the owner or operator giving at least 90 days notice that the certifying entity is rescinding acceptance of responsibility for compliance with the regulatory provisions listed in this paragraph. Upon expiration of the notice period, the owner or operator may not transfer the wastewater stream or residual to the treatment operation.

(iv) By providing this written certification to the EPA, the certifying entity accepts responsibility for compliance with the regulatory provisions listed in paragraph (a)(5)(ii) of this section with respect to any shipment of wastewater or residual covered by the written certification. Failure to abide by any of those provisions with respect to such shipments may result in enforcement action by the EPA against the certifying entity in accordance with the enforcement provisions applicable to violations of these provisions by owners or operators of sources.

(v) Written certifications and revocation statements, to the EPA from the transferees of wastewater or residuals shall be signed by the responsible official of the certifying entity, provide the name and address of the certifying entity, and be sent to the appropriate EPA Regional Office at the addresses listed in § 63.13. Such written certifications are not transferable by the treater.

(b) *Wastewater tanks.* For each wastewater tank that receives, manages, or treats affected wastewater or a residual removed from affected wastewater, the owner or operator shall comply with the requirements of either paragraph (b)(1) or (2) of this section as specified in Table 6 of this subpart.

(1) The owner or operator shall operate and maintain a fixed roof except when the contents of the wastewater tank are heated, treated by means of an exothermic reaction, or sparged.

during which time the owner or operator shall comply with the requirements specified in paragraph (b)(2) of this section. For the purposes of this paragraph, the requirements of paragraph (b)(2) of this section are satisfied by operating and maintaining a fixed roof if the owner or operator demonstrates that the total soluble and partially soluble HAP emissions from the wastewater tank are no more than 5 percent higher than the emissions would be if the contents of the wastewater tank were not heated, treated by an exothermic reaction, or sparged.

(2) The owner or operator shall comply with the requirements in paragraphs (b)(3) through (9) of this section and shall operate and maintain one of the emission control techniques listed in paragraphs (b)(2)(i) through (iii) of this section.

(i) A fixed roof and a closed-vent system that routes the organic HAP vapors vented from the wastewater tank to a control device; or

(ii) A fixed roof and an internal floating roof that meets the requirements specified in § 63.119(b), with the differences noted in § 63.1257(c)(3)(i) through (iii) for the purposes of this subpart; or

(iii) An external floating roof that meets the requirements specified in §§ 63.119(c), 63.120(b)(5), and 63.120(b)(6), with the differences noted in § 63.1257(c)(3)(i) through (v) for the purposes of this subpart.

(3) If the owner or operator elects to comply with the requirements of paragraph (b)(2)(i) of this section, the fixed roof shall meet the requirements of paragraph (b)(3)(i) of this section, the control device shall meet the requirements of paragraph (b)(3)(ii) of this section, and the closed-vent system shall meet the requirements of paragraph (b)(3)(iii) of this section.

(i) The fixed roof shall meet the following requirements:

(A) Except as provided in paragraph (b)(3)(iv) of this section, the fixed roof and all openings (e.g., access hatches, sampling ports, and gauge wells) shall be maintained in accordance with the requirements specified in § 63.1258(h).

(B) Each opening shall be maintained in a closed position (e.g., covered by a lid) at all times that the wastewater

tank contains affected wastewater or residual removed from affected wastewater except when it is necessary to use the opening for wastewater sampling, removal, or for equipment inspection, maintenance, or repair.

(ii) The control device shall be designed, operated, and inspected in accordance with the requirements of paragraph (h) of this section.

(iii) Except as provided in paragraph (b)(3)(iv) of this section, the closed-vent system shall be inspected in accordance with the requirements of § 63.1258(h).

(iv) For any fixed roof tank and closed-vent system that is operated and maintained under negative pressure, the owner or operator is not required to comply with the requirements specified in § 63.1258(h).

(4) If the owner or operator elects to comply with the requirements of paragraph (b)(2)(ii) of this section, the floating roof shall be inspected according to the procedures specified in § 63.120(a)(2) and (3), with the differences noted in § 63.1257(c)(3)(iv) for the purposes of this subpart.

(5) Except as provided in paragraph (b)(6) of this section, if the owner or operator elects to comply with the requirements of paragraph (b)(2)(iii) of this section, seal gaps shall be measured according to the procedures specified in § 63.120(b)(2)(i) through (b)(4) and the wastewater tank shall be inspected to determine compliance with § 63.120(b)(5) and (6) according to the schedule specified in § 63.120(b)(1)(i) through (iii).

(6) If the owner or operator determines that it is unsafe to perform the seal gap measurements specified in § 63.120(b)(2)(i) through (b)(4) or to inspect the wastewater tank to determine compliance with § 63.120(b)(5) and (6) because the floating roof appears to be structurally unsound and poses an imminent or potential danger to inspecting personnel, the owner or operator shall comply with the requirements in either paragraph (b)(6)(i) or (ii) of this section.

(i) The owner or operator shall measure the seal gaps or inspect the wastewater tank within 30 calendar days of the determination that the floating roof is unsafe.

(ii) The owner or operator shall empty and remove the wastewater tank from service within 45 calendar days of determining that the roof is unsafe. If the wastewater tank cannot be emptied within 45 calendar days, the owner or operator may utilize up to two extensions of up to 30 additional calendar days each. Documentation of a decision to utilize an extension shall include an explanation of why it was unsafe to perform the inspection or seal gap measurement, shall document that alternate storage capacity is unavailable, and shall specify a schedule of actions that will ensure that the wastewater tank will be emptied as soon as possible.

(7) Except as provided in paragraph (b)(6) of this section, each wastewater tank shall be inspected initially, and semiannually thereafter, for improper work practices in accordance with § 63.1258(g). For wastewater tanks, improper work practice includes, but is not limited to, leaving open any access door or other opening when such door or opening is not in use.

(8) Except as provided in paragraph (b)(6) of this section, each wastewater tank shall be inspected for control equipment failures as defined in paragraph (b)(8)(i) of this section according to the schedule in paragraphs (b)(8)(ii) and (iii) of this section in accordance with § 63.1258(g).

(i) Control equipment failures for wastewater tanks include, but are not limited to, the conditions specified in paragraphs (b)(8)(i)(A) through (I) of this section.

(A) The floating roof is not resting on either the surface of the liquid or on the leg supports.

(B) There is stored liquid on the floating roof.

(C) A rim seal is detached from the floating roof.

(D) There are holes, tears, cracks or gaps in the rim seal or seal fabric of the floating roof.

(E) There are visible gaps between the seal of an internal floating roof and the wall of the wastewater tank.

(F) There are gaps between the metallic shoe seal or the liquid mounted primary seal of an external floating roof and the wall of the wastewater tank that exceed 212 square centi-

meters per meter of tank diameter or the width of any portion of any gap between the primary seal and the tank wall exceeds 3.81 centimeters.

(G) There are gaps between the secondary seal of an external floating roof and the wall of the wastewater tank that exceed 21.2 square centimeters per meter of tank diameter or the width of any portion of any gap between the secondary seal and the tank wall exceeds 1.27 centimeters.

(H) Where a metallic shoe seal is used on an external floating roof, one end of the metallic shoe does not extend into the stored liquid or one end of the metallic shoe does not extend a minimum vertical distance of 61 centimeters above the surface of the stored liquid.

(i) A gasket, joint, lid, cover, or door has a crack or gap, or is broken.

(ii) The owner or operator shall inspect for the control equipment failures in paragraphs (b)(8)(i)(A) through (H) according to the schedule specified in paragraphs (b)(4) and (5) of this section.

(iii) The owner or operator shall inspect for the control equipment failures in paragraph (b)(8)(i)(I) of this section initially, and semiannually thereafter.

(iv) Periods of time when monitoring measurements exceed the parameter values as well as periods of inadequate monitoring data do not constitute a violation if they occur during a start-up, shutdown, or malfunction, and the facility operates in accordance with § 63.6(e)(1).

(9) Except as provided in paragraph (i) of this section, when an improper work practice or a control equipment failure is identified, first efforts at repair shall be made no later than 5 calendar days after identification and repair shall be completed within 45 calendar days after identification. If a failure that is detected during inspections required by this section cannot be repaired within 45 calendar days and if the tank cannot be emptied within 45 calendar days, the owner or operator may utilize up to two extensions of up to 30 additional calendar days each. Documentation of a decision to utilize an extension shall include a description



of the failure, shall document that alternate storage capacity is unavailable, and shall specify a schedule of actions that will ensure that the control equipment will be repaired or the tank will be emptied as soon as practical.

(10) The emission limits specified in § 63.1256 (b)(2) and (h) for control devices used to control emissions from wastewater tanks do not apply during periods of planned routine maintenance of the control device(s) of no more than 240 hours in any 365-day period. The owner or operator may submit an application to the Administrator requesting an extension of this time limit to a total of 360 hours in any 365-day period. The application must explain why the extension is needed, it must specify that no affected wastewater will be added to the tank between the time the 240-hour limit is exceeded and the control device is again operational, and it must be submitted at least 60 days before the 240-hour limit will be exceeded. Wastewater tanks shall not be sparged with air or other gases without an operational control device.

(c) *Surface impoundments.* For each surface impoundment that receives, manages, or treats affected wastewater or a residual removed from affected wastewater, the owner or operator shall comply with the requirements of paragraphs (c)(1), (2), and (3) of this section.

(1) The owner or operator shall operate and maintain on each surface impoundment either a cover (e.g., air-supported structure or rigid cover) and a closed-vent system that routes the organic hazardous air pollutants vapors vented from the surface impoundment to a control device in accordance with paragraphs (c)(1)(i), (iii), (iv), and (v) of this section, or a floating flexible membrane cover as specified in paragraph (c)(1)(ii) of this section.

(i) The cover and all openings shall meet the following requirements:

(A) Except as provided in paragraph (c)(1)(v) of this section, the cover and all openings (e.g., access hatches, sampling ports, and gauge wells) shall be maintained in accordance with the requirements specified in § 63.1258(h).

(B) Each opening shall be maintained in a closed position (e.g., covered by a

lid) at all times that affected wastewater or residual removed from affected wastewater is in the surface impoundment except when it is necessary to use the opening for sampling, removal, or for equipment inspection, maintenance, or repair.

(C) The cover shall be used at all times that affected wastewater or residual removed from affected wastewater is in the surface impoundment except during removal of treatment residuals in accordance with 40 CFR 268.4 or closure of the surface impoundment in accordance with 40 CFR 264.228.

(ii) Floating flexible membrane covers shall meet the requirements specified in paragraphs (c)(1)(ii)(A) through (F) of this section.

(A) The floating flexible cover shall be designed to float on the liquid surface during normal operations, and to form a continuous barrier over the entire surface area of the liquid.

(B) The cover shall be fabricated from a synthetic membrane material that is either:

(1) High density polyethylene (HDPE) with a thickness no less than 2.5 millimeters (100 mils); or

(2) A material or a composite of different materials determined to have both organic permeability properties that are equivalent to those of the material listed in paragraph (c)(1)(ii)(B)(1) of this section, and chemical and physical properties that maintain the material integrity for the intended service life of the material.

(C) The cover shall be installed in a manner such that there are no visible cracks, holes, gaps, or other open spaces between cover section seams or between the interface of the cover edge and its foundation mountings.

(D) Except as provided for in paragraph (c)(1)(ii)(E) of this section, each opening in the floating membrane cover shall be equipped with a closure device designed to operate such that when the closure device is secured in the closed position there are no visible cracks, holes, gaps, or other open spaces in the closure device or between the perimeter of the cover opening and the closure device.

(E) The floating membrane cover may be equipped with one or more emergency cover drains for removal of

stormwater. Each emergency cover drain shall be equipped with a slotted membrane fabric cover that covers at least 90 percent of the area of the opening or a flexible fabric sleeve seal.

(F) The closure devices shall be made of suitable materials that will minimize exposure of organic HAP to the atmosphere, to the extent practical, and will maintain the integrity of the equipment throughout its intended service life. Factors to be considered in designing the closure devices shall include: the effects of any contact with the liquid and its vapor managed in the surface impoundment; the effects of outdoor exposure to wind, moisture, and sunlight; and the operating practices used for the surface impoundment on which the floating membrane cover is installed.

(G) Whenever affected wastewater or residual from affected wastewater is in the surface impoundment, the floating membrane cover shall float on the liquid and each closure device shall be secured in the closed position. Opening of closure devices or removal of the cover is allowed to provide access to the surface impoundment for performing routine inspection, maintenance, or other activities needed for normal operations and/or to remove accumulated sludge or other residues from the bottom of surface impoundment. Openings shall be maintained in accordance with § 63.1258(h).

(iii) The control device shall be designed, operated, and inspected in accordance with paragraph (h) of this section.

(iv) Except as provided in paragraph (c)(1)(v) of this section, the closed-vent system shall be inspected in accordance with § 63.1258(h).

(v) For any cover and closed-vent system that is operated and maintained under negative pressure, the owner or operator is not required to comply with the requirements specified in § 63.1258(h).

(2) Each surface impoundment shall be inspected initially, and semiannually thereafter, for improper work practices and control equipment failures in accordance with § 63.1258(g).

(i) For surface impoundments, improper work practice includes, but is not limited to, leaving open any access

hatch or other opening when such hatch or opening is not in use.

(ii) For surface impoundments, control equipment failure includes, but is not limited to, any time a joint, lid, cover, or door has a crack or gap, or is broken.

(3) Except as provided in paragraph (i) of this section, when an improper work practice or a control equipment failure is identified, first efforts at repair shall be made no later than 5 calendar days after identification and repair shall be completed within 45 calendar days after identification.

(d) *Containers.* For each container that receives, manages, or treats affected wastewater or a residual removed from affected wastewater, the owner or operator shall comply with the requirements of paragraphs (d)(1) through (5) of this section.

(1) The owner or operator shall operate and maintain a cover on each container used to handle, transfer, or store affected wastewater or a residual removed from affected wastewater in accordance with the following requirements:

(i) Except as provided in paragraph (d)(3)(iv) of this section, if the capacity of the container is greater than 0.42 m<sup>3</sup>, the cover and all openings (e.g., bungs, hatches, sampling points, and pressure relief valves) shall be controlled in accordance with the requirements of either paragraph (d)(1)(i)(A) or (d)(1)(i)(B) of this section.

(A) The requirements specified in § 63.1258(h); or

(B) The requirements of subpart PP of this part for containers using level 2 controls that meet the definitions in § 63.923(b)(1) or (2).

(ii) If the capacity of the container is less than or equal to 0.42 m<sup>3</sup>, the owner or operator shall comply with either paragraph (d)(1)(ii)(A) or (B) of this section.

(A) The container must meet existing Department of Transportation specifications and testing requirements under 49 CFR part 178; or

(B) Except as provided in paragraph (d)(3)(iv) of this section, the cover and all openings shall be maintained without leaks as specified in § 63.1258(h).

(iii) The cover and all openings shall be maintained in a closed position

(e.g., covered by a lid) at all times that affected wastewater or a residual removed from affected wastewater is in the container except when it is necessary to use the opening for filling, removal, inspection, sampling, or pressure relief events related to safety considerations.

(2) *Filling of large containers.* Pumping affected wastewater or a residual removed from affected wastewater into a container with a capacity greater than or equal to 0.42 m<sup>3</sup> shall be conducted in accordance with the conditions in paragraphs (d)(2)(i) and (ii) of this section.

(i) Comply with any one of the procedures specified in paragraph (d)(2)(i)(A), (B), or (C) of this section.

(A) Use a submerged fill pipe. The submerged fill pipe outlet shall extend to no more than 6 inches or within two fill pipe diameters of the bottom of the container while the container is being filled.

(B) Locate the container within an enclosure with a closed-vent system that routes the organic HAP vapors vented from the container to a control device.

(C) Use a closed-vent system to vent the displaced organic vapors vented from the container to a control device or back to the equipment from which the wastewater is transferred.

(ii) The cover shall remain in place and all openings shall be maintained in a closed position except for those openings required for the submerged fill pipe and for venting of the container to prevent physical damage or permanent deformation of the container or cover.

(3) During treatment of affected wastewater or a residual removed from affected wastewater, including aeration, thermal or other treatment, in a container, whenever it is necessary for the container to be open, the container shall be located within an enclosure with a closed-vent system that routes the organic HAP vapors vented from the container to a control device.

(i) Except as provided in paragraph (d)(3)(iv) of this section, the enclosure and all openings (e.g., doors, hatches) shall be maintained in accordance with the requirements specified in § 63.1258(h).

(ii) The control device shall be designed, operated, and inspected in accordance with paragraph (h) of this section.

(iii) Except as provided in paragraph (d)(3)(iv) of this section, the closed-vent system shall be inspected in accordance with § 63.1258(h).

(iv) For any enclosure and closed-vent system that is operated and maintained under negative pressure, the owner or operator is not required to comply with the requirements specified in § 63.1258(h).

(4) Each container shall be inspected initially, and semiannually thereafter, for improper work practices and control equipment failures in accordance with § 63.1258(g).

(i) For containers, improper work practice includes, but is not limited to, leaving open any access hatch or other opening when such hatch or opening is not in use.

(ii) For containers, control equipment failure includes, but is not limited to, any time a cover or door has a gap or crack, or is broken.

(5) Except as provided in paragraph (i) of this section, when an improper work practice or a control equipment failure is identified, first efforts at repair shall be made no later than 5 calendar days after identification and repair shall be completed within 15 calendar days after identification.

(e) *Individual drain systems.* For each individual drain system that receives or manages affected wastewater or a residual removed from affected wastewater, the owner or operator shall comply with the requirements of paragraphs (e) (1), (2), and (3) or with paragraphs (e) (4), (5), and (6) of this section.

(1) If the owner or operator elects to comply with this paragraph, the owner or operator shall operate and maintain on each opening in the individual drain system a cover and if vented, route the vapors to a process or through a closed-vent system to a control device. The owner or operator shall comply with the requirements of paragraphs (e)(1)(i) through (v) of this section.

(i) The cover and all openings shall meet the following requirements:

(A) Except as provided in paragraph (e)(1)(iv) of this section, the cover and

all openings (e.g., access hatches, sampling ports) shall be maintained in accordance with the requirements specified in § 63.1258(h).

(B) The cover and all openings shall be maintained in a closed position at all times that affected wastewater or a residual removed from affected wastewater is in the drain system except when it is necessary to use the opening for sampling or removal, or for equipment inspection, maintenance, or repair.

(ii) The control device shall be designed, operated, and inspected in accordance with paragraph (h) of this section.

(iii) Except as provided in paragraph (e)(1)(iv) of this section, the closed-vent system shall be inspected in accordance with § 63.1258(h).

(iv) For any cover and closed-vent system that is operated and maintained under negative pressure, the owner or operator is not required to comply with the requirements specified in § 63.1258(h).

(v) The individual drain system shall be designed and operated to segregate the vapors within the system from other drain systems and the atmosphere.

(2) Each individual drain system shall be inspected initially, and semi-annually thereafter, for improper work practices and control equipment failures, in accordance with § 63.1258(g).

(i) For individual drain systems, improper work practice includes, but is not limited to, leaving open any access hatch or other opening when such hatch or opening is not in use for sampling or removal, or for equipment inspection, maintenance, or repair.

(ii) For individual drain systems, control equipment failure includes, but is not limited to, any time a joint, lid, cover, or door has a gap or crack, or is broken.

(3) Except as provided in paragraph (i) of this section, when an improper work practice or a control equipment failure is identified, first efforts at repair shall be made no later than 5 calendar days after identification and repair shall be completed within 15 calendar days after identification.

(4) If the owner or operator elects to comply with this paragraph, the owner

or operator shall comply with the requirements in paragraphs (e)(4) (i) through (iii) of this section:

(i) Each drain shall be equipped with water seal controls or a tightly fitting cap or plug. The owner or operator shall comply with paragraphs (e)(4)(i)(A) and (B) of this section.

(A) For each drain equipped with a water seal, the owner or operator shall ensure that the water seal is maintained. For example, a flow-monitoring device indicating positive flow from a main to a branch water line supplying a trap or water being continuously dripped into the trap by a hose could be used to verify flow of water to the trap. Visual observation is also an acceptable alternative.

(B) If a water seal is used on a drain receiving affected wastewater, the owner or operator shall either extend the pipe discharging the wastewater below the liquid surface in the water seal of the receiving drain, or install a flexible shield (or other enclosure which restricts wind motion across the open area between the pipe and the drain) that encloses the space between the pipe discharging the wastewater to the drain receiving the wastewater. (Water seals which are used on hubs receiving wastewater that is not subject to the provisions of this subpart for the purpose of eliminating cross ventilation to drains carrying affected wastewater are not required to have a flexible shield or extended subsurface discharging pipe.)

(ii) Each junction box shall be equipped with a tightly fitting solid cover (i.e., no visible gaps, cracks, or holes) which shall be kept in place at all times except during inspection and maintenance. If the junction box is vented, the owner or operator shall comply with the requirements in paragraph (e)(4)(ii) (A) or (B) of this section.

(A) The junction box shall be vented to a process or through a closed-vent system to a control device. The closed-vent system shall be inspected in accordance with the requirements of § 63.1258(h) and the control device shall be designed, operated, and inspected in accordance with the requirements of paragraph (h) of this section.

(B) If the junction box is filled and emptied by gravity flow (i.e., there is no pump) or is operated with no more than slight fluctuations in the liquid level, the owner or operator may vent the junction box to the atmosphere provided that the junction box complies with the requirements in paragraphs (e)(4)(ii)(B) (1) and (2) of this section.

(1) The vent pipe shall be at least 90 centimeters in length and no greater than 10.2 centimeters in nominal inside diameter.

(2) Water seals shall be installed and maintained at the wastewater entrance(s) to or exit from the junction box restricting ventilation in the individual drain system and between components in the individual drain system. The owner or operator shall demonstrate (e.g., by visual inspection or smoke test) upon request by the Administrator that the junction box water seal is properly designed and restricts ventilation.

(iii) The owner or operator shall operate and maintain sewer lines as specified in paragraphs (e)(4)(iii)(A) and (B) of this section.

(A) Except as specified in paragraph (e)(4)(iii)(B) of this section, each sewer line shall not be open to the atmosphere and shall be covered or enclosed in a manner so as to have no visible gaps or cracks in joints, seals, or other emission interfaces.

NOTE: This provision applies to sewers located inside and outside of buildings.

(B) A sewer line connected to drains that are in compliance with paragraph (e)(4)(i) of this section may be vented to the atmosphere, provided that the sewer line entrance to the first downstream junction box is water sealed and the sewer line vent pipe is designed as specified in paragraph (e)(4)(ii)(B)(1) of this section.

(5) Equipment used to comply with paragraphs (e)(4) (i), (ii), or (iii) of this section shall be inspected as follows:

(i) Each drain using a tightly fitting cap or plug shall be visually inspected initially, and semiannually thereafter, to ensure caps or plugs are in place and that there are no gaps, cracks, or other holes in the cap or plug.

(ii) Each junction box shall be visually inspected initially, and semi-

annually thereafter, to ensure that there are no gaps, cracks, or other holes in the cover.

(iii) The unburied portion of each sewer line shall be visually inspected initially, and semiannually thereafter, for indication of cracks or gaps that could result in air emissions.

(6) Except as provided in paragraph (i) of this section, when a gap, hole, or crack is identified in a joint or cover, first efforts at repair shall be made no later than 5 calendar days after identification, and repair shall be completed within 15 calendar days after identification.

(f) *Oil-water separators.* For each oil-water separator that receives, manages, or treats affected wastewater or a residual removed from affected wastewater, the owner or operator shall comply with the requirements of paragraphs (f)(1) through (6) of this section.

(1) The owner or operator shall maintain one of the following:

(i) A fixed roof and a closed-vent system that routes the organic HAP vapors vented from the oil-water separator to a control device. The fixed roof, closed-vent system, and control device shall meet the requirements specified in paragraph (f)(2) of this section;

(ii) A floating roof that meets the requirements in 40 CFR 60.693-2(a)(1)(i), (a)(1)(ii), (a)(2), (a)(3), and (a)(4). For portions of the oil-water separator where it is infeasible to construct and operate a floating roof, such as over the weir mechanism, the owner or operator shall operate and maintain a fixed roof, closed-vent system, and control device that meet the requirements specified in paragraph (f)(2) of this section.

(2) A fixed roof shall meet the requirements of paragraph (f)(2)(i) of this section, a control device shall meet the requirements of paragraph (f)(2)(ii) of this section, and a closed-vent system shall meet the requirements of (f)(2)(iii) of this section.

(i) The fixed roof shall meet the following requirements:

(A) Except as provided in (f)(2)(iv) of this section, the fixed roof and all openings (e.g., access hatches, sampling ports, and gauge wells) shall be

maintained in accordance with the requirements specified in § 63.1258(h).

(B) Each opening shall be maintained in a closed, sealed position (e.g., covered by a lid that is gasketed and latched) at all times that the oil-water separator contains affected wastewater or a residual removed from affected wastewater except when it is necessary to use the opening for sampling or removal, or for equipment inspection, maintenance, or repair.

(ii) The control device shall be designed, operated, and inspected in accordance with the requirements of paragraph (h) of this section.

(iii) Except as provided in paragraph (f)(2)(iv) of this section, the closed-vent system shall be inspected in accordance with the requirements of § 63.1258(h).

(iv) For any fixed-roof and closed-vent system that is operated and maintained under negative pressure, the owner or operator is not required to comply with the requirements of § 63.1258(h).

(3) If the owner or operator elects to comply with the requirements of paragraph (f)(1)(ii) of this section, seal gaps shall be measured according to the procedures specified in 40 CFR part 60, subpart QQQ § 60.696(d)(1) and the schedule specified in paragraphs (f)(3)(i) and (ii) of this section.

(i) Measurement of primary seal gaps shall be performed within 60 calendar days after installation of the floating roof and introduction of affected wastewater or a residual removed from affected wastewater and once every 5 years thereafter.

(ii) Measurement of secondary seal gaps shall be performed within 60 calendar days after installation of the floating roof and introduction of affected wastewater or a residual removed from affected wastewater and once every year thereafter.

(4) Each oil-water separator shall be inspected initially, and semiannually thereafter, for improper work practices in accordance with § 63.1258(g). For oil-water separators, improper work practice includes, but is not limited to, leaving open or ungasketed any access door or other opening when such door or opening is not in use.

(5) Each oil-water separator shall be inspected for control equipment failures as defined in paragraph (f)(5)(i) of this section according to the schedule specified in paragraphs (f)(5)(ii) and (iii) of this section.

(i) For oil-water separators, control equipment failure includes, but is not limited to, the conditions specified in paragraphs (f)(5)(i)(A) through (G) of this section.

(A) The floating roof is not resting on either the surface of the liquid or on the leg supports.

(B) There is stored liquid on the floating roof.

(C) A rim seal is detached from the floating roof.

(D) There are holes, tears, or other open spaces in the rim seal or seal fabric of the floating roof.

(E) There are gaps between the primary seal and the separator wall that exceed 67 square centimeters per meter of separator wall perimeter or the width of any portion of any gap between the primary seal and the separator wall exceeds 3.8 centimeters.

(F) There are gaps between the secondary seal and the separator wall that exceed 6.7 square centimeters per meter of separator wall perimeter or the width of any portion of any gap between the secondary seal and the separator wall exceeds 1.3 centimeters.

(G) A gasket, joint, lid, cover, or door has a gap or crack, or is broken.

(ii) The owner or operator shall inspect for the control equipment failures in paragraphs (f)(5)(i)(A) through (F) according to the schedule specified in paragraph (f)(3) of this section.

(iii) The owner or operator shall inspect for control equipment failures in paragraph (f)(5)(i)(G) of this section initially, and semiannually thereafter.

(6) Except as provided in paragraph (i) of this section, when an improper work practice or a control equipment failure is identified, first efforts at repair shall be made no later than 5 calendar days after identification and repair shall be completed within 45 calendar days after identification.

(g) *Performance standards for treatment processes managing wastewater and/or residuals removed from wastewater.* This section specifies the performance

standards for treating affected wastewater. The owner or operator shall comply with the requirements as specified in paragraphs (g)(1) through (6) of this section. Where multiple compliance options are provided, the options may be used in combination for different wastewater and/or for different compounds (e.g., soluble versus partially soluble compounds) in the same wastewater, except where otherwise provided in this section. Once affected wastewater or a residual removed from affected wastewater has been treated in accordance with this subpart, it is no longer subject to the requirements of this subpart.

(1) *Existing source.* For a wastewater stream at an existing source that exceeds or is designated to exceed the concentration and load criteria in paragraph (a)(1)(i)(A) of this section, the owner or operator shall comply with a control option in paragraph (g)(8) of this section. For a wastewater stream at an existing source that exceeds the concentration and load criteria in either paragraph (a)(1)(i)(B) or (C) of this section, the owner or operator shall comply with a control option in paragraph (g)(8) of this section and a control option in paragraph (g)(9) of this section. As an alternative to the control options in paragraphs (g)(8) and (g)(9) of this section, the owner or operator may comply with a control option in either paragraph (g)(10), (11) or (13) of this section, as applicable.

(2) *New source.* For a wastewater stream at a new source that exceeds or is designated to exceed the concentration and load criteria in paragraph (a)(1)(i)(A) of this section, the owner or operator shall comply with a control option in paragraph (g)(8) of this section. For wastewater at a new source that exceeds the concentration and load criteria in either paragraph (a)(1)(i)(B) or (C) of this section, but does not exceed the criteria in paragraph (a)(1)(i)(D) of this section, the owner or operator shall comply with a control option in paragraph (g)(8) of this section and a control option in paragraph (g)(9) of this section. As an alternative to the control options in paragraphs (g)(8) and/or (9) of this section, the owner or operator may comply with a control option in either

paragraph (g)(10), (11), or (13) of this section, as applicable. For a wastewater stream at a new source that exceeds or is designated to exceed the concentration and load criteria in paragraph (a)(1)(i)(D) of this section, the owner or operator shall comply with a control option in paragraph (g)(12) or (13) of this section.

(3) *Biological treatment processes.* Biological treatment processes in compliance with this section may be either open or closed biological treatment processes as defined in § 63.1251. An open biological treatment process in compliance with this section need not be covered and vented to a control device. An open or a closed biological treatment process in compliance with this section and using § 63.1257(e)(2)(iii)(E) or (F) to demonstrate compliance is not subject to the requirements of paragraphs (b) and (c) of this section. A closed biological treatment process in compliance with this section and using § 63.1257(e)(2)(iii)(G) to demonstrate compliance shall comply with the requirements of paragraphs (b) and (c) of this section. Waste management units upstream of an open or closed biological treatment process shall meet the requirements of paragraphs (b) through (f) of this section, as applicable.

(4) *Performance tests and design evaluations.* If the Resource Conservation and Recovery Act (RCRA) option [paragraph (g)(13) of this section] or the enhanced biological treatment process for soluble HAP compounds option [paragraph (g)(10) of this section] is selected to comply with this section, neither a design evaluation nor a performance test is required. For any other nonbiological treatment process, and for closed biological treatment processes as defined in § 63.1251, the owner or operator shall conduct either a design evaluation as specified in § 63.1257(e)(2)(ii) or performance test as specified in § 63.1257(e)(2)(iii). For each open biological treatment process as defined in § 63.1251, the owner or operator shall conduct a performance test as specified in § 63.1257(e)(2)(iii)(E) or (F).

(5) *Control device requirements.* When gases are vented from the treatment process, the owner or operator shall

comply with the applicable control device requirements specified in paragraph (h) of this section and § 63.1257(e)(3), and the applicable leak inspection provisions specified in § 63.1258(h). This requirement is in addition to the requirements for treatment systems specified in paragraphs (g)(8) through (14) of this section. This requirement does not apply to any open biological treatment process that meets the mass removal requirements.

(6) *Residuals: general.* When residuals result from treating affected wastewater, the owner or operator shall comply with the requirements for residuals specified in paragraph (g)(14) of this section.

(7) *Treatment using a series of treatment processes.* In all cases where the wastewater provisions in this subpart allow or require the use of a treatment process or control device to comply with emissions limitations, the owner or operator may use multiple treatment processes or control devices, respectively. For combinations of treatment processes where the wastewater stream is conveyed by hard-piping, the owner or operator shall comply with either the requirements of paragraph (g)(7)(i) or (ii) of this section. For combinations of treatment processes where the wastewater stream is not conveyed by hard-piping, the owner or operator shall comply with the requirements of paragraph (g)(7)(ii) of this section. For combinations of control devices, the owner or operator shall comply with the requirements of paragraph (g)(7)(i) of this section.

(i) *Compliance across the combination of all treatment units or control devices in series.* (A) For combinations of treatment processes, the wastewater stream shall be conveyed by hard-piping between the treatment processes. For combinations of control devices, the vented gas stream shall be conveyed by hard-piping between the control devices.

(B) For combinations of treatment processes, each treatment process shall meet the applicable requirements of paragraphs (b) through (f) of this section, except as provided in paragraph (g)(3) of this section.

(C) The owner or operator shall identify, and keep a record of, the combina-

tion of treatment processes or of control devices, including identification of the first and last treatment process or control device. The owner or operator shall include this information as part of the treatment process description reported in the Notification of Compliance Status.

(D) The performance test or design evaluation shall determine compliance across the combination of treatment processes or control devices. If a performance test is conducted, the "inlet" shall be the point at which the wastewater stream or residual enters the first treatment process, or the vented gas stream enters the first control device. The "outlet" shall be the point at which the treated wastewater stream exits the last treatment process, or the vented gas stream exits the last control device.

(ii) *Compliance across individual units.* (A) For combinations of treatment processes, each treatment process shall meet the applicable requirements of paragraphs (b) through (f) of this section except as provided in paragraph (g)(3) of this section.

(B) The owner or operator shall identify, and keep a record of, the combination of treatment processes, including identification of the first and last treatment process. The owner or operator shall include this information as part of the treatment process description reported in the Notification of Compliance Status report.

(C) The owner or operator shall determine the mass removed or destroyed by each treatment process. The performance test or design evaluation shall determine compliance for the combination of treatment processes by adding together the mass removed or destroyed by each treatment process and determine the overall control efficiency of the treatment system.

(8) *Control options: Wastewater containing partially soluble HAP compounds.* The owner or operator shall comply with either paragraph (g)(8)(i) or (ii) of this section for the control of partially soluble HAP compounds at new or existing sources.

(i) *50 ppmw concentration option.* The owner or operator shall comply with paragraphs (g)(8)(i)(A) and (B) of this section.



(A) Reduce, by removal or destruction, the concentration of total partially soluble HAP compounds to a level less than 50 ppmw as determined by the procedures specified in § 63.1257(e)(2)(iii)(B).

(B) This option shall not be used when the treatment process is a biological treatment process. This option shall not be used when the wastewater is designated as an affected wastewater as specified in paragraph (a)(1)(ii) of this section. Dilution shall not be used to achieve compliance with this option.

(ii) *Percent mass removal/destruction option.* The owner or operator shall reduce, by removal or destruction, the mass of total partially soluble HAP compounds by 99 percent or more. The removal destruction efficiency shall be determined by the procedures specified in § 63.1257(e)(2)(ii) or (iii)(C) for non-combustion, nonbiological treatment processes; § 63.1257(e)(2)(ii) or (iii)(D) for combustion processes; § 63.1257(e)(2)(iii)(F) for open biological treatment processes; and § 63.1257(e)(2)(ii) or (iii)(G) for closed biological treatment processes.

(9) *Control options: Wastewater containing soluble HAP compounds.* The owner or operator shall comply with either paragraph (g)(9)(i) or (ii) of this section for the control of soluble HAP compounds at new or existing sources.

(i) *520 ppmw concentration option.* The owner or operator shall comply with paragraphs (g)(9)(i)(A) and (B) of this section.

(A) Reduce, by removal or destruction, the concentration of total soluble HAP compounds to a level less than 520 ppmw as determined in the procedures specified in § 63.1257(e)(2)(iii)(B).

(B) This option shall not be used when the treatment process is a biological treatment process. This option shall not be used when the wastewater is designated as an affected wastewater as specified in paragraph (a)(1)(ii) of this section. Dilution shall not be used to achieve compliance with this option.

(ii) *Percent mass removal/destruction option.* The owner or operator shall reduce the mass of total soluble HAP by 90 percent or more, either by removal or destruction. The removal/destruction efficiency shall be determined by the procedures in § 63.1257(e)(2)(ii) or

(e)(2)(iii)(C) for noncombustion, non-biological treatment processes; § 63.1257(e)(2)(ii) or (e)(2)(iii)(D) for combustion processes; § 63.1257(e)(2)(iii)(F) for open biological treatment processes; and § 63.1257(e)(2)(ii) or (e)(2)(iii)(G) for closed, biological treatment processes.

(10) *Control option: Enhanced biotreatment for wastewater containing soluble HAP.* The owner or operator may elect to treat affected wastewater streams containing soluble HAP in an enhanced biological treatment system, as defined in § 63.1251, provided the wastewater stream contains less than 50 ppmw partially soluble HAP, or the owner or operator complies with the requirements of paragraph (g)(8) of this section before treating the affected wastewater stream in the enhanced biological treatment system. This option shall not be used when the wastewater is designated as an affected wastewater as specified in paragraph (a)(1)(ii) of this section. These treatment processes are exempt from the design evaluation or performance tests requirements specified in paragraph (g)(4) of this section.

(11) *95-percent mass reduction option, for biological treatment processes.* The owner or operator of a new or existing source using biological treatment for any affected wastewater shall reduce the mass of total soluble and partially soluble HAP sent to that biological treatment unit by at least 95 percent. All wastewater as defined in § 63.1251 entering such a biological treatment unit from PMPU's subject to this subpart shall be included in the demonstration of the 95-percent mass removal. The owner or operator shall comply with paragraphs (g)(11)(i) through (iv) of this section.

(i) Except as provided in paragraph (g)(11)(iv) of this section, the owner or operator shall ensure that all wastewater from PMPU's subject to this subpart entering a biological treatment unit are treated to destroy at least 95-percent total mass of all soluble and partially soluble HAP compounds.

(ii) For open biological treatment processes, compliance shall be determined using the procedures specified in § 63.1257(e)(2)(iii)(E). For closed aerobic

biological treatment processes, compliance shall be determined using the procedures specified in § 63.1257(e)(2)(ii), (iii)(E), or (iii)(G). For closed anaerobic biological treatment processes, compliance shall be determined using the procedures specified in § 63.1257(e)(2)(ii) or (iii)(G).

(iii) For each treatment process or waste management unit that receives, manages, or treats wastewater subject to this paragraph, from the POD to the biological treatment unit, the owner or operator shall comply with paragraphs (b) through (f) of this section for control of air emissions. When complying with this paragraph, the term affected wastewater in paragraphs (b) through (f) of this section shall mean all wastewater from PMPU's, not just affected wastewater.

(iv) If wastewater is in compliance with the requirements in paragraph (g)(8), (9), or (12) of this section before entering the biological treatment unit, the hazardous air pollutants mass of that wastewater is not required to be included in the total mass flow rate entering the biological treatment unit for the purpose of demonstrating compliance.

(12) *Percent mass removal/destruction option for soluble HAP compounds at new sources.* The owner or operator of a new source shall reduce, by removal or destruction, the mass flow rate of total soluble HAP from affected wastewater by 99 percent or more. The removal/destruction efficiency shall be determined by the procedures in § 63.1257(e)(2)(ii) or (iii)(C) for non-combustion, nonbiological treatment processes; § 63.1257(e)(2)(ii) and (iii)(D) for combustion processes; § 63.1257(e)(2)(iii)(F) for open biological treatment processes; and § 63.1257(e)(2)(ii) or (iii)(G) for closed biological treatment processes.

(13) *Treatment in a RCRA unit option.* The owner or operator shall treat the affected wastewater or residual in a unit identified in, and complying with, paragraph (g)(13)(i), (ii), or (iii) of this section. These units are exempt from the design evaluation or performance tests requirements specified in paragraph (g)(4) of this section and § 63.1257(e)(2), and from the monitoring requirements specified in paragraph

(a)(2)(iii) of this section, as well as recordkeeping and reporting requirements associated with monitoring and performance tests.

(i) The wastewater or residual is discharged to a hazardous waste incinerator for which the owner or operator has been issued a final permit under 40 CFR part 270 and complies with the requirements of 40 CFR part 264, subpart O, or has certified compliance with the interim status requirements of 40 CFR part 265, subpart O;

(ii) The wastewater or residual is discharged to a process heater or boiler burning hazardous waste for which the owner or operator:

(A) Has been issued a final permit under 40 CFR part 270 and complies with the requirements of 40 CFR part 266, subpart H; or

(B) Has certified compliance with the interim status requirements of 40 CFR part 266, subpart H.

(iii) The wastewater or residual is discharged to an underground injection well for which the owner or operator has been issued a final permit under 40 CFR part 270 or 40 CFR part 144 and complies with the requirements of 40 CFR part 122. The owner or operator shall comply with all applicable requirements of this subpart prior to the point where the wastewater enters the underground portion of the injection well.

(14) *Residuals.* For each residual removed from affected wastewater, the owner or operator shall control for air emissions by complying with paragraphs (b) through (f) of this section and by complying with one of the provisions in paragraphs (g)(14)(i) through (iv) of this section.

(i) Recycle the residual to a production process or sell the residual for the purpose of recycling. Once a residual is returned to a production process, the residual is no longer subject to this section.

(ii) Return the residual to the treatment process.

(iii) Treat the residual to destroy the total combined mass flow rate of soluble and/or partially soluble HAP compounds by 99 percent or more, as determined by the procedures specified in § 63.1257(e)(2)(iii)(C) or (D).

(iv) Comply with the requirements for RCRA treatment options specified in paragraph (g)(13) of this section.

(h) *Control devices.* For each control device or combination of control devices used to comply with the provisions in paragraphs (b) through (f) and (g)(5) of this section, the owner or operator shall operate and maintain the control device or combination of control devices in accordance with the requirements of paragraphs (h)(1) through (5) of this section.

(1) Whenever organic HAP emissions are vented to a control device which is used to comply with the provisions of this subpart, such control device shall be operating.

(2) The control device shall be designed and operated in accordance with paragraph (h)(2) (i), (ii), (iii), (iv), or (v) of this section, as demonstrated by the provisions in § 63.1257(e)(3).

(i) An enclosed combustion device (including but not limited to a vapor incinerator, boiler, or process heater) shall meet the conditions in paragraph (h)(2)(i) (A), (B), or (C) of this section, alone or in combination with other control devices. If a boiler or process heater is used as the control device, then the vent stream shall be introduced into the flame zone of the boiler or process heater.

(A) Reduce the organic HAP emissions vented to the control device by 95 percent by weight or greater;

(B) Achieve an outlet TOC concentration of 20 ppmv on a dry basis corrected to 3 percent oxygen. The owner or operator shall use either Method 18 of 40 CFR part 60, appendix A, or any other method or data that has been validated according to the applicable procedures in Method 301 of appendix A of this part; or

(C) Provide a minimum residence time of 0.5 seconds at a minimum temperature of 760 °C.

(ii) A vapor recovery system (including but not limited to a carbon adsorption system or condenser), alone or in combination with other control devices, shall reduce the organic HAP emissions vented to the control device by 95 percent by weight or greater or achieve an outlet TOC concentration of 20 ppmv. The 20 ppmv performance standard is not applicable to compli-

ance with the provisions of paragraphs (c) or (d) of this section.

(iii) A flare shall comply with the requirements of § 63.11(b).

(iv) A scrubber, alone or in combination with other control devices, shall reduce the organic HAP emissions in such a manner that 95 weight-percent is either removed, or destroyed by chemical reaction with the scrubbing liquid, or achieve an outlet TOC concentration of 20 ppmv. The 20 ppmv performance standard is not applicable to compliance with the provisions of paragraphs (c) or (d) of this section.

(v) Any other control device used shall, alone or in combination with other control devices, reduce the organic HAP emissions vented to the control device by 95 percent by weight or greater or achieve an outlet TOC concentration of 20 ppmv. The 20 ppmv performance standard is not applicable to compliance with the provisions of paragraphs (c) or (d) of this section.

(3) If the control device is a combustion device, the owner or operator shall comply with the requirements in § 63.1252(g) to control halogenated vent streams.

(4) Except as provided in paragraph (i) of this section, if gaps, cracks, tears, or holes are observed in ductwork, piping, or connections to covers and control devices during an inspection, a first effort to repair shall be made as soon as practical but no later than 5 calendar days after identification. Repair shall be completed no later than 15 calendar days after identification or discovery of the defect.

(5) The provisions in paragraphs (h)(1) through (4) of this section apply at all times, except as specified in § 63.1250(g). The owner or operator may not comply with the planned routine maintenance provisions in § 63.1252(h) for vent streams from waste management units.

(i) *Delay of repair.* Delay of repair of equipment for which a control equipment failure or a gap, crack, tear, or hole has been identified, is allowed if the repair is technically infeasible without a shutdown, as defined in § 63.1251, or if the owner or operator determines that emissions of purged material from immediate repair would be

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greater than the emissions likely to result from delay of repair. Repair of this equipment shall occur by the end of the next shutdown.

(1) Delay of repair of equipment for which a control equipment failure or a gap, crack, tear, or hole has been identified, is allowed if the equipment is emptied or is no longer used to treat or manage affected wastewater or residuals removed from affected wastewater.

(2) Delay of repair of equipment for which a control equipment failure or a gap, crack, tear, or hole has been identified is also allowed if additional time is necessary due to the unavailability of parts beyond the control of the owner or operator. Repair shall be completed as soon as practical. The owner or operator who uses this provision shall comply with the requirements of § 63.1259(h) to document the reasons that the delay of repair was necessary.

[63 FR 50326, Sept. 21, 1998, as amended at 65 FR 52607, Aug. 29, 2000; 66 FR 40133, Aug. 2, 2001; 70 FR 25670, May 13, 2005; 71 FR 20459, Apr. 20, 2006]

**§ 63.1257 Test methods and compliance procedures.**

(a) *General.* Except as specified in paragraph (a)(5) of this section, the procedures specified in paragraphs (c), (d), (e), and (f) of this section are required to demonstrate initial compliance with §§ 63.1253, 63.1254, 63.1256, and 63.1252(e), respectively. The provisions in paragraphs (a) (2) through (3) apply to performance tests that are specified in paragraphs (c), (d), and (e) of this section. The provisions in paragraph (a)(5) of this section are used to demonstrate initial compliance with the alternative standards specified in §§ 63.1253(d) and 63.1254(c). The provisions in paragraph (a)(6) of this section are used to comply with the outlet concentration requirements specified in §§ 63.1253(c), 63.1254 (a)(2)(i) and (a)(3)(ii)(B), 63.1254(b)(i) and 63.1256(h)(2).

(1) *Design evaluation.* To demonstrate that a control device meets the required control efficiency, a design evaluation must address the composition and organic HAP concentration of the vent stream entering the control device. A design evaluation also must address other vent stream characteristics

and control device operating parameters as specified in any one of paragraphs (a)(1) (i) through (vi) of this section, depending on the type of control device that is used. If the vent stream is not the only inlet to the control device, the efficiency demonstration also must consider all other vapors, gases, and liquids, other than fuels, received by the control device.

(i) For an enclosed combustion device used to comply with the provisions of 63.1253 (b)(2) or (c)(2), or 63.1256(h)(2)(i)(C) with a minimum residence time of 0.5 seconds and a minimum temperature of 760 °C, the design evaluation must document that these conditions exist.

(ii) For a combustion control device that does not satisfy the criteria in paragraph (a)(1)(i) of this section, the design evaluation must document control efficiency and address the following characteristics, depending on the type of control device:

(A) For a thermal vapor incinerator, the design evaluation must consider the autoignition temperature of the organic HAP, must consider the vent stream flow rate, and must establish the design minimum and average temperature in the combustion zone and the combustion zone residence time.

(B) For a catalytic vapor incinerator, the design evaluation shall consider the vent stream flow rate and shall establish the design minimum and average temperatures across the catalyst bed inlet and outlet.

(C) For a boiler or process heater, the design evaluation shall consider the vent stream flow rate; shall establish the design minimum and average flame zone temperatures and combustion zone residence time; and shall describe the method and location where the vent stream is introduced into the flame zone.

(iii) For a condenser, the design evaluation shall consider the vent stream flow rate, relative humidity, and temperature and shall establish the design outlet organic HAP compound concentration level, design average temperature of the condenser exhaust vent stream, and the design average temperatures of the coolant fluid at the condenser inlet and outlet. The temperature of the gas stream exiting the

condenser must be measured and used to establish the outlet organic HAP concentration.

(iv) For a carbon adsorption system that regenerates the carbon bed directly onsite in the control device such as a fixed-bed adsorber, the design evaluation shall consider the vent stream flow rate, relative humidity, and temperature and shall establish the design exhaust vent stream organic compound concentration level, adsorption cycle time, number and capacity of carbon beds, type and working capacity of activated carbon used for carbon beds, design total regeneration stream mass or volumetric flow over the period of each complete carbon bed regeneration cycle, design carbon bed temperature after regeneration, design carbon bed regeneration time, and design service life of carbon. For vacuum desorption, the pressure drop shall be included.

(v) For a carbon adsorption system that does not regenerate the carbon bed directly onsite in the control device such as a carbon canister, the design evaluation shall consider the vent stream mass or volumetric flow rate, relative humidity, and temperature and shall establish the design exhaust vent stream organic compound concentration level, capacity of carbon bed, type and working capacity of activated carbon used for carbon bed, and design carbon replacement interval based on the total carbon working capacity of the control device and source operating schedule.

(vi) For a scrubber, the design evaluation shall consider the vent stream composition; constituent concentrations; liquid-to-vapor ratio; scrubbing liquid flow rate and concentration; temperature; and the reaction kinetics of the constituents with the scrubbing liquid. The design evaluation shall establish the design exhaust vent stream organic compound concentration level and will include the additional information in paragraphs (a)(1)(vi)(A) and (B) of this section for trays and a packed column scrubber.

(A) Type and total number of theoretical and actual trays;

(B) Type and total surface area of packing for entire column, and for in-

dividual packed sections if column contains more than one packed section.

(2) *Calculation of TOC or total organic HAP concentration.* The TOC concentration or total organic HAP concentration is the sum of the concentrations of the individual components. If compliance is being determined based on TOC, the owner or operator shall compute TOC for each run using Equation 6 of this subpart. If compliance with the wastewater provisions is being determined based on total organic HAP, the owner or operator shall compute total organic HAP using Equation 6 of this subpart, except that only the organic HAP compounds shall be summed; when determining compliance with paragraph (e)(3)(i) of this section, only the soluble and partially soluble HAP compounds shall be summed.

$$CG_T = \frac{1}{m} \sum_{j=1}^m \left( \sum_{i=1}^n CGS_{i,j} \right) \quad (\text{Eq. 6})$$

where:

$CG_T$  = total concentration of TOC in vented gas stream, average of samples, dry basis, ppmv

$CGS_{i,j}$  = concentration of sample components in vented gas stream for sample  $j$ , dry basis, ppmv

$i$  = identifier for a compound

$n$  = number of components in the sample

$j$  = identifier for a sample

$m$  = number of samples in the sample run

(3) *Outlet concentration correction for supplemental gases.* (i) *Combustion devices.* Except as provided in § 63.1258(b)(5)(ii)(A), for a combustion device used to comply with an outlet concentration standard, the actual TOC, organic HAP, and hydrogen halide and halogen must be corrected to 3 percent oxygen if supplemental gases, as defined in § 63.1251, are added to the vent stream or manifold. The integrated sampling and analysis procedures of Method 3B of 40 CFR part 60, appendix A, shall be used to determine the actual oxygen concentration (% $O_{2d}$ ). The samples shall be taken during the same time that the TOC or total organic HAP or hydrogen halides and halogen samples are taken. The concentration corrected to 3 percent oxygen ( $C_d$ ) shall be computed using Equation 7A of this subpart:

$$C_c = C_m \left( \frac{17.9}{20.9 - \%O_{2d}} \right) \quad (\text{Eq. 7A})$$

Where:

$C_c$  = concentration of TOC or total organic HAP or hydrogen halide and halogen corrected to 3 percent oxygen, dry basis, ppmv

$C_m$  = total concentration of TOC or total organic HAP or hydrogen halide and halogen in vented gas stream, average of samples, dry basis, ppmv

$\%O_{2d}$  = concentration of oxygen measured in vented gas stream, dry basis, percent by volume

(ii) *Noncombustion devices.* Except as provided in § 63.1258(b)(5)(ii)(B), if a control device other than a combustion device is used to comply with a TOC, organic HAP, or hydrogen halide outlet concentration standard, the owner or operator must correct the actual concentration for supplemental gases using Equation 7B of this subpart; process knowledge and representative operating data may be used to determine the fraction of the total flow due to supplemental gas.

$$C_a = C_m \left( \frac{V_s + V_a}{V_a} \right) \quad (\text{Eq. 7B})$$

Where:

$C_a$  = corrected outlet TOC, organic HAP, and hydrogen halides and halogens concentration, dry basis, ppmv

$C_m$  = actual TOC, organic HAP, and hydrogen halides and halogens concentration measured at control device outlet, dry basis, ppmv

$V_a$  = total volumetric flow rate of all gas streams vented to the control device, except supplemental gases

$V_s$  = total volumetric flow rate of supplemental gases

(4) *Exemptions from compliance demonstrations.* An owner or operator using any control device specified in paragraphs (a)(4)(i) through (iv) of this section is exempt from the initial compliance provisions in paragraphs (c), (d), and (e) of this section.

(i) A boiler or process heater with a design heat input capacity of 44 megawatts or greater.

(ii) A boiler or process heater into which the emission stream is introduced with the primary fuel.

(iii) A boiler or process heater burning hazardous waste for which the owner or operator:

(A) Has been issued a final permit under 40 CFR part 270 and complies with the requirements of 40 CFR part 266, subpart H, or

(B) Has certified compliance with the interim status requirements of 40 CFR part 266, subpart H.

(iv) A hazardous waste incinerator for which the owner or operator has been issued a final permit under 40 CFR part 270 and complies with the requirements of 40 CFR part 264, subpart O, or has certified compliance with the interim status requirements of 40 CFR part 265, subpart O.

(5) *Initial compliance with alternative standard.* Initial compliance with the alternative standards in §§ 63.1253(d) and 63.1254(c) for combustion devices is demonstrated when the outlet TOC concentration is 20 ppmv or less, and the outlet hydrogen halide and halogen concentration is 20 ppmv or less. Initial compliance with the alternative standards in §§ 63.1253(d) and 63.1254(c) for noncombustion devices is demonstrated when the outlet TOC concentration is 50 ppmv or less, and the outlet hydrogen halide and hydrogen concentration is 50 ppmv or less. To demonstrate initial compliance, the owner or operator shall be in compliance with the monitoring provisions in § 63.1258(b)(5) on the initial compliance date. The owner or operator shall use Method 18 to determine the predominant organic HAP in the emission stream if the TOC monitor is calibrated on the predominant HAP.

(6) *Initial compliance with the 20 ppmv outlet limit.* Initial compliance with the 20 ppmv TOC and hydrogen halide and halogen concentration is demonstrated when the outlet TOC concentration is 20 ppmv or less, and the outlet hydrogen halide and halogen concentration is 20 ppmv or less. To demonstrate initial compliance, the operator shall use test methods described in paragraph (b) of this section. The owner or operator shall comply with the monitoring provisions in § 63.1258(b)(1) through (4) on the initial compliance date.

(b) *Test methods.* When testing is conducted to measure emissions from an

affected source, the test methods specified in paragraphs (b)(1) through (10) of this section shall be used.

(1) EPA Method 1 or 1A of appendix A of part 60 is used for sample and velocity traverses.

(2) EPA Method 2, 2A, 2C, or 2D of appendix A of part 60 is used for velocity and volumetric flow rates.

(3) EPA Method 3 of appendix A of part 60 is used for gas analysis.

(4) EPA Method 4 of appendix A of part 60 is used for stack gas moisture.

(5) [Reserved]

(6) The following methods are specified for concentration measurements:

(i) Method 18 may be used to determine HAP concentration in any control device efficiency determination.

(ii) Method 25 of appendix A of part 60 may be used to determine total gaseous nonmethane organic concentration for control efficiency determinations in combustion devices.

(iii) Method 26 or 26A of appendix A of part 60 shall be used to determine hydrogen chloride, hydrogen halide and halogen concentrations in control device efficiency determinations or in the 20 ppmv outlet hydrogen halide concentration standard.

(iv) Method 25A of appendix A of part 60 may be used to determine the HAP or TOC concentration for control device efficiency determinations under the conditions specified in Method 25 of appendix A for direct measurement of an effluent with a flame ionization detector, or in demonstrating compliance with the 20 ppmv TOC outlet standard. If Method 25A is used to determine the concentration of TOC for the 20 ppmv standard, the instrument shall be calibrated on methane or the predominant HAP. If calibrating on the predominant HAP, the use of Method 25A shall comply with paragraphs (b)(6)(iv)(A) through (C) of this section.

(A) The organic HAP used as the calibration gas for Method 25A, 40 CFR part 60, appendix A, shall be the single organic HAP representing the largest percent by volume.

(B) The use of Method 25A, 40 CFR part 60, appendix A, is acceptable if the response from the high level calibration gas is at least 20 times the standard deviation of the response from the zero calibration gas when the instru-

ment is zeroed on the most sensitive scale.

(C) The span value of the analyzer must be less than 100 ppmv.

(7) *Testing conditions for continuous processes.* Testing of emissions on equipment operating as part of a continuous process will consist of three 1-hour runs. Gas stream volumetric flow rates shall be measured every 15 minutes during each 1-hour run. The HAP concentration shall be determined from samples collected in an integrated sample over the duration of each 1-hour test run, or from grab samples collected simultaneously with the flow rate measurements (every 15 minutes). If an integrated sample is collected for laboratory analysis, the sampling rate shall be adjusted proportionally to reflect variations in flow rate. For continuous gas streams, the emission rate used to determine compliance shall be the average emission rate of the three test runs.

(8) *Testing and compliance determination conditions for batch processes.* Testing of emissions on equipment where the flow of gaseous emissions is intermittent (batch operations) shall be conducted as specified in paragraphs (b)(8)(i) through (iii) of this section.

(i) Except as provided in paragraph (b)(9) of this section for condensers, testing shall be conducted at absolute worst-case conditions or hypothetical worst-case conditions. Gas stream volumetric flow rates shall be measured at 15-minute intervals. The HAP or TOC concentration shall be determined from samples collected in an integrated sample over the duration of the test, or from grab samples collected simultaneously with the flow rate measurements (every 15 minutes). If an integrated sample is collected for laboratory analysis, the sampling rate shall be adjusted proportionally to reflect variations in flow rate. The absolute worst-case or hypothetical worst-case conditions shall be characterized by the criteria presented in paragraphs (b)(8)(i)(A) and (B) of this section. In all cases, a site-specific plan shall be submitted to the Administrator for approval prior to testing in accordance with § 63.7(c) and § 63.1260(1). The test plan shall include the emission profile

described in paragraph (b)(8)(ii) of this section.

(A) Absolute worst-case conditions are defined by the criteria presented in paragraph (b)(8)(i)(A)(1) or (2) of this section if the maximum load is the most challenging condition for the control device. Otherwise, absolute worst-case conditions are defined by the conditions in paragraph (b)(8)(i)(A)(3) of this section. The owner or operator must consider all relevant factors, including load and compound-specific characteristics in defining absolute worst-case conditions.

(1) The period in which the inlet to the control device will contain at least 50 percent of the maximum HAP load (in lb) capable of being vented to the control device over any 8 hour period. An emission profile as described in paragraph (b)(8)(ii)(A) of this section shall be used to identify the 8-hour period that includes the maximum projected HAP load.

(2) A 1-hour period of time in which the inlet to the control device will contain the highest HAP mass loading rate, in lb/hr, capable of being vented to the control device. An emission profile as described in paragraph (b)(8)(ii)(A) of this section shall be used to identify the 1-hour period of maximum HAP loading.

(3) The period of time when the HAP loading or stream composition (including non-HAP) is most challenging for the control device. These conditions include, but are not limited to the following:

(i) Periods when the stream contains the highest combined VOC and HAP load, in lb/hr, described by the emission profiles in paragraph (b)(8)(ii) of this section;

(ii) Periods when the streams contain HAP constituents that approach limits of solubility for scrubbing media;

(iii) Periods when the streams contain HAP constituents that approach limits of adsorptivity for carbon adsorption systems.

(B) Hypothetical worst-case conditions are simulated test conditions that, at a minimum, contain the highest hourly HAP load of emissions that would be predicted to be vented to the control device from the emissions pro-

file described in paragraph (b)(8)(ii)(B) or (C) of this section.

(ii) *Emissions profile.* The owner or operator may choose to perform tests only during those periods of the worst-case conditions that the owner or operator selects to control as part of achieving the required emission reduction. The owner or operator must develop an emission profile for the vent to the control device that describes the characteristics of the vent stream at the inlet to the control device under worst case conditions. The emission profile shall be developed based on any one of the procedures described in (b)(8)(ii)(A) through (C) of this section, as required by paragraph (b)(8)(i).

(A) *Emission profile by process.* The emission profile must consider all emission episodes that could contribute to the vent stack for a period of time that is sufficient to include all processes venting to the stack and shall consider production scheduling. The profile shall describe the HAP load to the device that equals the highest sum of emissions from the episodes that can vent to the control device in any given hour. Emissions per episode shall be calculated using the procedures specified in paragraph (d)(2) of this section. Emissions per episode shall be divided by the duration of the episode only if the duration of the episode is longer than 1 hour.

(B) *Emission profile by equipment.* The emission profile must consist of emissions that meet or exceed the highest emissions, in lb/hr, that would be expected under actual processing conditions. The profile shall describe equipment configurations used to generate the emission events, volatility of materials processed in the equipment, and the rationale used to identify and characterize the emission events. The emissions may be based on using a compound more volatile than compounds actually used in the process(es), and the emissions may be generated from all equipment in the process(es) or only selected equipment.

(C) *Emission profile by capture and control device limitation.* The emission profile shall consider the capture and control system limitations and the highest emissions, in lb/hr, that can be routed



to the control device, based on maximum flowrate and concentrations possible because of limitations on conveyance and control equipment (e.g., fans, LEL alarms and safety bypasses).

(iii) Three runs, at a minimum of 1 hour each and a maximum of 8 hours each, are required for performance testing. Each run must occur over the same worst-case conditions, as defined in paragraph (b)(8)(i) of this section.

(9) *Testing requirements for condensers.* For emission streams controlled using condensers, continuous direct measurement of condenser outlet gas temperature to be used in determining concentrations per the design evaluation described in § 63.1257(a)(1)(iii) is required.

(10) *Wastewater testing.* Wastewater analysis shall be conducted in accordance with paragraph (b)(10)(i), (ii), (iii), (iv), or (v) of this section.

(i) *Method 305.* Use procedures specified in Method 305 of 40 CFR part 63, appendix A, and comply with requirements specified in paragraph (b)(10)(vi) of this section.

(ii) *EPA Method 624, 625, 1624, 1625, 1666, or 1671.* Use procedures specified in EPA Method 624, 625, 1624, 1625, 1666, or 1671 of 40 CFR part 136, appendix A, and comply with requirements in paragraph (b)(10)(vi) of this section.

(iii) *Method 8260 or 8270.* Use procedures specified in Method 8260 or 8270 in "Test Methods for Evaluating Solid Waste. Physical/Chemical Methods," EPA Publication No. SW-846, Third Edition, September 1986, as amended by Update I, November 15, 1992. As an alternative, an owner or operator may use any more recent, updated version of Method 8260 or 8270 approved by the EPA. For the purpose of using Method 8260 or 8270 to comply with this subpart, the owner or operator must maintain a formal quality assurance program consistent with either Section 8 of Method 8260 or Method 8270, and this program must include the following elements related to measuring the concentrations of volatile compounds:

(A) Documentation of site-specific procedures to minimize the loss of compounds due to volatilization, biodegradation, reaction, or sorption during the sample collection, storage, and preparation steps.

(B) Documentation of specific quality assurance procedures followed during sampling, sample preparation, sample introduction, and analysis.

(C) Measurement of the average accuracy and precision of the specific procedures, including field duplicates and field spiking of the material source before or during sampling with compounds having similar chemical characteristics to the target analytes.

(iv) *Other EPA methods.* Use procedures specified in the method, validate the method using the procedures in paragraph (b)(10)(iv)(A) or (B) of this section, and comply with the procedures in paragraph (b)(10)(vi) of this section.

(A) Validate the method according to section 5.1 or 5.3 of Method 301 of 40 CFR part 63, appendix A.

(B) Follow the procedure as specified in "Alternative Validation Procedure for EPA Waste Methods" 40 CFR part 63, appendix D.

(v) *Methods other than an EPA method.* Use procedures specified in the method, validate the method using the procedures in paragraph (b)(10)(iv)(A) of this section, and comply with the requirements in paragraph (b)(10)(vi) of this section.

(vi) *Sampling plan.* The owner or operator shall prepare a sampling plan. Wastewater samples shall be collected using sampling procedures which minimize loss of organic compounds during sample collection and analysis and maintain sample integrity. The sample plan shall include procedures for determining recovery efficiency of the relevant partially soluble and soluble HAP compounds. An example of an acceptable sampling plan would be one that incorporates similar sampling and sample handling requirements to those of Method 25D of 40 CFR part 60, appendix A. The sampling plan shall be maintained at the facility.

(c) *Initial compliance with storage tank provisions.* The owner or operator of an affected storage tank shall demonstrate initial compliance with § 63.1253(b) or (c), as applicable, by fulfilling the requirements of paragraph (c)(1), or (c)(2), or (c)(3) of this section.

(1) *Performance test.* If this option is chosen to demonstrate initial compliance with the percent reduction requirement of §63.1253(b)(1) or (c)(1)(i), the efficiency of the control device shall be calculated using performance test data as specified in paragraphs (c)(1)(i) through (iii) of this section. To demonstrate initial compliance with the outlet concentration requirements in §63.1253(b)(2) and (c)(2), the owner or operator must conduct a performance test and fulfill the requirements of paragraph (a)(6) of this section.

(i) Equations 8 and 9 of this subpart shall be used to calculate the mass rate of total HAP reasonably expected maximum filling rate at the inlet and outlet of the control device for standard conditions of 20 °C: where:

$$E_i = K_2 \left( \sum_{j=1}^n C_{ij} M_{ij} \right) Q_i \quad (\text{Eq. 8})$$

$$E_o = K_2 \left( \sum_{j=1}^n C_{oj} M_{oj} \right) Q_o \quad (\text{Eq. 9})$$

where:

$C_{ij}$ ,  $C_{oj}$  = concentration of sample component  $j$  of the gas stream at the inlet and outlet of the control device, respectively, dry basis, ppmv

$E_i$ ,  $E_o$  = mass rate of total HAP at the inlet and outlet of the control device, respectively, dry basis, kg/hr

$M_{ij}$ ,  $M_{oj}$  = molecular weight of sample component  $j$  of the gas stream at the inlet and outlet of the control device, respectively, gram/gram-mole

$Q_i$ ,  $Q_o$  = flow rate of gas stream at the inlet and outlet of the control device, respectively, dry standard cubic meter per minute

$K_2$  = constant,  $2.494 \times 10^{-6}$  (parts per million)<sup>-1</sup> (gram-mole per standard cubic meter) (kilogram/gram) (minute/hour), where standard temperature is 20 °C

$n$  = number of sample components in the gas stream

(ii) The percent reduction in total HAP shall be calculated using Equation 10 of this subpart:

$$R = \frac{E_i - E_o}{E_i} (100) \quad (\text{Eq. 10})$$

where:

$R$  = control efficiency of control device, percent

$E_i$  = mass rate of total HAP at the inlet to the control device as calculated under paragraph (c)(1)(i) of this section, kilograms organic HAP per hour

$E_o$  = mass rate of total HAP at the outlet of the control device, as calculated under paragraph (c)(1)(i) of this section, kilograms organic HAP per hour

(iii) A performance test is not required to be conducted if the control device used to comply with §63.1253 (storage tank provisions) is also used to comply with §63.1254 (process vent provisions), and compliance with §63.1254 has been demonstrated in accordance with paragraph (d) of this section.

(2) *Design evaluation.* If this option is chosen to demonstrate initial compliance with the percent reduction requirement of §63.1253(b) or (c), a design evaluation shall be prepared in accordance with the provisions in paragraph (a)(1) of this section. The design evaluation shall include documentation demonstrating that the control device being used achieves the required control efficiency during reasonably expected maximum filling rate.

(3) *Floating roof.* If the owner or operator of an affected source chooses to comply with the provisions of §63.1253(b) or (c) by installing a floating roof, the owner or operator shall comply with the procedures described in §§63.119(b), (c), (d), and 63.120(a), (b), and (c), with the differences noted in paragraphs (c)(3)(i) through (v) of this section for the purposes of this subpart.

(i) When the term "storage vessel" is used in §§63.119 and 63.120, the definition of "storage tank" in §63.1251 shall apply for the purposes of this subpart.

(ii) When December 31, 1992 is referred to in §63.119, April 2, 1997 shall apply instead for the purposes of this subpart.

(iii) When April 22, 1994 is referred to in §63.119, September 21, 1998 shall apply instead for the purposes of this subpart.

(iv) When the phrase "the compliance date specified in §63.100 of subpart F of this part" is referred to in §63.120, the phrase "the compliance date specified in §63.1250" shall apply for the purposes of this subpart.

(v) When the phrase "the maximum true vapor pressure of the total organic HAP's in the stored liquid falls below the values defining Group 1 storage vessels specified in table 5 or table 6 of this subpart" is referred to in § 63.120(b)(1)(iv), the phrase "the maximum true vapor pressure of the total organic HAP in the stored liquid falls below 13.1 kPa" shall apply for the purposes of this subpart.

(4) *Initial compliance with alternative standard.* Initial compliance with § 63.1253(d) is demonstrated by fulfilling the requirements of paragraph (a)(5) of this section.

(5) *Planned maintenance.* The owner or operator shall demonstrate compliance with the requirements of § 63.1253(e) by including the periods of planned routine maintenance specified by date and time in each Periodic Report required by § 63.1260.

(d) *Initial compliance with process vent provisions.* An owner or operator of an affected source complying with the process vent standards in § 63.1254 shall demonstrate compliance using the procedures described in paragraphs (d)(1) through (4) of this section.

(1) Except as provided in paragraph (a)(4) of this section, initial compliance with the process vent standards in § 63.1254 shall be demonstrated using the procedures specified in paragraphs (d)(1)(i) through (iv), as applicable.

(i) Initial compliance with § 63.1254(a)(2)(i) is demonstrated when the actual emissions of HAP from the sum of all process vents within a process is less than or equal to 900 kg/yr. Initial compliance with § 63.1254(a)(2)(ii) is demonstrated when the actual emissions of HAP from the sum of all process vents in compliance with § 63.1254(a)(2)(i) is less than or equal to 1,800 kg/yr. Uncontrolled HAP emissions and controlled HAP emissions shall be determined using the procedures described in paragraphs (d)(2) and (3) of this section. Controlled emissions during periods of planned routine maintenance of a CCCC as specified in § 63.1252(h), must be calculated assuming the HAP emissions are reduced by 93 percent.

(ii) Initial compliance with the percent reduction requirements in

§ 63.1254(a)(1)(i), (a)(3), and (b) is demonstrated by:

(A) Determining controlled HAP emissions using the procedures described in paragraph (d)(3) of this section, and uncontrolled HAP emissions determined using the procedures described in paragraph (d)(2) of this section, and demonstrating that the reductions required by § 63.1254(a)(1)(i), (a)(3), and (b) are met; or

(B) Controlling the process vents using a device meeting the criteria specified in paragraph (a)(4) of this section.

(iii) Initial compliance with the outlet concentration requirements in § 63.1254(a)(1)(ii)(A), (a)(3), and (b)(1) is demonstrated when the outlet TOC concentration is 20 ppmv or less and the outlet hydrogen halide and halogen concentration is 20 ppmv or less. The owner or operator shall demonstrate compliance by fulfilling the requirements in paragraph (a)(6) of this section.

(iv) Initial compliance with § 63.1254(c) is demonstrated by fulfilling the requirements of paragraph (a)(5) of this section.

(2) *Uncontrolled emissions.* An owner or operator of an affected source complying with the emission limitation required by § 63.1254(a)(1), or emissions reductions specified in § 63.1254(a)(2), (a)(3), or (b), for each process vent within a process, shall calculate uncontrolled emissions from all equipment in the process according to the procedures described in paragraph (d)(2)(i) or (ii) of this section, as appropriate.

(i) *Emission estimation procedures.* Owners or operators shall determine uncontrolled emissions of HAP using measurements and/or calculations for each batch emission episode within each unit operation according to the engineering evaluation methodology in paragraphs (d)(2)(i)(A) through (H) of this section. Except where variations are noted, individual HAP partial pressures in multicomponent systems shall be determined by the following methods: If the components are miscible in one another, use Raoult's law to calculate the partial pressures; if the solution is a dilute aqueous mixture, use Henry's law to calculate partial pressures; if Raoult's law or Henry's law

are not appropriate or available, use experimentally obtained activity coefficients or models such as the group-contribution models, to predict activity coefficients, or assume the components of the system behave independently and use the summation of all vapor pressures from the HAP as the total HAP partial pressure. Chemical property data can be obtained from standard reference texts.

(A) *Vapor displacement.* Emissions from vapor displacement due to transfer of material shall be calculated using Equation 11 of this subpart. The individual HAP partial pressures may be calculated using Raoult's law.

$$E = \frac{(V)}{(R)(T)} \times \sum_{i=1}^n (P_i)(MW_i) \quad (\text{Eq. 11})$$

where:

$$E = \sum_{i=1}^n P_i MW_i \times \frac{(V)(t)}{(R)(T)} \times \frac{P_T}{P_T - \sum_{j=1}^m (P_j)} \quad (\text{Eq. 12})$$

Where:

E = mass of HAP emitted  
 V = purge flow rate at the temperature and pressure of the vessel vapor space  
 R = ideal gas law constant  
 T = temperature of the vessel vapor space; absolute  
 P<sub>i</sub> = partial pressure of the individual HAP  
 P<sub>j</sub> = partial pressure of individual condensable VOC compounds (including HAP)  
 P<sub>T</sub> = pressure of the vessel vapor space  
 MW<sub>i</sub> = molecular weight of the individual HAP  
 t = time of purge  
 n = number of HAP compounds in the emission stream  
 i = identifier for a HAP compound  
 j = identifier for a condensable compound  
 m = number of condensable compounds (including HAP) in the emission stream

(C) *Heating.* Emissions caused by the heating of a vessel to a temperature equal to or lower than 10 K below the boiling point shall be calculated using the procedures in either paragraph (d)(2)(i)(C)(1) or (3) of this section. Emissions caused by heating a vessel to a temperature that is higher than 10 K below the boiling point and less than

E = mass of HAP emitted  
 V = volume of gas displaced from the vessel  
 R = ideal gas law constant  
 T = temperature of the vessel vapor space; absolute  
 P<sub>i</sub> = partial pressure of the individual HAP  
 MW<sub>i</sub> = molecular weight of the individual HAP  
 n = number of HAP compounds in the emission stream  
 i = identifier for a HAP compound

(B) *Purging.* Emissions from purging shall be calculated using Equation 12 of this subpart. The partial pressures of individual condensable compounds may be calculated using Raoult's law, the pressure of the vessel vapor space may be set equal to 760 mmHg, and the partial pressure of HAP shall be assumed to be 25 percent of the saturated value if the purge flow rate is greater than 100 standard cubic feet per minute (scfm).

the boiling point, must be calculated using the procedures in either paragraph (d)(2)(i)(C) (2) or (3) of this section. If the contents of a vessel are heated to the boiling point, emissions must be calculated using the procedures in paragraph (d)(2)(i)(C)(4) of this section.

(1) This paragraph describes procedures to calculate emissions if the final temperature to which the vessel contents are heated is 10 K below the boiling point of the HAP in the vessel, or lower. The owner or operator shall calculate the mass of HAP emitted per episode using either Equation 13 or 14 of this subpart. The moles of noncondensable gas displaced are calculated using Equation 15 of this subpart. The initial and final pressure of the noncondensable gas in the vessel shall be calculated using Equation 16 of this subpart. The average molecular weight of HAP in the displaced gas shall be calculated using Equation 17 of this subpart.

$$E = \frac{\sum_{i=1}^n ((P_i^*)(x_i)(MW_i))}{760 - \sum_{j=1}^m ((P_j^*)(x_j))} \times \Delta\eta \quad (\text{Eq. 13})$$

$$E = \frac{\frac{\sum_{i=1}^n (P_i)_{T_1}}{Pa_1} + \frac{\sum_{i=1}^n (P_i)_{T_2}}{Pa_2}}{2} \times \Delta\eta \times MW_{\text{HAP}} \quad (\text{Eq. 14})$$

$$\Delta\eta = \frac{V}{R} \left[ \left( \frac{Pa_1}{T_1} \right) - \left( \frac{Pa_2}{T_2} \right) \right] \quad (\text{Eq. 15})$$

$$Pa_n = P_{\text{atm}} - \sum_{j=1}^m (P_j)_{T_n} \quad (\text{Eq. 16})$$

$$MW_{\text{HAP}} = \frac{\sum_{i=1}^n \left( (P_i)_{T_1} + (P_i)_{T_2} \right) MW_i}{\sum_{i=1}^n \left( (P_i)_{T_1} + (P_i)_{T_2} \right)} \quad (\text{Eq. 17})$$

Where:

E = mass of HAP vapor displaced from the vessel being heated  
 x<sub>i</sub> = mole fraction of each HAP in the liquid phase  
 x<sub>j</sub> = mole fraction of each condensable VOC (including HAP) in the liquid phase  
 P<sub>i</sub><sup>\*</sup> = vapor pressure of each HAP in the vessel headspace at any temperature between the initial and final heatup temperatures, mmHg.  
 P<sub>j</sub><sup>\*</sup> = vapor pressure of each condensable VOC (including HAP) in the vessel headspace at any temperature between the initial and final heatup temperatures, mmHg.  
 760 = atmospheric pressure, mmHg  
 MW<sub>HAP</sub> = the average molecular weight of HAP present in the displaced gas  
 Δη = number of moles of noncondensable gas displaced  
 V = volume of free space in the vessel  
 R = ideal gas law constant  
 T<sub>1</sub> = initial temperature of vessel contents, absolute  
 T<sub>2</sub> = final temperature of vessel contents, absolute  
 Pa<sub>n</sub> = partial pressure of noncondensable gas in the vessel headspace at initial (n=1) and final (n=2) temperature

P<sub>atm</sub> = atmospheric pressure (when Δη is used in Equation 13 of this subpart, P<sub>atm</sub> may be set equal to 760 mmHg for any vessel)  
 (P<sub>j</sub>)<sub>T<sub>n</sub></sub> = partial pressure of each condensable compound (including HAP) in the vessel headspace at the initial temperature (n=1) and final (n=2) temperature  
 m = number of condensable compounds (including HAP) in the displaced vapor  
 j = identifier for a condensable compound  
 (P<sub>i</sub>)<sub>T<sub>n</sub></sub> = partial pressure of each HAP in the vessel headspace at initial (T<sub>1</sub>) and final (T<sub>2</sub>) temperature  
 MW<sub>i</sub> = molecular weight of the individual HAP  
 n = number of HAP compounds in the emission stream  
 i = identifier for a HAP compound

(2) If the vessel contents are heated to a temperature that is higher than 10 K below the boiling point and less than the boiling point, emissions must be calculated using the procedures in paragraph (d)(2)(i)(C)(2)(i), or (ii), or (iii) of this section.

(i) Use Equation 13 of this subpart. In Equation 13 of this subpart, the HAP vapor pressures must be determined at the temperature 10 K below the boiling

point. In the calculation of  $\Delta\eta$  for Equation 13 of this subpart,  $T_2$  must be the temperature 10 K below the boiling point, and  $Pa_2$  must be determined at the temperature 10 K below the boiling point.

(ii) Use Equation 14 of this subpart. In Equation 14 of this subpart, the HAP partial pressures must be determined at the temperature 10 K below the boiling point. In the calculation of  $\Delta\eta$  for Equation 14 of this subpart,  $T_2$  must be the temperature 10 K below the boiling point, and  $Pa_2$  must be determined at the temperature 10 K below the boiling point. In the calculation of  $MW_{HAP}$ , the HAP partial pressures must be determined at the temperature 10 K below the boiling point.

(iii) Use Equation 14 of this subpart over specific temperature increments.

If the initial temperature is lower than 10 K below the boiling point, emissions must be calculated as the sum over two increments; one increment is from the initial temperature to 10 K below the boiling point, and the second is from 10 K below the boiling point to the lower of either the final temperature or the temperature 5 K below the boiling point. If the initial temperature is higher than 10 K below the boiling point, emissions are calculated over one increment from the initial temperature to the lower of either the final temperature or the temperature 5 K below the boiling point.

(3)(i) Emissions caused by heating a vessel are calculated using Equation 18 of this subpart.

$$E = MW_{HAP} \times \left( N_{avg} \times \ln \left( \frac{P_T - \sum_{i=1}^n (P_{i,1})}{P_T - \sum_{i=1}^n (P_{i,2})} \right) - (n_{1,2} - n_{1,1}) \right) \quad (\text{Eq. 18})$$

Where:

$E$  = mass of HAP vapor displaced from the vessel being heated  
 $N_{avg}$  = average gas space molar volume during the heating process  
 $P_T$  = total pressure in the vessel  
 $P_{i,1}$  = partial pressure of the individual HAP compounds at  $T_1$   
 $P_{i,2}$  = partial pressure of the individual HAP compounds at  $T_2$   
 $MW_{HAP}$  = average molecular weight of the HAP compounds

$n_{1,1}$  = number of moles of condensable in the vessel headspace at  $T_1$   
 $n_{1,2}$  = number of moles of condensable in the vessel headspace at  $T_2$   
 $n$  = number of HAP compounds in the emission stream

(ii) The average gas space molar volume during the heating process is calculated using Equation 19 of this subpart.

$$N_{avg} = \frac{VP_T}{2R} \left( \frac{1}{T_1} + \frac{1}{T_2} \right) \quad (\text{Eq. 19})$$

Where:

$N_{avg}$  = average gas space molar volume during the heating process  
 $V$  = volume of free space in vessel  
 $P_T$  = total pressure in the vessel  
 $R$  = ideal gas law constant  
 $T_1$  = initial temperature of the vessel

$T_2$  = final temperature of the vessel

(iii) The difference in the number of moles of condensable in the vessel headspace between the initial and final temperatures is calculated using Equation 20 of this subpart.

$$(n_{i,2} - n_{i,1}) = \frac{V}{(R)(T_2)} \sum_{i=1}^n P_{i,2} - \frac{V}{(R)(T_1)} \sum_{i=1}^n P_{i,1} \quad (\text{Eq. 20})$$

Where:

V = volume of free space in vessel  
 R = ideal gas law constant  
 T<sub>1</sub> = initial temperature in the vessel  
 T<sub>2</sub> = final temperature in the vessel  
 P<sub>i,1</sub> = partial pressure of the individual HAP compounds at T<sub>1</sub>  
 P<sub>i,2</sub> = partial pressure of the individual HAP compounds at T<sub>2</sub>  
 n = number of HAP compounds in the emission stream

(4) If the vessel contents are heated to the boiling point, emissions must be calculated using the procedure in paragraphs (d)(2)(i)(C)(4)(i) and (ii) of this section.

(i) Use either of the procedures in paragraph (d)(3)(i)(B)(3) of this section to calculate the emissions from heating to the boiling point (note that P<sub>a2</sub>=0 in the calculation of Δη); and

(ii) While boiling, the vessel must be operated with a properly operated process condenser. An initial demonstration that a process condenser is properly operated is required for some process condensers, as described in paragraph (d)(3)(iii) of this section.

(D) *Depressurization.* Emissions from depressurization shall be calculated using the procedures in either paragraphs (d)(2)(i)(D)(1) through (4), paragraphs (d)(2)(i)(D)(5) through (9), or paragraph (d)(2)(i)(D)(10) of this section.

(1) Equations 21 and 22 of this subpart are used to calculate the initial and final volumes of noncondensable gas present in the vessel, adjusted to atmospheric pressure. The HAP partial pressures may be calculated using Raoult's law.

$$V_{nc1} = \frac{VP_{nc1}}{760} \quad (\text{Eq. 21})$$

$$V_{nc2} = \frac{VP_{nc2}}{760} \quad (\text{Eq. 22})$$

Where:

V<sub>nc1</sub> = initial volume of noncondensable gas in the vessel  
 V<sub>nc2</sub> = final volume of noncondensable gas in the vessel  
 V = free volume in the vessel being depressurized  
 P<sub>nc1</sub> = initial partial pressure of the noncondensable gas, as calculated using Equation 23 of this subpart, mmHg  
 P<sub>nc2</sub> = final partial pressure of the noncondensable gas, as calculated using Equation 24 of this subpart, mmHg  
 760 = atmospheric pressure, mmHg

(2) The initial and final partial pressures of the noncondensable gas in the vessel are determined using Equations 23 and 24 of this subpart:

$$P_{nc1} = P_1 - \sum_{j=1}^m (P_j^*)(x_j) \quad (\text{Eq. 23})$$

$$P_{nc2} = P_2 - \sum_{j=1}^m (P_j^*)(x_j) \quad (\text{Eq. 24})$$

Where:

P<sub>nc1</sub> = initial partial pressure of the noncondensable gas  
 P<sub>nc2</sub> = final partial pressure of the noncondensable gas  
 P<sub>1</sub> = initial vessel pressure  
 P<sub>2</sub> = final vessel pressure  
 P<sub>j</sub><sup>\*</sup> = vapor pressure of each condensable (including HAP) in the emission stream  
 x<sub>j</sub> = mole fraction of each condensable (including HAP) in the liquid phase  
 m = number of condensable compounds (including HAP) in the emission stream  
 j = identifier for a condensable compound

(3) The average ratio of moles of noncondensable to moles of an individual HAP in the emission stream is calculated using Equation 25 of this subpart; this calculation must be repeated for each HAP in the emission stream:

$$n_{Ri} = \frac{\left( \frac{P_{nc1}}{(P_i^*)(x_i)} + \frac{P_{nc2}}{(P_i^*)(x_i)} \right)}{2} \quad (\text{Eq. 25})$$

Where:

$n_{Ri}$  = average ratio of moles of noncondensable to moles of individual HAP  
 $P_{nc1}$  = initial partial pressure of the noncondensable gas, as calculated using Equation 23 of this subpart  
 $P_{nc2}$  = final partial pressure of the noncondensable gas, as calculated using Equation 24 of this subpart

$P_i^*$  = vapor pressure of each individual HAP  
 $x_i$  = mole fraction of each individual HAP in the liquid phase.  
 $n$  = number of HAP compounds  
 $i$  = identifier for a HAP compound

(4) The mass of HAP emitted shall be calculated using Equation 26 of this subpart:

$$E = (V_{nc1} - V_{nc2}) \times \frac{P_{atm}}{RT} \times \sum_{i=1}^n \frac{MW_i}{n_{Ri}} \quad (\text{Eq. 26})$$

Where:

$E$  = mass of HAP emitted  
 $V_{nc1}$  = initial volume of noncondensable gas in the vessel, as calculated using Equation 21 of this subpart  
 $V_{nc2}$  = final volume of noncondensable gas in the vessel, as calculated using Equation 22 of this subpart  
 $n_{Ri}$  = average ratio of moles of noncondensable to moles of individual HAP, as calculated using Equation 25 of this subpart  
 $P_{atm}$  = atmospheric pressure, standard  
 $R$  = ideal gas law constant  
 $T$  = temperature of the vessel, absolute  
 $MW_i$  = molecular weight of each HAP

(5) The moles of HAP vapor initially in the vessel are calculated using the ideal gas law using Equation 27 of this subpart:

$$n_{HAP} = \frac{(Y_{HAP})(V)(P_i)}{RT} \quad (\text{Eq. 27})$$

Where:

$Y_{HAP}$  = mole fraction of HAP (the sum of the individual HAP fractions,  $\sum Y_i$ )  
 $V$  = free volume in the vessel being depressurized  
 $P_i$  = initial vessel pressure  
 $R$  = ideal gas law constant  
 $T$  = vessel temperature, absolute

(6) The initial and final moles of noncondensable gas present in the vessel are calculated using Equations 28 and 29 of this subpart:

$$n_1 = \frac{VP_{nc1}}{RT} \quad (\text{Eq. 28})$$

$$n_2 = \frac{VP_{nc2}}{RT} \quad (\text{Eq. 29})$$

Where:

$n_1$  = initial number of moles of noncondensable gas in the vessel  
 $n_2$  = final number of moles of noncondensable gas in the vessel  
 $v$  = free volume in the vessel being depressurized  
 $P_{nc1}$  = initial partial pressure of the noncondensable gas, as calculated using Equation 23 of this subpart  
 $P_{nc2}$  = final partial pressure of the noncondensable gas, as calculated using Equation 24 of this subpart  
 $R$  = ideal gas law constant  
 $T$  = temperature, absolute

(7) The initial and final partial pressures of the noncondensable gas in the vessel are determined using Equations 23 and 24 of this subpart.

(8) The moles of HAP emitted during the depressurization are calculated by taking an approximation of the average ratio of moles of HAP to moles of noncondensable and multiplying by the total moles of noncondensables released during the depressurization, using Equation 30 of this subpart:



$$n_{\text{HAP}} = \frac{\left( \frac{n_{\text{HAP},1}}{n_1} + \frac{n_{\text{HAP},2}}{n_2} \right)}{2} [n_1 - n_2] \quad (\text{Eq. 30})$$

where:

$n_{\text{HAP}}$  = moles of HAP emitted  
 $n_1$  = initial number of moles of noncondensable gas in the vessel, as calculated using Equation 28 of this subpart  
 $n_2$  = final number of moles of noncondensable gas in the vessel, as calculated using Equation 29 of this subpart

(9) The mass of HAP emitted can be calculated using Equation 31 of this subpart:

$$E = n_{\text{HAP}} * MW_{\text{HAP}} \quad (\text{Eq. 31})$$

where:

$E$  = mass of HAP emitted  
 $n_{\text{HAP}}$  = moles of HAP emitted, as calculated using Equation 30 of this subpart  
 $MW_{\text{HAP}}$  = average molecular weight of the HAP as calculated using Equation 17 of this subpart

(10) Emissions from depressurization may be calculated using equation 32 of this subpart:

$$E = \frac{V}{(R)(T)} \times \ln \left( \frac{P_1 - \sum_{j=1}^m (P_j)}{P_2 - \sum_{j=1}^m (P_j)} \right) \times \sum_{i=1}^n (P_i)(MW_i) \quad (\text{Eq. 32})$$

Where:

$V$  = free volume in vessel being depressurized  
 $R$  = ideal gas law constant  
 $T$  = temperature of the vessel, absolute  
 $P_1$  = initial pressure in the vessel  
 $P_2$  = final pressure in the vessel  
 $P_j$  = partial pressure of the individual condensable compounds (including HAP)  
 $MW_i$  = molecular weight of the individual HAP compounds  
 $n$  = number of HAP compounds in the emission stream

$m$  = number of condensable compounds (including HAP) in the emission stream  
 $i$  = identifier for a HAP compound  
 $j$  = identifier for a condensable compound.

(E) *Vacuum systems.* Emissions from vacuum systems may be calculated using Equation 33 of this subpart if the air leakage rate is known or can be approximated. The individual HAP partial pressures may be calculated using Raoult's Law.

$$E = \frac{(La)(t)}{MW_{nc}} \left( \frac{\sum_{i=1}^n P_i MW_i}{P_{\text{system}} - \sum_{j=1}^m P_j} \right) \quad (\text{Eq. 33})$$

Where:

$E$  = mass of HAP emitted  
 $P_{\text{system}}$  = absolute pressure of receiving vessel or ejector outlet conditions, if there is no receiver

$P_i$  = partial pressure of the HAP at the receiver temperature or the ejector outlet conditions

$P_j$  = partial pressure of condensable (including HAP) at the receiver temperature or the ejector outlet conditions

La = total air leak rate in the system, mass/time  
 MW<sub>nc</sub> = molecular weight of noncondensable gas  
 t = time of vacuum operation  
 MW<sub>i</sub> = molecular weight of the individual HAP in the emission stream, with HAP partial pressures calculated at the tem-

perature of the receiver or ejector outlet, as appropriate

(F) *Gas evolution*. Emissions from gas evolution shall be calculated using Equation 12 of this subpart with V calculated using Equation 34 of this subpart:

$$V = \frac{(W_g)(R)(T)}{(P_T)(MW_g)} \quad (\text{Eq. 34})$$

Where:

V = volumetric flow rate of gas evolution  
 W<sub>g</sub> = mass flow rate of gas evolution  
 R = ideal gas law constant  
 T = temperature at the exit, absolute

P<sub>T</sub> = vessel pressure  
 MW<sub>g</sub> = molecular weight of the evolved gas

(G) *Air drying*. Emissions from air drying shall be calculated using Equation 35 of this subpart:

$$E = B \times \left( \frac{PS_1}{100 - PS_1} - \frac{PS_2}{100 - PS_2} \right) \quad (\text{Eq. 35})$$

Where:

E = mass of HAP emitted  
 B = mass of dry solids  
 PS<sub>1</sub> = HAP in material entering dryer, weight percent  
 PS<sub>2</sub> = HAP in material exiting dryer, weight percent

(H) *Empty vessel purging*. Emissions from empty vessel purging shall be calculated using Equation 36 of this subpart (Note: The term e<sup>MF/v</sup> can be assumed to be 0):

$$E = \left( \frac{V}{RT} \times \left( \sum_{i=1}^n (P_i)(MW_i) \right) \left( 1 - e^{-P_i/v} \right) \right) \quad (\text{Eq. 36})$$

Where:

V = volume of empty vessel  
 R = ideal gas law constant  
 T = temperature of the vessel vapor space, absolute  
 P<sub>i</sub> = partial pressure of the individual HAP at the beginning of the purge  
 (MW<sub>i</sub>) = molecular weight of the individual HAP  
 F = flowrate of the purge gas  
 t = duration of the purge  
 n = number of HAP compounds in the emission stream  
 i = identifier for a HAP compound

(ii) *Engineering assessments*. The owner or operator shall conduct an en-

gineering assessment to calculate uncontrolled HAP emissions for each emission episode that is not due to vapor displacement, purging, heating, depressurization, vacuum operations, gas evolution, or air drying. For emission episodes caused by any of these types of activities, the owner or operator also may calculate uncontrolled HAP emissions based on an engineering assessment if the owner or operator can demonstrate to the Administrator that the methods in paragraph (d)(2)(i) of this section are not appropriate. Modified versions of the engineering

evaluation methods in paragraphs (d)(2)(i)(A) through (H) may be used if the owner or operator demonstrates that they have been used to meet other regulatory obligations, and they do not affect applicability assessments or compliance determinations under this subpart GGG. One criterion the owner or operator could use to demonstrate that the methods in paragraph (d)(2)(i) of this section are not appropriate is if previous test data are available that show a greater than 20 percent discrepancy between the test value and the estimated value. An engineering assessment includes, but is not limited to, the following:

(A) Previous test results, provided the tests are representative of current operating practices at the process unit.

(B) Bench-scale or pilot-scale test data representative of the process under representative operating conditions.

(C) Maximum flow rate, HAP emission rate, concentration, or other relevant parameter specified or implied within a permit limit applicable to the process vent.

(D) Design analysis based on accepted chemical engineering principles, measurable process parameters, or physical or chemical laws or properties. Examples of analytical methods include, but are not limited to:

(1) Use of material balances based on process stoichiometry to estimate maximum organic HAP concentrations.

(2) Estimation of maximum flow rate based on physical equipment design such as pump or blower capacities.

(3) Estimation of HAP concentrations based on saturation conditions.

(E) All data, assumptions, and procedures used in the engineering assessment shall be documented in accordance with § 63.1260(e). Data or other information supporting a finding that the emissions estimation equations are inappropriate shall be reported in the Precompliance report.

(3) *Controlled emissions.* An owner or operator shall determine controlled emissions using the procedures in either paragraph (d)(3)(i) or (ii) of this section.

(i) *Small control devices.* Except for condensers, controlled emissions for each process vent that is controlled

using a small control device shall be determined by using the design evaluation described in paragraph (d)(3)(i)(A) of this section, or conducting a performance test in accordance with paragraph (d)(3)(ii) of this section. Whenever a small control device becomes a large control device, the owner or operator must comply with the provisions in paragraph (d)(3)(ii) of this section and submit the test report in the next Periodic report.

(A) *Design evaluation.* The design evaluation shall include documentation demonstrating that the control device being used achieves the required control efficiency under worst-case conditions, as determined from the emission profile described in § 63.1257(b)(8)(ii). The control efficiency determined from this design evaluation shall be applied to uncontrolled emissions to estimate controlled emissions. The documentation must be conducted in accordance with the provisions in paragraph (a)(1) of this section. The design evaluation shall also include the value(s) and basis for the parameter(s) monitored under § 63.1258.

(B) *Emission estimation equations.* An owner or operator using a condenser as a control device shall determine controlled emissions using exhaust gas temperature measurements and calculations for each batch emission episode within each unit operation according to the engineering methodology in paragraphs (d)(3)(i)(B)(1) through (8) of this section. Individual HAP partial pressures shall be calculated as specified in paragraph (d)(2)(i) of this section.

(1) Emissions from vapor displacement shall be calculated using Equation 11 of this subpart with T set equal to the temperature of the receiver and the HAP partial pressures determined at the temperature of the receiver.

(2) Emissions from purging shall be calculated using Equation 12 of this subpart with T set equal to the temperature of the receiver and the HAP partial pressures determined at the temperature of the receiver.

(3) Emissions from heating shall be calculated using either Equation 13 of this subpart or Equation 37 of this subpart. In Equation 13, the HAP vapor pressures shall be determined at the

temperature of the receiver. In Equations 13 and 37 of this subpart,  $\Delta\eta$  is equal to the number of moles of noncondensable displaced from the vessel, as calculated using Equation 15 of this subpart. In Equations 13 and 37 of this subpart, the HAP average molecular weight shall be calculated using Equation 17 with the HAP partial pressures determined at the temperature of the receiver.

$$E = \Delta\eta \times \frac{\sum_{i=1}^n P_i}{P_T - \sum_{j=1}^m P_j} \times MW_{HAP} \quad (\text{Eq. 37})$$

$$E = (V_{nc1} - V_{nc2}) \times \frac{\sum_{i=1}^n (P_i)}{P_T - \sum_{j=1}^m (P_j)} \times \frac{P_T}{RT} \times MW_{HAP} \quad (\text{Eq. 38})$$

Where:

$E$  = mass of HAP vapor emitted  
 $V_{nc1}$  = initial volume of noncondensable in the vessel, corrected to the final pressure, as calculated using Equation 39 of this subpart  
 $V_{nc2}$  = final volume of noncondensable in the vessel, as calculated using Equation 40 of this subpart  
 $P_i$  = partial pressure of each individual HAP at the receiver temperature  
 $P_j$  = partial pressure of each condensable (including HAP) at the receiver temperature  
 $P_T$  = receiver pressure  
 $T$  = temperature of the receiver  
 $R$  = ideal gas law constant  
 $MW_{HAP}$  = the average molecular weight of HAP calculated using Equation 17 of this subpart with partial pressures determined at the receiver temperature  
 $i$  = identifier for a HAP compound  
 $n$  = number of HAP compounds in the emission stream  
 $m$  = number of condensable compounds (including HAP) in the emission stream  
 $j$  = identifier for a condensable compound

(ii) The initial and final volumes of noncondensable gas present in the vessel, adjusted to the pressure of the receiver, are calculated using Equations 39 and 40 of this subpart.

Where:

$E$  = mass of HAP emitted  
 $\Delta\eta$  = moles of noncondensable gas displaced  
 $P_T$  = pressure in the receiver  
 $P_i$  = partial pressure of the individual HAP at the receiver temperature  
 $P_j$  = partial pressure of the individual condensable (including HAP) at the receiver temperature  
 $n$  = number of HAP compounds in the emission stream  
 $i$  = identifier for a HAP compound  
 $MW_{HAP}$  = the average molecular weight of HAP in vapor exiting the receiver, as calculated using Equation 17 of this subpart  
 $m$  = number of condensable compounds (including HAP) in the emission stream

(4)(i) Emissions from depressurization shall be calculated using Equation 38 of this subpart.

$$V_{nc1} = \frac{VP_{nc1}}{P_T} \quad (\text{Eq. 39})$$

$$V_{nc2} = \frac{VP_{nc2}}{P_T} \quad (\text{Eq. 40})$$

Where:

$V_{nc1}$  = initial volume of noncondensable gas in the vessel  
 $V_{nc2}$  = final volume of noncondensable gas in the vessel  
 $V$  = free volume in the vessel being depressurized  
 $P_{nc1}$  = initial partial pressure of the noncondensable gas, as calculated using Equation 41 of this subpart  
 $P_{nc2}$  = final partial pressure of the noncondensable gas, as calculated using Equation 42 of this subpart  
 $P_T$  = pressure of the receiver

(iii) Initial and final partial pressures of the noncondensable gas in the vessel are determined using Equations 41 and 42 of this subpart.

$$P_{nc1} = P_1 - \sum_{j=1}^m P_j \quad (\text{Eq. 41})$$

$$P_{nc2} = P_2 - \sum_{j=1}^m P_j \quad (\text{Eq. 42})$$

Where:

$P_{nc1}$  = initial partial pressure of the non-condensable gas in the vessel

$P_{nc2}$  = final partial pressure of the non-condensable gas in the vessel

$P_1$  = initial vessel pressure

$P_2$  = final vessel pressure

$P_j$  = partial pressure of each condensable compound (including HAP) in the vessel

$m$  = number of condensable compounds (including HAP) in the emission stream

$j$  = identifier for a condensable compound

(5) Emissions from vacuum systems shall be calculated using Equation 33 of this subpart.

(6) Emissions from gas evolution shall be calculated using Equation 12 with  $V$  calculated using Equation 34 of this subpart,  $T$  set equal to the receiver temperature, and the HAP partial pressures determined at the receiver temperature. The term for time,  $t$ , in Equation 12 of this subpart is not needed for the purposes of this calculation.

(7) Emissions from air drying shall be calculated using Equation 11 of this subpart with  $V$  equal to the air flow rate and  $P_i$  determined at the receiver temperature.

(8) Emissions from empty vessel purging shall be calculated using equation 43 of this subpart:

$$E = \frac{V}{R} \left( \left( \sum_{i=1}^n \frac{(P_i)_{T_1} (MW_i)}{T_1} \right) \left( e^{-Ft/V} \right) - \left( \sum_{i=1}^n \frac{(P_i)_{T_2} (MW_i)}{T_2} \right) \left( \ln \left( \frac{\sum_{i=1}^n (P_i)_{T_2}}{\sum_{i=1}^n (P_i)_{T_1}} \right) + 1 \right) \right) \quad (\text{Eq. 43})$$

Where:

$V$  = volume of empty vessel

$R$  = ideal gas law constant

$T_1$  = temperature of the vessel vapor space at beginning of purge

$T_2$  = temperature of the receiver, absolute

$(P_i)_{T_1}$  = partial pressure of the individual HAP at the beginning of the purge

$(P_i)_{T_2}$  = partial pressure of the individual HAP at the receiver temperature

$MW_i$  = molecular weight of the individual HAP

$F$  = flowrate of the purge gas

$t$  = duration of the purge

$n$  = number of HAP compounds in the emission stream

$i$  = identifier for a HAP compound

(ii) *Large control devices.* Except for condensers, controlled emissions for each process vent that is controlled using a large control device shall be determined by applying the control efficiency of the large control device to the estimated uncontrolled emissions. The control efficiency shall be determined by conducting a performance test on the control device as described in paragraphs (d)(3)(ii)(A) through (C)

of this section, or by using the results of a previous performance test as described in paragraph (d)(4) of this section. If the control device is intended to control only hydrogen halides and halogens, the owner or operator may assume the control efficiency of organic HAP is zero percent. If the control device is intended to control only organic HAP, the owner or operator may assume the control efficiency for hydrogen halides and halogen is zero percent. Owners and operators are not required to conduct performance tests for devices described in paragraphs (a)(4) and (d)(4) of this section that are large control devices, as defined in § 63.1251.

(A) The performance test shall be conducted by performing emission testing on the inlet and outlet of the control device following the test methods and procedures of § 63.1257(b). Concentrations shall be calculated from the data obtained through emission testing according to the procedures in paragraph (a)(2) of this section.

(B) Performance testing shall be conducted under absolute, or hypothetical worst-case conditions, as defined in paragraphs (b)(8)(i)(A) through (B) of this section.

(C) The owner or operator may elect to conduct more than one performance test on the control device for the purpose of establishing more than one operating condition at which the control device achieves the required control efficiency.

(iii) *Initial compliance demonstration for condensers.* (A) *Air pollution control devices.* During periods in which a condenser functions as an air pollution control device, controlled emissions shall be calculated using the emission estimation equations described in paragraph (d)(3)(i)(B) of this section.

(B) *Process condensers.* During periods when the condenser is operating as a process condenser, the owner or operator is required to demonstrate that the process condenser is properly operated if the process condenser meets either of the criteria described in paragraphs (d)(3)(iii)(B)(1) and (2) of this section. The owner or operator must either measure the condenser exhaust gas temperature and show it is less than the boiling or bubble point of the substance(s) in the vessel, or perform a material balance around the vessel and condenser to show that at least 99 percent of the material vaporized while boiling is condensed. The initial demonstration shall be conducted for all appropriate operating scenarios and documented in the Notification of Compliance Status report described in § 63.1260(f).

(1) The process condenser is not followed by an air pollution control device; or

(2) The air pollution control device following the process condenser is not a condenser or is not meeting the alternative standard of § 63.1254(c).

(4) An owner or operator is not required to conduct a performance test for the following:

(i) Any control device for which a previous performance test was conducted, provided the test was conducted using the same procedures specified in § 63.1257(b) over conditions typical of the appropriate worst-case, as defined in § 63.1257(b)(8)(i). The results

of the previous performance test shall be used to demonstrate compliance.

(e) *Compliance with wastewater provisions—(1) Determining annual average concentration and annual load.* To determine the annual average concentration and annual load of partially soluble and/or soluble HAP compounds in a wastewater stream, as required by § 63.1256(a)(1), an owner or operator shall comply with the provisions in paragraphs (e)(1)(i) through (iii) of this section. A wastewater stream is exempt from the requirements of § 63.1256(a)(2) if the owner or operator determines the annual average concentration and annual load are below all of the applicability cutoffs specified in § 63.1256(a)(1)(i)(A) through (D). For annual average concentration, only initial rinses are included. Concentration measurements based on Method 305 shall be adjusted by dividing each concentration by the compound-specific Fm factor listed in Table 8 of this subpart. Concentration measurements based on methods other than Method 305 may not be adjusted by the compound-specific Fm factor listed in Table 8 of this subpart.

(i) *Annual average concentration definition.* (A) When complying with § 63.1256(a)(1)(i)(A), the annual average concentration means the total mass of partially soluble HAP compounds occurring in the wastewater stream during the calendar year divided by the total mass of the wastewater stream discharged during the same calendar year.

(B) When complying with § 63.1256(a)(1)(i)(B) or (C), the annual average concentration means the total mass of partially soluble and/or soluble HAP compounds occurring in the wastewater stream during the calendar year divided by the total mass of the wastewater stream discharged during the same calendar year.

(C) When complying with § 63.1256(a)(1)(i)(D), the annual average concentration means the total mass of soluble HAP compounds occurring in the wastewater stream during the calendar year divided by the total mass of the wastewater stream discharged during the same calendar year.

(ii) *Determination of annual average concentration.* An owner or operator

shall determine annual average concentrations of partially soluble and/or soluble HAP compounds in accordance with the provisions specified in paragraph (e)(1)(ii)(A), (B), or (C) of this section. The owner or operator may determine annual average concentrations by process simulation. Data and other information supporting the simulation shall be reported in the Precompliance Report for approval by the Administrator. The annual average concentration shall be determined either at the POD or downstream of the POD with adjustment for concentration changes made according to paragraph (e)(1)(ii)(D) of this section.

(A) *Test methods.* The concentration of partially soluble HAP, soluble HAP, or total HAP shall be measured using any of the methods described in paragraphs (b)(10)(i) through (iv) of this section.

(B) *Knowledge of the wastewater stream.* The concentration of partially soluble HAP, soluble HAP, or total HAP shall be calculated based on knowledge of the wastewater stream according to the procedures in paragraphs (e)(1)(ii)(B)(1) and (2) of this section. The owner or operator shall document concentrations in the Notification of Compliance Status report described in § 63.1260(f).

(1) *Mass balance.* The owner or operator shall calculate the concentrations of HAP compounds in wastewater considering the total quantity of HAP discharged to the water, the amount of water at the POD, and the amounts of water and solvent lost to other mechanisms such as reactions, air emissions, or uptake in product or other processing materials. The quantities of HAP and water shall be based on batch sheets, manufacturing tickets, or FDA bills of materials. In cases where a chemical reaction occurs that generates or consumes HAP, the amount of HAP remaining after a reaction shall be based on stoichiometry assuming 100 percent theoretical consumption or yield, as applicable.

(2) *Published water solubility data.* For single components in water, owners and operators may use the water solubilities published in standard reference texts at the POD temperature

to determine maximum HAP concentration.

(C) *Bench scale or pilot-scale test data.* The concentration of partially soluble HAP, soluble HAP, or total HAP shall be calculated based on bench scale or pilot-scale test data. The owner or operator shall provide sufficient information to demonstrate that the bench-scale or pilot-scale test concentration data are representative of actual HAP concentrations. The owner or operator shall also provide documentation describing the testing protocol, and the means by which sample variability and analytical variability were accounted for in the determination of HAP concentrations. Documentation of the pilot-scale or bench scale analysis shall be provided in the precompliance report.

(D) *Adjustment for concentrations determined downstream of the POD.* The owner or operator shall make corrections to the annual average concentration when the concentration is determined downstream of the POD at a location where: two or more wastewater streams have been mixed; one or more wastewater streams have been treated; or, losses to the atmosphere have occurred. The owner or operator shall make the adjustments either to the individual data points or to the final annual average concentration.

(iii) *Determination of annual load.* An owner or operator shall calculate the partially soluble and/or soluble HAP load in a wastewater stream based on the annual average concentration determined in paragraph (e)(1)(ii) (A), (B), or (C) of this section and the total volume of the wastewater stream, based on knowledge of the wastewater stream in accordance with paragraphs (e)(1)(ii)(B) of this section. The owner or operator shall maintain records of the total liters of wastewater discharged per year as specified in § 63.1259(b).

(2) *Compliance with treatment unit control provisions.* (i) *Performance tests and design evaluations-general.* To comply with the control options in § 63.1256(g) (10) or (13), neither a design evaluation nor a performance test is required. For any other nonbiological treatment process, the owner or operator shall conduct either a design evaluation as

specified in paragraph (e)(2)(ii) of this section, or a performance test as specified in paragraph (e)(2)(iii) of this section to demonstrate that each non-biological treatment process used to comply with § 63.1256(g) (8), (9), and/or (12) achieves the conditions specified for compliance. The owner or operator shall demonstrate by the procedures in either paragraph (e)(2) (ii) or (iii) of this section that each closed biological treatment process used to comply with § 63.1256 (g)(8)(ii), (g)(9)(ii), (g)(11), or (g)(12) achieves the conditions specified for compliance. If an open biological treatment unit is used to comply with § 63.1256 (g)(8)(ii), (g)(9)(ii), (g)(11), or (g)(12), the owner or operator shall comply with the performance test requirements in paragraph (e)(2)(iii) of this section.

(ii) *Design evaluation.* A design evaluation and supporting documentation that addresses the operating characteristics of the treatment process and that is based on operation at a wastewater stream flow rate and a concentration under which it would be most difficult to demonstrate compliance. For closed biological treatment processes, the percent reduction from removal/destruction in the treatment unit and control device shall be determined by a mass balance over the unit. The mass flow rate of soluble and/or partially soluble HAP compounds exiting the treatment process shall be the sum of the mass flow rate of soluble and/or partially soluble HAP compounds in the wastewater stream exiting the biological treatment process and the mass flow rate of the vented gas stream exiting the control device. The mass flow rate entering the treatment process minus the mass flow rate exiting the process determines the actual mass removal. Compounds that meet the requirements specified in paragraph (e)(2)(iii)(A)(4) of this section are not required to be included in the design evaluation; the term "performance test" in paragraph (e)(2)(iii)(A)(4) of this section shall mean "design evaluation" for the purposes of this paragraph.

(iii) *Performance tests.* Performance tests shall be conducted using test methods and procedures that meet the applicable requirements specified in

paragraphs (e)(2)(iii)(A) through (G) of this section.

(A) *General.* This paragraph specifies the general procedures for performance tests that are conducted to demonstrate compliance of a treatment process with the control requirements specified in § 63.1256(g).

(1) *Representative process unit operating conditions.* Compliance shall be demonstrated for representative operating conditions. Operations during periods of malfunction and periods of nonoperation shall not constitute representative conditions. The owner or operator shall record the process information that is necessary to document operating conditions during the test.

(2) *Representative treatment process operating conditions.* Performance tests shall be conducted when the treatment process is operating at a representative inlet flow rate and concentration. If the treatment process will be operating at several different sets of representative operating conditions, the owner or operator shall comply with paragraphs (e)(2)(iii)(A)(2)(i) and (ii) of this section. The owner or operator shall record information that is necessary to document treatment process or control device operating conditions during the test.

(i) *Range of operating conditions.* If the treatment process will be operated at several different sets of representative operating conditions, performance testing over the entire range is not required. In such cases, the performance test results shall be supplemented with modeling and/or engineering assessments to demonstrate performance over the operating range.

(ii) *Consideration of residence time.* If concentration and/or flow rate to the treatment process are not relatively constant (i.e., comparison of inlet and outlet data will not be representative of performance), the owner or operator shall consider residence time, when determining concentration and flow rate.

(3) *Testing equipment.* All testing equipment shall be prepared and installed as specified in the applicable test methods, or as approved by the Administrator.

(4) *Compounds not required to be considered in performance tests.* Compounds that meet the requirements specified



in (e)(2)(iii)(A)(4)(i), (ii), or (iii) of this section are not required to be included in the performance test. Concentration measurements based on Method 305 shall be adjusted by dividing each concentration by the compound-specific Fm factor listed in Table 8 of this subpart. Concentration measurements based on methods other than Method 305 shall not be adjusted by the compound-specific Fm factor listed in Table 8 of this subpart.

(i) Compounds not used or produced by the PMPU; or

(ii) Compounds with concentrations at the POD that are below 1 ppmw; or

(iii) Compounds with concentrations at the POD that are below the lower detection limit where the lower detection limit is greater than 1 ppmw. The method shall be an analytical method for wastewater which has the compound of interest as a target analyte.

(5) *Treatment using a series of treatment processes.* In all cases where the wastewater provisions in this subpart allow or require the use of a treatment process to comply with emissions limitations, the owner or operator may use multiple treatment processes. The owner or operator complying with the requirements of § 63.1256(g)(7)(i), when wastewater is conveyed by hard-piping, shall comply with either paragraph (e)(2)(iii)(A)(5)(i) or (ii) of this section. The owner or operator complying with the requirements of § 63.1256(g)(7)(ii) shall comply with the requirements of paragraph (e)(2)(iii)(A)(5)(ii) of this section.

(i) The owner or operator shall conduct the performance test across each series of treatment processes. For each series of treatment processes, inlet concentration and flow rate shall be measured either where the wastewater enters the first treatment process in a series of treatment processes, or prior to the first treatment process as specified in paragraph (e)(2)(iii)(A)(6) of this section. For each series of treatment processes, outlet concentration and flow rate shall be measured where the wastewater exits the last treatment process in the series of treatment processes, except when the last treatment process is an open or a closed aerobic biological treatment process demonstrating compliance by using the

procedures in paragraphs (e)(2)(iii)(E) or (F) of this section. When the last treatment process is either an open or a closed aerobic biological treatment process demonstrating compliance by using the procedures in paragraphs (e)(2)(iii)(E) or (F) of this section, inlet and outlet concentrations and flow rates shall be measured at the inlet and outlet to the series of treatment processes prior to the biological treatment process and at the inlet to the biological treatment process, except as provided in paragraph (e)(2)(iii)(A)(6)(ii) of this section. The mass flow rate destroyed in the biological treatment process for which compliance is demonstrated using paragraph (e)(2)(iii)(E) or (F) of this section shall be added to the mass flow rate removed or destroyed in the series of treatment units before the biological treatment unit. This sum shall be used to calculate the overall control efficiency.

(ii) The owner or operator shall conduct the performance test across each treatment process in the series of treatment processes. The mass flow rate removed or destroyed by each treatment process shall be added together and the overall control efficiency calculated to determine whether compliance has been demonstrated using paragraphs (e)(2)(iii)(C), (D), (E), (F), or (G) of this section, as applicable. If a biological treatment process is one of the treatment processes in the series of treatment processes, the inlet to the biological treatment process shall be the point at which the wastewater enters the biological treatment process, or the inlet to the equalization tank if all the criteria of paragraph (e)(2)(iii)(A)(6)(ii) of this section are met.

(6) The owner or operator determining the inlet for purposes of demonstrating compliance with paragraph (e)(2)(iii)(E), or (F) of this section may elect to comply with paragraph (e)(2)(iii)(A)(6)(i) or (ii) of this section.

(i) When wastewater is conveyed exclusively by hard-piping from the point of determination to a treatment process that is either the only treatment process or the first in a series of treatment processes (i.e., no treatment processes or other waste management

units are used upstream of this treatment process to store, handle, or convey the wastewater), the inlet to the treatment process shall be at any location from the point of determination to where the wastewater stream enters the treatment process. When samples are taken upstream of the treatment process and before wastewater streams have converged, the owner or operator shall ensure that the mass flow rate of all affected wastewater is accounted for when using § 63.1256(g)(8)(ii), (g)(9)(ii) or (g)(12) of this subpart to comply and that the mass flow rate of all wastewater, not just affected wastewater, is accounted for when using § 63.1256(g)(11) to comply, except as provided in paragraph (e)(2)(iii)(A)(4) of this section.

(ii) The owner or operator may consider the inlet to the equalization tank as the inlet to the biological treatment process if the wastewater is conveyed by hard-piping from either the last previous treatment process or the point of determination to the equalization tank; or the wastewater is conveyed from the equalization tank exclusively by hard-piping to the biological treatment process and no treatment processes or other waste management units are used to store, handle, or convey the wastewater between the equalization tank and the biological treatment process; or the equalization tank is equipped with a fixed roof and a closed-vent system that routes emissions to a control device that meets the requirements of § 63.1256(b)(1)(i) through (iv) and § 63.1256(b)(2)(i). The outlet from the series of treatment processes prior to the biological treatment process is the point at which the wastewater exits the last treatment process in the series prior to the equalization tank, if the equalization tank and biological treatment process are part of a series of treatment processes. The owner or operator shall ensure that the mass flow rate of all affected wastewater is accounted for when using § 63.1256(g)(9)(ii) or (12) to comply and that the mass flow rate of all wastewater, not just affected wastewater is accounted for when using § 63.1256(g)(11) to comply, except as provided in paragraph (e)(2)(iii)(A)(4) of this section.

(B) *Noncombustion treatment process—concentration limits.* This paragraph applies to performance tests that are conducted to demonstrate compliance of a noncombustion treatment process with the ppmw wastewater stream concentration limits at the outlet of the treatment process. This compliance option is specified in § 63.1256(g)(8)(i) and (9)(i). Wastewater samples shall be collected using sampling procedures which minimize loss of organic compounds during sample collection and analysis and maintain sample integrity per paragraph (b)(10)(vi) of this section. Samples shall be collected and analyzed using the procedures specified in paragraphs (b)(10)(i) through (vi) of this section. Samples may be grab samples or composite samples. Samples shall be taken at approximately equally spaced time intervals over a 1-hour period. Each 1-hour period constitutes a run, and the performance test shall consist of a minimum of three runs. Concentration measurements based on methods other than Method 305 may be adjusted by multiplying each concentration by the compound-specific Fm factor listed in Table 8 of this subpart. (For affected wastewater streams that contains both partially soluble and soluble HAP compounds, compliance is demonstrated only if the sum of the concentrations of partially soluble HAP compounds is less than 50 ppmw, and the sum of the concentrations of soluble HAP compounds is less than 520 ppmw.)

(C) *Noncombustion, nonbiological treatment process: percent mass removal/destruction option.* This paragraph applies to performance tests that are conducted to demonstrate compliance of a noncombustion, nonbiological treatment process with the percent mass removal limits specified in § 63.1256(g)(8)(ii) and (9)(ii) for partially soluble and soluble HAP compounds, respectively. The owner or operator shall comply with the requirements specified in paragraphs (e)(2)(iii)(C)(1) through (5) of this section.

(1) *Concentration.* The concentration of partially soluble and/or soluble HAP compounds entering and exiting the treatment process shall be determined as provided in this paragraph. Wastewater samples shall be collected using

sampling procedures which minimize loss of organic compounds during sample collection and analysis and maintain sample integrity per paragraph (b)(10)(vi) of this section. The method shall be an analytical method for wastewater which has the compound of interest as a target analyte. Samples may be grab samples or composite samples. Samples shall be taken at approximately equally spaced time intervals over a 1-hour period. Each 1-hour period constitutes a run, and the performance test shall consist of a minimum of three runs. Concentration measurements based on Method 305 shall be adjusted by dividing each concentration by the compound-specific Fm factor listed in Table 8 of this subpart. Concentration measurements based on methods other than Method

305 shall not be adjusted by the compound-specific Fm factor listed in Table 8 of this subpart.

(2) *Flow rate.* The flow rate of the entering and exiting wastewater streams shall be determined using inlet and outlet flow meters, respectively. Where the outlet flow is not greater than the inlet flow, a single flow meter may be used, and may be used at either the inlet or outlet. Flow rate measurements shall be taken at the same time as the concentration measurements.

(3) *Calculation of mass flow rate—for noncombustion, nonbiological treatment processes.* The mass flow rates of partially soluble and/or soluble HAP compounds entering and exiting the treatment process are calculated using Equations 44 and 45 of this subpart.

$$QMW_a = \frac{\rho}{p * 10^6} \left( \sum_{k=1}^p (Q_{a,k} * C_{T,a,k}) \right) \quad (\text{Eq. 44})$$

$$QMW_b = \frac{\rho}{p * 10^6} \left( \sum_{k=1}^p (Q_{b,k} * C_{T,b,k}) \right) \quad (\text{Eq. 45})$$

Where:

$QMW_a$ ,  $QMW_b$  = mass flow rate of partially soluble or soluble HAP compounds, average of all runs, in wastewater entering ( $QMW_a$ ) or exiting ( $QMW_b$ ) the treatment process, kg/hr

$\rho$  = density of the wastewater, kg/m<sup>3</sup>

$Q_{a,k}$ ,  $Q_{b,k}$  = volumetric flow rate of wastewater entering ( $Q_{a,k}$ ) or exiting ( $Q_{b,k}$ ) the treatment process during each run  $k$ , m<sup>3</sup>/hr

$C_{T,a,k}$ ,  $C_{T,b,k}$  = total concentration of partially soluble or soluble HAP compounds in wastewater entering ( $C_{T,a,k}$ ) or exiting ( $C_{T,b,k}$ ) the treatment process during each run  $k$ , ppmw

$p$  = number of runs

$k$  = identifier for a run

10<sup>6</sup> = conversion factor, mg/kg

(4) *Percent removal calculation for mass flow rate.* The percent mass removal across the treatment process shall be calculated as follows:

$$E = \frac{QMW_a - QMW_b}{QMW_a} \times 100 \quad (\text{Eq. 46})$$

Where:

$E$  = removal or destruction efficiency of the treatment process, percent

$QMW_a$ ,  $QMW_b$  = mass flow rate of partially soluble or soluble HAP compounds in wastewater entering ( $QMW_a$ ) and exiting ( $QMW_b$ ) the treatment process, kg/hr (as calculated using Equations 44 and 45 of this subpart)

(5) *Compare mass removal efficiency to required efficiency.* Compare the mass removal efficiency (calculated in Equation 46 of this subpart) to the required efficiency as specified in § 63.1256(g)(8)(ii) or (9)(ii). If complying with § 63.1256(g)(8)(ii), compliance is demonstrated if the mass removal efficiency is 99 percent or greater. If complying with § 63.1256(g)(9)(ii), compliance is demonstrated if the mass removal efficiency is 90 percent or greater.

(D) *Combustion treatment processes: percent mass removal/destruction option.* This paragraph applies to performance tests that are conducted to demonstrate compliance of a combustion

treatment process with the percent mass destruction limits specified in § 63.1256(g)(8)(ii) for partially soluble HAP compounds, and/or § 63.1256(g)(9)(ii) for soluble HAP compounds. The owner or operator shall comply with the requirements specified in paragraphs (e)(2)(iii)(D)(1) through (8) of this section.

(1) *Concentration in wastewater stream entering the combustion treatment process.* The concentration of partially soluble and/or soluble HAP compounds entering the treatment process shall be determined as provided in this paragraph. Wastewater samples shall be collected using sampling procedures which minimize loss of organic compounds during sample collection and analysis and maintain sample integrity per paragraph (b)(10)(vi) of this section. The method shall be an analytical method for wastewater which has the compound of interest as a target analyte. Samples may be grab samples or composite samples. Samples shall be taken at approximately equally spaced time intervals over a 1-hour period.

Each 1-hour period constitutes a run, and the performance test shall consist of a minimum of three runs. Concentration measurements based on Method 305 of appendix A of this part shall be adjusted by dividing each concentration by the compound-specific Fm factor listed in Table 8 of this subpart. Concentration measurements based on methods other than Method 305 shall not be adjusted by the compound-specific Fm factor listed in Table 8 of this subpart.

(2) *Flow rate of wastewater entering the combustion treatment process.* The flow rate of the wastewater stream entering the combustion treatment process shall be determined using an inlet flow meter. Flow rate measurements shall be taken at the same time as the concentration measurements.

(3) *Calculation of mass flow rate in wastewater stream entering combustion treatment processes.* The mass flow rate of partially soluble and/or soluble HAP compounds entering the treatment process is calculated as follows:

$$QMW_a = \frac{\rho}{p * 10^6} \left( \sum_{k=1}^p (Q_{a,k} * C_{T,a,k}) \right) \quad (\text{Eq. 47})$$

Where:

QMW<sub>a</sub> = mass flow rate of partially soluble or soluble HAP compounds entering the combustion unit, kg/hr

ρ = density of the wastewater stream, kg/m<sup>3</sup>

Q<sub>a,k</sub> = volumetric flow rate of wastewater entering the combustion unit during run k, m<sup>3</sup>/hr

C<sub>T,a,k</sub> = total concentration of partially soluble or soluble HAP compounds in the wastewater stream entering the combustion unit during run k, ppmw

k = identifier for a run

p = number of runs

(4) *Concentration in vented gas stream exiting the combustion treatment process.* The concentration of partially soluble and/or soluble HAP compounds (or TOC) exiting the combustion treatment process in any vented gas stream shall be determined as provided in this paragraph. Samples may be grab samples or composite samples. Samples shall be taken at approximately equal-

ly spaced time intervals over a 1-hour period. Each 1-hour period constitutes a run, and the performance test shall consist of a minimum of three runs. Concentration measurements shall be determined using Method 18 of 40 CFR part 60, appendix A. Alternatively, any other test method validated according to the procedures in Method 301 of appendix A of this part may be used.

(5) *Volumetric flow rate of vented gas stream exiting the combustion treatment process.* The volumetric flow rate of the vented gas stream exiting the combustion treatment process shall be determined using Method 2, 2A, 2C, or 2D of 40 CFR part 60, appendix A, as appropriate. Volumetric flow rate measurements shall be taken at the same time as the concentration measurements.

(6) *Calculation of mass flow rate of vented gas stream exiting combustion treatment processes.* The mass flow rate

of partially soluble and/or soluble HAP compounds in a vented gas stream exiting the combustion treatment process shall be calculated as follows:

$$QMG_b = K_2 * \left( \sum_{i=1}^n (CG_{b,i} * MW_i) \right) * QG_b \quad (\text{Eq. 48})$$

Where:

$QMG_b$  = mass rate of TOC (minus methane and ethane) or total partially soluble and/or soluble HAP, in vented gas stream, exiting ( $QMG_b$ ) the combustion device, dry basis, kg/hr

$CG_{b,i}$  = concentration of TOC (minus methane and ethane) or total partially soluble and/or soluble HAP, in vented gas stream, exiting ( $CG_{b,i}$ ) the combustion device, dry basis, ppmv

$MW_i$  = molecular weight of a component, kilogram/kilogram-mole

$QG_b$  = flow rate of gas stream exiting ( $QG_b$ ) the combustion device, dry standard cubic meters per hour

$K_2$  = constant,  $41.57 \times 10^{-9}$  (parts per million)<sup>-1</sup> (gram-mole per standard cubic meter) (kilogram/gram), where standard temperature (gram-mole per standard cubic meter) is 20 °C

$i$  = identifier for a compound

$n$  = number of components in the sample

(7) *Destruction efficiency calculation.* The destruction efficiency of the combustion unit for partially soluble and/or soluble HAP compounds shall be calculated as follows:

$$E = \frac{QMW_a - QMG_b}{QMW_a} * 100 \quad (\text{Eq. 49})$$

Where:

$E$  = destruction efficiency of partially soluble or soluble HAP compounds for the combustion unit, percent

$QMW_a$  = mass flow rate of partially soluble or soluble HAP compounds entering the combustion unit, kg/hr

$QMG_b$  = mass flow rate of TOC (minus methane and ethane) or partially soluble and/or soluble HAP compounds in vented gas stream exiting the combustion treatment process, kg/hr

(8) *Compare mass destruction efficiency to required efficiency.* Compare the mass destruction efficiency (calculated in Equation 49 of this subpart) to the required efficiency as specified in § 63.1256(g)(8)(ii) or (g)(9)(ii). If complying with § 63.1256(g)(8)(ii), compliance is demonstrated if the mass de-

struction efficiency is 99 percent or greater. If complying with § 63.1256(g)(9)(ii), compliance is demonstrated if the mass destruction efficiency is 90 percent or greater.

(E) *Open or closed aerobic biological treatment processes: 95-percent mass destruction option.* This paragraph applies to performance tests that are conducted for open or closed aerobic biological treatment processes to demonstrate compliance with the 95-percent mass destruction provisions in § 63.1256(g)(11) for partially soluble and/or soluble HAP compounds.

(1) *Concentration in wastewater stream.* The concentration of partially soluble and/or soluble HAP as provided in this paragraph. Concentration measurements to determine  $E$  shall be taken as provided in paragraph (e)(2)(iii)(A)(5) of this section for a series of treatment processes. Wastewater samples shall be collected using sampling procedures which minimize loss of organic compounds during sample collection and analysis and maintain sample integrity per paragraph (b)(10)(vi) of this section. The method shall be an analytical method for wastewater which has the compound of interest as a target analyte. Samples may be grab samples or composite samples. Samples shall be taken at approximately equally spaced time intervals over a 1-hour period. Each 1-hour period constitutes a run, and the performance test shall consist of a minimum of three runs. Concentration measurements based on Method 305 shall be adjusted by dividing each concentration by the compound-specific  $F_m$  factor listed in Table 8 of this subpart. Concentration measurements based on methods other than Method 305 shall not be adjusted by the compound-specific  $F_m$  factor listed in Table 8 of this subpart.

(2) *Flow rate.* Flow rate measurements to determine  $E$  shall be taken as

provided in paragraph (e)(2)(iii)(A)(5) of this section for a series of treatment processes. Flow rate shall be determined using inlet and outlet flow measurement devices. Where the outlet flow is not greater than the inlet flow, a single flow measurement device may be used, and may be used at either the inlet or outlet. Flow rate measurements shall be taken at the same time as the concentration measurements.

(3) *Destruction efficiency.* The owner or operator shall comply with the provisions in either paragraph (e)(2)(iii)(E)(3)(i) or (ii) of this section. Compliance is demonstrated if the destruction efficiency, E, is equal to or greater than 95 percent.

(i) If the performance test is performed across the open or closed biological treatment system only, compliance is demonstrated if E is equal to  $F_{bio}$ , where E is the destruction effi-

ciency of partially soluble and/or soluble HAP compounds and  $F_{bio}$  is the site-specific fraction of partially soluble and/or soluble HAP compounds biodegraded.  $F_{bio}$  shall be determined as specified in paragraph (e)(2)(iii)(E)(4) of this section and appendix C of subpart G of this part.

(ii) If compliance is being demonstrated in accordance with paragraphs (e)(2)(iii)(A)(5)(i) or (ii) of this section, the removal efficiency shall be calculated using Equation 50 of this subpart. When complying with paragraph (e)(2)(iii)(A)(5)(i) of this section, the series of nonbiological treatment processes comprise one treatment process segment. When complying with paragraph (e)(2)(iii)(A)(5)(ii) of this section, each nonbiological treatment process is a treatment process segment.

$$E = \frac{\text{Nonbiotreatment HAP load removal} + \text{Biotreatment HAP load removal}}{\text{Total influent HAP load}} = \frac{\left( \sum_{i=1}^n (QMW_{a,i} - QMW_{b,i}) \right) + QMW_{bio} \cdot F_{bio}}{QMW_{a1}} \quad (\text{Eq. 50})$$

Where:

$QMW_{a,i}$  = the soluble and/or partially soluble HAP load entering a treatment process segment

$QMW_{b,i}$  = the soluble and/or partially soluble HAP load exiting a treatment process segment

n = the number of treatment process segments

i = identifier for a treatment process element

$QMW_{bio}$  = the inlet load of soluble and/or partially soluble HAP to the biological treatment process. The inlet is defined in accordance with paragraph (e)(2)(iii)(A)(6) of this section. If complying with paragraph (e)(2)(iii)(A)(6)(ii) of this section,  $QMW_{bio}$  is equal to  $QMW_{b,n}$

$F_{bio}$  = site-specific fraction of soluble and/or partially soluble HAP compounds biodegraded.  $F_{bio}$  shall be determined as specified in paragraph (e)(2)(iii)(E)(4) of this section and Appendix C of subpart G of this part.

$QMW_{a1}$  = the total soluble and/or partially soluble HAP load to be treated.

(4) *Site-specific fraction biodegraded* ( $F_{bio}$ ). The procedures used to determine the compound-specific kinetic parameters for use in calculating  $F_{bio}$  dif-

fer for the compounds listed in Tables 2 and 3 of this subpart. An owner or operator shall calculate  $F_{bio}$  as specified in either paragraph (e)(2)(iii)(E)(4)(i) or (ii) of this section.

(i) For biological treatment processes that do not meet the definition for enhanced biological treatment in § 63.1251, the owner or operator shall determine the  $F_{bio}$  for the compounds in Tables 2 and 3 of this subpart using any of the procedures in appendix C to part 63, except procedure 3 (inlet and outlet concentration measurements). (The symbol " $F_{bio}$ " represents the site-specific fraction of an individual partially soluble or soluble HAP compound that is biodegraded.)

(ii) If the biological treatment process meets the definition of "enhanced biological treatment process" in § 63.1251, the owner or operator shall determine  $F_{bio}$  for the compounds in Table 2 of this subpart using any of the procedures specified in appendix C to part 63. The owner or operator shall calculate  $F_{bio}$  for the compounds in

Table 3 of this subpart using the defaults for first order biodegradation rate constants ( $K_1$ ) in Table 9 of this subpart and follow the procedure explained in Form III of appendix C, 40 CFR part 63, or any of the procedures specified in appendix C of 40 CFR part 63.

(F) *Open or closed aerobic biological treatment processes: percent removal for partially soluble or soluble HAP compounds.* This paragraph applies to the use of performance tests that are conducted for open or closed aerobic biological treatment processes to demonstrate compliance with the percent removal provisions for either partially soluble HAP compounds in § 63.1256(g)(8)(ii) or soluble HAP compounds in § 63.1256(g)(9)(ii) or (g)(12). The owner or operator shall comply with the provisions in paragraph (e)(2)(iii)(E) of this section, except that compliance with § 63.1256(g)(8)(ii) shall be demonstrated when E is equal to or greater than 99 percent, compliance with § 63.1256(g)(9)(ii) shall be demonstrated when E is equal to or greater than 90 percent, and compliance with § 63.1256(g)(12) shall be demonstrated when E is equal to or greater than 99 percent.

(G) *Closed biological treatment processes: percent mass removal option.* This paragraph applies to the use of performance tests that are conducted for closed biological treatment processes to demonstrate compliance with the percent removal provisions in §§ 63.1256(g)(8)(ii), (g)(9)(ii), (g)(11), or (g)(12). The owner or operator shall

comply with the requirements specified in paragraphs (e)(2)(iii)(G) (1) through (4) of this section.

(1) Comply with the procedures specified in paragraphs (e)(2)(iii)(C) (1) through (3) of this section to determine characteristics of the wastewater entering the biological treatment unit, except that the term "partially soluble and/or soluble HAP" shall mean "soluble HAP" for the purposes of this section if the owner or operator is complying with § 63.1256(g)(9)(ii) or (g)(12), and it shall mean "partially soluble HAP" if the owner or operator is complying with § 63.1256(g)(8)(ii).

(2) Comply with the procedures specified in paragraphs (e)(2)(iii)(D) (4) through (6) of this section to determine the characteristics of gas vent streams exiting a control device, with the differences noted in paragraphs (e)(2)(iii)(G)(3) (i) and (ii) of this section.

(i) The term "partially soluble and/or soluble HAP" shall mean "soluble HAP" for the purposes of this section if the owner or operator is complying with § 63.1256(g)(9)(ii) or (g)(12), and it shall mean "partially soluble HAP" if the owner or operator is complying with § 63.1256(g)(8)(ii).

(ii) The term "combustion treatment process" shall mean "control device" for the purposes of this section.

(3) *Percent removal/destruction calculation.* The percent removal and destruction across the treatment unit and any control device(s) shall be calculated using Equation 51 of this subpart:

$$E = \frac{(QMW_a - (QMW_b + QMG_b))}{QMW_a} \quad (\text{Eq. 51})$$

Where:

E = removal and destruction efficiency of the treatment unit and control device(s), percent

QMW<sub>a</sub>, QMW<sub>b</sub> = mass flow rate of partially soluble and/or soluble HAP compounds in wastewater entering (QMW<sub>a</sub>) and exiting (QMW<sub>b</sub>) the treatment process, kilograms per hour (as calculated using Equations 44 and 45)

QMG<sub>b</sub> = mass flow rate of partially soluble and/or soluble HAP compounds in vented gas stream exiting the control device, kg/hr

(4) *Compare mass removal/destruction efficiency to required efficiency.* Compare the mass removal/destruction efficiency (calculated using Equation 51 of this subpart) to the required efficiency as specified in § 63.1256(g)(8)(ii),

(g)(9)(ii), (g)(11), or (g)(12). If complying with § 63.1256(g)(8)(ii), compliance is demonstrated if the mass removal/destruction is 99 percent or greater. If complying with § 63.1256(g)(9)(ii), compliance is demonstrated if the mass removal/destruction efficiency is 90 percent or greater. If complying with § 63.1256(g)(11), compliance is demonstrated if the mass removal/destruction efficiency is 95 percent or greater. If complying with § 63.1256(g)(12), compliance is demonstrated if the mass removal/destruction efficiency is 99 percent or greater.

(3) *Compliance with control device provisions.* Except as provided in paragraph (e)(3)(iv) of this section, an owner or operator shall demonstrate that each control device or combination of control devices achieves the appropriate conditions specified in § 63.1256(h)(2) by using one or more of the methods specified in paragraphs (e)(3)(i), (ii), or (iii) of this section.

(i) *Performance test for control devices other than flares.* This paragraph applies to performance tests that are conducted to demonstrate compliance of a control device with the efficiency limits specified in § 63.1256(h)(2). If complying with the 95-percent reduction efficiency requirement, comply with the requirements specified in paragraphs (e)(3)(i) (A) through (J) of this section. If complying with the 20 ppm by volume requirement, comply with the requirements specified in paragraphs (e)(3)(i) (A) through (G) and (e)(3)(i)(J) of this section.

(A) *General.* The owner or operator shall comply with the general performance test provisions in paragraphs (e)(2)(iii)(A) (1) through (4) of this section, except that the term "treatment unit" shall mean "control device" for the purposes of this section.

(B) *Sampling sites.* Sampling sites shall be selected using Method 1 or 1A of 40 CFR part 60, appendix A, as appropriate. For determination of compliance with the 95 percent reduction requirement, sampling sites shall be located at the inlet and the outlet of the control device. For determination of compliance with the 20 ppmv limit, the sampling site shall be located at the outlet of the control device.

(C) *Concentration in gas stream entering or exiting the control device.* The concentration of total organic HAP or TOC in a gas stream shall be determined as provided in this paragraph. Samples may be grab samples or composite samples (i.e., integrated samples). Samples shall be taken at approximately equally spaced time intervals over a 1-hour period. Each 1-hour period constitutes a run, and the performance test shall consist of a minimum of three runs. Concentration measurements shall be determined using Method 18 of 40 CFR part 60, appendix A. Alternatively, any other test method validated according to the procedures in Method 301 of appendix A of this part may be used.

(D) *Volumetric flow rate of gas stream entering or exiting the control device.* The volumetric flow rate of the gas stream shall be determined using Method 2, 2A, 2C, or 2D of 40 CFR part 60, appendix A, as appropriate. Volumetric flow rate measurements shall be taken at the same time as the concentration measurements.

(E) *Calculation of TOC concentration.* The owner or operator shall compute TOC in accordance with the procedures in paragraph (a)(2) of this section.

(F) *Calculation of total organic HAP concentration.* The owner or operator determining compliance based on total organic HAP concentration shall compute the total organic HAP concentration in accordance with the provisions in paragraph (a)(2) of this section.

(G) *Requirements for combustion control devices.* If the control device is a combustion device, the owner or operator shall correct TOC and organic HAP concentrations to 3 percent oxygen in accordance with the provisions in paragraph (a)(3) of this section, and demonstrate initial compliance with the requirements for halogenated streams in accordance with paragraph (a)(6) of this section.

(H) *Mass rate calculation.* The mass rate of either TOC (minus methane and ethane) or total organic HAP for each sample run shall be calculated using the following equations. Where the mass rate of TOC is being calculated, all organic compounds (minus methane and ethane) measured by methods specified in paragraph (e)(3)(i)(C) of this



section are summed using Equations 52 and 53 of this subpart. Where the mass rate of total organic HAP is being cal-

culated, only soluble and partially soluble HAP compounds shall be summed using Equations 52 and 53.

$$\text{QMG}_a = K_2 * \left( \sum_{i=1}^n (\text{CG}_{a,i}) * (\text{MW}_i) \right) * \text{QG}_a \quad (\text{Eq. 52})$$

$$\text{QMG}_b = K_2 * \left( \sum_{i=1}^n (\text{CG}_{b,i}) * (\text{MW}_i) \right) * \text{QG}_b \quad (\text{Eq. 53})$$

Where:

$\text{CG}_{a,i}$ ,  $\text{CG}_{b,i}$  = concentration of TOC or total organic HAP, in vented gas stream, entering ( $\text{CG}_{a,i}$ ) and exiting ( $\text{CG}_{b,i}$ ) the control device, dry basis, ppmv

$\text{QMG}_a$ ,  $\text{QMG}_b$  = mass rate of TOC or total organic HAP, in vented gas stream, entering ( $\text{QMG}_a$ ) and exiting ( $\text{QMG}_b$ ) the control device, dry basis, kg/hr

$\text{M}_w$  = molecular weight of a component, kilogram/kilogram-mole

$\text{QG}_a$ ,  $\text{QG}_b$  = flow rate of gas stream entering ( $\text{QG}_a$ ) and exiting ( $\text{QG}_b$ ) the control device, dry standard cubic meters per hour

$K_2$  = constant,  $41.57 \times 10^{-9}$  (parts per million)<sup>-1</sup> (gram-mole per standard cubic meter) (kilogram/gram), where standard temperature (gram-mole per standard cubic meter) is 20 °C

$i$  = identifier for a compound

$n$  = number of components in the sample

(I) *Percent reduction calculation.* The percent reduction in TOC or total organic HAP for each sample run shall be calculated using Equation 54 of this subpart:

$$E = \frac{\text{QMG}_a - \text{QMG}_b}{\text{QMG}_a} (100\%) \quad (\text{Eq. 54})$$

Where:

$E$  = destruction efficiency of control device, percent

$\text{QMG}_a$ ,  $\text{QMG}_b$  = mass rate of TOC or total organic HAP, in vented gas stream entering and exiting ( $\text{QMG}_b$ ) the control device, dry basis, kilograms per hour

(J) *Compare mass destruction efficiency to required efficiency.* If complying with the 95-percent reduction efficiency requirement, compliance is demonstrated if the mass destruction efficiency (calculated in Equation 51 of this subpart) is 95 percent or greater. If complying with the 20 ppmv limit, compliance is

demonstrated if the outlet TOC concentration is 20 ppmv, or less.

(ii) *Design evaluation.* A design evaluation conducted in accordance with the provisions in paragraph (a)(1) of this section. Compounds that meet the requirements specified in paragraph (e)(2)(iii)(A)(4) of this section are not required to be included in the design evaluation.

(iii) *Compliance demonstration for flares.* When a flare is used to comply with § 63.1256(h), the owner or operator shall comply with the flare provisions in § 63.11(b). An owner or operator is not required to conduct a performance test to determine percent emission reduction or outlet organic HAP or TOC concentration when a flare is used.

(iv) *Exemptions from compliance demonstrations.* An owner or operator using any control device specified in paragraph (a)(4) of this section is exempt from the requirements in paragraphs (e)(3)(i) through (e)(3)(iii) of this section and from the requirements in § 63.6(f).

(f) *Pollution prevention alternative standard.* The owner or operator shall demonstrate compliance with § 63.1252(e)(2) using the procedures described in paragraph (f)(1) and (f)(3) of this section. The owner or operator shall demonstrate compliance with § 63.1252(e)(3) using the procedures described in paragraphs (f)(2) and (f)(3) of this section.

(1) Compliance is demonstrated when the annual kg/kg factor, calculated according to the procedure in paragraphs (f)(1)(i) and (iii) of this section, is reduced by at least 75 percent as calculated according to the procedure in

paragraph (f)(1)(i) and (ii) of this section.

(i) The production-indexed HAP consumption factors shall be calculated by dividing annual consumption of total HAP by the annual production rate, per process. The production-indexed total VOC consumption factor shall be calculated by dividing annual consumption of total VOC by the annual production rate, per process.

(ii) The baseline factor is calculated from yearly production and consumption data for the first 3-year period in which the PMPU was operational, beginning no earlier than the 1987 calendar year, or for a minimum period of 12 months from startup of the process until the present in which the PMPU was operational and data are available, beginning no earlier than the 1987 calendar year.

(iii) The annual factor is calculated on the following bases:

(A) For continuous processes, the annual factor shall be calculated every 30 days for the 12-month period preceding the 30th day (30-day rolling average).

(B) For batch processes, the annual factor shall be calculated either every 10 batches for the 12-month period pre-

ceding the 10th batch (10-batch rolling average) or a maximum of once per month, if the number of batches is greater than 10 batches per month. The annual factor shall be calculated every 5 batches if the number of batches is less than 10 for the 12-month period preceding the 10th batch and shall be calculated every year if the number of batches is less than 5 for the 12-month period preceding the 5th batch.

(2) Compliance is demonstrated when the requirements of paragraphs (f)(2)(i) through (iv) of this section are met.

(i) The annual kg/kg factor, calculated according to the procedure in paragraphs (f)(1)(i) and (f)(1)(iii) of this section, is reduced to a value equal to or less than 50 percent of the baseline factor calculated according to the procedure in paragraphs (f)(1)(i) and (ii) of this section.

(ii) The yearly reductions associated with add-on controls that meet the criteria of §§63.1252(h)(3)(ii)(A) through (D) must be equal to or greater than the amounts calculated in paragraphs (f)(2)(ii)(A) and (B) of this section:

(A) The mass of HAP calculated using Equation 55 of this subpart:

$$M = [\text{kg/kg}]_b (0.75 - P_R) (M_{\text{prod}}) \quad (\text{Eq. 55})$$

Where:

$[\text{kg/kg}]_b$  = the baseline production-indexed HAP consumption factor, in kg/kg

$M_{\text{prod}}$  = the annual production rate, in kg/yr

$M$  = the annual reduction required by add-on controls, in kg/yr

$P_R$  = the fractional reduction in the annual kg/kg factor achieved using pollution prevention where  $P_R$  is  $\geq 0.5$

(B) The mass of VOC calculated using Equation 56 of this subpart:

$$\text{VOC}_{\text{reduced}} = (\text{VF}_{\text{base}} - \text{VF}_p - \text{VF}_{\text{annual}}) \times M_{\text{prod}} \quad (\text{Eq. 56})$$

Where:

$\text{VOC}_{\text{reduced}}$  = required VOC emission reduction from add-on controls, kg/yr

$\text{VF}_{\text{base}}$  = baseline VOC factor, kg VOC emitted/kg production

$\text{VF}_p$  = reduction in VOC factor achieved by pollution prevention, kg VOC emitted/kg production

$\text{VF}_{\text{annual}}$  = target annual VOC factor, kg VOC emitted/kg production

$M_{\text{prod}}$  = production rate, kg/yr

(iii) Demonstration that the criteria in §63.1252(e)(3)(ii)(A) through (D) are met shall be accomplished through a description of the control device and of the material streams entering and exiting the control device.

(iv) The annual reduction achieved by the add-on control shall be quantified using the methods described in §63.1257(d).

(3) Each owner or operator of a PMPU complying with the P2 standard shall prepare a P2 demonstration summary that shall contain, at a minimum, the following information:

(i) Descriptions of the methodologies and forms used to measure and record daily consumption of HAP compounds reduced as part of the P2 standard.

(ii) Descriptions of the methodologies and forms used to measure and record daily production of products which are included in the P2 standard.

(iii) Supporting documentation for the descriptions provided in paragraphs (f)(3)(i) and (ii) including, but not limited to, operator log sheets and copies of daily, monthly, and annual inventories of materials and products.

(g) *Compliance with storage tank provisions by using emissions averaging.* An owner or operator with two or more affected storage tanks may demonstrate compliance with § 63.1253, as applicable, by fulfilling the requirements of paragraphs (g)(1) through (4) of this section.

(1) The owner or operator shall develop and submit for approval an implementation Plan containing all the information required in § 63.1259(e) 6 months prior to the compliance date of the standard. The Administrator shall have 90 days to approve or disapprove the emissions averaging plan after which time the plan shall be considered approved.

(2) The annual mass rate of total organic HAP ( $E_{Ti}$ ,  $E_{To}$ ) shall be calculated for each storage tank included in the emissions average using the procedures specified in paragraph (c)(1), (2), or (3) of this section.

(3) Equations 57 and 58 of this subpart shall be used to calculate total HAP emissions for those tanks subject to § 63.1253(b) or (c):

$$E_{Ti} = \sum_{j=1}^n E_{ij} \quad (\text{Eq. 57})$$

$$E_{To} = \sum_{j=1}^n E_{oj} \quad (\text{Eq. 58})$$

Where:

$E_{ij}$  = yearly mass rate of total HAP at the inlet of the control device for tank j

$E_{oj}$  = yearly mass rate of total HAP at the outlet of the control device for tank j

$E_{Ti}$  = total yearly uncontrolled HAP emissions

$E_{To}$  = total yearly actual HAP emissions

n = number of tanks included in the emissions average

(4) The overall percent reduction efficiency shall be calculated as follows:

$$R = \frac{E_{Ti} - D E_{To}}{E_{Ti}} 100\% \quad (\text{Eq. 59})$$

Where:

R = overall percent reduction efficiency

D = discount factor = 1.1 for all controlled storage tanks

(h) *Compliance with process vent provisions by using emissions averaging.* An owner or operator with two or more affected processes complying with § 63.1254 by using emissions averaging shall demonstrate compliance with paragraphs (h)(1), (2) and (3) of this section.

(1) The owner or operator shall develop and submit for approval an implementation Plan at least 6 months prior to the compliance date of the standard containing all the information required in § 63.1259(e). The Administrator shall have 90 days to approve or disapprove the emissions averaging plan. The plan shall be considered approved if the Administrator either approves the plan in writing, or fails to disapprove the plan in writing. The 90-day period shall begin when the Administrator receives the request. If the request is denied, the owner or operator must still be in compliance with the standard by the compliance date.

(2) Owners or operators shall calculate uncontrolled and controlled emissions of HAP by using the methods specified in paragraph (d)(2) and (3) of this section for each process included in the emissions average.

(3) Equations 60 and 61 of this subpart shall be used to calculate total HAP emissions:

$$E_{TU} = \sum_{i=1}^n E_{Ui} \quad (\text{Eq. 60})$$

$$E_{TC} = \sum_{i=1}^n E_{Ci} \quad (\text{Eq. 61})$$

Where:

$E_{Ui}$  = yearly uncontrolled emissions from process i.

$E_{Ci}$  = yearly actual emissions for process i.

$E_{TU}$  = total yearly uncontrolled emissions.

$E_{TC}$  = total yearly actual emissions.

n = number of processes included in the emissions average.

(4) The overall percent reduction efficiency shall be calculated using Equation 62 of this subpart:

$$R = \frac{E_{TU} - D E_{TC}}{E_{TU}} (100\%) \quad (\text{Eq. 62})$$

Where:

R = overall percent reduction efficiency  
 D = discount factor = 1.1 for all controlled emission points

[63 FR 50326, Sept. 21, 1998, as amended at 65 FR 52609, Aug. 29, 2000; 66 FR 40134, Aug. 2, 2001]

**§ 63.1258 Monitoring Requirements.**

(a) The owner or operator of any existing, new, or reconstructed affected source shall provide evidence of continued compliance with the standard as specified in this section. During the initial compliance demonstration, maximum or minimum operating parameter levels, as appropriate, shall be established for emission sources that will indicate the source is in compliance. Test data, calculations, or information from the evaluation of the control device design shall be used to establish the operating parameter level.

(b) *Monitoring for control devices*—(1) *Parameters to monitor.* Except as specified in paragraph (b)(1)(i) of this section, for each control device, the owner or operator shall install and operate monitoring devices and operate within the established parameter levels to ensure continued compliance with the standard. Monitoring parameters are specified for control scenarios in Table 4 of this subpart and in paragraphs (b)(1)(ii) through (xi) of this section.

(i) *Periodic verification.* For control devices that control vent streams totaling less than 1 ton/yr HAP emissions, before control, monitoring shall consist of a daily verification that the device is operating properly. If the control device is used to control batch process vents alone or in combination with other streams, the verification may be on a per batch basis. This verification shall include, but not be limited to, a daily or per batch demonstration that the unit is working as designed and may include the daily measurements of the parameters described in (b)(1)(ii) through (x) of this section. This demonstration shall be

included in the Precompliance report, to be submitted 6 months prior to the compliance date of the standard.

(ii) *Scrubbers.* For affected sources using liquid scrubbers, the owner or operator shall establish a minimum scrubber liquid flow rate or pressure drop as a site-specific operating parameter which must be measured and recorded every 15 minutes during the period in which the scrubber is functioning in achieving the HAP removal required by this subpart. If the scrubber uses a caustic solution to remove acid emissions, the owner or operator shall establish a minimum pH of the effluent scrubber liquid as a site-specific operating parameter which must be monitored at least once a day. As an alternative to measuring pH, you may elect to continuously monitor the caustic strength of the scrubber effluent. The minimum scrubber flowrate or pressure drop shall be based on the conditions anticipated under worst-case conditions, as defined in §63.1257(b)(8)(i).

(A) The monitoring device used to determine the pressure drop shall be certified by the manufacturer to be accurate to within a gage pressure of ±10 percent of the maximum pressure drop measured.

(B) The monitoring device used for measurement of scrubber liquid flowrate shall be certified by the manufacturer to be accurate within ±10 percent of the design scrubber liquid flowrate.

(C) The monitoring device shall be calibrated annually.

(iii) *Condensers.* For each condenser, the owner or operator shall establish the maximum condenser outlet gas temperature or product side temperature as a site specific operating parameter which must be measured and recorded at least every 15 minutes during the period in which the condenser is functioning in achieving the HAP removal required by this subpart.

(A) The temperature monitoring device must be accurate to within ±2 percent of the temperature measured in degrees Celsius or ±2.5 °C, whichever is greater.

(B) The temperature monitoring device must be calibrated annually.

(iv) *Regenerative carbon adsorbers.* For each regenerative carbon adsorber, the owner or operator shall comply with the provisions in paragraphs (b)(1)(iv)(A) through (F) of this section.

(A) Establish the regeneration cycle characteristics specified in paragraphs (b)(1)(iv)(A)(1) through (4) of this section under worst-case conditions, as defined in § 63.1257(b)(8)(i).

(1) Minimum regeneration frequency (i.e., operating time since last regeneration);

(2) Minimum temperature to which the bed is heated during regeneration;

(3) Maximum temperature to which the bed is cooled, measured within 15 minutes of completing the cooling phase; and

(4) Minimum regeneration stream flow.

(B) Monitor and record the regeneration cycle characteristics specified in paragraphs (b)(1)(iv)(B)(1) through (4) of this section for each regeneration cycle.

(1) Regeneration frequency (operating time since end of last regeneration);

(2) Temperature to which the bed is heated during regeneration;

(3) Temperature to which the bed is cooled, measured within 15 minutes of the completion of the cooling phase; and

(4) Regeneration stream flow.

(C) Use a temperature monitoring device that is accurate to within  $\pm 2$  percent of the temperature measured in degrees Celsius or  $\pm 2.5$  °C, whichever is greater.

(D) Use a regeneration stream flow monitoring device capable of recording the total regeneration stream flow to within  $\pm 10$  percent of the established value (i.e., accurate to within  $\pm 10$  percent of the reading).

(E) Calibrate the temperature and flow monitoring devices annually.

(F) Conduct an annual check for bed poisoning in accordance with manufacturer's specifications.

(v) *Nonregenerative carbon adsorbers.* For each nonregenerative carbon adsorber, the owner or operator shall establish and monitor the maximum time interval between replacement based on the conditions anticipated

under worst-case, as defined in § 63.1257(b)(8)(i).

(vi) *Flares.* For each flare, the presence of the pilot flame shall be monitored every 15 minutes during the period in which the flare is functioning in achieving the HAP removal required by this subpart.

(vii) *Thermal incinerators.* For each thermal incinerator, the owner or operator shall establish the minimum temperature of the gases exiting the combustion chamber as the site-specific operating parameter which must be measured and recorded at least once every 15 minutes during the period in which the combustion device is functioning in achieving the HAP removal required by this subpart.

(A) The temperature monitoring device must be accurate to within  $\pm 0.75$  percent of the temperature measured in degrees Celsius or  $\pm 2.5$  °C, whichever is greater.

(B) The monitoring device must be calibrated annually.

(viii) *Catalytic incinerators.* For each catalytic incinerator, the owner or operator shall monitor the temperature of the gas stream immediately before and after the catalyst bed. The owner or operator shall establish the minimum temperature of the gas stream immediately before the catalyst bed and the minimum temperature difference across the catalyst bed as the site-specific operating parameter which must be monitored and recorded at least once every 15 minutes during the period in which the catalytic incinerator is functioning in achieving the HAP removal required by this subpart.

(A) The temperature monitoring devices must be accurate to within  $\pm 0.75$  percent of the temperature measured in degrees Celsius or  $\pm 2.5$  °C, whichever is greater.

(B) The temperature monitoring devices must be calibrated annually.

(ix) *Process heaters and boilers.* (A) Except as specified in paragraph (b)(1)(ix)(B) of this section, for each boiler or process heater, the owner or operator shall establish the minimum temperature of the gases exiting the combustion chamber as the site-specific operating parameter which must be monitored and recorded at least

once every 15 minutes during the period in which the boiler or process heater is functioning in achieving the HAP removal required by this subpart.

(J) The temperature monitoring device must be accurate to within  $\pm 0.75$  percent of the temperature measured in degrees Celsius or  $\pm 2.5$  °C, whichever is greater.

(2) The temperature monitoring device must be calibrated annually.

(B) The owner or operator is exempt from the monitoring requirements specified in paragraph (b)(1)(ix)(A) of this section if either:

(I) All vent streams are introduced with primary fuel; or

(2) The design heat input capacity of the boiler or process heater is 44 megawatts or greater.

(x) *Continuous emission monitor.* As an alternative to the parameters specified in paragraphs (b)(1)(ii) through (ix) of this section, an owner or operator may monitor and record the outlet HAP concentration or both the outlet TOC concentration and outlet hydrogen halide and halogen concentration every 15 minutes during the period in which the control device is functioning in achieving the HAP removal required by this subpart. The owner or operator need not monitor the hydrogen halide and halogen concentration if, based on process knowledge, the owner or operator determines that the emission stream does not contain hydrogen halides or halogens. The HAP or TOC monitor must meet the requirements of Performance Specification 8 or 9 of appendix B of part 60 and must be installed, calibrated, and maintained, according to § 63.8. As part of the QA/QC Plan, calibration of the device must include, at a minimum, quarterly cylinder gas audits.

(xi) *CVS visual inspections.* The owner or operator shall perform monthly visual inspections of each closed vent system as specified in § 63.1252(b).

(2) *Averaging periods.* Averaging periods for parametric monitoring levels shall be established according to paragraphs (b)(2)(i) through (iii) of this section.

(i) Except as provided in paragraph (b)(2)(iii) of this section, a daily (24-hour) or block average shall be calculated as the average of all values for

a monitored parameter level set according to the procedures in (b)(3)(iii) of this section recorded during the operating day or block.

(ii) The operating day or block shall be defined in the Notification of Compliance Status report. The daily average may be from midnight to midnight or another continuous 24-hour period. The block average is limited to a period of time that is, at a maximum, equal to the time from the beginning to end of a batch process.

(iii) Monitoring values taken during periods in which the control devices are not functioning in controlling emissions, as indicated by periods of no flow, shall not be considered in the averages. Where flow to the device could be intermittent, the owner or operator shall install, calibrate and operate a flow indicator at the inlet or outlet of the control device to identify periods of no flow.

(3) *Procedures for setting parameter levels for control devices used to control emissions.* (i) *Small control devices.* Except as provided in paragraph (b)(1)(i) of this section, for devices controlling less than 10 tons per year of HAP for which a performance test is not required, the parametric levels shall be set based on the design evaluation required in § 63.1257(d)(3)(i). If a performance test is conducted, the monitoring parameter level shall be established according to the procedures in (b)(3)(ii) of this section.

(ii) *Large control devices.* For devices controlling greater than 10 tons per year of HAP for which a performance test is required, the parameter level must be established as follows:

(A) If the operating parameter level to be established is a maximum, it must be based on the average of the values from each of the three test runs.

(B) If the operating parameter level to be established is a minimum, it must be based on the average of the values from each of the three test runs.

(C) The owner or operator may establish the parametric monitoring level(s) based on the performance test supplemented by engineering assessments and manufacturer's recommendations. Performance testing is not required to be conducted over the entire range of

expected parameter values. The rationale for the specific level for each parameter, including any data and calculations used to develop the level(s) and a description of why the level indicates proper operation of the control device shall be provided in the Precompliance report. The procedures specified in this section have not been approved by the Administrator and determination of the parametric monitoring level using these procedures is subject to review and approval by the Administrator.

(iii) *Parameters for control devices controlling batch process vents.* For devices controlling batch process vents alone or in combination with other streams, the parameter level(s) shall be established in accordance with paragraph (b)(3)(iii)(A) or (B) of this section.

(A) If more than one batch emission episode has been selected to be controlled, a single level for the batch process(es) shall be determined from the initial compliance demonstration.

(B) Instead of establishing a single level for the batch process(es), as described in paragraph (b)(3)(iii)(A) of this section, an owner or operator may establish separate levels for each batch emission episode, selected to be controlled. If separate monitoring levels are established, the owner or operator must provide a record indicating at what point in the daily schedule or log of processes required to be recorded per the requirements of § 63.1259(b)(9) the parameter being monitored changes levels and must record at least one reading of the new parameter level, even if the duration of monitoring for the new parameter is less than 15-minutes.

(4) *Request approval to monitor alternative parameters.* An owner or operator may request approval to monitor parameters other than those required by paragraphs (b)(1)(ii) through (ix) of this section. The request shall be submitted according to the procedures specified in § 63.8(f) or included in the Precompliance report.

(5) *Monitoring for the alternative standards.* (i) For control devices that are used to comply with the provisions of § 63.1253(d) or § 63.1254(c), the owner or operator shall monitor and record the outlet TOC concentration and the out-

let hydrogen halide and halogen concentration every 15 minutes during the period in which the device is functioning in achieving the HAP removal required by this subpart using CEMS as specified in paragraphs (b)(5)(i)(A) through (D) of this section.

(A) A TOC monitor meeting the requirements of EPA Performance Specification 8, 9, or 15 of appendix B of 40 CFR part 60 shall be installed, calibrated, and maintained according to § 63.8.

(B) Except as specified in paragraphs (b)(5)(i)(C) and (D) of this section, the owner or operator must monitor HCl using either a FTIR CEMS that meets Performance Specification 15 of appendix B of part 60 or any other CEMS capable of measuring HCl for which a performance specification has been promulgated in appendix B of part 60. To monitor HCl with a CEMS for which a performance specification has not been promulgated, the owner or operator must prepare a monitoring plan and submit it for approval in accordance with the procedures specified in § 63.8.

(C) As an alternative to using a CEMS as specified in paragraph (b)(5)(i)(B) of this section to monitor halogenated vent streams that are controlled by a combustion device followed by a scrubber, the owner or operator may elect to monitor scrubber operating parameters as specified in paragraph (b)(1)(ii) of this section that demonstrate the HCl emissions are reduced by at least 95 percent by weight.

(D) The owner or operator need not monitor the hydrogen halide and halogen concentration if, based on process knowledge, the owner or operator determines that the emission stream does not contain hydrogen halides or halogens.

(ii) An owner or operator complying with the alternative standard using control devices in which supplemental gases are added to the vents or manifolds must either correct for supplemental gases as specified in § 63.1257(a)(3) or comply with the requirements of paragraph (b)(5)(ii)(A) or (B) of this section. If the owner or operator corrects for supplemental gases as specified in § 63.1257(a)(3)(ii) for non-combustion control devices, the flow

rates must be evaluated as specified in paragraph (b)(5)(ii)(C) of this section.

(A) *Provisions for combustion devices.* As an alternative to correcting for supplemental gases as specified in § 63.1257(a)(3), the owner or operator may monitor residence time and fire-box temperature according to the requirements of paragraphs (b)(5)(ii)(A)(1) and (2) of this section. Monitoring of residence time may be accomplished by monitoring flowrate into the combustion chamber.

(1) If complying with the alternative standard instead of achieving a control efficiency of 95 percent or less, the owner or operator must maintain a minimum residence time of 0.5 seconds and a minimum combustion chamber temperature of 760 °C.

(2) If complying with the alternative standard instead of achieving a control efficiency of 98 percent, the owner or operator must maintain a minimum residence time of 0.75 seconds and a minimum combustion chamber temperature of 816 °C.

(B) *Provisions for dense gas systems.* As an alternative to correcting for supplemental gases as specified in § 63.1257(a)(3), for noncombustion devices used to control emissions from dense gas systems, as defined in § 63.1251, the owner or operator shall monitor flowrate as specified in paragraphs (b)(5)(ii)(B)(1) through (4) of this section.

(1) Use Equation 63 of this subpart to calculate the system flowrate setpoint at which the average concentration is 5,000 ppmv TOC:

$$F_s = \frac{721 \times E_{an}}{5,000} \quad (\text{Eq. 63})$$

Where:

$F_s$  = system flowrate setpoint, scfm  
 $E_{an}$  = annual emissions entering the control device, lbmols/yr

(2) Annual emissions used in Equation 63 of this subpart must be based on the actual mass of organic compounds entering the control device, as calculated from the most representative emissions inventory data submitted within the 5 years before the Notification of Compliance Status report is due. The owner or operator must recalculate the system flowrate setpoint

once every 5 years using the annual emissions from the most representative emissions inventory data submitted during the 5-year period after the previous calculation. Results of the initial calculation must be included in the Notification of Compliance Status report, and recalculated values must be included in the next Periodic report after each recalculation. For all calculations after the initial calculation, to use emissions inventory data calculated using procedures other than those specified in § 63.1257(d), the owner or operator must submit the emissions inventory data calculations and rationale for their use in the Notification of Process Change report or an application for a part 70 permit renewal or revision.

(3) In the Notification of Compliance Status report, the owner or operator may elect to establish both a maximum daily average operating flowrate limit above the flowrate setpoint and a reduced outlet concentration limit corresponding to this flowrate limit. The owner or operator may also establish reduced outlet concentration limits for any daily average flowrates between the flowrate setpoint and the flowrate limit. The correlation between these elevated flowrates and the corresponding outlet concentration limits must be established using Equation 64 of this subpart:

$$C_a = \frac{F_s}{F_a} \times 50 \quad (\text{Eq. 64})$$

Where:

$C_a$  = adjusted outlet concentration limit, dry basis, ppmv  
 50 = outlet concentration limit associated with the flowrate setpoint, dry basis, ppmv  
 $F_s$  = system flowrate setpoint, scfm  
 $F_a$  = actual system flowrate limit, scfm

(4) The owner or operator must install and operate a monitoring system for measuring system flowrate. The flowrate into the control device must be monitored and recorded at least once every hour. The system flowrate must be calculated as the average of all values measured during each 24-hour



operating day. The flowrate monitoring device must be accurate to within 5 percent of the system flowrate setpoint, and the flowrate monitoring device must be calibrated annually.

(C) *Flow rate evaluation for non-combustion devices.* To demonstrate continuous compliance with the requirement to correct for supplemental gases as specified in § 63.1257(a)(3)(ii) for non-combustion devices, the owner or operator must evaluate the volumetric flow rate of supplemental gases,  $V_s$ , and the volumetric flow rate of all gases,  $V_a$ , each time a new operating scenario is implemented based on process knowledge and representative operating data. The procedures used to evaluate the flow rates, and the resulting correction factor used in Equation 7B of this subpart, must be included in the Notification of Compliance Status report and in the next Periodic report submitted after an operating scenario change.

(6) *Exceedances of operating parameters.* An exceedance of an operating parameter is defined as one of the following:

(i) If the parameter, averaged over the operating day or block, is below a minimum value established during the initial compliance demonstration.

(ii) If the parameter, averaged over the operating day or block, is above the maximum value established during the initial compliance demonstration.

(iii) Each loss of all pilot flames for flares.

(7) *Excursions.* Excursions are defined by either of the two cases listed in paragraphs (b)(7)(i) or (ii) of this section.

(i) When the period of control device operation is 4 hours or greater in an operating day and monitoring data are insufficient to constitute a valid hour of data, as defined in paragraph (b)(7)(iii) of this section, for at least 75 percent of the operating hours.

(ii) When the period of control device operation is less than 4 hours in an operating day and more than one of the hours during the period of operation does not constitute a valid hour of data due to insufficient monitoring data.

(iii) Monitoring data are insufficient to constitute a valid hour of data, as used in paragraphs (b)(7)(i) and (ii) of this section, if measured values are un-

available for any of the required 15-minute periods within the hour.

(8) *Violations.* Exceedances of parameters monitored according to the provisions of paragraphs (b)(1)(ii), (iv) through (ix), and (b)(5)(ii)(A) and (B) of this section, or excursions as defined by paragraphs (b)(7)(i) through (iii) of this section, constitute violations of the operating limit according to paragraphs (b)(8)(i), (ii), and (iv) of this section. Exceedances of the temperature limit monitored according to the provisions of paragraph (b)(1)(iii) of this section or exceedances of the outlet concentrations monitored according to the provisions of paragraph (b)(1)(x) of this section constitute violations of the emission limit according to paragraphs (b)(8)(i), (ii), and (iv) of this section. Exceedances of the outlet concentrations monitored according to the provisions of paragraph (b)(5) of this section constitute violations of the emission limit according to the provisions of paragraphs (b)(8)(iii) and (iv) of this section.

(i) Except as provided in paragraph (b)(8)(iv) of this section, for episodes occurring more than once per day, exceedances of established parameter limits or excursions will result in no more than one violation per operating day for each monitored item of equipment utilized in the process.

(ii) Except as provided in paragraph (b)(8)(iv) of this section, for control devices used for more than one process in the course of an operating day, exceedances or excursions will result in no more than one violation per operating day, per control device, for each process for which the control device is in service.

(iii) Except as provided in paragraph (b)(8)(iv) of this section, exceedances of the 20 or 50 ppmv TOC outlet emission limit, averaged over the operating day, will result in no more than one violation per day per control device. Except as provided in paragraph (b)(8)(iv) of this section, exceedances of the 20 or 50 ppmv hydrogen halide or halogen outlet emission limit, averaged over the operating day, will result in no more than one violation per day per control device.

(iv) Periods of time when monitoring measurements exceed the parameter

values as well as periods of inadequate monitoring data do not constitute a violation if they occur during a start-up, shutdown, or malfunction, and the facility operates in accordance with § 63.6(e)(1).

(c) *Monitoring for emission limits.* The owner or operator of any affected source complying with the provisions of § 63.1254(a)(2) shall demonstrate continuous compliance with the 900 and 1,800 kg/yr emission limits by calculating daily 365-day rolling summations of emissions. During periods of planned routine maintenance when emissions are controlled as specified in § 63.1252(h), the owner or operator must calculate controlled emissions assuming the HAP emissions are reduced by 93 percent. For any owner or operator opting to switch compliance strategy from the 93 percent control requirement to the annual mass emission limit method, as described in § 63.1254(a)(1)(i), the rolling summations, beginning with the first day after the switch, must include emissions from the past 365 days.

(d) *Monitoring for equipment leaks.* The owner or operator of any affected source complying with the requirements of § 63.1255 of this subpart shall meet the monitoring requirements described § 63.1255 of this subpart.

(e) *Pollution prevention.* The owner or operator of any affected source that chooses to comply with the requirements of §§ 63.1252(e)(2) and (3) shall calculate a yearly rolling average of kg HAP consumption per kg production and kg VOC consumption per kg production every month or every 10 batches. Each rolling average kg/kg factor that exceeds the value established in § 63.1257(f)(1)(ii) will be considered a violation of the emission limit.

(f) *Emissions averaging.* The owner or operator of any affected source that chooses to comply with the requirements of § 63.1252(d) shall meet all monitoring requirements specified in paragraphs (b)(1) and (3) of this section, as applicable, for all processes and storage tanks included in the emissions average.

(g) *Inspection and monitoring of waste management units and treatment processes.* (1) For each wastewater tank, surface impoundment, container, indi-

vidual drain system, and oil-water separator that receives, manages, or treats wastewater, a residual removed from wastewater, a recycled wastewater, or a recycled residual removed from wastewater, the owner or operator shall comply with the inspection requirements specified in Table 7 of this subpart.

(2) For each biological treatment unit used to comply with § 63.1256(g), the owner or operator shall monitor TSS, BOD, and the biomass concentration at a frequency approved by the permitting authority and using methods approved by the permitting authority. The owner or operator may request approval to monitor other parameters. The request shall be submitted in the Precompliance report according to the procedures specified in § 63.1260(e), and shall include a description of planned reporting and recordkeeping procedures. The owner or operator shall include as part of the submittal the basis for the selected monitoring frequencies and the methods that will be used. The Administrator will specify appropriate reporting and recordkeeping requirements as part of the review of the permit application or by other appropriate means.

(3) For nonbiological treatment units, the owner or operator shall request approval to monitor appropriate parameters that demonstrate proper operation of the selected treatment process. The request shall be submitted in the Precompliance report according to the procedures specified in § 63.1260(e), and shall include a description of planned reporting and recordkeeping procedures. The Administrator will specify appropriate reporting and recordkeeping requirements as part of the review of the permit application or by other appropriate means.

(h) *Leak inspection provisions for vapor suppression equipment.* (1) Except as provided in paragraph (h)(9) and (10) of this section, for each vapor collection system, closed-vent system, fixed roof, cover, or enclosure required to comply with this section, the owner or operator shall comply with the requirements of paragraphs (h)(2) through (8) of this section.

(2) Except as provided in paragraphs (h)(6) and (7) of this section, each vapor

collection system and closed-vent system shall be inspected according to the procedures and schedule specified in paragraphs (h)(2)(i) and (ii) of this section and each fixed roof, cover, and enclosure shall be inspected according to the procedures and schedule specified in paragraph (h)(2)(iii) of this section.

(i) If the vapor collection system or closed-vent system is constructed of hard-piping, the owner or operator shall:

(A) Conduct an initial inspection according to the procedures in paragraph (h)(3) of this section, and

(B) Conduct annual visual inspections for visible, audible, or olfactory indications of leaks.

(ii) If the vapor collection system or closed-vent system is constructed of ductwork, the owner or operator shall:

(A) Conduct an initial inspection according to the procedures in paragraph (h)(3) of this section, and

(B) Conduct annual inspections according to the procedures in paragraph (h)(3) of this section.

(C) Conduct annual visual inspections for visible, audible, or olfactory indications of leaks.

(iii) For each fixed roof, cover, and enclosure, the owner or operator shall:

(A) Conduct an initial inspection according to the procedures in paragraph (h)(3) of this section, and

(B) Conduct semiannual visual inspections for visible, audible, or olfactory indications of leaks.

(3) Each vapor collection system, closed-vent system, fixed roof, cover, and enclosure shall be inspected according to the procedures specified in paragraphs (h)(3)(i) through (v) of this section.

(i) Inspections shall be conducted in accordance with Method 21 of 40 CFR part 60, appendix A.

(ii) *Detection instrument performance criteria.* (A) Except as provided in paragraph (h)(3)(ii)(B) of this section, the detection instrument shall meet the performance criteria of Method 21 of 40 CFR part 60, appendix A, except the instrument response factor criteria in section 3.1.2(a) of Method 21 shall be for the average composition of the process fluid not each individual VOC in the stream. For process streams that contain nitrogen, air, or other inerts

which are not organic HAP or VOC, the average stream response factor shall be calculated on an inert-free basis.

(B) If no instrument is available at the plant site that will meet the performance criteria specified in paragraph (h)(3)(ii)(A) of this section, the instrument readings may be adjusted by multiplying by the average response factor of the process fluid, calculated on an inert-free basis as described in paragraph (h)(3)(ii)(A) of this section.

(iii) The detection instrument shall be calibrated before use on each day of its use by the procedures specified in Method 21 of 40 CFR part 60, appendix A.

(iv) Calibration gases shall be as follows:

(A) Zero air (less than 10 parts per million hydrocarbon in air); and

(B) Mixtures of methane in air at a concentration less than 10,000 parts per million. A calibration gas other than methane in air may be used if the instrument does not respond to methane or if the instrument does not meet the performance criteria specified in paragraph (h)(2)(ii)(A) of this section. In such cases, the calibration gas may be a mixture of one or more of the compounds to be measured in air.

(v) An owner or operator may elect to adjust or not adjust instrument readings for background. If an owner or operator elects to not adjust readings for background, all such instrument readings shall be compared directly to the applicable leak definition to determine whether there is a leak. If an owner or operator elects to adjust instrument readings for background, the owner or operator shall measure background concentration using the procedures in § 63.180(b) and (c). The owner or operator shall subtract background reading from the maximum concentration indicated by the instrument.

(vi) The background level shall be determined according to the procedures in Method 21 of 40 CFR part 60 appendix A.

(vii) The arithmetic difference between the maximum concentration indicated by the instrument and the background level shall be compared with 500 parts per million for determining compliance.

(4) Leaks, as indicated by an instrument reading greater than 500 parts per million above background or by visual inspections, shall be repaired as soon as practicable, except as provided in paragraph (h)(5) of this section.

(i) A first attempt at repair shall be made no later than 5 calendar days after the leak is detected.

(ii) Repair shall be completed no later than 15 calendar days after the leak is detected, except as provided in paragraph (h)(4)(iii) of this section.

(iii) For leaks found in vapor collection systems used for transfer operations, repairs shall be completed no later than 15 calendar days after the leak is detected or at the beginning of the next transfer loading operation, whichever is later.

(5) Delay of repair of a vapor collection system, closed-vent system, fixed roof, cover, or enclosure for which leaks have been detected is allowed if the repair is technically infeasible without a shutdown, as defined in § 63.1251, or if the owner or operator determines that emissions resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair. Repair of such equipment shall be complete by the end of the next shutdown.

(6) Any parts of the vapor collection system, closed-vent system, fixed roof, cover, or enclosure that are designated, as described in paragraph (h)(8) of this section, as unsafe to inspect are exempt from the inspection requirements of paragraphs (h)(2)(i), (ii), and (iii) of this section if:

(i) The owner or operator determines that the equipment is unsafe to inspect because inspecting personnel would be exposed to an imminent or potential danger as a consequence of complying with paragraphs (h)(2)(i), (ii), or (iii) of this section; and

(ii) The owner or operator has a written plan that requires inspection of the equipment as frequently as practicable during safe-to-inspect times.

(7) Any parts of the vapor collection system, closed-vent system, fixed roof, cover, or enclosure that are designated, as described in paragraph (h)(8) of this section, as difficult to inspect are exempt from the inspection requirements

of paragraphs (h)(2)(i), (ii), and (iii)(A) of this section if:

(i) The owner or operator determines that the equipment cannot be inspected without elevating the inspecting personnel more than 2 meters above a support surface; and

(ii) The owner or operator has a written plan that requires inspection of the equipment at least once every 5 years.

(8) Records shall be maintained as specified in § 63.1259(i) (4) through (9).

(9) If a closed-vent system subject to this section is also subject to the equipment leak provisions of § 63.1255, the owner or operator shall comply with the provisions of § 63.1255 and is exempt from the requirements of this section.

(10) Instead of complying with the provisions of paragraphs (h)(2) through (8) of this section, an owner or operator may design a closed-vent system to operate at a pressure below atmospheric pressure. The system shall be equipped with at least one pressure gauge or other pressure measurement device that can be read from a readily accessible location to verify that negative pressure is being maintained in the closed-vent system when the associated control device is operating.

(i) *Planned routine maintenance.* During periods of planned routine maintenance when organic HAP emissions are controlled as specified in § 63.1252(h)(2), the owner or operator must monitor the condenser outlet gas temperature according to the procedures specified in paragraph (b)(1)(iii) of this section. During periods of planned routine maintenance when HCl emissions are controlled as specified in § 63.1252(h)(3), the owner or operator must monitor the pH of the scrubber effluent once per day.

[63 FR 50326, Sept. 21, 1998, as amended at 65 FR 52612, Aug. 29, 2000; 66 FR 40134, Aug. 2, 2001; 70 FR 25670, May 13, 2005; 71 FR 20459, Apr. 20, 2006]

#### § 63.1259 Recordkeeping requirements.

(a) *Requirements of subpart A of this part.* The owner or operator of an affected source shall comply with the recordkeeping requirements in subpart A of this part as specified in Table 1 of this subpart and in paragraphs (a)(1) through (5) of this section.

(1) *Data retention.* Each owner or operator of an affected source shall keep copies of all records and reports required by this subpart for at least 5 years, as specified in § 63.10(b)(1).

(2) *Records of applicability determinations.* The owner or operator of a stationary source that is not subject to this subpart shall keep a record of the applicability determination, as specified in § 63.10(b)(3).

(3) *Startup, shutdown, and malfunction plan.* The owner or operator of an affected source shall develop a written startup, shutdown, and malfunction plan as specified in § 63.6(e)(3). This plan shall describe, in detail, procedures for operating and maintaining the affected source during periods of startup, shutdown, and malfunction and a program for corrective action for malfunctioning process, air pollution control, and monitoring equipment used to comply with this subpart. The owner or operator of an affected source shall keep the current and superseded versions of this plan onsite, as specified in § 63.6(e)(3)(v). The owner or operator shall keep the startup, shutdown, and malfunction records specified in paragraphs (a)(3)(i) through (iii) of this section. Reports related to the plan shall be submitted as specified in § 63.1260(i).

(i) The owner or operator shall record the occurrence and duration of each malfunction of the process operations or of air pollution control equipment used to comply with this subpart, as specified in § 63.6(e)(3)(iii).

(ii) The owner or operator shall record the occurrence and duration of each malfunction of continuous monitoring systems used to comply with this subpart.

(iii) For each startup, shutdown, or malfunction, the owner or operator shall record all information necessary to demonstrate that the procedures specified in the affected source's startup, shutdown, and malfunction plan were followed, as specified in § 63.6(e)(3)(iii); alternatively, the owner or operator shall record any actions taken that are not consistent with the plan, as specified in § 63.6(e)(3)(iv).

(4) *Recordkeeping requirements for sources with continuous monitoring systems.* The owner or operator of an affected source who elects to install a

continuous monitoring system shall maintain records specified in § 63.10(c)(1) through (14).

(5) *Application for approval of construction or reconstruction.* For new affected sources, each owner or operator shall comply with the provisions in § 63.5 regarding construction and reconstruction, excluding the provisions specified in § 63.5(d)(1)(ii)(H), (d)(2), and (d)(3)(ii).

(b) *Records of equipment operation.* The owner or operator must keep the following records up-to-date and readily accessible:

(1) Each measurement of a control device operating parameter monitored in accordance with § 63.1258 and each measurement of a treatment process parameter monitored in accordance with § 63.1258(g)(2) and (3).

(2) For processes subject to § 63.1252(e), records of consumption, production, and the rolling average values of the production-indexed HAP and VOC consumption factors.

(3) For each continuous monitoring system used to comply with this subpart, records documenting the completion of calibration checks and maintenance of continuous monitoring systems.

(4) For purposes of compliance with the annual mass limits of § 63.1254(a)(2) and (b)(2), daily records of the rolling annual total emissions.

(5) Records of the following, as appropriate:

(i) For processes that are in compliance with the percent reduction requirements of § 63.1254(a)(1) or (b)(1) and that contain vents controlled to less than the percent reduction requirement, the records specified in paragraphs (b)(5)(i)(A) through (C) of this section are required.

(A) Standard batch uncontrolled and controlled emissions for each process;

(B) Actual uncontrolled and controlled emissions for each nonstandard batch; and

(C) A record whether each batch operated was considered a standard batch.

(ii) For processes in compliance with the annual mass limits of § 63.1254(a)(2) or (b)(2), the following records are required:

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(A) The number of batches per year for each batch process;

(B) The operating hours per year for continuous processes;

(C) Standard batch uncontrolled and controlled emissions for each process;

(D) Actual controlled emissions for each batch operated during periods of planned routine maintenance of a CCCC, calculated according to § 63.1258(c).

(E) Actual uncontrolled and controlled emissions for each nonstandard batch;

(F) A record whether each batch operated was considered a standard batch.

(6) Wastewater concentration per POD or process, except as provided in § 63.1256(a)(1)(ii).

(7) Number of storage tank turnovers per year, if used in an emissions average.

(8) A schedule or log of each operating scenario updated daily or, at a minimum, each time a different operating scenario is put into operation.

(9) Description of worst-case operating conditions as required in § 63.1257(b)(8).

(10) Periods of planned routine maintenance as described in §§ 63.1252(h) and 63.1257(c)(5).

(11) If the owner or operator elects to comply with § 63.1253(b) or (c) by installing a floating roof, the owner or operator must keep records of each inspection and seal gap measurement in accordance with § 63.123(c) through (e) as applicable.

(12) If the owner or operator elects to comply with the vapor balancing alternative in § 63.1253(f), the owner or operator must keep records of the DOT certification required by § 63.1253(f)(2) and the pressure relief vent setting and the leak detection records specified in § 63.1253(f)(5).

(13) All maintenance performed on the air pollution control equipment.

(c) *Records of operating scenarios.* The owner or operator of an affected source shall keep records of each operating scenario which demonstrates compliance with this subpart.

(d) *Records of equipment leak detection and repair programs.* The owner or operator of any affected source implementing the leak detection and repair

(LDAR) program specified in § 63.1255 of this subpart, shall implement the recordkeeping requirements in § 63.1255 of this subpart.

(e) *Records of emissions averaging.* The owner or operator of any affected source that chooses to comply with the requirements of § 63.1252(d) shall maintain up-to-date records of the following information:

(1) An Implementation Plan which shall include in the plan, for all process vents and storage tanks included in each of the averages, the information listed in paragraphs (e)(1)(i) through (v) of this section.

(i) The identification of all process vents and storage tanks in each emissions average.

(ii) The uncontrolled and controlled emissions of HAP and the overall percent reduction efficiency as determined in §§ 63.1257(g)(1) through (4) or 63.1257(h)(1) through (3) as applicable.

(iii) The calculations used to obtain the uncontrolled and controlled HAP emissions and the overall percent reduction efficiency.

(iv) The estimated values for all parameters required to be monitored under § 63.1258(f) for each process and storage tank included in an average.

(v) A statement that the compliance demonstration, monitoring, inspection, recordkeeping and reporting provisions in §§ 63.1257(g) and (h), 63.1258(f), and 63.1260(k) that are applicable to each emission point in the emissions average will be implemented beginning on the date of compliance.

(2) The Implementation Plan must demonstrate that the emissions from the processes and storage tanks proposed to be included in the average will not result in greater hazard or, at the option of the operating permit authority, greater risk to human health or the environment than if the storage tanks and process vents were controlled according to the provisions in §§ 63.1253 and 63.1254, respectively.

(i) This demonstration of hazard or risk equivalency shall be made to the satisfaction of the operating permit authority.

(A) The Administrator may require owners and operators to use specific methodologies and procedures for making a hazard or risk determination.

(B) The demonstration and approval of hazard or risk equivalency shall be made according to any guidance that the Administrator makes available for use or any other technically sound information or methods.

(ii) An emissions averaging plan that does not demonstrate hazard or risk equivalency to the satisfaction of the Administrator shall not be approved. The Administrator may require such adjustments to the emissions averaging plan as are necessary in order to ensure that the average will not result in greater hazard or risk to human health or the environment than would result if the emission points were controlled according to §§ 63.1253 and 63.1254.

(iii) A hazard or risk equivalency demonstration must:

(A) Be a quantitative, comparative chemical hazard or risk assessment;

(B) Account for differences between averaging and non-averaging options in chemical hazard or risk to human health or the environment; and

(C) Meet any requirements set by the Administrator for such demonstrations.

(3) Records as specified in paragraphs (a), (b) and (d) of this section.

(4) A rolling quarterly calculation of the annual percent reduction efficiency as specified in § 63.1257(g) and (h).

(f) *Records of delay of repair.* Documentation of a decision to use a delay of repair due to unavailability of parts, as specified in § 63.1256(i), shall include a description of the failure, the reason additional time was necessary (including a statement of why replacement parts were not kept onsite and when delivery from the manufacturer is scheduled), and the date when the repair was completed.

(g) *Record of wastewater stream or residual transfer.* The owner or operator transferring an affected wastewater stream or residual removed from an affected wastewater stream in accordance with § 63.1256(a)(5) shall keep a record of the notice sent to the treatment operator stating that the wastewater stream or residual contains organic HAP which are required to be managed and treated in accordance with the provisions of this subpart.

(h) *Records of extensions.* The owner or operator shall keep documentation of a decision to use an extension, as specified in § 63.1256(b)(6)(ii) or (b)(9), in a readily accessible location. The documentation shall include a description of the failure, documentation that alternate storage capacity is unavailable, and specification of a schedule of actions that will ensure that the control equipment will be repaired and the tank will be emptied as soon as practical.

(i) *Records of inspections.* The owner or operator shall keep records specified in paragraphs (i)(1) through (9) of this section.

(1) A record that each waste management unit inspection required by § 63.1256(b) through (f) was performed.

(2) A record that each inspection for control devices required by § 63.1256(h) was performed.

(3) A record of the results of each seal gap measurement required by § 63.1256(b)(5) and (f)(3). The records shall include the date of measurement, the raw data obtained in the measurement, and the calculations described in § 63.120(b)(2) through (4).

(4) Records identifying all parts of the vapor collection system, closed-vent system, fixed roof, cover, or enclosure that are designated as unsafe to inspect in accordance with § 63.1258(h)(6), an explanation of why the equipment is unsafe to inspect, and the plan for inspecting the equipment.

(5) Records identifying all parts of the vapor collection system, closed-vent system, fixed roof, cover, or enclosure that are designated as difficult to inspect in accordance with § 63.1258(h)(7), an explanation of why the equipment is difficult to inspect, and the plan for inspecting the equipment.

(6) For each vapor collection system or closed-vent system that contains bypass lines that could divert a vent stream away from the control device and to the atmosphere, the owner or operator shall keep a record of the information specified in either paragraph (i)(6)(i) or (ii) of this section.

(i) Hourly records of whether the flow indicator specified under § 63.1252(b)(1) was operating and whether a diversion was detected at any time during the

hour, as well as records of the times and durations of all periods when the vent stream is diverted from the control device or the flow indicator is not operating.

(ii) Where a seal mechanism is used to comply with §63.1252(b)(2), hourly records of flow are not required. In such cases, the owner or operator shall record that the monthly visual inspection of the seals or closure mechanisms has been done, and shall record the occurrence of all periods when the seal mechanism is broken, the bypass line valve position has changed, or the key for a lock-and-key type lock has been checked out, and records of any car-seal that has broken.

(7) For each inspection conducted in accordance with §63.1258(h)(2) and (3) during which a leak is detected, a record of the information specified in paragraphs (i)(7)(i) through (ix) of this section.

(i) Identification of the leaking equipment.

(ii) The instrument identification numbers and operator name or initials, if the leak was detected using the procedures described in §63.1258(h)(3); or a record that the leak was detected by sensory observations.

(iii) The date the leak was detected and the date of the first attempt to repair the leak.

(iv) Maximum instrument reading measured by the method specified in §63.1258(h)(4) after the leak is successfully repaired or determined to be non-repairable.

(v) "Repair delayed" and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.

(vi) The name, initials, or other form of identification of the owner or operator (or designee) whose decision it was that repair could not be effected without a shutdown.

(vii) The expected date of successful repair of the leak if a leak is not repaired within 15 calendar days.

(viii) Dates of shutdowns that occur while the equipment is unrepaired.

(ix) The date of successful repair of the leak.

(8) For each inspection conducted in accordance with §63.1258(h)(3) during which no leaks are detected, a record

that the inspection was performed, the date of the inspection, and a statement that no leaks were detected.

(9) For each visual inspection conducted in accordance with §63.1258(h)(2)(i)(B) or (h)(2)(iii)(B) of this section during which no leaks are detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected.

[63 FR 50326, Sept. 21, 1998, as amended at 65 FR 52613, Aug. 29, 2000; 66 FR 40135, Aug. 2, 2001; 70 FR 25670, May 13, 2005; 71 FR 20459, Apr. 20, 2006]

#### §63.1260 Reporting requirements.

(a) The owner or operator of an affected source shall comply with the reporting requirements of paragraphs (b) through (l) of this section. Applicable reporting requirements of §§63.9 and 63.10 are also summarized in Table 1 of this subpart.

(b) *Initial notification.* The owner or operator shall submit the applicable initial notification in accordance with §63.9(b) or (d).

(c) *Application for approval of construction or reconstruction.* An owner or operator who is subject to §63.5(b)(3) shall submit to the Administrator an application for approval of the construction of a new major affected source, the reconstruction of a major affected source, or the reconstruction of a major source such that the source becomes a major affected source subject to the standards. The application shall be prepared in accordance with §63.5(d).

(d) *Notification of CMS performance evaluation.* An owner or operator who is required by the Administrator to conduct a performance evaluation for a continuous monitoring system shall notify the Administrator of the date of the performance evaluation as specified in §63.8(e)(2).

(e) *Precompliance report.* The Precompliance report shall be submitted at least 6 months prior to the compliance date of the standard. For new sources, the Precompliance report shall be submitted to the Administrator with the application for approval of construction or reconstruction. The Administrator shall have 90 days to approve or disapprove the plan.



The plan shall be considered approved if the Administrator either approves the plan in writing, or fails to disapprove the plan in writing. The 90 day period shall begin when the Administrator receives the request. If the request is denied, the owner or operator must still be in compliance with the standard by the compliance date. To change any of the information submitted in the report, the owner or operator shall notify the Administrator 90 days before the planned change is to be implemented; the change shall be considered approved if the Administrator either approves the change in writing, or fails to disapprove the change in writing. The Precompliance report shall include:

(1) Requests for approval to use alternative monitoring parameters or requests to set monitoring parameters according to § 63.1258(b)(4).

(2) Descriptions of the daily or per batch demonstrations to verify that control devices subject to § 63.1258(b)(1)(i) are operating as designed.

(3) A description of test conditions, and the corresponding monitoring parameter values for parameters that are set according to § 63.1258(b)(3)(ii)(C).

(4) For owners and operators complying with the requirements of § 63.1252(e), the P2 demonstration summary required in § 63.1257(f).

(5) Data and rationale used to support an engineering assessment to calculate uncontrolled emissions from process vents as required in § 63.1257(d)(2)(ii).

(6) Data and other information supporting the determination of annual average concentrations by process simulation as required in § 63.1257(e)(1)(ii).

(7) Bench scale or pilot-scale test data and rationale used to determine annual average concentrations as required in § 63.1257(e)(1)(ii)(C).

(f) *Notification of Compliance Status report.* The Notification of Compliance Status report required under § 63.9 shall be submitted no later than 150 days after the compliance date and shall include:

(1) The results of any applicability determinations, emission calculations, or analyses used to identify and quan-

tify HAP emissions from the affected source.

(2) The results of emissions profiles, performance tests, engineering analyses, design evaluations, or calculations used to demonstrate compliance. For performance tests, results should include descriptions of sampling and analysis procedures and quality assurance procedures.

(3) Descriptions of monitoring devices, monitoring frequencies, and the values of monitored parameters established during the initial compliance determinations, including data and calculations to support the levels established.

(4) Listing of all operating scenarios.

(5) Descriptions of worst-case operating and/or testing conditions for control devices.

(6) Identification of emission points subject to overlapping requirements described in § 63.1250(h) and the authority under which the owner or operator will comply.

(7) Anticipated periods of planned routine maintenance of a CCCC subject to § 63.1252(h) during the period between the compliance date and the end of the period covered by the first Periodic report, and if applicable, the rationale for why the planned routine maintenance must be performed while a process with a vent subject to § 63.1254(a)(3) will be operating.

(g) *Periodic reports.* An owner or operator shall prepare Periodic reports in accordance with paragraphs (g)(1) and (2) of this section and submit them to the Administrator.

(1) *Submittal schedule.* Except as provided in paragraphs (g)(1)(i), (ii), and (iii) of this section, an owner or operator shall submit Periodic reports semiannually. The first report shall be submitted no later than 240 days after the Notification of Compliance Status is due and shall cover the 6-month period beginning on the date the Notification of Compliance Status is due. Each subsequent Periodic report shall cover the 6-month period following the preceding period.

(i) When the Administrator determines on a case-by-case basis that more frequent reporting is necessary to accurately assess the compliance status of the affected source; or

(ii) Quarterly reports shall be submitted when the source experiences an exceedance of a temperature limit monitored according to the provisions of § 63.1258(b)(1)(iii) or an exceedance of the outlet concentration monitored according to the provisions of § 63.1258(b)(1)(x) or (b)(5). Once an affected source reports quarterly, the affected source shall follow a quarterly reporting format until a request to reduce reporting frequency is approved. If an owner or operator submits a request to reduce the frequency of reporting, the provisions in § 63.10(e)(3)(ii) and (iii) shall apply, except that the phrase "excess emissions and continuous monitoring system performance report and/or summary report" shall mean "Periodic report" for the purposes of this section.

(iii) When a new operating scenario has been operated since the last report, in which case quarterly reports shall be submitted.

(2) *Content of Periodic report.* The owner or operator shall include the information in paragraphs (g)(2)(i) through (vii) of this section, as applicable.

(i) Each Periodic report must include the information in § 63.10(e)(3)(vi)(A) through (I) and (K) through (M). For each continuous monitoring system, the Periodic report must also include the information in § 63.10(e)(3)(vi)(J).

(ii) If the total duration of excess emissions, parameter exceedances, or excursions for the reporting period is 1 percent or greater of the total operating time for the reporting period, or the total continuous monitoring system downtime for the reporting period is 5 percent or greater of the total operating time for the reporting period, the Periodic report must include the information in paragraphs (g)(2)(ii)(A) through (D) of this section.

(A) Monitoring data, including 15-minute monitoring values as well as daily average values of monitored parameters, for all operating days when the average values were outside the ranges established in the Notification of Compliance Status report or operating permit.

(B) Duration of excursions, as defined in § 63.1258(b)(7).

(C) Operating logs and operating scenarios for all operating scenarios for all operating days when the values are outside the levels established in the Notification of Compliance Status report or operating permit.

(D) When a continuous monitoring system is used, the information required in § 63.10(c)(5) through (13).

(iii) For each inspection conducted in accordance with § 63.1258(h)(2) or (3) during which a leak is detected, the records specified in § 63.1259(i)(7) must be included in the next Periodic report.

(iv) For each vapor collection system or closed vent system with a bypass line subject to § 63.1252(b)(1), records required under § 63.1259(i)(6)(i) of all periods when the vent stream is diverted from the control device through a bypass line. For each vapor collection system or closed vent system with a bypass line subject to § 63.1252(b)(2), records required under § 63.1259(i)(6)(ii) of all periods in which the seal mechanism is broken, the bypass valve position has changed, or the key to unlock the bypass line valve was checked out.

(v) The information in paragraphs (g)(2)(v)(A) through (D) of this section shall be stated in the Periodic report, when applicable.

(A) No excess emissions.

(B) No exceedances of a parameter.

(C) No excursions.

(D) No continuous monitoring system has been inoperative, out of control, repaired, or adjusted.

(vi) The information specified in paragraphs (g)(2)(vi)(A) through (C) for periods of planned routine maintenance.

(A) For each storage tank subject to control requirements, periods of planned routine maintenance during which the control device does not meet the specifications of § 63.1253(b) through (d).

(B) For a CCD subject to § 63.1252(h), periods of planned routine maintenance during the current reporting period and anticipated periods of planned routine maintenance during the next reporting period.

(C) Rationale for why planned routine maintenance of a CCD subject to § 63.1252(h) must be performed while a process with a vent subject to

§63.1254(a)(3) will be operating, if applicable. This requirement applies only if the rationale is not in, or differs from that in, the Notification of Compliance Status report.

(vii) Each new operating scenario which has been operated since the time period covered by the last Periodic report. For each new operating scenario, the owner or operator shall provide verification that the operating conditions for any associated control or treatment device have not been exceeded, and that any required calculations and engineering analyses have been performed. For the initial Periodic report, each operating scenario for each process operated since the due date of the Notification of Compliance Status Report shall be submitted.

(viii) If the owner or operator elects to comply with the provisions of §63.1253(b) or (c) by installing a floating roof, the owner or operator shall submit the information specified in §63.122(d) through (f) as applicable. References to §63.152 from §63.122 shall not apply for the purposes of this subpart.

(h) *Notification of process change.* (1) Except as specified in paragraph (h)(2) of this section, whenever a process change is made, or a change in any of the information submitted in the Notification of Compliance Status Report, the owner or operator shall submit the information specified in paragraphs (h)(1)(i) through (iv) of this section with the next Periodic report required under paragraph (g) of this section.

(i) A brief description of the process change.

(ii) A description of any modifications to standard procedures or quality assurance procedures.

(iii) Revisions to any of the information reported in the original Notification of Compliance Status Report under paragraph (f) of this section.

(iv) Information required by the Notification of Compliance Status Report under paragraph (f) of this section for changes involving the addition of processes or equipment.

(2) An owner or operator must submit a report 60 days before the scheduled implementation date of either of the following:

(i) Any change in the activity covered by the Precompliance report.

(ii) A change in the status of a control device from small to large.

(i) *Reports of startup, shutdown, and malfunction.* An owner or operator shall prepare startup, shutdown, and malfunction reports as specified in paragraphs (i)(1) and (2) of this section.

(1) If actions taken by an owner or operator during a startup, shutdown, or malfunction of an affected source (including actions to correct a malfunction) are consistent with the procedures specified in the source's startup, shutdown, and malfunction plan, the owner or operator shall state this fact in a startup, shutdown, or malfunction report. The report shall also include the information specified in §63.1259(a)(3)(i) and (ii) and shall contain the name, title, and signature of the owner or operator or other responsible official who is certifying its accuracy. For the purposes of this subpart, the startup, shutdown, and malfunction reports shall be submitted on the same schedule as the periodic reports required under paragraph (g) of this section instead of the schedule specified in §63.10(d)(5)(i). Reports are only required if a startup, shutdown, or malfunction occurred during the reporting period.

(2) Any time an owner or operator takes an action that is not consistent with the procedures specified in the affected source's startup, shutdown, and malfunction plan, the owner or operator shall submit immediate startup, shutdown, and malfunction reports as specified in §63.10(d)(5)(ii).

(j) *Reports of LDAR programs.* The owner or operator of any affected source implementing the LDAR program specified in §63.1255 of this subpart shall implement the reporting requirements in §63.1255 of this subpart. Copies of all reports shall be retained as records for a period of 5 years, in accordance with the requirements of §63.10(b)(1).

(k) *Reports of emissions averaging.* The owner or operator of any affected source that chooses to comply with the requirements of §63.1252(d) shall submit the implementation plan described in §63.1259(e) 6 months prior to the compliance date of the standard and the following information in the periodic reports:

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(1) The records specified in §63.1259(e) for each process or storage tank included in the emissions average;

(2) All information as specified in paragraph (g) of this section for each process or storage tank included in the emissions average;

(3) Any changes of the processes or storage tanks included in the average.

(4) The calculation of the overall percent reduction efficiency for the reporting period.

(5) Changes to the Implementation Plan which affect the calculation methodology of uncontrolled or controlled emissions or the hazard or risk equivalency determination.

(6) Every second semiannual or fourth quarterly report, as appropriate, shall include the results according to §63.1259(e)(4) to demonstrate the emissions averaging provisions of §§63.1252(d), 63.1257(g) and (h), 63.1258(f), and 63.1259(f) are satisfied.

(l) *Notification of performance test and test plan.* The owner or operator of an affected source shall notify the Administrator of the planned date of a performance test at least 60 days before the test in accordance with §63.7(b). The owner or operator also must submit the test plan required by §63.7(c) and the emission profile required by 63.1257(b)(8)(ii) with the notification of the performance test.

(m) *Request for extension of compliance.* An owner or operator may submit to the Administrator a request for an extension of compliance in accordance with §63.1250(f)(4).

[63 FR 50326, Sept. 21, 1998, as amended at 65 FR 52614, Aug. 29, 2000; 66 FR 40135, Aug. 2, 2001]

**§63.1261 Implementation and enforcement.**

(a) This subpart can be implemented and enforced by the U.S. EPA, or a del-

egated authority such as the applicable State, local, or Tribal agency. If the U.S. EPA Administrator has delegated authority to a State, local, or Tribal agency, then that agency, in addition to the U.S. EPA, has the authority to implement and enforce this subpart. Contact the applicable U.S. EPA Regional Office to find out if implementation and enforcement of this subpart is delegated to a State, local, or Tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or Tribal agency under subpart E of this part, the authorities contained in paragraph (c) of this section are retained by the Administrator of U.S. EPA and cannot be transferred to the State, local, or Tribal agency.

(c) The authorities that cannot be delegated to State, local, or Tribal agencies are as specified in paragraphs (c)(1) through (4) of this section.

(1) Approval of alternatives to the requirements in §§63.1250 and 63.1252 through 63.1256. Where these standards reference another subpart, the cited provisions will be delegated according to the delegation provisions of the referenced subpart.

(2) Approval of major alternatives to test methods under §63.7(e)(2)(ii) and (f), as defined in §63.90, and as required in this subpart.

(3) Approval of major alternatives to monitoring under §63.8(f), as defined in §63.90, and as required in this subpart.

(4) Approval of major alternatives to recordkeeping and reporting under §63.10(f), as defined in §63.90, and as required in this subpart.

[68 FR 37356, June 23, 2003]

TABLE 1 TO SUBPART GGG OF PART 63—GENERAL PROVISIONS APPLICABILITY TO SUBPART GGG

General provisions reference	Summary of requirements	Applies to subpart GGG	Comments
63.1(a)(1) .....	General applicability of the General Provisions.	Yes .....	Additional terms defined in §63.1251, when overlap between subparts A and GGG of this part, subpart GGG takes precedence.
63.1(a)(2-7) .....		Yes	

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General provisions reference	Summary of requirements	Applies to subpart GGG	Comments
63.1(a)(8)		No	Discusses state programs.
63.1(a)(9-14)		Yes	
63.1(b)(1)	Initial applicability determination	Yes	Subpart GGG clarifies the applicability in §63.1250.
63.1(b)(2)	Title V operating permit—see part 70	Yes	All major affected sources are required to obtain a title V permit.
63.1(b)(3)	Record of the applicability determination	Yes	All affected sources are subject to subpart GGG according to the applicability definition of subpart GGG.
63.1(c)(1)	Applicability after standards are set	Yes	Subpart GGG clarifies the applicability of each paragraph of subpart A to sources subject to subpart GGG.
63.1(c)(2)	Title V permit requirement	No	All major affected sources are required to obtain a title V permit. Area sources are not subject to subpart GGG.
63.1(c)(3)	Reserved		
63.1(c)(4)	Requirements for existing source that obtains an extension of compliance.	Yes	
§63.1(c)(5)	Notification requirements for an area source that increases HAP emissions to major source levels.	Yes	
63.1(d)	[Reserved]	NA	
63.1(e)	Applicability of permit program before a relevant standard has been set.	Yes	
63.2	Definitions.	Yes	Additional terms defined in §63.1251; when overlap between subparts A and GGG of this part occurs, subpart GGG takes precedence.
63.3	Units and abbreviations.	Yes	Other units used in subpart GGG are defined in that subpart.
63.4	Prohibited activities.	Yes	
63.5(a)	Construction and reconstruction—applicability.	Yes	Except replace the terms "source" and "stationary source" with "affected source".
63.5(b)(1)	Upon construction, relevant standards for new sources.	Yes	
63.5(b)(2)	[Reserved]	NA	
63.5(b)(3)	New construction/reconstruction	Yes	Except for changes and additions authorized under §52.2454 of this title. However, the requirement to submit the Precompliance report at least 90 days before the compliance date still applies.
63.5(b)(4)	Construction/reconstruction notification	Yes	
63.5(b)(5)	Construction/reconstruction compliance	Yes	
63.5(b)(6)	Equipment addition or process change	Yes	
63.5(c)	[Reserved]	NA	
63.5(d)	Application for approval of construction/reconstruction.	Yes	Except for certain provisions identified in 63.1259(a)(5)
§63.5(e)	Construction/reconstruction approval	Yes	
63.5(f)	Construction/reconstruction approval based on prior State review.	Yes	Except replace "source" with "affected source".
63.6(a)(1)	Compliance with standards and maintenance requirements.	Yes	
63.6(a)(2)	Requirements for area source that increases emissions to become major.	Yes	
63.6(b)(1-2)	Compliance dates for new and reconstructed sources.	No	Subpart GGG specifies compliance dates.
63.6(b)(3-6)	Compliance dates for area sources that become major sources.	Yes	
63.6(b)(7)	Compliance dates for new sources resulting from new unaffected area sources becoming subject to standards.	No	Subpart GGG specifies NS applicability and compliance dates
63.6(c)	Compliance dates for existing sources	Yes	Except replace "source" with "affected source". Subpart GGG specifies compliance dates.
63.6(e)	Operation and maintenance requirements.	Yes	Startup, Shutdown, Malfunction Plan requirements specifically include malfunction process, control and monitoring equipment.
63.6(f)-(g)	Compliance with nonopacity and alternative nonopacity emission standards.	Yes	Except that subpart GGG specifies performance test conditions.

General provisions reference	Summary of requirements	Applies to sub-part GGG	Comments
63.6(h)	Opacity and visible emission standards ..	No	Subpart GGG does not contain any opacity or visible emission standards.
§ 63.6(i)(1) through (7).	Requests for compliance extensions .....	No	§ 63.1250(f)(6) specifies provisions for compliance extensions.
§ 63.6(i)(8) through (14).	Approval of compliance extensions .....	Yes	Except references to § 63.6(i)(4) through (6) mean § 63.1250(f)(6).
63.6(j)	Exemption from compliance with emission standards.	Yes	
63.7(a)(1)	Performance testing requirements .....	Yes	Subpart GGG also specifies required testing and compliance procedures.
63.7(a)(2)(i)-(ix)		Yes	Except substitute "150 days" instead of "180 days."
63.7(a)(3)		Yes	
63.7(b)(1)	Notification of performance test .....	Yes	
63.7(b)(2)	Notification of delay in conducting a scheduled performance test .....	Yes	
63.7(c)	Quality assurance program .....	Yes	Except that the test plan must be submitted with the notification of the performance test
63.7(d)	Performance testing facilities .....	Yes	Except replace "source" with "affected source".
63.7(e)	Conduct of performance tests .....	Yes	Subpart GGG also contains test methods and procedures specific to pharmaceutical sources.
63.7(f)	Use of alternative test method .....	Yes	
63.7(g)	Data analysis, recordkeeping, and reporting.	Yes	
63.7(h)	Waiver of performance tests .....	Yes	See § 63.1258.
63.8(a)	Monitoring requirements .....	Yes	
63.8(b)(1)	Conduct of monitoring .....	Yes	
63.8(b)(2)	CMS and combined effluents .....	No	§ 63.1258 of subpart GGG provides specific CMS requirements.
63.8(b)(3)-(c)(4)	CMS requirements .....	Yes	§ 63.1259 also specifies recordkeeping for CMS
63.8(c)(5)	COMS operation requirements .....	No	
63.8 (c)(6)-(8)	CMS calibration and malfunction provisions.	No	Calibration procedures are provided in § 63.1258.
63.8(d)	CMS quality control program .....	Yes	
63.8(e)(1)	Performance evaluations of CMS .....	Yes	
63.8(e)(2)	Notification of performance evaluation .....	Yes	
63.8(e)(3-4)	CMS requirements/alternatives .....	Yes	
§ 63.8(e)(5)(i)	Reporting performance evaluation results.	Yes	See § 63.1260(a)
63.1260 (a).	Results of COMS performance evaluation.	No	Subpart GGG does not contain any opacity or visible emission standards.
63.8(e)(5)(ii)		Yes	
63.8(f)-(g)	Alternative monitoring method/reduction of monitoring data.	Yes	
63.9(a)-(d)	Notification requirements—Applicability and general information.	Yes	§ 63.1260 (b) also specifies initial notification requirement.
63.9(e)	Notification of performance test .....	Yes	§ 63.1260 (l) also specifies notification requirement for performance test.
63.9(f)	Notification of opacity and visible emissions observations.	No	Subpart GGG does not contain any opacity or visible emission standards.
63.9(g)(1)	Additional notification requirements for sources with CMS.	Yes	§ 63.1260 (d) also specifies notification requirement for performance evaluation.
63.9(g)(2)	Notification of compliance with opacity emission standard.	No	Subpart GGG does not contain any opacity or visible emission standards.
63.9(g)(3)	Notification that criterion to continue use of alternative to relative accuracy testing has been exceeded.	Yes	§ 63.1260 (d) also specifies notification requirement for performance evaluation.
63.9(h)	Notification of compliance status .....	Yes	Specified in § 63.1260(f). Due 150 days after compliance date.
63.9(i)	Adjustment to time periods or postmark deadlines for submittal and review of required communications.	Yes	
63.9(j)	Change in information provided .....	No	Subpart GGG specifies procedures for notification of changes.
63.10(a)	Recordkeeping requirements .....	Yes.	
63.1259.		Yes	Also stated in § 63.1259.
63.10(b)(1)	Records retention .....	Yes	

General provisions reference	Summary of requirements	Applies to sub-part GGG	Comments
63.10(b)(2)	Information and documentation to support notifications.	No	Subpart GGG specifies recordkeeping requirements.
63.10(b)(3)	Records retention for sources not subject to relevant standard.	Yes	Also stated in § 63.1259 (a)(2).
63.10(c)-(d)(2)	Other recordkeeping and reporting provisions.	Yes	Also stated in § 63.1259 (a)(4).
63.10(d)(3)	Reporting results of opacity or visible emissions observations.	No	Subpart GGG does not include any opacity or visible emission standards.
63.10(d)(4-5)	Other recordkeeping and reporting provisions.	Yes.	
63.10(e)	Additional CMS reporting requirements ..	Yes.	
63.10(f)	Waiver of recordkeeping or reporting requirements..	Yes.	
63.11	Control device requirements for flares ....	Yes.	
63.12	State authority and delegations .....	Yes .....	See § 63.1261.
63.13	Addresses of State air pollution control agencies.	Yes.	
63.14	Incorporations by reference .....	Yes.	
63.15	Availability of information and confidentiality.	Yes.	

[63 FR 50326, Sept. 21, 1998, as amended at 65 FR 52614, Aug. 29, 2000; 66 FR 40136, Aug. 2, 2001]

TABLE 2 TO SUBPART GGG OF PART 63—PARTIALLY SOLUBLE HAP

1,1,1-Trichloroethane (methyl chloroform)	Chloroform
1,1,2,2-Tetrachloroethane	Chloromethane
1,1,2-Trichloroethane	Chloroprene
1,1-Dichloroethylene (vinylidene chloride)	Cumene
1,2-Dibromoethane	Dichloroethyl ether
1,2-Dichloroethane (ethylene dichloride)	Dinitrophenol
1,2-Dichloropropane	Epichlorohydrin
1,3-Dichloropropene	Ethyl acrylate
2,4,5-Trichlorophenol	Ethylbenzene
2-Butanone (mek)	Ethylene oxide
1,4-Dichlorobenzene	Hexachlorobenzene
2-Nitropropane	Hexachlorobutadiene
4-Methyl-2-pentanone (MIBK)	Hexachloroethane
Acetaldehyde	Methyl methacrylate
Acrolein	Methyl-t-butyl ether
Acrylonitrile	Methylene chloride
Allyl chloride	N,N-dimethylaniline
Benzene	Propionaldehyde
Benzyl chloride	Propylene oxide
Biphenyl	Styrene
Bromoform (tribromomethane)	Tetrachloroethene (perchloroethylene)
Bromomethane	Tetrachloromethane (carbon tetrachloride)
Butadiene	Toluene
Carbon disulfide	Trichlorobenzene (1,2,4-)
Chlorobenzene	Trichloroethylene
Chloroethane (ethyl chloride)	Trimethylpentane
Vinyl acetate	Xylene (p)
Vinyl chloride	N-hexane
Xylene (m).	
Xylene (o).	

[66 FR 40136, Aug. 2, 2001]

TABLE 3 TO SUBPART GGG OF PART 63—  
SOLUBLE HAP

Compound	Compound
1,1-Dimethylhydrazine.	Dinitrotoluene.
1,4-Dioxane.	Ethylene glycol dimethyl ether.
Acetonitrile.	Ethylene glycol monobutyl ether acetate.
Acetophenone.	Ethylene glycol monomethyl ether acetate.
Diethyl sulfate.	Isophorone.
Dimethyl sulfate.	Methanol (methyl alcohol).
	Nitrobenzene.

Compound
Toluidene.
Triethylamine.

[66 FR 40137, Aug. 2, 2001]

TABLE 4 TO SUBPART GGG OF PART 63—MONITORING REQUIREMENTS FOR CONTROL DEVICES<sup>a</sup>

Control device	Monitoring equipment required	Parameters to be monitored	Frequency
All control devices	1. Flow indicator installed at all bypass lines to the atmosphere and equipped with continuous recorder <i>or</i> .  2. Valves sealed closed with car-seal or lock-and-key configuration.	1. Presence of flow diverted from the control device to the atmosphere <i>or</i> .  2. Monthly inspections of sealed valves.	Hourly records of whether the flow indicator was operating and whether a diversion was detected at any time during each hour.  Monthly.
Scrubber	Liquid flow rate or pressure drop mounting device. Also a pH monitor if the scrubber is used to control acid emissions.	1. Liquid flow rate into or out of the scrubber or the pressure drop across the scrubber.  2. pH of effluent scrubber liquid.	1. Every 15 minutes.  2. Once a day
Thermal incinerator	Temperature monitoring device installed in firebox or in ductwork immediately downstream of firebox <sup>b</sup> .	Firebox temperature	Every 15 minutes.
Catalytic incinerator	Temperature monitoring device installed in gas stream immediately before and after catalyst bed.	Temperature difference across catalyst bed	Every 15 minutes.
Flare	Heat sensing device installed at the pilot light.	Presence of a flame at the pilot light.	Every 15 minutes.
Boiler or process heater <44 mega watts and vent stream is not mixed with the primary fuel.	Temperature monitoring device installed in firebox <sup>b</sup> .	Combustion temperature	Every 15 minutes.
Condenser	Temperature monitoring device installed at condenser exit.	Condenser exit (product side) temperature.	Every 15 minutes
Carbon adsorber (nonregenerative).	None	Operating time since last replacement.	N/A.
Carbon adsorber (regenerative).	Stream flow monitoring device, <i>and</i> .  Carbon bed temperature monitoring device.	1. Total regeneration stream mass or volumetric flow during carbon bed regeneration cycle(s). 2. Temperature of carbon bed after regeneration. 3. Temperature of carbon bed within 15 minutes of completing any cooling cycle(s). 4. Operating time since end of last regeneration. 5. Check for bed poisoning	1. For each regeneration cycle, record the total regeneration stream mass or volumetric flow. 2. For each regeneration cycle, record the maximum carbon bed-temperature. 3. Within 15 minutes of completing any cooling cycle, record the carbon bed temperature. 4. Operating time to be based on worst-case conditions. 5. Yearly.

<sup>a</sup>As an alternative to the monitoring requirements specified in this table, the owner or operator may use a CEM meeting the requirements of Performance Specifications 8 or 9 of appendix B of part 60 to monitor TOC every 15 minutes.

<sup>b</sup>Monitor may be installed in the firebox or in the ductwork immediately downstream of the firebox before any substantial heat exchange is encountered.

TABLE 5 TO SUBPART GGG OF PART 63—CONTROL REQUIREMENTS FOR ITEMS OF EQUIPMENT THAT MEET THE CRITERIA OF § 63.1252(F)



Item of equipment	Control requirement*
Drain or drain hub .....	(a) Tightly fitting solid cover (TFSC); or (b) TFSC with a vent to either a process or to a control device meeting the requirements of § 63.1256(h)(2); or (c) Water seal with submerged discharge or barrier to protect discharge from wind.
Manhole <sup>b</sup> .....	(a) TFSC; or (b) TFSC with a vent to either a process or to a control device meeting the requirements of § 63.1256(h)(2); or (c) If the item is vented to the atmosphere, use a TFSC with a properly operating water seal at the entrance or exit to the item to restrict ventilation in the collection system. The vent pipe shall be at least 90 cm in length and not exceeding 10.2 cm in nominal inside diameter.
Lift station .....	(a) TFSC; or (b) TFSC with a vent to either a process or to a control device meeting the requirements of § 63.1256(h)(2); or (c) If the lift station is vented to the atmosphere, use a TFSC with a properly operating water seal at the entrance or exit to the item to restrict ventilation in the collection system. The vent pipe shall be at least 90 cm in length and not exceeding 10.2 cm in nominal inside diameter. The lift station shall be level controlled to minimize changes in the liquid level.
Trench .....	(a) TFSC; or (b) TFSC with a vent to either a process or to a control device meeting the requirements of § 63.1256(h)(2); or (c) If the item is vented to the atmosphere, use a TFSC with a properly operating water seal at the entrance or exit to the item to restrict ventilation in the collection system. The vent pipe shall be at least 90 cm in length and not exceeding 10.2 cm in nominal inside diameter.
Pipe .....	Each pipe shall have no visible gaps in joints, seals, or other emission interfaces.
Oil/Water separator .....	(a) Equip with a fixed roof and route vapors to a process or equip with a closed-vent system that routes vapors to a control device meeting the requirements of § 63.1256(h)(2), or (b) Equip with a floating roof that meets the equipment specifications of § 60.693(a)(1)(i), (a)(1)(ii), (a)(2), (a)(3), and (a)(4).
Tank .....	Maintain a fixed roof and consider vents as process vents.

\*Where a tightly fitting solid cover is required, it shall be maintained with no visible gaps or openings, except during periods of sampling, inspection, or maintenance.

<sup>b</sup>Manhole includes sumps and other points of access to a conveyance system.

<sup>c</sup>A fixed roof may have openings necessary for proper venting of the tank, such as pressure/vacuum vent, j-pipe vent.

[65 FR 52616, Aug. 29, 2000]

TABLE 6 TO SUBPART GGG OF PART 63—WASTEWATER—COMPLIANCE OPTIONS FOR WASTEWATER TANKS

Capacity, m <sup>3</sup>	Maximum true vapor pressure, kPa	Control requirements
<75 .....	.....	§ 63.1256(b)(1).
>75 and <151 .....	<13.1	§ 63.1256(b)(1).
.....	>13.1	§ 63.1256(b)(2).
>151 .....	<5.2	§ 63.1256(b)(1).
.....	>5.2	§ 63.1256(b)(2).

TABLE 7 TO SUBPART GGG OF PART 63—WASTEWATER—INSPECTION AND MONITORING REQUIREMENTS FOR WASTE MANAGEMENT UNITS

To comply with	Inspection or monitoring requirement	Frequency of inspection or monitoring	Method
TANKS: 63.1256(b)(3)(i) .....	Inspect fixed roof and all openings for leaks.	Initially Semiannually .....	Visual.
63.1256(b)(4) .....	Inspect floating roof in accordance with § 63.120(a)(2) and (a)(3).	See §§ 63.120(a)(2) and (a)(3).	Visual.
63.1256(b)(5) .....	Measure floating roof seal gaps in accordance with § 63.120(b)(2)(i) through (b)(4).	.....	See § 63.120(b)(2)(i) through (b)(4).
.....	—Primary seal gaps .....	Initially Once every 5 years (annually if no secondary seal).	.....
.....	—Secondary seal gaps .....	Initially Semiannually .....	.....

To comply with	Inspection or monitoring requirement	Frequency of inspection or monitoring	Method
63.1256(b)(7) ..... 63.1256(b)(8) .....	Inspect wastewater tank for control equipment failures and improper work practices.	Initially Semiannually .....	Visual.
<b>SURFACE IMPOUNDMENTS:</b>			
63.1256(c)(1)(i) .....	Inspect cover and all openings for leaks.	Initially Semiannually .....	Visual.
63.1256(c)(2) .....	Inspect surface impoundment for control equipment failures and improper work practices.	Initially Semiannually .....	Visual.
<b>CONTAINERS:</b>			
63.1256(d)(1)(i) .....	Inspect cover and all openings for leaks.	Initially Semiannually .....	Visual.
63.1256(d)(1)(ii) .....	Inspect enclosure and all openings for leaks.	Initially Semiannually .....	Visual.
63.1256(d)(3)(i) .....	Inspect container for control equipment failures and improper work practices.	Initially Semiannually .....	Visual.
<b>INDIVIDUAL DRAIN SYSTEMS:</b>			
63.1256(e)(1)(i) .....	Inspect cover and all openings to ensure there are no gaps, cracks, or holes.	Initially Semiannually .....	Visual.
63.1256(e)(2) .....	Inspect individual drain system for control equipment failures and improper work practices.	Initially Semiannually .....	Visual.
63.1256(e)(4)(i) .....	Verify that sufficient water is present to properly maintain integrity of water seals.	Initially Semiannually .....	Visual.
63.1256(e)(4)(ii) .....	Inspect all drains using tightly-fitted caps or plugs to ensure caps and plugs are in place and properly installed.	Initially Semiannually .....	Visual.
63.1256(e)(5)(i) .....	Inspect all junction boxes to ensure covers are in place and have no visible gaps, cracks, or holes.	Initially Semiannually .....	Visual or smoke test or other means as specified
63.1256(e)(5)(iii) .....	Inspect unburied portion of all sewer lines for cracks and gaps.	Initially Semiannually .....	Visual.
<b>OIL-WATER SEPARATORS:</b>			
63.1256(f)(2)(i) .....	Inspect fixed roof and all openings for leaks.	Initially Semiannually .....	Visual.
63.1256(f)(3) .....	Measure floating roof seal gaps in accordance with 40 CFR 60.696(d)(1).	Initially <sup>a</sup> .....	See 40 CFR 60.696(d)(1).
63.1256(f)(3) .....	—Primary seal gaps .....	Once every 5 years. ....	
63.1256(f)(4) .....	—Secondary seal gaps .....	Initially <sup>b</sup> Annually. ....	
63.1256(f)(4) .....	Inspect oil-water separator for control equipment failures and improper work practices.	Initially Semiannually .....	Visual.

<sup>a</sup>As specified in § 63.1256(e), the owner or operator shall comply with either the requirements of § 63.1256(e)(1) and (2) or § 63.1256(e)(4) and (5).

<sup>b</sup>Within 60 days of installation as specified in § 63.1256(f)(3).

TABLE 8 TO SUBPART GGG OF PART 63—FRACTION MEASURED (F<sub>m</sub>) FOR HAP COMPOUNDS IN WASTEWATER STREAMS

Chemical name	CAS No. *	F <sub>m</sub>
Acetaldehyde .....	75070	1.00
Acetonitrile .....	75058	0.99
Acetophenone .....	98862	0.31
Acrolein .....	107028	1.00
Acrylonitrile .....	107131	1.00
Allyl chloride .....	107051	1.00
Benzene .....	71432	1.00
Benzyl chloride .....	100447	1.00
Biphenyl .....	92524	0.86

Chemical name	CAS No. *	F <sub>m</sub>
Bromoform		
Butadiene (1,3-)	75252	1.00
Carbon disulfide	106990	1.00
Carbon tetrachloride	75150	1.00
Chlorobenzene	56235	1.00
Chloroform	108907	0.96
Chloroprene (2-Chloro-1,3-butadiene)	67663	1.00
Cumene	126998	1.00
Dichlorobenzene (p-1,4-)	98828	1.00
Dichloroethane (1,2-) (Ethylene dichloride)	106467	1.00
Dichloroethylether (Bis(2-Chloroethyl ether))	107062	1.00
Dichloropropene (1,3-)	111444	0.76
Diethyl sulfate	542756	1.00
Dimethyl sulfate	64675	0.0025
Dimethylaniline (N,N-)	77781	0.086
Dimethylhydrazine (1,1-)	121697	0.00080
Dinitrophenol (2,4-)	57147	0.38
Dinitrotoluene (2,4-)	51285	0.0077
Dioxane (1,4-) (1,4-Diethyleneoxide)	121142	0.085
Epichlorohydrin(1-Chloro-2,3-epoxypropane)	123911	0.87
Ethyl acrylate	106898	0.94
Ethylbenzene	140885	1.00
Ethyl chloride (Chloroethane)	100414	1.00
Ethylene dibromide (Dibromomethane)	75003	1.00
Ethylene glycol dimethyl ether	106934	1.00
Ethylene glycol monobutyl ether acetate	110714	0.86
Ethylene glycol monomethyl ether acetate	112072	0.043
Ethylene oxide	110496	0.093
Ethylidene dichloride (1,1-Dichloroethane)	75218	1.00
Hexachlorobenzene	75343	1.00
Hexachlorobutadiene	118741	0.97
Hexachloroethane	87683	0.88
Hexane	67721	0.50
Isophorone	110543	1.00
Methanol	78591	0.47
Methyl bromide (Bromomethane)	67561	0.85
Methyl chloride (Chloromethane)	74839	1.00
Methyl ethyl ketone (2-Butanone)	74873	1.00
Methyl isobutyl ketone (Hexone)	78933	0.99
Methyl methacrylate	108101	0.98
Methyl tert-butyl ether	80626	1.00
Methylene chloride (Dichloromethane)	1634044	1.00
Napthalene	75092	1.00
Nitrobenzene	91203	0.99
Nitropropane (2-)	98953	0.39
Phosgene	79469	0.99
Propionaldehyde	75445	1.00
Propylene dichloride (1,2-Dichloropropane)	123386	1.00
Propylene oxide	78875	1.00
Styrene	75569	1.00
Tetrachloroethane (1,1,2,2-)	100425	1.00
Tetrachloroethylene (Perchloroethylene)	79345	1.00
Toluene	127184	1.00
Toluidine (o-)	108883	1.00
Trichlorobenzene (1,2,4-)	95534	0.15
Trichloroethane (1,1,1-) (Methyl chloroform)	120821	1.00
Trichloroethane (1,1,2-) (Vinyl Trichloride)	71556	1.00
Trichloroethylene	79005	0.98
Trichlorophenol (2,4,5-)	79016	1.00
Triethylamine	95954	1.00
Trimethylpentane (2,2,4-)	121448	1.00
Vinyl acetate	540841	1.00
Vinyl chloride (Chloroethylene)	108054	1.00
Vinylidene chloride (1,1-Dichloroethylene)	75014	1.00
Xylene (m-)	75354	1.00
Xylene (o-)	108383	1.00
Xylene (p-)	95476	1.00
	106423	1.00

\* CAS numbers refer to the Chemical Abstracts Service registry number assigned to specific compounds, isomers, or mixtures of compounds.

TABLE 9 TO SUBPART GGG OF PART 63—DEFAULT BIORATES FOR SOLUBLE HAP

Compound name	Biorate (K1), L/g MLVSS-hr
Acetonitrile	0.100
Acetophenone	0.538
Diethyl sulfate	0.105
Dimethyl hydrazine(1,1)	0.227
Dimethyl sulfate	0.178
Dinitrotoluene(2,4)	0.784
Dioxane(1,4)	0.393
Ethylene glycol dimethyl ether	0.364
Ethylene glycol monobutyl ether acetate	0.496
Ethylene glycol monomethyl ether acetate	0.159
Isophorone	0.598
Methanol	2.300
Nitrobenzene	0.859
Toluidine (-O)	1.064
Triethylamine	

\*For direct dischargers, the default biorate for methanol is 3.5 L/g MLVSS-hr, for indirect dischargers, the default biorate for methanol is 0.2 L/g MLVSS-hr.

[66 FR 40137, Aug. 2, 2001]

**Subpart HHH—National Emission Standards for Hazardous Air Pollutants From Natural Gas Transmission and Storage Facilities**

SOURCE: 64 FR 32648, June 17, 1999, unless otherwise noted.

**§ 63.1270 Applicability and designation of affected source.**

(a) This subpart applies to owners and operators of natural gas transmission and storage facilities that transport or store natural gas prior to entering the pipeline to a local distribution company or to a final end user (if there is no local distribution company), and that are major sources of hazardous air pollutants (HAP) emissions as defined in § 63.1271. Emissions for major source determination purposes can be estimated using the maximum natural gas throughput calculated in either paragraph (a)(1) or (2) of this section and paragraphs (a)(3) and (4) of this section. As an alternative to calculating the maximum natural gas throughput, the owner or operator of a new or existing source may use the facility design maximum natural gas throughput to estimate the maximum potential emissions. Other means to determine the facility's major source status are allowed, provided the information is documented and recorded to the Administrator's

satisfaction. A compressor station that transports natural gas prior to the point of custody transfer or to a natural gas processing plant (if present) is not considered a part of the natural gas transmission and storage source category. A facility that is determined to be an area source, but subsequently increases its emissions or its potential to emit above the major source levels (without first obtaining and complying with other limitations that keep its potential to emit HAP below major source levels), and becomes a major source, must comply thereafter with all applicable provisions of this subpart starting on the applicable compliance date specified in paragraph (d) of this section. Nothing in this paragraph is intended to preclude a source from limiting its potential to emit through other appropriate mechanisms that may be available through the permitting authority.

(1) Facilities that store natural gas or facilities that transport and store natural gas shall calculate maximum annual facility natural gas throughput using the following equation:

$$\text{Throughput} = \frac{8,760}{\left( \frac{1}{\text{IR}_{\text{max}}} + \frac{1}{\text{WR}_{\text{max}}} \right)}$$

Where:

**Subpart MMM—National Emission Standards for Hazardous Air Pollutants for Pesticide Active Ingredient Production**

SOURCE: 64 FR 33589, June 23, 1999, unless otherwise noted.

**§ 63.1360 Applicability.**

(a) *Definition of affected source.* The affected source subject to this subpart is the facility-wide collection of pesticide active ingredient manufacturing process units (PAI process units) that process, use, or produce HAP, and are located at a plant site that is a major source, as defined in section 112(a) of the CAA. An affected source also includes waste management units, heat exchange systems, and cooling towers that are associated with the PAI process units. Exemptions from an affected source are specified in paragraph (d) of this section.

(b) *New source applicability.* A new affected source subject to this subpart and to which the requirements for new sources apply is defined according to the criteria in paragraph (b)(1) or (2) of this section.

(1) An affected source for which construction or reconstruction commenced after November 10, 1997.

(2) Any dedicated PAI process unit that meets the criteria specified in paragraphs (b)(2)(i) and (ii) of this section.

(i) For which construction, as defined in § 63.1361, commenced after November 10, 1997, or reconstruction commenced after September 20, 2002.

(ii) That has the potential to emit 10 tons/yr of any one HAP or 25 tons/yr of combined HAP.

(c) *General provisions.* Table 1 of this subpart specifies the provisions of subpart A of this part that apply to an owner or operator of an affected source subject to this subpart, and clarifies specific provisions in subpart A of this part as necessary for this subpart.

(d) *Exemptions from the requirements of this subpart.* The provisions of this subpart do not apply to:

(1) Research and development facilities;

(2) PAI process units that are subject to subpart F of this part;

(3) Production of ethylene;  
(4) Coal tar distillation; and  
(5) The following emission points listed:

(i) Storm water from segregated sewers;

(ii) Water from fire-fighting and deluge systems, including testing of such systems;

(iii) Spills;

(iv) Water from safety showers;

(v) Noncontact steam boiler blowdown and condensate;

(vi) Laundry water;

(vii) Vessels storing material that contains no organic HAP or contains organic HAP as impurities only; and  
(viii) Equipment, as defined in § 63.1363, that is intended to operate in organic HAP service for less than 300 hours during the calendar year.

(e) *Applicability of this subpart except during periods of startup, shutdown, and malfunction.* (1) Each provision set forth in this subpart shall apply at all times except that emission limitations shall not apply during periods of startup, shutdown, and malfunction, as defined in § 63.1361, if:

(i) The startup, shutdown, or malfunction precludes the ability of the owner or operator of an affected source to comply with one or more specific emission limitations to which a particular emission point is subject; and

(ii) The owner or operator follows the provisions for periods of startup, shutdown, and malfunction, as specified in §§ 63.1367(a)(3) and 63.1368(i).

(2) The provisions set forth in § 63.1363 shall apply at all times except during periods of nonoperation of the PAI process unit (or specific portion thereof) in which the lines are drained and depressurized resulting in the cessation of the emissions to which § 63.1363 applies.

(3) The owner or operator shall not shut down items of equipment that are required or utilized for compliance with the emissions limitations of this subpart during times when emissions (or, where applicable, wastewater streams or residuals) are being routed to such items of equipment, if the shutdown would contravene emissions limitations of this subpart applicable to such items of equipment. This paragraph does not apply if the item of

equipment is malfunctioning, or if the owner or operator must shut down the equipment to avoid damage due to a malfunction of the PAI process unit or portion thereof.

(4) During startups, shutdowns, and malfunctions when the emissions limitations of this subpart do not apply pursuant to paragraphs (e)(1) through (3) of this section, the owner or operator shall implement, to the extent reasonably available, measures to prevent or minimize excess emissions. For purposes of this paragraph, "excess emissions" means emissions in excess of those that would have occurred if there were no startup, shutdown, or malfunction and the owner or operator complied with the relevant provisions of this subpart. The measures to be taken shall be identified in the applicable startup, shutdown, and malfunction plan, and may include, but are not limited to, air pollution control technologies, work practices, pollution prevention, monitoring, and/or changes in the manner of operation of the source. Back-up control devices are not required, but may be used if available.

(f) *Storage vessel applicability determination.* An owner or operator shall follow the procedures specified in paragraphs (f)(1) through (5) of this section to determine whether a storage vessel is part of the affected source to which this subpart applies.

(1) If a storage vessel is already subject to another subpart of 40 CFR part 63 on June 23, 1999, the storage vessel shall belong to the process unit subject to the other subpart.

(2) Unless otherwise excluded under paragraph (f)(1) of this section, the storage vessel is part of a PAI process unit if either the input to the vessel from the PAI process unit is greater than or equal to the input from any other PAI or non-PAI process unit, or the output from the vessel to the PAI process unit is greater than or equal to the output to any other PAI or non-PAI process unit. If the greatest input to and/or output from a shared storage vessel is the same for two or more process units, including one or more PAI process units, the owner or operator must assign the storage vessel to any one of the PAI process units that meet this condition.

(3) Unless otherwise excluded under paragraph (f)(1) of this section, where a storage vessel is located in a tank farm (including a marine tank farm), the applicability of this subpart shall be determined according to the provisions in paragraphs (f)(3)(i) through (iii) of this section.

(i) The storage vessel in the tank farm is not subject to the provisions of this subpart if the greatest input to or output from the storage vessel is for a non-PAI process unit. The input and output shall be determined among only those process units that share the storage vessel and that do not have an intervening storage vessel for that product (or raw material, as appropriate).

(ii) Except for storage vessels in a tank farm excluded in accordance with paragraph (f)(3)(i) of this section, applicability of this subpart shall be determined according to the provisions in paragraphs (f)(3)(ii)(A) through (C) of this section.

(A) Except as specified in paragraph (f)(3)(ii)(C) of this section, this subpart does not apply to the storage vessel in a tank farm if each PAI process unit that receives material from or sends material to the storage vessel has an intervening storage vessel for that material.

(B) Except as specified in paragraph (f)(3)(ii)(C) of this section, a storage vessel in a tank farm shall be assigned to the PAI process unit that receives the greatest amount of material from or sends the greatest amount of material to the storage vessel and does not have an intervening storage vessel. If two or more PAI process units have the same input to or output from the storage vessel in the tank farm, then the storage vessel in the tank farm may be assigned to any one of the PAI process units that meet this condition.

(C) As an alternative to the requirements specified in paragraphs (f)(3)(ii)(A) and (B) of this section, even if an intervening storage vessel is present, an owner or operator may elect to assign a storage vessel in a tank farm to the PAI process unit that sends the most material to or receives the most material from the storage vessel. If two or more PAI process units have the same input to or output from the storage vessel in the tank

farm, then the storage vessel in the tank farm may be assigned to any one of the PAI process units that meet this condition.

(iii) With respect to a process unit, an intervening storage vessel means a storage vessel connected by hard-piping to the process unit and to the storage vessel in the tank farm so that the product or raw material entering or leaving the process flows into (or from) the intervening storage vessel and does not flow directly into (or from) the storage vessel in the tank farm.

(4) If use varies from year to year, then use for the purposes of this subpart for existing sources shall be based on the utilization that occurred during the year preceding June 23, 1999, or if the storage vessel was not in operation during that year, the use shall be based on the expected use in the 5 years after startup. This determination shall be reported as part of an operating permit application or as otherwise specified by the permitting authority.

(5) If the storage vessel begins receiving material from (or sending material to) another process unit, or ceasing to receive material from (or send material to) a PAI process unit, or if there is a significant change in the use of the storage vessel, the owner or operator shall reevaluate the ownership determination for the storage vessel.

(g) *Designating production of an intermediate as a PAI process unit.* Except as specified in paragraph (d) of this section, an owner or operator may elect to designate production of any intermediate that does not meet the definition of integral intermediate as a PAI process unit subject to this subpart. Any storage vessel containing the intermediate is assigned to a PAI process unit according to the procedures in paragraph (f) of this section. Any process tank containing the intermediate is part of the process unit used to produce the intermediate.

(h) *Applicability of process units included in a process unit group.* An owner or operator may elect to develop process unit groups in accordance with paragraph (h)(1) of this section. For the PAI process units in these process unit groups, the owner or operator may comply with the provisions in overlapping MACT standards, as specified in

paragraphs (h)(2) through (4) of this section, as an alternative means of demonstrating compliance with the provisions of this subpart.

(1) Develop, revise, and document changes in a process unit group in accordance with the procedures specified in paragraphs (h)(1)(i) through (vi) of this section.

(i) Initially identify a non-dedicated PAI process unit that is operating on December 23, 2003 or a date after December 23, 2003, and identify all processing equipment that is part of this PAI process unit, based on descriptions in operating scenarios.

(ii) Add to the group any other non-dedicated PAI and non-dedicated non-PAI process units expected to be operated in the 5 years after the date specified in paragraph (h)(1)(i) of this section, provided they satisfy the criteria specified in paragraphs (h)(1)(ii)(A) through (C) of this section. Also identify all of the processing equipment used for each process unit based on information from operating scenarios and other applicable documentation.

(A) Each PAI process unit that is added to a group must have some processing equipment that is part of one or more PAI process units that are already in the process unit group.

(B) Each non-PAI process unit that is added to a group must have some processing equipment that is also part of one or more of the PAI process units in the group.

(C) No process unit may be part of more than one process unit group.

(iii) The initial process unit group consists of all of the processing equipment for the process units identified in paragraphs (h)(1)(i) and (ii) of this section.

(iv) If compliance is to be demonstrated in accordance with paragraph (h)(3) of this section, determine the primary product of the process unit group according to the procedures specified in paragraphs (h)(1)(iv)(A) through (C) of this section.

(A) The primary product is the type of product (*e.g.*, PAI, pharmaceutical product, thermoplastic resin, *etc.*) that is expected to be produced for the greatest operating time in the 5-year period specified in paragraph (h)(1)(i) of this section.

(B) If the process unit group produces multiple products equally based on operating time, then the primary product is the product with the greatest production on a mass basis over the 5-year period specified in paragraph (h)(1)(i) of this section.

(C) The primary product of the group must be redetermined if the owner or operator does not intend to make that product in the future or if it has not been made for 5 years. The results of the redetermination must be recorded as specified in § 63.1367(b) and reported in a Periodic report no later than the report covering the period for the end of the 5th year as specified in § 63.1368(g)(2). If the primary product changes, the owner or operator must either demonstrate compliance with the applicable subpart as specified in paragraph (h)(3) of this section or demonstrate compliance with the provisions of this subpart MMM.

(v) Add process units developed in the future in accordance with the conditions specified in paragraphs (h)(1)(ii)(A) through (C) of this section.

(vi) Maintain records of changes in the process units in each process unit group as specified in § 63.1367(b)(9), and maintain reports as specified in § 63.1368(f)(9) and (g)(2)(ix).

(2) If any of the products produced in the process unit group are subject to 40 CFR part 63, subpart GGG (Pharmaceuticals MACT), the owner or operator may elect to comply with the requirements of subpart GGG for the PAI process unit(s) within the process unit group, except for the following:

(i) The emission limit standard for process vents in § 63.1362(b)(2)(i) shall apply in place of § 63.1254(a)(2);

(ii) When the dates of April 2, 1997 and April 2, 2007 are provided in § 63.1254(a)(3)(ii), the dates of November 10, 1997 and November 10, 2007, respectively, shall apply for purposes of this subpart MMM; and

(iii) Requirements in § 63.1367(a)(5) regarding application for approval of construction or reconstruction shall apply in place of the provisions in § 63.1259(a)(5).

(3) If the primary product of a process unit group is determined to be a type of material that is subject to another subpart of 40 CFR part 63 on June

23, 1999 or startup of the first process unit after formation of the process unit group, whichever is later, the owner or operator may elect to comply with the other subpart for any PAI process unit within the process unit group, subject to the requirement in this paragraph (h)(3). Emissions from PAI Group 1 process vents, as defined in § 63.1361, must be reduced in accordance with the control requirements for Group 1 vents as specified in the alternative subpart. The criteria in the alternative subpart for determining which process vents must be controlled do not apply for the purposes of this paragraph (h)(3).

(4) The requirements for new and reconstructed sources in the alternative subpart apply to all PAI process units in the process unit group if, and only if, the affected source under the alternative subpart meets the requirements for construction or reconstruction.

(i) *Overlap with other regulations—(1) Compliance with other MACT standards.*

(i) After the compliance dates specified in § 63.1364, an affected source subject to the provisions of this subpart that is also subject to the provisions of any other subpart of 40 CFR part 63 may elect, to the extent the subparts are consistent, under which subpart to maintain records and report to EPA. The affected source shall identify in the Notification of Compliance Status report required by § 63.1368(f) under which authority such records will be maintained.

(ii) After the compliance dates specified in § 63.1364, at an offsite reloading or cleaning facility subject to § 63.1362(b)(6), compliance with the emission standards and associated initial compliance monitoring, record-keeping, and reporting provisions of any other subpart of 40 CFR part 63 constitutes compliance with the provisions of § 63.1362(b)(6)(vii)(B) or (C). The owner or operator of the affected storage vessel shall identify in the Notification of Compliance Status report required by § 63.1368(f) the subpart of 40 CFR part 63 with which the owner or operator of the offsite reloading or cleaning facility complies.

(2) *Overlap with RCRA subparts AA, BB, and/or CC.* After the compliance dates specified in § 63.1364, if any affected source subject to this subpart is



also subject to monitoring, recordkeeping, and reporting requirements in 40 CFR part 264, subpart AA, BB, or CC, or is subject to monitoring and recordkeeping requirements in 40 CFR part 265, subpart AA, BB, or CC, and the owner or operator complies with the periodic reporting requirements under 40 CFR part 264, subpart AA, BB, or CC that would apply to the device if the facility had final-permitted status, the owner or operator may elect to comply either with the monitoring, recordkeeping, and reporting requirements of this subpart, or with the monitoring, recordkeeping, and reporting requirements in 40 CFR parts 264 and/or 265, as described in this paragraph, which shall constitute compliance with the monitoring, recordkeeping, and reporting requirements of this subpart. If the owner or operator elects to comply with the monitoring, recordkeeping, and reporting requirements in 40 CFR parts 264 and/or 265, the owner or operator shall report all excursions as required by § 63.1368(g). The owner or operator shall identify in the Notification of Compliance Status report required by § 63.1368(f) the monitoring, recordkeeping, and reporting authority under which the owner or operator will comply.

(3) *Overlap with NSPS subpart Kb.* After the compliance dates specified in § 63.1364, a Group 1 or Group 2 storage vessel that is also subject to the provisions of 40 CFR part 60, subpart Kb, is required to comply only with the provisions of this subpart MMM.

(4) *Overlap with subpart I.* After the compliance dates specified in § 63.1364, for all equipment within a process unit that contains equipment subject to subpart I of this part, an owner or operator may elect to comply with either the provisions of this subpart MMM or the provisions of subpart H of this part. The owner or operator shall identify in the Notification of Compliance Status report required by § 63.1368(f) the provisions with which the owner or operator elects to comply.

(5) *Overlap with RCRA regulations for wastewater.* After the compliance dates specified in § 63.1364, the owner or operator of an affected wastewater stream that is also subject to provisions in 40 CFR parts 260 through 272 shall comply

with the more stringent control requirements (e.g., waste management units, numerical treatment standards, etc.) and the more stringent testing, monitoring, recordkeeping, and reporting requirements that overlap between the provisions of this subpart and the provisions of 40 CFR parts 260 through 272. The owner or operator shall keep a record of the information used to determine which requirements were the most stringent and shall submit this information if requested by the Administrator.

(6) *Overlap with NSPS subparts III, NNN, and RRR.* After the compliance dates specified in § 63.1364, if an owner or operator of a process vent subject to this subpart MMM that is also subject to the provisions of 40 CFR part 60, subpart III, or subpart NNN, or subpart RRR, elects to reduce organic HAP emissions from the process vent by 98 percent as specified in § 63.1362(b)(2)(iii)(A), then the owner or operator is required to comply only with the provisions of this subpart MMM. Otherwise, the owner or operator shall comply with the provisions in both this subpart MMM and the provisions in 40 CFR part 60, subparts III, NNN, and RRR, as applicable.

(j) *Meaning of periods of time.* All terms in this subpart MMM that define a period of time for completion of required tasks (e.g., weekly, monthly, quarterly, annual), unless specified otherwise in the section or subsection that imposes the requirement, refer to the standard calendar periods.

(1) Notwithstanding time periods specified in the subpart MMM for completion of required tasks, such time periods may be changed by mutual agreement between the owner and operator and the Administrator, as specified in subpart A of this part (e.g., a period could begin on the compliance date or another date, rather than on the first day of the standard period). For each time period that is changed by agreement, the revised period shall remain in effect until it is changed. A new request is not necessary for each recurring period.

(2) Where the period specified for compliance is a standard calendar period, if the initial compliance date occurs after the beginning of the period,

compliance shall be required according to the schedule specified in paragraph (j)(2)(i) or (ii) of this section, as appropriate.

(i) Compliance shall be required before the end of the standard calendar period within which the compliance deadline occurs, if there remain at least 3 days for tasks that must be performed weekly, at least 2 weeks for tasks that must be performed monthly, at least 1 month for tasks that must be performed each quarter, or at least 3 months for tasks that must be performed annually; or

(ii) In all other cases, compliance shall be required before the end of the first full standard calendar period within which the initial compliance deadline occurs.

(3) In all instances where a provision of this subpart MMM requires completion of a task during each of multiple successive periods, an owner or operator may perform the required task at any time during the specified period, provided the task is conducted at a reasonable interval after completion of the task in the previous period.

[64 FR 33589, June 23, 1999, as amended at 67 FR 59340, Sept. 20, 2002]

#### § 63.1361 Definitions.

Terms used in this subpart are defined in the CAA, in subpart A of this part, or in this section. If the same term is defined in subpart A of this part and in this section, it shall have the meaning given in this section for the purposes of this subpart MMM.

*Air pollution control device or control device* means equipment installed on a process vent, storage vessel, wastewater treatment exhaust stack, or combination thereof that reduces the mass of HAP emitted to the air. The equipment may consist of an individual device or a series of devices. Examples include incinerators, carbon adsorption units, condensers, flares, boilers, process heaters, and gas absorbers. Process condensers are not considered air pollution control devices or control devices.

*Bag dump* means equipment into which bags or other containers containing a powdered, granular, or other solid feedstock material are emptied. A bag dump is part of the process.

*Batch emission episode* means a discrete venting episode that is associated with a single unit operation. A unit operation may have more than one batch emission episode. For example, a batch distillation unit operation may consist of batch emission episodes associated with charging and heating. Charging the vessel with HAP will result in one discrete batch emission episode that will last through the duration of the charge and will have an average flowrate equal to the rate of the charge. Another discrete batch emission episode will result from the expulsion of expanded vapor as the contents of the vessel are heated.

*Batch operation* means a noncontinuous operation involving intermittent or discontinuous feed into PAI or integral intermediate manufacturing equipment, and, in general, involves the emptying of the equipment after the batch operation ceases and prior to beginning a new operation. Addition of raw material and withdrawal of product do not occur simultaneously in a batch operation. A batch process consists of a series of batch operations.

*Bench-scale batch process* means a batch process (other than a research and development facility) that is capable of being located on a laboratory bench top. This bench-scale equipment will typically include reagent feed vessels, a small reactor and associated product separator, recovery and holding equipment. These processes are only capable of producing small quantities of product.

*Block* means a time period equal to, at a maximum, the duration of a single batch.

*Car seal* means a seal that is placed on a device that is used to change the position of a valve (e.g., from opened to closed) in such a way that the position of the valve cannot be changed without breaking the seal.

*Cleaning operation* means routine rinsing, washing, or boil-off of equipment in batch operations between batches.

*Closed-loop system* means an enclosed system that returns process fluid to the process and is not vented to the atmosphere except through a closed-vent system.

*Closed-purge system* means a system or combination of system and portable containers, to capture purged liquids. Containers must be covered or closed when not being filled or emptied.

*Closed-vent system* means a system that is not open to the atmosphere and is composed of piping, ductwork, connections, and, if necessary, flow inducing devices that transport gas or vapor from an emission point to a control device.

*Combustion device* means an individual unit of equipment, such as a flare, incinerator, process heater, or boiler, used for the combustion of organic HAP vapors.

*Connector* means flanged, screwed, or other joined fittings used to connect two pipe lines or a pipe line and a piece of equipment. A common connector is a flange. Joined fittings welded completely around the circumference of the interface are not considered connectors for the purpose of this regulation. For the purpose of reporting and record keeping, connector means joined fittings that are not inaccessible, ceramic, or ceramic-lined as described in § 63.1255(b)(1)(vii) and 63.1255(f)(3).

*Construction* means the onsite fabrication, erection, or installation of an affected source or dedicated PAI process unit. Addition of new equipment to an affected source does not constitute construction, provided the new equipment is not a dedicated PAI process unit with the potential to emit 10 tons/yr of any one HAP or 25 tons/yr of combined HAP, but it may constitute reconstruction of the affected source or PAI process unit if it satisfies the definition of reconstruction in this section. At an affected source, changing raw materials processed and reconfiguring non-dedicated equipment to create a non-dedicated PAI process unit do not constitute construction.

*Consumption* means the quantity of all HAP raw materials entering a process in excess of the theoretical amount used as reactant, assuming 100 percent stoichiometric conversion. The raw materials include reactants, solvents, and any other additives. If HAP are generated in the process as well as added as raw material, consumption in-

cludes the quantity generated in the process.

*Container*, as used in the wastewater provisions, means any portable waste management unit that has a capacity greater than or equal to 0.1 m<sup>3</sup> in which a material is stored, transported, treated, or otherwise handled. Examples of containers are drums, barrels, tank trucks, barges, dumpsters, tank cars, dump trucks, and ships.

*Continuous process* means a process where the inputs and outputs flow continuously throughout the duration of the process. Continuous processes typically approach steady state.

*Continuous seal* means a seal that forms a continuous closure that completely covers the space between the wall of the storage vessel and the edge of the floating roof. A continuous seal may be a vapor-mounted, liquid-mounted, or metallic shoe seal.

*Controlled HAP emissions* means the quantity of HAP components discharged to the atmosphere from an air pollution control device.

*Cover*, as used in the wastewater provisions, means a device or system which is placed on or over a waste management unit containing wastewater or residuals so that the entire surface area is enclosed to minimize air emissions. A cover may have openings necessary for operation, inspection, and maintenance of the waste management unit such as access hatches, sampling ports, and gauge wells provided that each opening is closed when not in use. Examples of covers include a fixed roof installed on a wastewater tank, a lid installed on a container, and an air-supported enclosure installed over a waste management unit.

*Dedicated PAI process unit* means a PAI process unit constructed from equipment that is fixed in place and designed and operated to produce only a single product or co-products. The equipment is not designed to be reconfigured to create different process units, and it is not operated with different raw materials so as to produce different products.

*Double block and bleed system* means two block valves connected in series with a bleed valve or line that can vent the line between the two block valves.

*Duct work* means a conveyance system such as those commonly used for heating and ventilation systems. It is often made of sheet metal and often has sections connected by screws or crimping. Hard-piping is not ductwork.

*Equipment*, for purposes of § 63.1363, means each pump, compressor, agitator, pressure relief device, sampling connection system, open-ended valve or line, valve, connector, and instrumentation system in organic hazardous air pollutant service.

*External floating roof* means a pontoon-type or double-deck type cover that rests on the liquid surface in a storage tank or waste management unit with no fixed roof.

*FIFRA* means the Federal Insecticide, Fungicide, and Rodenticide Act.

*Fill or filling* means the introduction of organic HAP into a storage tank or the introduction of a wastewater stream or residual into a waste management unit, but not necessarily to complete capacity.

*First attempt at repair* means to take action for the purpose of stopping or reducing leakage of organic material to the atmosphere.

*Fixed roof* means a cover that is mounted on a waste management unit or storage tank in a stationary manner and that does not move with fluctuations in liquid level.

*Flame ionization detector (FID)* means a device in which the measured change in conductivity of a standard flame (usually hydrogen) due to the insertion of another gas or vapor is used to detect the gas or vapor.

*Floating roof* means a cover consisting of a double deck, pontoon single deck, internal floating cover or covered floating roof, which rests upon and is supported by the liquid being contained, and is equipped with a continuous seal or seals to close the space between the roof edge and waste management unit or storage vessel wall.

*Flow indicator* means a device that indicates whether gas flow is, or whether the valve position would allow gas flow to be, present in a line.

*Formulation of pesticide products* means the mixing, blending, or diluting of a PAI with one or more other PAI or inert ingredients.

*Group 1 process vent* means any process vent from a process at an existing or new affected source for which the uncontrolled organic HAP emissions from the sum of all process vents are greater than or equal to 0.15 Mg/yr and/or the uncontrolled hydrogen chloride (HCl) and chlorine emissions from the sum of all process vents are greater than or equal to 6.8 Mg/yr.

*Group 2 process vent* means any process vent that does not meet the definition of a Group 1 process vent.

*Group 1 storage vessel* means a storage vessel at an existing affected source with a capacity equal to or greater than 75 m<sup>3</sup> and storing material with a maximum true vapor pressure greater than or equal to 3.45 kPa, a storage vessel at a new affected source with a capacity equal to or greater than 40 m<sup>3</sup> and storing material with a maximum true vapor pressure greater than or equal to 16.5 kPa, or a storage vessel at a new affected source with a capacity greater than or equal to 75 m<sup>3</sup> and storing material with a maximum true vapor pressure greater than or equal to 3.45 kPa.

*Group 2 storage vessel* means a storage vessel that does not meet the definition of a Group 1 storage vessel.

*Group 1 wastewater stream* means process wastewater at an existing or new source that meets the criteria for Group 1 status in § 63.132(c) for compounds in Table 9 of subpart G of this part or a maintenance wastewater stream that contains 5.3 Mg of compounds in Table 9 of subpart G of this part per discharge event.

*Group 2 wastewater stream* means any wastewater stream that does not meet the definition of a Group 1 wastewater stream.

*Group of processes* means all of the equipment associated with processes in a building, processing area, or facility-wide. A group of processes may consist of a single process.

*Halogenated compounds* means organic compounds that contain chlorine atoms.

*Halogenated vent stream* means a process, storage vessel, or waste management unit vent stream determined to have a concentration of halogenated compounds of greater than 20 ppmv, as determined through process knowledge,

test results using Method 18 of 40 CFR part 60, appendix A, or test results using any other test method that has been validated according to the procedures in Method 301 of appendix A of this part.

*Hard-piping* means piping or tubing that is manufactured and properly installed using good engineering judgment and standards, such as ANSI B31-3.

*Impurity* means a substance that is produced coincidentally with the product(s), or is present in a raw material. An impurity does not serve a useful purpose in the production or use of the product(s) and is not isolated.

*In gas/vapor service* means that a piece of equipment in organic HAP service contains a gas or vapor at operating conditions.

*In heavy liquid service* means that a piece of equipment in organic HAP service is not in gas/vapor service or in light liquid service.

*In light liquid service* means that a piece of equipment in organic HAP service contains a liquid that meets the following conditions:

(1) The vapor pressure of one or more of the organic compounds is greater than 0.3 kPa at 20 °C;

(2) The total concentration of the pure organic compounds constituents having a vapor pressure greater than 0.3 kPa at 20 °C is equal to or greater than 20 percent by weight of the total process stream; and

(3) The fluid is a liquid at operating conditions.

NOTE: To definition of "In light liquid service: Vapor pressures may be determined by the methods described in 40 CFR 60.485(e)(1).

*In liquid service* means that a piece of equipment in organic HAP service is not in gas/vapor service.

*In organic hazardous air pollutant or in organic HAP service* means that a piece of equipment either contains or contacts a fluid (liquid or gas) that is at least 5 percent by weight of total organic HAP as determined according to the provisions of § 63.180(d) of subpart H of this part. The provisions of § 63.180(d) of subpart H of this part also specify how to determine that a piece of equipment is not in organic HAP service.

*In vacuum service* means that equipment is operating at an internal pres-

sure which is at least 5 kPa below ambient pressure.

*In-situ sampling systems* means non-extractive samplers or in-line samplers.

*Individual drain system* means the stationary system used to convey wastewater streams or residuals to a waste management unit or to discharge or disposal. The term includes: hard piping; all process drains and junction boxes; and associated sewer lines, other junction boxes, manholes, sumps, and lift stations conveying wastewater streams or residuals. A segregated stormwater sewer system, which is a drain and collection system designed and operated for the sole purpose of collecting rainfall-runoff at a facility, and which is segregated from all other individual drain systems, is excluded from this definition.

*Instrumentation system* means a group of equipment components used to condition and convey a sample of the process fluid to analyzers and instruments for the purpose of determining process operating conditions (e.g., composition, pressure, flow, etc.). Valves and connectors are the predominant type of equipment used in instrumentation systems; however, other types of equipment may also be included in these systems. Only valves nominally 0.5 inches and smaller and connectors nominally 0.75 inches and smaller in diameter are considered instrumentation systems for the purposes of this subpart. Valves greater than nominally 0.5 inches and connectors greater than nominally 0.75 inches associated with instrumentation systems are not considered part of instrumentation systems and must be monitored individually.

*Integral intermediate* means an intermediate for which 50 percent or more of the annual production is used in on-site production of any PAI(s) and that is not stored before being used in the production of another integral intermediate or the PAI(s). For the purposes of this definition, an intermediate is stored if it is discharged to a storage vessel and at least one of the following conditions is met: the processing equipment that discharges to the storage vessel is shutdown before the processing equipment that withdraws from

the storage vessel is started up; during an annual period, the material must be stored in the vessel for at least 30 days before being used to make a PAI; or the processing equipment that discharges to the storage vessel is located in a separate building (or processing area) of the plant than the processing equipment that uses material from the storage vessel as a feedstock, and control equipment is not shared by the two processing areas. Any process unit that produces an intermediate and is subject to subpart F of this part is not an integral intermediate.

*Intermediate* means an organic compound that is manufactured in a process and that is further processed or modified in one or more additional steps to ultimately produce a PAI.

*Internal floating roof* means a cover that rests or floats on the liquid surface (but not necessarily in complete contact with it) inside a storage tank or waste management unit that has a permanently affixed roof.

*Junction box* means a manhole or access point to a wastewater sewer system line or a lift station.

*Large control device* means a control device that controls process vents, and the total HAP emissions into the control device from all sources are greater than or equal to 10 tons/yr.

*Liquid-mounted seal* means a foam- or liquid-filled seal mounted in contact with the liquid between the wall of the storage vessel or waste management unit and the floating roof. The seal is mounted continuously around the tank or unit.

*Liquids dripping* means any visible leakage from the seal including dripping, spraying, misting, clouding, and ice formation. Indications of liquid dripping include puddling or new stains that are indicative of an existing evaporated drip.

*Maintenance wastewater* means wastewater generated by the draining of process fluid from components in the PAI process unit into an individual drain system prior to or during maintenance activities. Maintenance wastewater can be generated through planned or unplanned shutdowns and during periods not associated with a shutdown. Examples of activities that can generate maintenance wastewaters

include descaling of heat exchanger tubing bundles, cleaning of distillation column traps, draining of low legs and high point bleeds, draining of pumps into an individual drain system, and draining of portions of the PAI process unit for repair.

*Malfunction* means any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, emissions monitoring equipment, process equipment, or a process to operate in a normal or usual manner which causes, or has the potential to cause, the emission limitations in an applicable standard to be exceeded. Failures that are caused all or in part by poor maintenance or careless operation are not malfunctions.

*Maximum true vapor pressure* means the equilibrium partial pressure exerted by the total organic HAP in the stored or transferred liquid at the temperature equal to the highest calendar-month average of the liquid storage or transferred temperature for liquids stored or transferred above or below the ambient temperature or at the local maximum monthly average temperature as reported by the National Weather Service for liquids stored or transferred at the ambient temperature, as determined:

(1) In accordance with methods described in Chapter 19.2 of the American Petroleum Institute's Manual of Petroleum Measurement Standards, Evaporative Loss From Floating-Roof Tanks (incorporated by reference as specified in §63.14 in subpart A of this part); or

(2) As obtained from standard reference texts; or

(3) As determined by the American Society for Testing and Materials Method D2879-97, Test Method for Vapor Pressure-Temperature Relationship and Initial Decomposition Temperature of Liquids by Isoteniscope (incorporated by reference as specified in §63.14 of subpart A of this part); or

(4) Any other method approved by the Administrator.

*Metallic shoe seal or mechanical shoe seal* means metal sheets that are held vertically against the wall of the storage tank by springs, weighted levers, or other mechanisms and connected to the floating roof by braces or other

means. A flexible coated fabric (envelope) spans the annular space between the metal sheet and the floating roof.

*Non-dedicated PAI process unit* means a process unit that is not a dedicated PAI process unit.

*Nonrepairable* means that it is technically infeasible to repair a piece of equipment from which a leak has been detected without a process shutdown.

*Open-ended valve or line* means any valve, except pressure relief valves, having one side of the valve seat in contact with process fluid and one side open to atmosphere, either directly or through open piping.

*Operating scenario*, for the purposes of reporting and recordkeeping, means a description of a PAI process unit, including: identification of each wastewater point of determination (POD) and process vent, their associated emissions episodes and durations, and their associated level of control and control devices, as applicable; calculations and engineering analyses required to demonstrate compliance; and a description of operating and/or testing conditions for any associated control device.

*Organic compound*, as used in the definitions of intermediate and PAI, means any compound that contains both carbon and hydrogen with or without other elements.

*Organic HAP* means those HAP listed in section 112(b) of the CAA that are measured according to the procedures of Method 18 or Method 25A, 40 CFR part 60, appendix A.

*Pesticide active ingredient or PAI* means any material that is an active ingredient within the meaning of FIFRA section 2(a); that is used to produce an insecticide, herbicide, or fungicide end use pesticide product; that consists of one or more organic compounds; and that must be labeled in accordance with 40 CFR part 156 for transfer, sale, or distribution. These materials are typically described by North American Industrial Classification System (NAICS) Codes 325199 and 32532 (i.e., previously known as Standard Industrial Classification System Codes 2869 and 2879). These materials are identified by product classification codes 01, 21, 02, 04, 44, 07, 08, and 16 in block 19 on EPA form 3540-16, the Pes-

ticides Report, for Pesticide-Producing Establishments.

*Pesticide active ingredient manufacturing process unit (PAI process unit)* means a process unit that is used to produce a material that is primarily used as a PAI or integral intermediate. A PAI process unit consists of: the process, as defined in this subpart; associated storage vessels, as determined by the procedures in § 63.1360(f); equipment identified in § 63.1362(k); connected piping and ducts; and components such as pumps, compressors, agitators, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, connectors, and instrumentation systems. A material is primarily used as a PAI or integral intermediate if more than 50 percent of the projected annual production from a process unit in the 3 years after June 23, 1999 or startup, whichever is later, is used as a PAI or integral intermediate; recordkeeping is required if the material is used as a PAI or integral intermediate, but not as the primary use. If the primary use changes to a PAI or integral intermediate, the process unit becomes a PAI process unit unless it is already subject to the HON. If the primary use changes from a PAI or integral intermediate to another use, the process unit remains a PAI process unit. Any process tank containing an integral intermediate is part of the PAI process unit used to produce the integral intermediate. A process unit that produces an intermediate that is not an integral intermediate may be designated as a PAI process unit according to the procedures of § 63.1360(g). Formulation of pesticide products is not considered part of a PAI process unit. Quality assurance and quality control laboratories are not considered part of a PAI process unit.

*Plant site* means all contiguous or adjoining property that is under common control, including properties that are separated only by a road or other public right-of-way. Common control includes properties that are owned, leased, or operated by the same entity, parent entity, subsidiary, or any combination thereof.

*Point of determination (POD)* means each point where a wastewater stream exits the PAI process unit.

NOTE TO DEFINITION OF "POINT OF DETERMINATION": The regulation allows determination of the characteristics of a wastewater stream: at the point of determination; or downstream of the point of determination if corrections are made for changes in flow rate and annual average concentration of Table 9 compounds as determined in §63.144 of subpart G of this part. Such changes include: losses by air emissions, reduction of annual average concentration or changes in flow rate by mixing with other water or wastewater streams, and reduction in flow rate or annual average concentration by treating or otherwise handling the wastewater stream to remove or destroy HAP.

*Pressure release* means the emission of materials resulting from the system pressure being greater than the set pressure of the pressure relief device. This release can be one release or a series of releases over a short time period due to a malfunction in the process.

*Pressure relief device or valve* means a safety device used to prevent operating pressures from exceeding the maximum allowable working pressure of the process equipment. A common pressure relief device is a spring-loaded pressure relief valve. Devices that are actuated either by a pressure of less than or equal to 2.5 pounds per square inch gauge or by a vacuum are not pressure relief devices.

*Process* means a logical grouping of processing equipment which collectively function to produce a product. For the purpose of this subpart, a PAI process includes all, or a combination of, reaction, recovery, separation, purification, treatment, cleaning, and other activities or unit operations which are used to produce a PAI or integral intermediate. Ancillary activities are not considered a PAI process or any part of a PAI process. Ancillary activities include boilers and incinerators (not used to comply with the provisions of §63.1362), chillers or refrigeration systems, and other equipment and activities that are not directly involved (i.e., they operate within a closed system and materials are not combined with process fluids) in the processing of raw materials or the manufacturing of a PAI. A PAI process and all integral intermediate processes

for which 100 percent of the annual production is used in the production of the PAI may be linked together and defined as a single PAI process unit.

*Process condenser* means a condenser whose primary purpose is to recover material as an integral part of a unit operation. The condenser must cause a vapor-to-liquid phase change for periods during which the temperature of liquid in the process equipment is at or above its boiling or bubble point. Examples of process condensers include distillation condensers, reflux condensers, and condensers used in stripping or flashing operation. In a series of condensers, all condensers up to and including the first condenser with an exit gas temperature below the boiling or bubble point of the liquid in the process equipment are considered to be process condensers. All condensers in line prior to the vacuum source are included in this definition.

*Process shutdown* means a work practice or operational procedure that stops production from a process or part of a process during which it is technically feasible to clear process material from a process or part of a process consistent with safety constraints and during which repairs can be effected. An unscheduled work practice or operational procedure that stops production from a process or part of a process for less than 24 hours is not a process shutdown. An unscheduled work practice or operational procedure that would stop production from a process or part of a process for a shorter period of time than would be required to clear the process or part of the process of materials and start up the process, and would result in greater emissions than delay of repair of leaking components until the next scheduled process shutdown, is not a process shutdown. The use of spare equipment and technically feasible bypassing of equipment without stopping production are not process shutdowns.

*Process tank* means a tank that is used within a process to collect material discharged from a feedstock storage vessel or equipment within the process before the material is transferred to other equipment within the process or a product storage vessel. In many process tanks, unit operations



such as reactions and blending are conducted. Other process tanks, such as surge control vessels and bottom receivers, however, may not involve unit operations.

*Process unit* means the equipment assembled and connected by pipes or ducts to process raw materials and to manufacture an intended product.

*Process unit group* means a group of process units that manufacture PAI and products other than PAI by alternating raw materials or operating conditions, or by reconfiguring process equipment. A process unit group is determined according to the procedures specified in § 63.1360(g).

*Process vent* means a point of emission from processing equipment to the atmosphere or a control device. The vent may be the release point for an emission stream associated with an individual unit operation, or it may be the release point for emission streams from multiple unit operations that have been manifolded together into a common header. Examples of process vents include, but are not limited to, vents on condensers used for product recovery, bottom receivers, surge control vessels, reactors, filters, centrifuges, process tanks, and product dryers. A vent is not considered to be a process vent for a given emission episode if the undiluted and uncontrolled emission stream that is released through the vent contains less than 50 ppmv HAP, as determined through process knowledge that no HAP are present in the emission stream; using an engineering assessment as discussed in § 63.1365(c)(2)(ii); from test data collected using Method 18 of 40 CFR part 60, appendix A; or from test data collected using any other test method that has been validated according to the procedures in Method 301 of appendix A of this part. Process vents do not include vents on storage vessels regulated under § 63.1362(c), vents on wastewater emission sources regulated under § 63.1362(d), or pieces of equipment regulated under § 63.1363.

*Process wastewater* means wastewater which, during manufacturing or processing, comes into direct contact with, or results from, the production or use of any raw material, intermediate product, finished product, by-product,

or waste product. Examples include: product tank drawdown or feed tank drawdown; water formed during a chemical reaction or used as a reactant; water used to wash impurities from organic products or reactants; water used to clean process equipment; water used to cool or quench organic vapor streams through direct contact; and condensed steam from jet ejector systems pulling vacuum on vessels containing organics.

*Product* means the compound(s) or chemical(s) that are produced or manufactured as the intended output of a process unit. Impurities and wastes are not considered products.

*Product dryer* means equipment that is used to remove moisture or other liquid from granular, powdered, or other solid PAI or integral intermediate products prior to storage, formulation, shipment, or other uses. The product dryer is part of the process.

*Product dryer vent* means a process vent from a product dryer through which a gas stream containing gaseous pollutants (i.e., organic HAP, HCl, or chlorine), particulate matter, or both are released to the atmosphere or are routed to a control device.

*Production-indexed HAP consumption factor (HAP factor)* is the result of dividing the annual consumption of total HAP by the annual production rate, per process.

*Production-indexed VOC consumption factor (VOC factor)* is the result of dividing the annual consumption of total VOC by the annual production rate, per process.

*Publicly owned treatment works (POTW)* is defined at 40 CFR part 403.3(0).

*Reactor* means a device or vessel in which one or more chemicals or reactants, other than air, are combined or decomposed in such a way that their molecular structures are altered and one or more new organic compounds are formed.

*Reconfiguration* means disassembly of processing equipment for a particular non-dedicated process unit and reassembly of that processing equipment in a different sequence, or in combination with other equipment, to create a different non-dedicated process unit.

*Reconstruction*, as used in §63.1360(b), shall have the meaning given in §63.2, except that "affected or previously unaffected stationary source" shall mean either "affected facility" or "PAI process unit."

*Recovery device*, as used in the wastewater provisions, means an individual unit of equipment capable of, and normally used for the purpose of, recovering chemicals for fuel value (*i.e.*, net positive heating value), use, reuse, or for sale for fuel value, use, or reuse. Examples of equipment that may be recovery devices include organic removal devices such as decanters, strippers, or thin-film evaporation units. To be a recovery device, a decanter and any other equipment based on the operating principle of gravity separation must receive only multi-phase liquid streams.

*Repaired* means that equipment is adjusted, or otherwise altered, to eliminate a leak as defined in the applicable paragraphs of §63.1363.

*Research and development facility* means any stationary source whose primary purpose is to conduct research and development, where the operations are under the close supervision of technically trained personnel, and is not engaged in the manufacture of products for commercial sale, except in a de minimis manner.

*Residual* means any liquid or solid material containing Table 9 compounds (as defined in §63.111 of subpart G of this part) that is removed from a wastewater stream by a waste management unit or treatment process that does not destroy organics (non-destructive unit). Examples of residuals from nondestructive wastewater management units include the organic layer and bottom residue removed by a decanter or organic-water separator and the overheads from a steam stripper or air stripper. Examples of materials which are not residuals include: silt; mud; leaves; bottoms from a steam stripper or air stripper; and sludges, ash, or other materials removed from wastewater being treated by destructive devices such as biological treatment units and incinerators.

*Safety device* means a closure device such as a pressure relief valve, frangible disc, fusible plug, or any other

type of device which functions exclusively to prevent physical damage or permanent deformation to a unit or its air emission control equipment by venting gases or vapors directly to the atmosphere during unsafe conditions resulting from an unplanned, accidental, or emergency event. For the purposes of this subpart, a safety device is not used for routine venting of gases or vapors from the vapor headspace underneath a cover such as during filling of the unit or to adjust the pressure in this vapor headspace in response to normal daily diurnal ambient temperature fluctuations. A safety device is designed to remain in a closed position during normal operations and open only when the internal pressure, or another relevant parameter, exceeds the device threshold setting applicable to the air emission control equipment as determined by the owner or operator based on manufacturer recommendations, applicable regulations, fire protection and prevention codes, standard engineering codes and practices, or other requirements for the safe handling of flammable, combustible, explosive, reactive, or hazardous materials.

*Sampling connection system* means an assembly of equipment within a process unit used during periods of representative operation to take samples of the process fluid. Equipment used to take nonroutine grab samples is not considered a sampling connection system.

*Sensor* means a device that measures a physical quantity or the change in a physical quantity, such as temperature, pressure, flow rate, pH, or liquid level.

*Set pressure* means the pressure at which a properly operating pressure relief device begins to open to relieve atypical process system operating pressure.

*Sewer line* means a lateral, trunk line, branch line, or other conduit including, but not limited to, grates, trenches, etc., used to convey wastewater streams or residuals to a downstream waste management unit.

*Shutdown* means the cessation of operation of a continuous PAI process unit for any purpose. Shutdown also means the cessation of a batch PAI process unit or any related individual

piece of equipment required or used to comply with this part or for emptying and degassing storage vessels for periodic maintenance, replacement of equipment, repair, or any other purpose not excluded from this definition. Shutdown does not apply to cessation of a batch PAI process unit at the end of a campaign or between batches (e.g., for rinsing or washing equipment), for routine maintenance, or for other routine operations.

*Small control device* means a control device that controls process vents, and the total HAP emissions into the control device from all sources are less than 10 tons of HAP per year.

*Startup* means the setting in operation of a continuous PAI process unit for any purpose, the first time a new or reconstructed batch PAI process unit begins production, or, for new equipment added, including equipment used to comply with this subpart, the first time the equipment is put into operation. For batch process units, startup does not apply to the first time the equipment is put into operation at the start of a campaign to produce a product that has been produced in the past, after a shutdown for maintenance, or when the equipment is put into operation as part of a batch within a campaign. As used in § 63.1363, startup means the setting in operation of a piece of equipment or a control device that is subject to this subpart.

*Storage vessel* means a tank or other vessel that is used to store organic liquids that contain one or more HAP and that has been assigned, according to the procedures in § 63.1360(f) or (g), to a PAI process unit that is subject to this subpart MMM. The following are not considered storage vessels for the purposes of this subpart:

- (1) Vessels permanently attached to motor vehicles such as trucks, railcars, barges, or ships;
- (2) Pressure vessels designed to operate in excess of 204.9 kilopascals and without emissions to the atmosphere;
- (3) Vessels storing material that contains no organic HAP or contains organic HAP only as impurities;
- (4) Wastewater storage tanks;
- (5) Process tanks; and
- (6) Nonwastewater waste tanks.

*Supplemental gases* means any non-affected gaseous streams (streams that are not from process vents, storage vessels, equipment or waste management units) that contain less than 50 ppmv TOC and less than 50 ppmv total HCl and chlorine, as determined through process knowledge, and are combined with an affected vent stream. Supplemental gases are often used to maintain pressures in manifolds or for fire and explosion protection and prevention. Air required to operate combustion device burner(s) is not considered a supplemental gas.

*Surface impoundment* means a waste management unit which is a natural topographic depression, manmade excavation, or diked area formed primarily of earthen materials (although it may be lined with manmade materials), which is designed to hold an accumulation of liquid wastes or waste containing free liquids. A surface impoundment is used for the purpose of treating, storing, or disposing of wastewater or residuals, and is not an injection well. Examples of surface impoundments are equalization, settling, and aeration pits, ponds, and lagoons.

*Total organic compounds (TOC)* means those compounds measured according to the procedures of Method 18 or Method 25A, 40 CFR part 60, appendix A.

*Treatment process* means a specific technique that removes or destroys the organics in a wastewater or residual stream such as a steam stripping unit, thin-film evaporation unit, waste incinerator, biological treatment unit, or any other process applied to wastewater streams or residuals to comply with § 63.138 of subpart G of this part. Most treatment processes are conducted in tanks. Treatment processes are a subset of waste management units.

*Uncontrolled HAP emissions* means a gas stream containing HAP which has exited the process (or process condenser, if any), but which has not yet been introduced into an air pollution control device to reduce the mass of HAP in the stream. If the process vent is not routed to an air pollution control device, uncontrolled emissions are those HAP emissions released to the atmosphere.

*Unit operation* means those processing steps that occur within distinct equipment that are used, among other things, to prepare reactants, facilitate reactions, separate and purify products, and recycle materials. Equipment used for these purposes includes, but is not limited to, reactors, distillation units, extraction columns, absorbers, decanters, dryers, condensers, and filtration equipment.

*Vapor-mounted seal* means a continuous seal that completely covers the annular space between the wall of the storage tank or waste management unit and the edge of the floating roof, and is mounted such that there is a vapor space between the stored liquid and the bottom of the seal.

*Volatile organic compounds* are defined in 40 CFR 51.100.

*Waste management unit* means the equipment, structure(s), and/or device(s) used to convey, store, treat, or dispose of wastewater streams or residuals. Examples of waste management units include wastewater tanks, surface impoundments, individual drain systems, and biological wastewater treatment units. Examples of equipment that may be waste management units include containers, air flotation units, oil-water separators or organic-water separators, or organic removal devices such as decanters, strippers, or thin-film evaporation units. If such equipment is a recovery device, then it is part of a PAI process unit and is not a waste management unit.

*Wastewater* means water that meets either of the conditions described in paragraph (1) or (2) of this definition and is discarded from a PAI process unit that is at an affected source:

(1) Is generated from a PAI process or a scrubber used to control emissions from a PAI process and contains either:

(i) An annual average concentration of compounds in Table 9 of subpart G of this part of at least 5 ppmw and has an average flow rate of 0.02 L/min or greater; or

(ii) An annual average concentration of compounds in Table 9 of subpart G of this part of at least 10,000 ppmw at any flow rate;

(2) Is generated from a PAI process unit as a result of maintenance activities and contains at least 5.3 Mg of

compounds listed in Table 9 of subpart G of this part per individual discharge event.

*Wastewater tank* means a stationary waste management unit that is designed to contain an accumulation of wastewater or residuals and is constructed primarily of nonearthen materials (e.g., wood, concrete, steel, plastic) which provide structural support. Wastewater tanks used for flow equalization are included in this definition.

*Water seal controls* means a seal pot, p-leg trap, or other type of trap filled with water (e.g., flooded sewers that maintain water levels adequate to prevent air flow through the system) that creates a water barrier between the sewer line and the atmosphere. The water level of the seal must be maintained in the vertical leg of a drain in order to be considered a water seal.

[64 FR 33589, June 23, 1999, as amended at Nov. 21, 2001; 67 FR 59343, Sept. 20, 2002; 71 FR 20460, Apr. 20, 2006]

#### § 63.1362 Standards.

(a) On and after the compliance dates specified in § 63.1364, each owner or operator of an affected source subject to the provisions of this subpart shall control HAP emissions to the levels specified in this section and in § 63.1363, as summarized in Table 2 of this subpart.

(b) *Process vents.* (1) The owner or operator of an existing source shall comply with the requirements of paragraphs (b)(2) and (3) of this section. The owner or operator of a new source shall comply with the requirements of paragraphs (b)(4) and (5) of this section. Compliance with paragraphs (b)(2) through (b)(5) of this section shall be demonstrated through the applicable test methods and initial compliance procedures in § 63.1365 and the monitoring requirements in § 63.1366.

(2) *Organic HAP emissions from existing sources.* The owner or operator of an existing affected source must comply with the requirements in either paragraph (b)(2)(i) of this section or with the requirements in paragraphs (b)(2)(ii) through (iv) of this section.

(i) The uncontrolled organic HAP emission rate shall not exceed 0.15 Mg/yr from the sum of all process vents within a process.

(ii) (A) Except as provided in paragraph (b)(2)(ii)(B) of this section, uncontrolled organic HAP emissions from a process vent shall be reduced by 98 percent by weight or greater if the flow-weighted average flowrate for the vent as calculated using Equation 1 of this subpart is less than or equal to the flowrate calculated using Equation 2 of this subpart.

$$FR_a = \frac{\sum_{i=1}^n (D_i)(FR_i)}{\sum_{i=1}^n D_i} \quad (\text{Eq. 1})$$

$$FR = 0.02 * (HL) - 1,000 \quad (\text{Eq. 2})$$

Where:

FR<sub>a</sub>=flow-weighted average flowrate for the vent, scfm  
 D<sub>i</sub>=duration of each emission event, min  
 FR<sub>i</sub>=flowrate of each emission event, scfm  
 n=number of emission events  
 FR=flowrate, scfm  
 HL=annual uncontrolled organic HAP emissions, lb/yr, as defined in § 63.1361

(B) If the owner or operator can demonstrate that a control device, installed on or before November 10, 1997 on a process vent otherwise subject to the requirements of paragraph (b)(2)(ii)(A) of this section, reduces inlet emissions of total organic HAP by greater than or equal to 90 percent by weight but less than 98 percent by weight, then the control device must be operated to reduce inlet emissions of total organic HAP by 90 percent by weight or greater.

(iii) Excluding process vents that are subject to the requirements in paragraph (b)(2)(ii) of this section, uncontrolled organic HAP emissions from the sum of all process vents within a process shall be reduced by 90 percent or greater by weight.

(iv) As an alternative to the requirements in paragraphs (b)(2)(ii) and (iii) of this section, uncontrolled organic HAP emissions from any process vent may be reduced in accordance with any of the provisions in paragraphs (b)(2)(iv)(A) through (D) of this section. All remaining process vents within a process must be controlled in accordance with paragraphs (b)(2)(ii) and (iii) of this section.

(A) To outlet concentrations less than or equal to 20 ppmv; or

(B) By a flare that meets the requirements of § 63.11(b); or

(C) By a control device specified in § 63.1365(a)(4); or

(D) In accordance with the alternative standard specified in paragraph (b)(6) of this section.

(3) *HCl and Cl<sub>2</sub> emissions from existing sources.* For each process, the owner or operator of an existing source shall comply with the requirements of either paragraph (b)(3)(i) or (ii) of this section.

(i) The uncontrolled HCl and Cl<sub>2</sub> emissions, including HCl generated from the combustion of halogenated process vent emissions, from the sum of all process vents within a process shall not exceed 6.8 Mg/yr.

(ii) HCl and Cl<sub>2</sub> emissions, including HCl generated from combustion of halogenated process vent emissions, from the sum of all process vents within a process shall be reduced by 94 percent or greater or to outlet concentrations less than or equal to 20 ppmv.

(4) *Organic HAP emissions from new sources.* For each process, the owner or operator of a new source shall comply with the requirements of either paragraph (b)(4)(i) or (ii) of this section.

(i) The uncontrolled organic HAP emissions shall not exceed 0.15 Mg/yr from the sum of all process vents within a process.

(ii) The uncontrolled organic HAP emissions from the sum of all process vents within a process at a new affected source that are not controlled according to any of the requirements of paragraphs (b)(4)(ii)(A) through (C) or (b)(6) of this section shall be reduced by 98 weight percent or greater.

(A) To outlet concentrations less than or equal to 20 ppmv; or

(B) By a flare that meets the requirements of § 63.11(b); or

(C) By a control device specified in § 63.1365(a)(4).

(5) *HCl and Cl<sub>2</sub> emissions from new sources.* For each process, the owner or operator of a new source shall comply with the requirements of either paragraph (b)(5)(i), (ii), or (iii) of this section.

(i) The uncontrolled HCl and Cl<sub>2</sub> emissions, including HCl generated

from combustion of halogenated process vent emissions, from the sum of all process vents within a process shall not exceed 6.8 Mg/yr.

(ii) If HCl and Cl<sub>2</sub> emissions, including HCl generated from combustion of halogenated process vent emissions, from the sum of all process vents within a process are greater than 6.8 Mg/yr and less than or equal to 191 Mg/yr, these HCl and Cl<sub>2</sub> emissions shall be reduced by 94 percent or to an outlet concentration less than or equal to 20 ppmv.

(iii) If HCl and Cl<sub>2</sub> emissions, including HCl generated from combustion of halogenated process vent emissions, from the sum of all process vents within a process are greater than 191 Mg/yr, these HCl and Cl<sub>2</sub> emissions shall be reduced by 99 percent or greater or to an outlet concentration less than or equal to 20 ppmv.

(6) *Alternative standard.* As an alternative to the provisions in paragraphs (b)(2) through (5) of this section, the owner or operator may route emissions from a process vent to a combustion control device achieving an outlet TOC concentration, as calibrated on methane or the predominant HAP, of 20 ppmv or less, and an outlet concentration of HCl and Cl<sub>2</sub> of 20 ppmv or less. If the owner or operator is routing emissions to a non-combustion control device or series of control devices, the control device(s) must achieve an outlet TOC concentration, as calibrated on methane or the predominant HAP, of 50 ppmv or less, and an outlet concentration of HCl and Cl<sub>2</sub> of 50 ppmv or less. Any process vents within a process that are not routed to such a control device or series of control devices must be controlled in accordance with the provisions of paragraph (b)(2)(ii), (iii), (iv), (b)(3)(ii), (b)(4)(ii), (b)(5)(ii) or (iii) of this section, as applicable.

(c) *Storage vessels.* (1) The owner or operator shall either determine the group status of a storage vessel or designate it as a Group 1 storage vessel. If the owner or operator elects to designate the storage vessel as a Group 1 storage vessel, the owner or operator is not required to determine the maximum true vapor pressure of the material stored in the storage vessel.

(2) *Standard for existing sources.* Except as specified in paragraphs (c)(4), (5), and (6) of this section, the owner or operator of a Group 1 storage vessel at an existing affected source, as defined in § 63.1361, shall equip the affected storage vessel with one of the following:

(i) A fixed roof and internal floating roof, or

(ii) An external floating roof, or

(iii) An external floating roof converted to an internal floating roof, or

(iv) A closed vent system meeting the conditions of paragraph (j) of this section and a control device that meets any of the following conditions:

(A) Reduces organic HAP emissions by 95 percent by weight or greater; or

(B) Reduces organic HAP emissions to outlet concentrations of 20 ppmv or less; or

(C) Is a flare that meets the requirements of § 63.11(b); or

(D) Is a control device specified in § 63.1365(a)(4).

(3) *Standard for new sources.* Except as specified in paragraphs (c)(4), (5), and (6) of this section, the owner or operator of a Group 1 storage vessel at a new source, as defined in § 63.1361, shall equip the affected storage vessel in accordance with any one of paragraphs (c)(2)(i) through (iv) of this section.

(4) *Alternative standard.* As an alternative to the provisions in paragraphs (c)(2) and (3) of this section, the owner or operator of an existing or new affected source may route emissions from storage vessels to a combustion control device achieving an outlet TOC concentration, as calibrated on methane or the predominant HAP, of 20 ppmv or less, and an outlet concentration of hydrogen chloride and chlorine of 20 ppmv or less. If the owner or operator is routing emissions to a non-combustion control device or series of control devices, the control device(s) must achieve an outlet TOC concentration, as calibrated on methane or the predominant HAP, of 50 ppmv or less, and an outlet concentration of HCl and Cl<sub>2</sub> of 50 ppmv or less.

(5) *Planned routine maintenance.* The owner or operator is exempt from the specifications in paragraphs (c)(2) through (4) of this section during periods of planned routine maintenance of

the control device that do not exceed 240 hr/yr. The owner or operator may submit an application to the Administrator requesting an extension of this time limit to a total of 360 hr/yr. The application must explain why the extension is needed, it must indicate that no material will be added to the storage vessel between the time the 240-hr limit is exceeded and the control device is again operational, and it must be submitted at least 60 days before the 240-hr limit will be exceeded.

(6) *Vapor balancing alternative.* As an alternative to the requirements in paragraphs (c)(2) and (3) of this section, the owner or operator of an existing or new affected source may implement vapor balancing in accordance with paragraphs (c)(6)(i) through (vii) of this section.

(i) The vapor balancing system must be designed and operated to route organic HAP vapors displaced from loading of the storage tank to the railcar or tank truck from which the storage tank is filled.

(ii) Tank trucks and railcars must have a current certification in accordance with the U.S. Department of Transportation pressure test requirements of 49 CFR part 180 for tank trucks and 49 CFR 173.31 for railcars.

(iii) Hazardous air pollutants must only be unloaded from tank trucks or railcars when vapor collection systems are connected to the storage tank's vapor collection system.

(iv) No pressure relief device on the storage tank or on the railcar or tank truck shall open during loading or as a result of diurnal temperature changes (breathing losses).

(v) Pressure relief devices on affected storage tanks must be set to no less than 2.5 psig at all times to prevent breathing losses. The owner or operator shall record the setting as specified in § 63.1367(b)(8) and comply with the following requirements for each pressure relief valve:

(A) The pressure relief valve shall be monitored quarterly using the method described in § 63.180(b).

(B) An instrument reading of 500 ppmv or greater defines a leak.

(C) When a leak is detected, it shall be repaired as soon as practicable, but no later than 5 days after it is de-

tected, and the owner or operator shall comply with the recordkeeping requirements of § 63.1363(g)(4)(i) through (iv).

(vi) Railcars or tank trucks that deliver HAP to an affected storage tank must be reloaded or cleaned at a facility that utilizes one of the following control techniques:

(A) The railcar or tank truck must be connected to a closed vent system with a control device that reduces inlet emissions of HAP by 90 percent by weight or greater; or

(B) A vapor balancing system designed and operated to collect organic HAP vapor displaced from the tank truck or railcar during reloading must be used to route the collected HAP vapor to the storage tank from which the liquid being transferred originated.

(vii) The owner or operator of the facility where the railcar or tank truck is reloaded or cleaned must comply with the following requirements:

(A) Submit to the owner or operator of the affected storage tank and to the Administrator a written certification that the reloading or cleaning facility will meet the requirements of this section. The certifying entity may revoke the written certification by sending a written statement to the owner or operator of the affected storage tank giving at least 90 days notice that the certifying entity is rescinding acceptance of responsibility for compliance with the requirements of this paragraph (c)(6)(vii)(A).

(B) If complying with paragraph (c)(6)(vi)(A) of this section, demonstrate initial compliance in accordance with § 63.1365(d), demonstrate continuous compliance in accordance with § 63.1366, keep records as specified in § 63.1367, and prepare reports as specified in § 63.1368.

(C) If complying with paragraph (c)(6)(vi)(B) of this section, keep records of:

(1) The equipment to be used and the procedures to be followed when reloading the railcar or tank truck and displacing vapors to the storage tank from which the liquid originates, and

(2) Each time the vapor balancing system is used to comply with paragraph (c)(6)(vi)(B) of this section.

(7) Compliance with the provisions of paragraphs (c)(2) and (3) of this section is demonstrated using the initial compliance procedures in § 63.1365(d) and the monitoring requirements in § 63.1366. Compliance with the outlet concentrations in paragraph (c)(4) of this section shall be determined by the initial compliance provisions in § 63.1365(a)(5) and the continuous emission monitoring requirements of § 63.1366(b)(5).

(d) *Wastewater*. The owner or operator of each affected source shall comply with the requirements of §§ 63.132 through 63.147, with the differences noted in paragraphs (d)(1) through (16) of this section for the purposes of this subpart.

(1) When the determination of equivalence criteria in § 63.102(b) is referred to in §§ 63.132, 63.133, and 63.137 of subpart G of this part, the provisions in § 63.6(g) of subpart A of this part shall apply.

(2) When the storage tank requirements contained in §§ 63.119 through 63.123 are referred to in §§ 63.132 through 63.147, §§ 63.119 through 63.123 are applicable, with the exception of the differences noted in paragraphs (d)(2)(i) through (iv) of this section.

(i) When the term "storage vessel" is used in §§ 63.119 through 63.123 of subpart G of this part, the definition of the term "storage vessel" in § 63.1361 shall apply for the purposes of this subpart.

(ii) When December 31, 1992, is referred to in § 63.119 of subpart G of this part, November 10, 1997 shall apply for the purposes of this subpart.

(iii) When April 22, 1994 is referred to in § 63.119 of subpart G of this part, June 23, 1999 shall apply for the purposes of this subpart.

(iv) When the phrase "the compliance date specified in § 63.100 of subpart F of this part" is referred to in § 63.120 of subpart G of this part, the phrase "the compliance date specified in § 63.1364" shall apply for the purposes of this subpart.

(3) To request approval to monitor alternative parameters, as referred to in § 63.146(a) of subpart G of this part, the owner or operator shall comply with the procedures in § 63.8(f) of subpart A of this part, as referred to in

§ 63.1366(b)(4), instead of the procedures in § 63.151(f) or (g) of subpart G of this part.

(4) When the Notification of Compliance Status report requirements contained in § 63.152(b) of subpart G of this part are referred to in § 63.146 of subpart G of this part, the Notification of Compliance Status report requirements in § 63.1368(f) shall apply for the purposes of this subpart.

(5) When the recordkeeping requirements contained in § 63.152(f) of subpart G of this part are referred to in § 63.147(d) of subpart G of this part, the recordkeeping requirements in § 63.1367 shall apply for the purposes of this subpart.

(6) When the Periodic report requirements contained in § 63.152(c) of subpart G of this part are referred to in §§ 63.146 and 63.147 of subpart G of this part, the Periodic report requirements contained in § 63.1368(g) shall apply for the purposes of this subpart.

(7) When the term "process wastewater" is referred to in §§ 63.132 through 63.147 of subpart G of this part, the term "wastewater" as defined in § 63.1361 shall apply for the purposes of this subpart.

(8) When the term "Group 1 wastewater stream" is used in §§ 63.132 through 63.147 of subpart G of this part, the definition of the term "Group 1 wastewater stream" in § 63.1361 shall apply for both new sources and existing sources for the purposes of this subpart.

(9) The requirements in §§ 63.132 through 63.147 for compounds listed on Table 8 of subpart G of this part shall not apply for the purposes of this subpart.

(10) When the total load of Table 9 compounds in the sum of all process wastewater from PAI process units at a new affected source is 2.100 Mg/yr (2,300 tons/yr) or more, the owner or operator shall reduce, by removal or destruction, the mass flow rate of all compounds in Table 9 of subpart G of this part in all wastewater (process and maintenance wastewater) by 99 percent or more. Alternatively, the owner or operator may treat the wastewater in a unit identified in and complying with § 63.138(h) of subpart G of this part. The removal/destruction efficiency shall be



determined by the procedures specified in § 63.145(c) of subpart G of this part, for noncombustion processes, or § 63.145(d) of subpart G of this part, for combustion processes.

(11) The compliance date for the affected source subject to the provisions of this section is specified in § 63.1364.

(12) As an alternative to using Method 18 of 40 CFR part 60, as specified in §§ 63.139(c)(1)(ii) and 63.145(i)(2), the owner or operator may elect to use Method 25 or Method 25A of 40 CFR part 60, as specified in § 63.1365(b).

(13) The requirement to correct outlet concentrations from combustion devices to 3 percent oxygen in § 63.139(c)(1)(ii) shall apply only if supplemental gases are combined with affected vent streams, and the procedures in § 63.1365(a)(7)(i) apply instead of the procedures in § 63.145(i)(6) to determine the percent oxygen correction. If emissions are controlled with a vapor recovery system as specified in § 63.139(c)(2), the owner or operator must correct for supplemental gases as specified in § 63.1365(a)(7)(ii).

(14) As an alternative to the management and treatment options specified in § 63.132(g)(2), any Group 1 wastewater stream (or residual removed from a Group 1 wastewater stream) that contains less than 50 ppmw of HAP listed in Table 2 to subpart GGG of this part may be transferred offsite or to an on-site treatment operation not owned or operated by the owner or operator of the source generating the wastewater (or residual) if the transferee manages and treats the wastewater stream or residual in accordance with paragraphs (d)(14)(i) through (iv) of this section.

(i) Treat the wastewater stream or residual in a biological treatment unit in accordance with §§ 63.138 and 63.145.

(ii) Cover the waste management units up to the activated sludge unit. Alternatively, covers are not required if the owner or operator demonstrates that less than 5 percent of the total HAP listed in Table 3 to subpart GGG of this part is emitted.

(iii) Inspect covers as specified in § 63.1366(h).

(iv) The reference in § 63.132(g)(2) to “§ 63.102(b) of subpart F” does not apply for the purposes of this subpart.

(15) When § 63.133 refers to Table 10 to subpart G of this part, the maximum true vapor pressures in the table shall be limited to the HAP listed in Table 9 to subpart G of this part.

(16) When the inspection, record-keeping, and reporting requirements contained in § 63.148 are referred to in §§ 63.132 through 63.147, the inspection requirements in § 63.1366(h), the record-keeping requirements in § 63.1367(f), and the reporting requirements in § 63.1368(g)(2)(iii) and (xi) shall apply for the purposes of this subpart.

(e) *Bag dumps and product dryers.* (1) The owner or operator shall reduce particulate matter emissions to a concentration not to exceed 0.01 gr/dscf from product dryers that dry a PAI or integral intermediate that is a HAP.

(2) The owner or operator shall reduce particulate matter emissions to a concentration not to exceed 0.01 gr/dscf from bag dumps that introduce to a PAI process unit a feedstock that is a solid material and a HAP, excluding bag dumps where the feedstock contains HAP only as impurities.

(3) Gaseous HAP emissions from product dryers and bag dumps shall be controlled in accordance with the provisions for process vent emissions in paragraph (b) of this section.

(f) *Heat exchange systems.* Unless one or more of the conditions specified in § 63.104(a)(1) through (6) of subpart F of this part are met, an owner or operator shall monitor each heat exchange system that is used to cool process equipment in PAI process units that are part of an affected source as defined in § 63.1360(a) according to the provisions in either § 63.104(b) or (c) of subpart F of this part. When the term “chemical manufacturing process unit” is used in § 63.104(c) of subpart F of this part, the term “PAI process unit” shall apply for the purposes of this subpart. Whenever a leak is detected, the owner or operator shall comply with the requirements in § 63.104(d) of subpart F of this part. Delay of repair of heat exchange systems for which leaks have been detected is allowed in accordance with the provisions of § 63.104(e) of subpart F of this part.

(g) *Pollution prevention alternative.* Except as provided in paragraph (g)(1) of this section, for a process that has

an initial startup before November 10, 1997, an owner or operator may choose to meet the pollution prevention alternative requirement specified in either paragraph (g)(2) or (3) of this section for any PAI process unit, in lieu of the requirements specified in paragraphs (b), (c), (d), and (e) of this section and in § 63.1363. Compliance with the requirements of paragraphs (g)(2) and (3) of this section shall be demonstrated through the procedures in §§ 63.1365(g) and 63.1366(f).

(1) A HAP must be controlled according to the requirements of paragraphs (b), (c), (d), and (e) of this section and § 63.1363 if it is generated in the PAI process unit or an associated control device and it is not part of the production-indexed HAP consumption factor (HAP factor).

(2) The HAP factor shall be reduced by at least 85 percent from a 3-year average baseline beginning no earlier than the 1987 through 1989 calendar years. Alternatively, for a process that has been operating for less than 3 years but more than 1 year, the baseline factor may be calculated for the time period from startup of the process until the present. For any reduction in the HAP factor achieved by reducing a HAP that is also a VOC, an equivalent reduction in the production-indexed VOC consumption factor (VOC factor) is also required (the equivalence is determined on a mass basis, not a percentage basis). For any reduction in the HAP factor that is achieved by reducing a HAP that is not a VOC, the VOC factor may not be increased.

(3) As an alternative to the provisions in paragraph (g)(2) of this section, the owner or operator may combine pollution prevention with emissions control as specified in paragraphs (g)(3)(i) and (ii) of this section.

(i) The HAP factor shall be reduced as specified in paragraph (g)(2) of this section except that a reduction of at least 50 percent shall apply for the purposes of this paragraph.

(ii) The total annual HAP emissions from the PAI process unit shall be reduced by an amount that, when divided by the annual production rate and added to the reduction of the HAP factor yields a value of at least 85 percent of the baseline HAP factor. The total

annual VOC emissions from the process unit must be reduced by an amount equivalent to the reduction in HAP emissions for each HAP that is a VOC (the equivalence is determined on a mass basis). For HAP emissions reductions that are achieved by reducing a HAP that is not a VOC, the total annual VOC emissions may not be increased. The reduction in HAP air emissions must be achieved using one of the following control devices:

(A) Combustion control devices such as incinerators, flares, or process heaters.

(B) Control devices such as condensers and carbon adsorbers whose recovered product is destroyed or shipped offsite for destruction.

(C) Any control device that does not ultimately allow for recycling of material back to the PAI process unit.

(D) Any control device for which the owner or operator can demonstrate that the use of the device in controlling HAP emissions will have no effect on the HAP factor for the PAI process unit.

(h) *Emissions averaging provisions.* Except as provided in paragraphs (h)(1) through (7) of this section, the owner or operator of an existing affected facility may choose to comply with the emission standards in paragraphs (b), (c), and (d) of this section by using emissions averaging procedures specified in § 63.1365(h) for organic HAP emissions from any storage vessel, process, or waste management unit that is part of an affected source subject to this subpart.

(1) A State may restrict the owner or operator of an existing source to use only the procedures in paragraphs (b), (c), and (d) of this section to comply with the emission standards where State authorities prohibit averaging of HAP emissions.

(2) Group 1 emission points that are controlled as specified in paragraphs (h)(2)(i) through (iii) of this section may not be used to calculate emissions averaging credits, unless the equipment is approved for use in a different manner from that specified in paragraphs (b) through (d) of this section, and a nominal efficiency has been assigned according to the procedures in § 63.150(i). The nominal efficiency must

exceed the percent reduction required by paragraphs (b) and (c) of this section for process vents and storage vessels, respectively, exceed the percent reduction required in § 63.139(c) for control devices used to control emissions vented from waste management units, and exceed the percent reduction required in § 63.138(e) or (f) for wastewater treatment processes.

(i) Storage vessels controlled with an internal floating roof meeting the specifications of § 63.119(b), an external floating roof meeting the specifications of § 63.119(c), or an external floating roof converted to an internal floating roof meeting the specifications of § 63.119(d).

(ii) Emission points controlled with a flare.

(iii) Wastewater streams that are managed in waste management units that are controlled as specified in §§ 63.133 through 63.137, treated using a steam stripper meeting the specifications of § 63.138(d), and emissions from the steam stripper are controlled in a control device that meets the percent reduction requirements specified in § 63.139(c).

(3) Process vents and storage vessels controlled with a control device to an outlet concentration of 20 ppmv or 50 ppmv, as specified in paragraph (b)(2)(iv)(A), (b)(3)(ii), (b)(6), (c)(2)(iv)(B), or (c)(4) of this section, and wastewater streams controlled in a treatment unit to an outlet concentration of 50 ppmw, may not be used in any averaging group.

(4) Maintenance wastewater streams, wastewater streams treated in biological treatment units, and Group 2 wastewater streams that are not managed as specified in §§ 63.133 through 63.137 may not be included in any averaging group.

(5) Processes which have been permanently shut down and storage vessels permanently taken out of HAP service may not be included in any averaging group.

(6) Emission points already controlled on or before November 15, 1990 may not be used to generate emissions averaging credits, unless the level of control has been increased after November 15, 1990. In these cases, credit will be allowed only for the increase in control after November 15, 1990.

(7) Emission points controlled to comply with a State or Federal rule other than this subpart may not be included in an emissions averaging group, unless the level of control has been increased after November 15, 1990, above what is required by the other State or Federal rule. Only the control above what is required by the other State or Federal rule will be credited. However, if an emission point has been used to generate emissions averaging credit in an approved emissions average, and the point is subsequently made subject to a State or Federal rule other than this subpart, the point can continue to generate emissions averaging credit for the purpose of complying with the previously approved average.

(i) *Opening of a safety device.* Opening of a safety device, as defined in § 63.1361, is allowed at any time conditions require it to avoid unsafe conditions.

(j) *Closed-vent systems.* The owner or operator of a closed-vent system that contains bypass lines that could divert a vent stream away from a control device used to comply with the requirements in paragraphs (b) through (d) of this section shall comply with the requirements of Table 3 of this subpart and paragraph (j)(1) or (2) of this section. Equipment such as low leg drains, high point bleeds, analyzer vents, open-ended valves or lines, rupture disks and pressure relief valves needed for safety purposes are not subject to this paragraph.

(1) Install, calibrate, maintain, and operate a flow indicator that is capable of determining whether vent stream flow is present and taking frequent, periodic readings. Records shall be maintained as specified in § 63.1367(f)(1). The flow indicator shall be installed at the entrance to any bypass line that could divert the vent stream away from the control device to the atmosphere; or

(2) Secure the bypass line valve in the closed position with a car-seal or lock-and-key type configuration. Records shall be maintained as specified in § 63.1367(f)(2).

(k) *Control requirements for certain liquid streams in open systems within a PAI process unit.* (1) The owner or operator

shall comply with the provisions of Table 4 of this subpart, for each item of equipment meeting all the criteria specified in paragraphs (k)(2) through (4) of this section and either paragraph (k)(5)(i) or (ii) of this section.

(2) The item of equipment is of a type identified in Table 4 of this subpart;

(3) The item of equipment is part of a PAI process unit as defined in § 63.1361;

(4) The item of equipment is controlled less stringently than in Table 4 of this subpart, and the item of equipment is not otherwise exempt from controls by the provisions of this subpart or subpart A of this part;

(5) The item of equipment:

(i) Is a drain, drain hub, manhole, lift station, trench, pipe, or oil/water separator that conveys water with a total annual average concentration greater than or equal to 10,000 ppm by weight of compounds in Table 9 of subpart G of this part at any flowrate; or a total annual average concentration greater than or equal to 1,000 ppm by weight of compounds in Table 9 of subpart G of this part at an annual average flow rate greater than or equal to 10 liters per minute; or

(ii) Is a tank that receives one or more streams that contain water with a total annual average concentration greater than or equal to 1,000 ppm by weight of compounds in Table 9 of subpart G of this part at an annual average flowrate greater than or equal to 10 liters per minute. The owner or operator of the source shall determine the characteristics of the stream as specified in paragraphs (k)(5)(ii)(A) and (B) of this section.

(A) The characteristics of the stream being received shall be determined at the inlet to the tank.

(B) The characteristics shall be determined according to the procedures in § 63.144(b) and (c) of subpart G of this part.

(1) *Exemption for RCRA treatment units.* An owner or operator shall be exempt from the initial compliance demonstrations and monitoring provisions in §§ 63.1365 and 63.1366 and the associated recordkeeping and reporting requirements in §§ 63.1367 and 63.1368 for emissions from process vents, storage vessels, and waste management units

that are discharged to the following devices:

(1) A boiler or process heater burning hazardous waste for which the owner or operator:

(i) Has been issued a final permit under 40 CFR part 270 and complies with the requirements of 40 CFR part 266, subpart H; or

(ii) Has certified compliance with the interim status requirements of 40 CFR part 266, subpart H.

(2) A hazardous waste incinerator for which the owner or operator has been issued a final permit under 40 CFR part 270 and complies with the requirements of 40 CFR part 264, subpart O, or has certified compliance with the interim status requirements of 40 CFR part 265, subpart O.

[64 FR 33589, June 23, 1999, as amended at 67 FR 59343, Sept. 20, 2002; 68 FR 37358, June 23, 2003]

**§ 63.1363 Standards for equipment leaks.**

(a) *General equipment leak requirements.* (1) The provisions of this section apply to "equipment" as defined in § 63.1361. The provisions of this section also apply to any closed-vent systems and control devices required by this section.

(2) *Consistency with other regulations.* After the compliance date for a process, equipment subject to both this section and either of the following will be required to comply only with the provisions of this subpart:

(i) 40 CFR part 60.

(ii) 40 CFR part 61.

(3) [Reserved]

(4) The provisions in § 63.1(a)(3) of subpart A of this part do not alter the provisions in paragraph (a)(2) of this section.

(5) Lines and equipment not containing process fluids are not subject to the provisions of this section. Utilities, and other nonprocess lines, such as heating and cooling systems which do not combine their materials with those in the processes they serve, are not considered to be part of a process.

(6) The provisions of this section do not apply to bench-scale processes, regardless of whether the processes are located at the same plant site as a

process subject to the provisions of this subpart MMM.

(7) Each piece of equipment to which this section applies shall be identified such that it can be distinguished readily from equipment that is not subject to this section. Identification of the equipment does not require physical tagging of the equipment. For example, the equipment may be identified on a plant site plan, in log entries, or by designation of process boundaries by some form of weatherproof identification. If changes are made to the affected source subject to the leak detection requirements, equipment identification for each type of component shall be updated, if needed, within 15 calendar days of the end of each monitoring period for that component.

(8) Equipment that is in vacuum service is excluded from the requirements of this section.

(9) Equipment that is in organic HAP service, but is in such service less than 300 hours per calendar year, is excluded from the requirements of this section if it is identified as required in paragraph (g)(9) of this section.

(10) When each leak is detected by visual, audible, or olfactory means, or by monitoring as described in § 63.180(b) or (c) of subpart H of this part, the following requirements apply:

(i) A weatherproof and readily visible identification, marked with the equipment identification number, shall be attached to the leaking equipment.

(ii) The identification on a valve in light liquid or gas/vapor service may be removed after it has been monitored as specified in paragraph (e)(7)(iii) of this section, and no leak has been detected during the follow-up monitoring. If an owner or operator elects to comply with § 63.174(c)(1)(i), the identification on a connector may be removed after it has been monitored as specified in § 63.174(c)(1)(i) and no leak is detected during that monitoring.

(iii) The identification on equipment, except as specified in paragraph (a)(10)(ii) of this section, may be removed after it has been repaired.

(b) *References.* The owner or operator shall comply with the provisions of subpart H of this part as specified in paragraphs (b)(1) through (3) of this section. When the term "process unit"

is used in subpart H of this part, it shall mean any group of processes for the purposes of this subpart. Groups of processes as used in this subpart may be any individual process or combination of processes.

(1) Sections 63.160, 63.161, 63.162, 63.163, 63.167, 63.168, 63.170, 63.173, 63.175, 63.176, 63.181, and 63.182 of subpart H of this part shall not apply for the purposes of this subpart MMM. The owner or operator shall comply with the provisions specified in paragraphs (b)(1)(i) through (viii) of this section.

(i) Sections 63.160 and 63.162 of subpart H of this part shall not apply, instead the owner or operator shall comply with paragraph (a) of this section;

(ii) Section 63.161 of subpart H of this part shall not apply, instead the owner or operator shall comply with § 63.1361;

(iii) Sections 63.163 and 63.173 of subpart H of this part shall not apply, instead the owner or operator shall comply with paragraph (c) of this section;

(iv) Section 63.167 of subpart H of this part shall not apply, instead the owner or operator shall comply with paragraph (d) of this section;

(v) Section 63.168 of subpart H of this part shall not apply, instead the owner or operator shall comply with paragraph (e) of this section;

(vi) Section 63.170 of subpart H of this part shall not apply, instead the owner or operator shall comply with § 63.1362(b);

(vii) Section 63.181 of subpart H of this part shall not apply, instead the owner or operator shall comply with paragraph (g) of this section; and

(viii) Section 63.182 of subpart H of this part shall not apply, instead the owner or operator shall comply with paragraph (h) of this section.

(2) The owner or operator shall comply with §§ 63.164, 63.165, 63.166, 63.169, 63.177, and 63.179 of subpart H of this part in their entirety, except that when these sections reference other sections of subpart H of this part, the owner or operator shall comply with the revised sections as specified in paragraphs (b)(1) and (3) of this section. Section 63.164 of subpart H of this part applies to compressors. Section 63.165 of subpart H of this part applies to pressure relief devices in gas/vapor service. Section 63.166 of subpart H of

this part applies to sampling connection systems. Section 63.169 of subpart H of this part applies to: pumps, valves, connectors, and agitators in heavy liquid service; instrumentation systems; and pressure relief devices in liquid service. Section 63.177 of subpart H of this subpart applies to general alternative means of emission limitation. Section 63.179 of subpart H of this part applies to alternative means of emission limitation for enclosed-vented process units.

(3) The owner or operator shall comply with §§ 63.171, 63.172, 63.174, 63.178, and 63.180 of subpart H of this part with the differences specified in paragraphs (b)(3)(i) through (v) of this section.

(i) Section 63.171, Delay of repair, shall apply except § 63.171(a) shall not apply. Delay of repair of equipment for which leaks have been detected is allowed if one of the following conditions exist:

(A) The repair is technically infeasible without a process shutdown. Repair of this equipment shall occur by the end of the next scheduled process shutdown.

(B) The owner or operator determines that repair personnel would be exposed to an immediate danger if attempting to repair without a process shutdown. Repair of this equipment shall occur by the end of the next scheduled process shutdown.

(ii) Section 63.172, Closed-vent systems and control devices, shall apply for closed-vent systems used to comply with this section, and for control devices used to comply with this section only, except:

(A) Section 63.172(k) and (l) shall not apply. The owner or operator shall instead comply with paragraph (f) of this section.

(B) Owners or operators may, instead of complying with the provisions of § 63.172(f), design a closed-vent system to operate at a pressure below atmospheric pressure. The system shall be equipped with at least one pressure gauge or other pressure measurement device that can be read from a readily accessible location to verify that negative pressure is being maintained in the closed-vent system when the associated control device is operating.

(iii) Section 63.174, Connectors, shall apply except:

(A) Section 63.174(b), (f), (g), and (h) shall not apply. In place of § 63.174(b), the owner or operator shall comply with paragraphs (b)(3)(iii)(C) through (G) of this section. In place of § 63.174(f), (g), and (h), the owner or operator shall comply with paragraph (f) of this section.

(B) Days that the connectors are not in organic HAP service shall not be considered part of the 3-month period in § 63.174(c).

(C) If the percent leaking connectors in a group of processes was greater than or equal to 0.5 percent during the initial monitoring period, monitoring shall be performed once per year until the percent leaking connectors is less than 0.5 percent.

(D) If the percent leaking connectors in the group of processes was less than 0.5 percent, but equal to or greater than 0.25 percent, during the last required monitoring period, monitoring shall be performed once every 4 years. An owner or operator may comply with the requirements of this paragraph by monitoring at least 40 percent of the connectors in the first 2 years and the remainder of the connectors within the next 2 years. The percent leaking connectors will be calculated for the total of all monitoring performed during the 4-year period.

(E) The owner or operator shall increase the monitoring frequency to once every 2 years for the next monitoring period if leaking connectors comprise at least 0.5 percent but less than 1.0 percent of the connectors monitored within either the 4 years specified in paragraph (b)(3)(iii)(D) of this section, the first 4 years specified in paragraph (b)(3)(iii)(G) of this section, or the entire 8 years specified in paragraph (b)(3)(iii)(G) of this section. At the end of that 2-year monitoring period, the owner or operator shall monitor once per year while the percent leaking connectors is greater than or equal to 0.5 percent; if the percent leaking connectors is less than 0.5 percent, the owner or operator may again elect to monitor in accordance with paragraph (b)(3)(iii)(D) or (G) of this section, as applicable.

(F) If an owner or operator complying with the requirements of paragraph (b)(3)(iii)(D) or (G) of this section for a group of processes determines that 1 percent or greater of the connectors are leaking, the owner or operator shall increase the monitoring frequency to one time per year. The owner or operator may again elect to use the provisions of paragraph (b)(3)(iii)(D) or (G) of this section after a monitoring period in which less than 0.5 percent of the connectors are determined to be leaking.

(G) Monitoring shall be required once every 8 years, if the percent leaking connectors in the group of process units was less than 0.25 percent during the last required monitoring period. An owner or operator shall monitor at least 50 percent of the connectors in the first 4 years and the remainder of the connectors within the next 4 years. If the percent leaking connectors in the first 4 years is equal to or greater than 0.35 percent, the monitoring program shall revert at that time to the appropriate monitoring frequency specified in paragraph (b)(3)(iii)(D), (E), or (F) of this section.

(iv) Section 63.178, shall apply, except as specified in paragraphs (b)(3)(iv)(A) and (B) of this section.

(A) Section 63.178(b), requirements for pressure testing, shall apply to all processes, not just batch processes.

(B) For pumps, the phrase "at the frequencies specified in Table 1 of this subpart" in § 63.178(c)(3)(iii) shall mean "quarterly" for the purposes of this subpart.

(v) Section 63.180 of subpart H of this part, Test methods and procedures, shall apply except § 63.180(b)(4)(ii)(A) through (C) of subpart H of this part shall not apply. Calibration gases shall be a mixture of methane and air at a concentration of approximately, but less than, 10,000 parts per million methane for agitators, 2,000 parts per million for pumps, and 500 parts per million for all other equipment, except as provided in § 63.180(b)(4)(iii) of subpart H of this part.

(c) *Standards for pumps in light liquid service and agitators in gas/vapor service and in light liquid service.* (1) The provisions of this section apply to each pump that is in light liquid service,

and to each agitator in gas/vapor service or in light liquid service.

(2)(i) *Monitoring.* Each pump and agitator subject to this section shall be monitored quarterly to detect leaks by the method specified in § 63.180(b), except as provided in §§ 63.177, 63.178, paragraph (f) of this section, and paragraphs (c)(5) through (9) of this section.

(ii) *Leak definition.* The instrument reading, as determined by the method as specified in § 63.180(b) of subpart H of this part, that defines a leak is:

(A) For agitators, an instrument reading of 10,000 parts per million or greater.

(B) For pumps, an instrument reading of 2,000 parts per million or greater.

(iii) *Visual inspections.* Each pump and agitator shall be checked by visual inspection each calendar week for indications of liquids dripping from the pump or agitator seal. If there are indications of liquids dripping from the seal at the time of the weekly inspection, the owner or operator shall follow the procedure specified in either paragraph (c)(2)(iii)(A) or (B) of this section prior to the next weekly inspection.

(A) The owner or operator shall monitor the pump or agitator by the method specified in § 63.180(b). If the instrument reading indicates a leak as specified in paragraph (c)(2)(ii) of this section, a leak is detected.

(B) The owner or operator shall eliminate the visual indications of liquids dripping.

(3) *Repair provisions.* (i) When a leak is detected pursuant to paragraph (c)(2)(i), (c)(2)(iii)(A), (c)(5)(iv)(A), or (c)(5)(vi)(B) of this section, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in paragraph (b)(3)(i) of this section.

(ii) A first attempt at repair shall be made no later than 5 calendar days after the leak is detected. First attempts at repair include, but are not limited to, the following practices where practicable:

(A) Tightening of packing gland nuts.

(B) Ensuring that the seal flush is operating at design pressure and temperature.

(4) *Calculation of percent leakers.* (i) The owner or operator shall decide no

later than the end of the first monitoring period what groups of processes will be developed. Once the owner or operator has decided, all subsequent percent calculations shall be made on the same basis.

(ii) If, calculated on a 1-year rolling average, 10 percent or more of the pumps in a group of processes (or 3 pumps in a group of processes with fewer than 30 pumps) leak, the owner or operator shall monitor each pump once per month, until the calculated 1-year rolling average value drops below

10 percent (or three pumps in a group of processes with fewer than 30 pumps).

(iii) The number of pumps in a group of processes shall be the sum of all the pumps in organic HAP service, except that pumps found leaking in a continuous process within 1 quarter after startup of the pump shall not count in the percent leaking pumps calculation for that one monitoring period only.

(iv) Percent leaking pumps shall be determined using Equation 3 of this subpart:

$$\%P_L = \left[ \frac{(P_L - P_S)}{(P_T - P_S)} \right] \times 100 \quad (\text{Eq. 3})$$

Where:

$\%P_L$  = percent leaking pumps

$P_L$  = number of pumps found leaking as determined through quarterly monitoring as required in paragraphs (c)(2)(i) and (ii) of this section.

$P_T$  = total pumps in organic HAP service, including those meeting the criteria in paragraphs (c)(5) and (6) of this section

$P_S$  = number of pumps in a continuous process leaking within 1 quarter of startup during the current monitoring period

(5) *Exemptions.* Each pump or agitator equipped with a dual mechanical seal system that includes a barrier fluid system and meets the requirements specified in paragraphs (c)(5)(i) through (vii) is exempt from the requirements of paragraphs (c)(1) through (c)(4)(iii) of this section, except as specified in paragraphs (c)(5)(iv)(A) and (vii) of this section.

(i) Each dual mechanical seal system is:

(A) Operated with the barrier fluid at a pressure that is at all times greater than the pump/agitator stuffing box pressure; or

(B) Equipped with a barrier fluid degassing reservoir that is connected by a closed-vent system to a control device that complies with the requirements of paragraph (b)(3)(ii) of this section; or

(C) Equipped with a closed-loop system that purges the barrier fluid into a process stream.

(ii) The barrier fluid is not in light liquid service.

(iii) Each barrier fluid system is equipped with a sensor that will detect failure of the seal system, the barrier fluid system, or both.

(iv) Each pump/agitator is checked by visual inspection each calendar week for indications of liquids dripping from the pump/agitator seal. If there are indications of liquids dripping from the pump or agitator seal at the time of the weekly inspection, the owner or operator shall follow the procedures specified in either paragraph (c)(5)(iv)(A) or (B) of this section prior to the next required inspection.

(A) The owner or operator shall monitor the pump or agitator using the method specified in § 63.180(b) to determine if there is a leak of organic HAP in the barrier fluid. If the instrument reading indicates a leak, as specified in paragraph (c)(2)(ii) of this section, a leak is detected.

(B) The owner or operator shall eliminate the visual indications of liquids dripping.

(v) Each sensor as described in paragraph (c)(5)(iii) of this section is observed daily or is equipped with an alarm unless the pump is located within the boundary of an unmanned plant site.

(vi)(A) The owner or operator determines, based on design considerations and operating experience, criteria applicable to the presence and frequency of drips and to the sensor that indicate failure of the seal system, the barrier fluid system, or both.



(B) If indications of liquids dripping from the pump/agitator seal exceed the criteria established in paragraph (c)(5)(vi)(A) of this section, or if, based on the criteria established in paragraph (c)(5)(vi)(A) of this section, the sensor indicates failure of the seal system, the barrier fluid system, or both, a leak is detected.

(vii) When a leak is detected pursuant to paragraph (c)(5)(iv)(A) or (vi)(B) of this section, the leak must be repaired as specified in paragraph (c)(3) of this section.

(6) Any pump/agitator that is designed with no externally actuated shaft penetrating the pump/agitator housing is exempt from the requirements of paragraphs (c)(1) through (3) of this section.

(7) Any pump/agitator equipped with a closed-vent system capable of capturing and transporting any leakage from the seal or seals back to the process or to a control device that complies with the requirements of paragraph (b)(3)(ii) of this section is exempt from the requirements of paragraphs (c)(2) through (5) of this section.

(8) Any pump/agitator that is located within the boundary of an unmanned plant site is exempt from the weekly visual inspection requirement of paragraphs (c)(2)(iii) and (c)(5)(iv) of this section, and the daily requirements of paragraph (c)(5)(v) of this section, provided that each pump/agitator is visually inspected as often as practicable and at least monthly.

(9) If more than 90 percent of the pumps in a group of processes meet the criteria in either paragraph (c)(5) or (6) of this section, the group of processes is exempt from the requirements of paragraph (c)(4) of this section.

(d) *Standards: open-ended valves or lines.* (1)(i) Each open-ended valve or line shall be equipped with a cap, blind flange, plug, or a second valve, except as provided in § 63.177 of subpart H of this part and paragraphs (d)(4) through (6) of this section.

(ii) The cap, blind flange, plug, or second valve shall seal the open end at all times except during operations requiring process fluid flow through the open-ended valve or line, or during maintenance or repair. The cap, blind flange, plug, or second valve shall be in

place within 1 hour of cessation of operations requiring process fluid flow through the open-ended valve or line, or within 1 hour of cessation of maintenance or repair.

(2) Each open-ended valve or line equipped with a second valve shall be operated in a manner such that the valve on the process fluid end is closed before the second valve is closed.

(3) When a double block and bleed system is being used, the bleed valve or line may remain open during operations that require venting the line between the block valves but shall comply with paragraph (d)(1) of this section at all other times.

(4) Open-ended valves or lines in an emergency shutdown system which are designed to open automatically in the event of a process upset are exempt from the requirements of paragraphs (d)(1) through (3) of this section.

(5) Open-ended valves or lines containing materials which would autocatalytically polymerize are exempt from the requirements of paragraphs (d)(1) through (3) of this section.

(6) Open-ended valves or lines containing materials which could cause an explosion, serious overpressure, or other safety hazard if capped or equipped with a double block and bleed system as specified in paragraphs (d)(1) through (3) of this section are exempt from the requirements of paragraphs (d)(1) through (3) of this section.

(e) *Standards: valves in gas/vapor service and in light liquid service.* (1) The provisions of this section apply to valves that are either in gas/vapor service or in light liquid service.

(2) For existing and new affected sources, all valves subject to this section shall be monitored, except as provided in paragraph (f) of this section and in § 63.177 of subpart H of this part, by no later than 1 year after the compliance date.

(3) *Monitoring.* The owner or operator of a source subject to this section shall monitor all valves, except as provided in paragraph (f) of this section and in § 63.177 of subpart H of this part, at the intervals specified in paragraph (e)(4) of this section and shall comply with all other provisions of this section, except as provided in paragraph (b)(3)(i)

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of this section and §§ 63.178 and 63.179 of subpart H of this part.

(i) The valves shall be monitored to detect leaks by the method specified in § 63.180(b) of subpart H of this part.

(ii) An instrument reading of 500 parts per million or greater defines a leak.

(4) *Subsequent monitoring frequencies.* After conducting the initial survey required in paragraph (e)(2) of this section, the owner or operator shall monitor valves for leaks at the intervals specified below:

(i) For a group of processes with 2 percent or greater leaking valves, calculated according to paragraph (e)(6) of this section, the owner or operator shall monitor each valve once per month, except as specified in paragraph (e)(9) of this section.

(ii) For a group of processes with less than 2 percent leaking valves, the owner or operator shall monitor each valve once each quarter, except as provided in paragraphs (e)(4)(iii) through (v) of this section.

(iii) For a group of processes with less than 1 percent leaking valves, the owner or operator may elect to monitor each valve once every 2 quarters.

(iv) For a group of processes with less than 0.5 percent leaking valves, the owner or operator may elect to monitor each valve once every 4 quarters.

(v) For a group of processes with less than 0.25 percent leaking valves, the owner or operator may elect to monitor each valve once every 2 years.

(5) *Calculation of percent leakers.* For a group of processes to which this subpart applies, the owner or operator may choose to subdivide the valves in the applicable group of processes and apply the provisions of paragraph (e)(4) of this section to each subgroup. If the owner or operator elects to subdivide the valves in the applicable group of processes, then the provisions of paragraphs (e)(5)(i) through (viii) of this section apply.

(i) The overall performance of total valves in the applicable group of processes must be less than 2 percent leaking valves, as detected according to paragraphs (e)(3)(i) and (ii) of this section and as calculated according to paragraphs (e)(6)(ii) and (iii) of this section.

(ii) The initial assignment or subsequent reassignment of valves to subgroups shall be governed by the provisions of paragraphs (e)(5)(ii) (A) through (C) of this section.

(A) The owner or operator shall determine which valves are assigned to each subgroup. Valves with less than 1 year of monitoring data or valves not monitored within the last 12 months must be placed initially into the most frequently monitored subgroup until at least 1 year of monitoring data have been obtained.

(B) Any valve or group of valves can be reassigned from a less frequently monitored subgroup to a more frequently monitored subgroup provided that the valves to be reassigned were monitored during the most recent monitoring period for the less frequently monitored subgroup. The monitoring results must be included with the less frequently monitored subgroup's monitoring event and associated next percent leaking valves calculation for that group.

(C) Any valve or group of valves can be reassigned from a more frequently monitored subgroup to a less frequently monitored subgroup provided that the valves to be reassigned have not leaked for the period of the less frequently monitored subgroup (e.g., for the last 12 months, if the valve or group of valves is to be reassigned to a subgroup being monitored annually). Nonrepairable valves may not be reassigned to a less frequently monitored subgroup.

(iii) The owner or operator shall determine every 6 months if the overall performance of total valves in the applicable group of processes is less than 2 percent leaking valves and so indicate the performance in the next Periodic report. If the overall performance of total valves in the applicable group of processes is 2 percent leaking valves or greater, the owner or operator shall revert to the program required in paragraphs (e)(2) through (4) of this section. The overall performance of total valves in the applicable group of processes shall be calculated as a weighted average of the percent leaking valves of each subgroup according to Equation 4 of this subpart:

$$\%V_{LO} = \frac{\sum_{i=1}^n (\%V_{L_i} \times V_i)}{\sum_{i=1}^n V_i} \quad (\text{Eq. 4})$$

Where:

$\%V_{LO}$  = overall performance of total valves in the applicable group of processes

$\%V_L$  = percent leaking valves in subgroup  $i$ , most recent value calculated according to the procedures in paragraphs (e)(6)(ii) and (iii) of this section

$V_i$  = number of valves in subgroup  $i$

$n$  = number of subgroups

(iv) *Records.* In addition to records required by paragraph (g) of this section, the owner or operator shall maintain records specified in paragraphs (e)(5)(iv)(A) through (D) of this section.

(A) Which valves are assigned to each subgroup.

(B) Monitoring results and calculations made for each subgroup for each monitoring period.

(C) Which valves are reassigned and when they were reassigned, and

(D) The results of the semiannual overall performance calculation required in paragraph (e)(5)(iii) of this section.

(v) The owner or operator shall notify the Administrator no later than 30 days prior to the beginning of the next monitoring period of the decision to subgroup valves. The notification shall identify the participating processes and the valves assigned to each subgroup.

(vi) *Semiannual reports.* In addition to the information required by paragraph (h)(3) of this section, the owner or operator shall submit in the Periodic reports the information specified in paragraphs (e)(5)(vi)(A) and (B) of this section.

(A) Valve reassignments occurring during the reporting period, and

(B) Results of the semiannual overall performance calculation required by paragraph (e)(5)(iii) of this section.

(vii) To determine the monitoring frequency for each subgroup, the calculation procedures of paragraph (e)(6)(iii) of this section shall be used.

(viii) Except for the overall performance calculations required by paragraphs (e)(5)(i) and (iii) of this section,

each subgroup shall be treated as if it were a process for the purposes of applying the provisions of this section.

(6)(i) The owner or operator shall decide no later than the implementation date of this subpart or upon revision of an operating permit how to group the processes. Once the owner or operator has decided, all subsequent percentage calculations shall be made on the same basis.

(ii) Percent leaking valves for each group of processes or subgroup shall be determined using Equation 5 of this subpart:

$$\%V_L = [V_L / V_T] \times 100 \quad (\text{Eq. 5})$$

Where:

$\%V_L$  = percent leaking valves

$V_L$  = number of valves found leaking excluding nonrepairables as provided in paragraph (e)(6)(iv)(A) of this section

$V_T$  = total valves monitored, in a monitoring period excluding valves monitored as required by paragraph (e)(7)(iii) of this section

(iii) When determining monitoring frequency for each group of processes or subgroup subject to monthly, quarterly, or semiannual monitoring frequencies, the percent leaking valves shall be the arithmetic average of the percent leaking valves from the last two monitoring periods. When determining monitoring frequency for each group of processes or subgroup subject to annual or biennial (once every 2 years) monitoring frequencies, the percent leaking valves shall be the arithmetic average of the percent leaking valves from the last three monitoring periods.

(iv)(A) Nonrepairable valves shall be included in the calculation of percent leaking valves the first time the valve is identified as leaking and nonrepairable and as required to comply with paragraph (e)(6)(iv)(B) of this section. Otherwise, a number of nonrepairable valves (identified and included in the percent leaking calculation in a previous period) up to a maximum of 1 percent of the total number of valves in organic HAP service at a process may be excluded from calculation of percent leaking valves for subsequent monitoring periods.

(B) If the number of nonrepairable valves exceeds 1 percent of the total

number of valves in organic HAP service at a process, the number of non-repairable valves exceeding 1 percent of the total number of valves in organic HAP service shall be included in the calculation of percent leaking valves.

(7) *Repair provisions.* (i) When a leak is detected, it shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected, except as provided in paragraph (b)(3)(i) of this section.

(ii) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(iii) When a leak is repaired, the valve shall be monitored at least once within the first 3 months after its repair. Days that the valve is not in organic HAP service shall not be considered part of this 3-month period. The monitoring required by this paragraph is in addition to the monitoring required to satisfy the definitions of "repaired" and "first attempt at repair."

(A) The monitoring shall be conducted as specified in §63.180(b) and (c) as appropriate, to determine whether the valve has resumed leaking.

(B) Periodic monitoring required by paragraphs (e)(2) through (4) of this section may be used to satisfy the requirements of paragraph (e)(7)(iii) of this section, if the timing of the monitoring period coincides with the time specified in paragraph (e)(7)(iii) of this section. Alternatively, other monitoring may be performed to satisfy the requirements of paragraph (e)(7)(iii) of this section, regardless of whether the timing of the monitoring period for periodic monitoring coincides with the time specified in paragraph (e)(7)(iii) of this section.

(C) If a leak is detected by monitoring that is conducted pursuant to paragraph (e)(7)(iii) of this section, the owner or operator shall follow the provisions of paragraphs (e)(7)(iii)(C)(1) and (2) of this section to determine whether that valve must be counted as a leaking valve for purposes of paragraph (e)(6) of this section.

(1) If the owner or operator elects to use periodic monitoring required by paragraphs (e)(2) through (4) of this section to satisfy the requirements of paragraph (e)(7)(iii) of this section,

then the valve shall be counted as a leaking valve.

(2) If the owner or operator elects to use other monitoring prior to the periodic monitoring required by paragraphs (e)(2) through (4) of this section to satisfy the requirements of paragraph (e)(7)(iii) of this section, then the valve shall be counted as a leaking valve unless it is repaired and shown by periodic monitoring not to be leaking.

(8) First attempts at repair include, but are not limited to, the following practices where practicable:

(i) Tightening of bonnet bolts,

(ii) Replacement of bonnet bolts,

(iii) Tightening of packing gland nuts, and

(iv) Injection of lubricant into lubricated packing.

(9) Any equipment located at a plant site with fewer than 250 valves in organic HAP service in the affected source is exempt from the requirements for monthly monitoring specified in paragraph (e)(4)(i) of this section. Instead, the owner or operator shall monitor each valve in organic HAP service for leaks once each quarter, or comply with paragraph (e)(4)(iii), (iv), or (v) of this section, except as provided in paragraph (f) of this section.

(f) *Unsafe to monitor, difficult-to-monitor, and inaccessible equipment.* (1) Equipment that is designated as unsafe-to-monitor, difficult-to-monitor, or inaccessible is exempt from the requirements as specified in paragraphs (f)(1)(i) through (iv) of this section provided the owner or operator meets the requirements specified in paragraph (f)(2), (3), or (4) of this section, as applicable. All equipment, except connectors that meet the requirements in paragraph (f)(4) of this section, must be assigned to a group of processes. Ceramic or ceramic-lined connectors are subject to the same requirements as inaccessible connectors.

(i) For pumps and agitators, paragraphs (c)(2), (3), and (4) of this section do not apply.

(ii) For valves, paragraphs (e)(2) through (7) of this section do not apply.

(iii) For connectors, §63.174(b) through (e) and paragraphs (b)(3)(iii)(C)

through (G) of this section do not apply.

(iv) For closed-vent systems, § 63.172(f)(1), (f)(2), and (g) do not apply.

(2) *Equipment that is unsafe-to-monitor.*

(i) Valves, connectors, agitators, and any part of closed-vent systems may be designated as unsafe-to-monitor if the owner or operator determines that monitoring personnel would be exposed to an immediate danger as a consequence of complying with the monitoring requirements identified in paragraphs (f)(1)(i) through (iii) of this section, or the inspection requirements identified in paragraph (f)(1)(iv) of this section.

(ii) The owner or operator of equipment that is designated as unsafe-to-monitor must have a written plan that requires monitoring of the equipment as frequently as practicable during safe-to-monitor times. For valves, connectors, and agitators, monitoring shall not be more frequent than the periodic monitoring schedule otherwise applicable to the group of processes in which the equipment is located. For closed-vent systems, inspections shall not be more frequent than annually.

(3) *Equipment that is difficult-to-monitor.* (i) A valve, agitator, pump, or any part of a closed-vent system may be designated as difficult-to-monitor if the owner or operator determines that the equipment cannot be monitored or inspected without elevating the monitoring personnel more than 2 meters above a support surface or the equipment is not accessible in a safe manner when it is in organic HAP service;

(ii) At a new affected source, an owner or operator may designate no more than 3 percent of valves as difficult-to-monitor.

(iii) The owner or operator of valves, agitators, or pumps designated as difficult-to-monitor must have a written plan that requires monitoring of the equipment at least once per calendar year or on the periodic monitoring schedule otherwise applicable to the group of processes in which the equipment is located, whichever is less frequent. For any part of a closed-vent system designated as difficult-to-monitor, the owner or operator must have a written plan that requires inspection of

the closed-vent system at least once every 5 years.

(4) *Inaccessible, ceramic, or ceramic-lined connectors.* (i) A connector may be designated as inaccessible if it is:

(A) Buried;

(B) Insulated in a manner that prevents access to the equipment by a monitor probe;

(C) Obstructed by equipment or piping that prevents access to the equipment by a monitor probe;

(D) Unable to be reached from a wheeled scissor-lift or hydraulic-type scaffold which would allow access to equipment up to 7.6 meters above the ground; or

(E) Not able to be accessed at any time in a safe manner to perform monitoring. Unsafe access includes, but is not limited to, the use of a wheeled scissor-lift on unstable or uneven terrain, the use of a motorized man-lift basket in areas where an ignition potential exists, or access would require near proximity to hazards such as electrical lines, or would risk damage to equipment.

(F) Would require elevating the monitoring personnel more than 2 meters above a permanent support surface or would require the erection of scaffold.

(ii) At a new affected source, an owner or operator may designate no more than 3 percent of connectors as inaccessible.

(iii) If any inaccessible, ceramic, or ceramic-lined connector is observed by visual, audible, olfactory, or other means to be leaking, the leak shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected, except as provided in paragraph (b)(3)(i) of this section.

(iv) Any connector that is inaccessible or that is ceramic or ceramic-lined is exempt from the recordkeeping and reporting requirements of paragraphs (g) and (h) of this section.

(g) *Recordkeeping requirements.* (1) An owner or operator of more than one group of processes subject to the provisions of this section may comply with the recordkeeping requirements for the groups of processes in one recordkeeping system if the system identifies with each record the program being implemented (e.g., quarterly monitoring) for each type of equipment. All records

and information required by this section shall be maintained in a manner that can be readily accessed at the plant site. This could include physically locating the records at the plant site or accessing the records from a central location by computer at the plant site.

(2) *General recordkeeping.* Except as provided in paragraph (g)(5) of this section, the following information pertaining to all equipment subject to the requirements in this section shall be recorded:

(i)(A) A list of identification numbers for equipment (except instrumentation systems) subject to the requirements of this section. Connectors, except those subject to paragraph (f) of this section, need not be individually identified if all connectors in a designated area or length of pipe subject to the provisions of this section are identified as a group, and the number of subject connectors is indicated. The list for each type of equipment shall be completed no later than the completion of the initial survey required for that component. The list of identification numbers shall be updated, if needed, to incorporate equipment changes within 15 calendar days of the completion of each monitoring survey for the type of equipment component monitored.

(B) A schedule for monitoring connectors subject to the provisions of § 63.174(a) of subpart H of this part and valves subject to the provisions of paragraph (e)(4) of this section.

(C) Physical tagging of the equipment is not required to indicate that it is in organic HAP service. Equipment subject to the provisions of this section may be identified on a plant site plan, in log entries, or by other appropriate methods.

(ii)(A) A list of identification numbers for equipment that the owner or operator elects to equip with a closed-vent system and control device, under the provisions of paragraph (c)(7) of this section or §§ 63.164(h) or 63.165(c) of subpart H of this part.

(B) A list of identification numbers for compressors that the owner or operator elects to designate as operating with an instrument reading of less than 500 parts per million above back-

ground, under the provisions of § 63.164(i) of subpart H of this part.

(iii)(A) A list of identification numbers for pressure relief devices subject to the provisions in § 63.165(a) of subpart H of this part.

(B) A list of identification numbers for pressure relief devices equipped with rupture disks, under the provisions of § 63.165(d) of subpart H of this part.

(iv) Identification of instrumentation systems subject to the provisions of this section. Individual components in an instrumentation system need not be identified.

(v) The following information shall be recorded for each dual mechanical seal system:

(A) Design criteria required by paragraph (c)(5)(vi)(A) of this section and § 63.164(e)(2) of subpart H of this part, and an explanation of the design criteria; and

(B) Any changes to these criteria and the reasons for the changes.

(vi) A list of equipment designated as unsafe-to-monitor or difficult-to-monitor under paragraph (f) of this section and a copy of the plan for monitoring this equipment.

(vii) A list of connectors removed from and added to the process, as described in § 63.174(i)(1) of subpart H of this part, and documentation of the integrity of the weld for any removed connectors, as required in § 63.174(j) of subpart H of this part. This is not required unless the net credits for removed connectors is expected to be used.

(viii) For batch processes that the owner or operator elects to monitor as provided under § 63.178(c) of subpart H of this part, a list of equipment added to batch product processes since the last monitoring period required in § 63.178(c)(3)(ii) and (iii) of subpart H of this part. This list must be completed for each type of equipment within 15 calendar days of the completion of the each monitoring survey for the type of equipment monitored.

(3) *Records of visual inspections.* For visual inspections of equipment subject to the provisions of paragraphs (c)(2)(iii) and (c)(5)(iv) of this section, the owner or operator shall document that the inspection was conducted and

the date of the inspection. The owner or operator shall maintain records as specified in paragraph (g)(4) of this section for leaking equipment identified in this inspection, except as provided in paragraph (g)(5) of this section. These records shall be retained for 5 years.

(4) *Monitoring records.* When each leak is detected as specified in paragraphs (c) and (e) of this section and §§ 63.164, 63.169, 63.172, and 63.174 of subpart H of this part, the owner or operator shall record the information specified in paragraphs (g)(4)(i) through (ix) of this section. All records shall be retained for 5 years, in accordance with the requirements of § 63.10(b)(1) of subpart A of this part.

(i) The instrument and the equipment identification number and the operator name, initials, or identification number.

(ii) The date the leak was detected and the date of first attempt to repair the leak.

(iii) The date of successful repair of the leak.

(iv) If postrepair monitoring is required, maximum instrument reading measured by Method 21 of 40 CFR part 60, appendix A, after it is successfully repaired or determined to be nonrepairable.

(v) "Repair delayed" and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.

(A) The owner or operator may develop a written procedure that identifies the conditions that justify a delay of repair. The written procedures may be included as part of the startup/shutdown/malfunction plan, required by § 63.1367(a), for the source or may be part of a separate document that is maintained at the plant site. Reasons for delay of repair may be documented by citing the relevant sections of the written procedure.

(B) If delay of repair was caused by depletion of stocked parts, there must be documentation that the spare parts were sufficiently stocked onsite before depletion and the reason for depletion.

(vi) If repairs were delayed, dates of process shutdowns that occur while the equipment is unrepaired.

(vii)(A) If the alternative in § 63.174(c)(1)(ii) of subpart H of this part is not in use for the monitoring period, identification, either by list, location (area or grouping), or tagging of connectors disturbed since the last monitoring period required in § 63.174(b) of subpart H of this part, as described in § 63.174(c)(1) of subpart H of this part.

(B) The date and results of follow-up monitoring as required in § 63.174(c) of subpart H of this part. If identification of disturbed connectors is made by location, then all connectors within the designated location shall be monitored.

(viii) The date and results of the monitoring required in § 63.178(c)(3)(i) of subpart H of this part for equipment added to a batch process since the last monitoring period required in § 63.178(c)(3)(ii) and (iii) of subpart H of this part. If no leaking equipment is found in this monitoring, the owner or operator shall record that the inspection was performed. Records of the actual monitoring results are not required.

(ix) Copies of the periodic reports as specified in paragraph (h)(3) of this section, if records are not maintained on a computerized data base capable of generating summary reports from the records.

(5) *Records of pressure tests.* The owner or operator who elects to pressure test a process equipment train and supply lines between storage and processing areas to demonstrate compliance with this section is exempt from the requirements of paragraphs (g)(2), (3), (4), and (6) of this section. Instead, the owner or operator shall maintain records of the following information:

(i) The identification of each product, or product code, produced during the calendar year. It is not necessary to identify individual items of equipment in the process equipment train.

(ii) Records demonstrating the proportion of the time during the calendar year the equipment is in use in the process that is subject to the provisions of this subpart. Examples of suitable documentation are records of time in use for individual pieces of equipment or average time in use for the process unit. These records are not required if the owner or operator does not adjust monitoring frequency by the

time in use, as provided in §63.178(c)(3)(iii) of subpart H of this part.

(iii) Physical tagging of the equipment to identify that it is in organic HAP service and subject to the provisions of this section is not required. Equipment in a process subject to the provisions of this section may be identified on a plant site plan, in log entries, or by other appropriate methods.

(iv) The dates of each pressure test required in §63.178(b) of subpart H of this part, the test pressure, and the pressure drop observed during the test.

(v) Records of any visible, audible, or olfactory evidence of fluid loss.

(vi) When a process equipment train does not pass two consecutive pressure tests, the following information shall be recorded in a log and kept for 2 years:

(A) The date of each pressure test and the date of each leak repair attempt.

(B) Repair methods applied in each attempt to repair the leak.

(C) The reason for the delay of repair.

(D) The expected date for delivery of the replacement equipment and the actual date of delivery of the replacement equipment.

(E) The date of successful repair.

(6) *Records of compressor and pressure relief valve compliance tests.* The dates and results of each compliance test required for compressors subject to the provisions in §63.164(i) of subpart H of this part and the dates and results of the monitoring following a pressure release for each pressure relief device subject to the provisions in §63.165(a) and (b) of subpart H of this part. The results shall include:

(i) The background level measured during each compliance test.

(ii) The maximum instrument reading measured at each piece of equipment during each compliance test.

(7) *Records for closed-vent systems.* The owner or operator shall maintain records of the information specified in paragraphs (g)(7)(i) through (iii) of this section for closed-vent systems and control devices subject to the provisions of paragraph (b)(3)(ii) of this section. The records specified in paragraph (g)(7)(i) of this section shall be retained for the life of the equipment.

The records specified in paragraphs (g)(7)(ii) and (iii) of this section shall be retained for 5 years.

(i) The design specifications and performance demonstrations specified in paragraphs (g)(7)(i)(A) through (D) of this section.

(A) Detailed schematics, design specifications of the control device, and piping and instrumentation diagrams.

(B) The dates and descriptions of any changes in the design specifications.

(C) The flare design (i.e., steam assisted, air assisted, or nonassisted) and the results of the compliance demonstration required by §63.11(b) of subpart A of this part.

(D) A description of the parameter or parameters monitored, as required in paragraph (b)(3)(ii) of this section, to ensure that control devices are operated and maintained in conformance with their design and an explanation of why that parameter (or parameters) was selected for the monitoring.

(ii) Records of operation of closed-vent systems and control devices.

(A) Dates and durations when the closed-vent systems and control devices required in paragraph (c) of this section and §§63.164 through 63.166 of subpart H of this part are not operated as designed as indicated by the monitored parameters, including periods when a flare pilot light system does not have a flame.

(B) Dates and durations during which the monitoring system or monitoring device is inoperative.

(C) Dates and durations of startups and shutdowns of control devices required in paragraph (c) of this section and §§63.164 through 63.166 of subpart H of this part.

(iii) Records of inspections of closed-vent systems subject to the provisions of §63.172 of subpart H of this part.

(A) For each inspection conducted in accordance with the provisions of §63.172(f)(1) or (2) of subpart H of this part during which no leaks were detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected.

(B) For each inspection conducted in accordance with the provisions of §63.172(f)(1) or (f)(2) of subpart H of this part during which leaks were detected,



the information specified in paragraph (g)(4) of this section shall be recorded.

(8) *Records for components in heavy liquid service.* Information, data, and analysis used to determine that a piece of equipment or process is in heavy liquid service shall be recorded. Such a determination shall include an analysis or demonstration that the process fluids do not meet the criteria of "in light liquid or gas/vapor service." Examples of information that could document this include, but are not limited to, records of chemicals purchased for the process, analyses of process stream composition, engineering calculations, or process knowledge.

(9) *Records of exempt components.* Identification, either by list, location (area or group), or other method of equipment in organic HAP service less than 300 hr/yr subject to the provisions of this section.

(10) *Records of alternative means of compliance determination.* Owners and operators choosing to comply with the requirements of §63.179 of subpart H of this part shall maintain the following records:

(i) Identification of the process(es) and the organic HAP they handle.

(ii) A schematic of the process, enclosure, and closed-vent system.

(iii) A description of the system used to create a negative pressure in the enclosure to ensure that all emissions are routed to the control device.

(h) *Reporting Requirements.* (1) Each owner or operator of a source subject to this section shall submit the reports listed in paragraphs (h)(1)(i) and (ii) of this section.

(i) A Notification of Compliance Status report described in paragraph (h)(2) of this section, and

(ii) Periodic reports described in paragraph (h)(3) of this section.

(2) *Notification of compliance status report.* Each owner or operator of a source subject to this section shall submit the information specified in paragraphs (h)(2)(i) through (iii) of this section in the Notification of Compliance Status report described in §63.1368(f). Section 63.9(j) of subpart A of this part shall not apply to the Notification of Compliance Status report.

(i) The notification shall provide the information listed in paragraphs

(h)(2)(i)(A) through (C) of this section for each group of processes subject to the requirements of paragraphs (b) through (g) of this section.

(A) Identification of the group of processes.

(B) Approximate number of each equipment type (e.g., valves, pumps) in organic HAP service, excluding equipment in vacuum service.

(C) Method of compliance with the standard (for example, "monthly leak detection and repair" or "equipped with dual mechanical seals").

(ii) The notification shall provide the information listed in paragraphs (h)(2)(ii)(A) and (B) of this section for each process subject to the requirements of paragraph (b)(3)(iv) of this section and §63.178(b) of subpart H of this part.

(A) Products or product codes subject to the provisions of this section, and

(B) Planned schedule for pressure testing when equipment is configured for production of products subject to the provisions of this section.

(iii) The notification shall provide the information listed in paragraphs (h)(2)(iii)(A) and (B) of this section for each process subject to the requirements in §63.179 of subpart H of this part.

(A) Process identification.

(B) A description of the system used to create a negative pressure in the enclosure and the control device used to comply with the requirements of paragraph (b)(3)(ii) of this section.

(3) *Periodic reports.* The owner or operator of a source subject to this section shall submit Periodic reports.

(i) A report containing the information in paragraphs (h)(3)(ii), (iii), and (iv) of this section shall be submitted semiannually. The first Periodic report shall be submitted no later than 240 days after the date the Notification of Compliance Status report is due and shall cover the 6-month period beginning on the date the Notification of Compliance Status report is due. Each subsequent Periodic report shall cover the 6-month period following the preceding period.

(ii) For equipment complying with the provisions of paragraphs (b) through (g) of this section, the Periodic

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report shall contain the summary information listed in paragraphs (h)(3)(ii)(A) through (L) of this section for each monitoring period during the 6-month period.

(A) The number of valves for which leaks were detected as described in paragraph (e)(2) of this section, the percent leakers, and the total number of valves monitored;

(B) The number of valves for which leaks were not repaired as required in paragraph (e)(7) of this section, identifying the number of those that are determined nonrepairable;

(C) The number of pumps and agitators for which leaks were detected as described in paragraph (c)(2) of this section, the percent leakers, and the total number of pumps and agitators monitored;

(D) The number of pumps and agitators for which leaks were not repaired as required in paragraph (c)(3) of this section;

(E) The number of compressors for which leaks were detected as described in § 63.164(f) of subpart H of this part;

(F) The number of compressors for which leaks were not repaired as required in § 63.164(g) of subpart H of this part;

(G) The number of connectors for which leaks were detected as described in § 63.174(a) of subpart H of this part, the percent of connectors leaking, and the total number of connectors monitored;

(H) The number of connectors for which leaks were not repaired as required in § 63.174(d) of subpart H of this part, identifying the number of those that are determined nonrepairable;

(I) The facts that explain any delay of repairs and, where appropriate, why a process shutdown was technically infeasible.

(J) The results of all monitoring to show compliance with §§ 63.164(i), 63.165(a), and 63.172(f) of subpart H of this part conducted within the semi-annual reporting period.

(K) If applicable, the initiation of a monthly monitoring program under either paragraph (c)(4)(ii) or paragraph (e)(4)(i)(A) of this section.

(L) If applicable, notification of a change in connector monitoring alter-

natives as described in § 63.174(c)(1) of subpart H of this part.

(iii) For owners or operators electing to meet the requirements of § 63.178(b) of subpart H of this part, the Periodic report shall include the information listed in paragraphs (h)(3)(iii) (A) through (E) of this section for each process.

(A) Product process equipment train identification;

(B) The number of pressure tests conducted;

(C) The number of pressure tests where the equipment train failed either the retest or two consecutive pressure tests;

(D) The facts that explain any delay of repairs; and

(E) The results of all monitoring to determine compliance with § 63.172(f) of subpart H of this part.

(iv) Any change in the information submitted under paragraph (h)(2) of this section shall be provided in the next Periodic report.

[64 FR 33589, June 23, 1999, as amended at 67 FR 59345, Sept. 20, 2002]

§ 63.1364 Compliance dates.

(a) *Compliance dates for existing sources.* (1) An owner or operator of an existing affected source must comply with the provisions in this subpart by December 23, 2003.

(2) Pursuant to section 112(i)(3)(B) of the CAA, an owner or operator of an existing source may request an extension of up to 1 additional year to comply with the provisions of this subpart if the additional time is needed for the installation of controls.

(i) For purposes of this subpart, a request for an extension shall be submitted no later than 120 days prior to the compliance date specified in paragraph (a)(1) of this section, except as provided in paragraph (a)(2)(ii) of this section. The dates specified in § 63.6(i) of subpart A of this part for submittal of requests for extensions shall not apply to sources subject to this subpart.

(ii) An owner or operator may submit a compliance extension request after the date specified in paragraph (a)(1)(i) of this section provided the need for the compliance extension arose after

that date and before the otherwise applicable compliance date, and the need arose due to circumstances beyond reasonable control of the owner or operator. This request shall include the data described in § 63.6(i)(8)(A), (B), and (D) of subpart A of this part.

(b) *Compliance dates for new and reconstructed sources.* An owner or operator of a new or reconstructed affected source must comply with the provisions of this subpart on June 23, 1999 or upon startup, whichever is later.

[64 FR 33589, June 23, 1999, as amended at 67 FR 13511, Mar. 22, 2002; 67 FR 38203, June 3, 2002]

**§ 63.1365 Test methods and initial compliance procedures.**

(a) *General.* Except as specified in paragraph (a)(4) of this section, the procedures specified in paragraphs (c), (d), (e), (f), and (g) of this section are required to demonstrate initial compliance with § 63.1362(b), (c), (d), (f), and (g), respectively. The provisions in paragraph (a)(1) of this section apply to design evaluations that are used to demonstrate compliance with the standards for process vents and storage vessels. The provisions in paragraph (a)(2) of this section apply to performance tests that are specified in paragraphs (c), (d), and (e) of this section. The provisions in paragraph (a)(3) of this section describe initial compliance procedures for flares. The provisions in paragraph (a)(5) of this section are used to demonstrate initial compliance with the alternative standards specified in § 63.1362(b)(6) and (c)(4). The provisions in paragraph (a)(6) of this section are used to comply with the outlet concentration requirements specified in § 63.1362(b)(2)(iv)(A).

(b)(3)(ii), (b)(4)(ii)(A), (b)(5)(ii), and (b)(5)(iii).

(1) *Design evaluation.* To demonstrate that a control device meets the required control efficiency, a design evaluation must address the composition and HAP concentration of the vent stream entering the control device. A design evaluation also must address other vent stream characteristics and control device operating parameters as specified in any one of paragraphs (a)(1)(i) through (vii) of this section, depending on the type of control device that is used. If the vent stream is not

the only inlet to the control device, the efficiency demonstration also must consider all other vapors, gases, and liquids, other than fuels, received by the control device.

(i) For an enclosed combustion device used to comply with the provisions of § 63.1362(b)(2)(iv), (b)(4)(ii), (c)(2)(iv)(B), or (c)(3) with a minimum residence time of 0.5 seconds and a minimum temperature of 760 °C, the design evaluation must document that these conditions exist.

(ii) For a combustion control device that does not satisfy the criteria in paragraph (a)(1)(i) of this section, the design evaluation must document control efficiency and address the following characteristics, depending on the type of control device:

(A) For a thermal vapor incinerator, the design evaluation must consider the autoignition temperature of the organic HAP, must consider the vent stream flow rate, and must establish the design minimum and average temperature in the combustion zone and the combustion zone residence time.

(B) For a catalytic vapor incinerator, the design evaluation must consider the vent stream flow rate and must establish the design minimum and average temperatures across the catalyst bed inlet and outlet.

(C) For a boiler or process heater, the design evaluation must consider the vent stream flow rate, must establish the design minimum and average flame zone temperatures and combustion zone residence time, and must describe the method and location where the vent stream is introduced into the flame zone.

(iii) For a condenser, the design evaluation must consider the vent stream flow rate, relative humidity, and temperature, and must establish the maximum temperature of the condenser exhaust vent stream and the corresponding outlet organic HAP compound concentration level or emission rate for which the required reduction is achieved.

(iv) For a carbon adsorption system that regenerates the carbon bed directly onsite in the control device such as a fixed-bed adsorber, the design evaluation must consider the vent stream flow rate, relative humidity,

and temperature, and must establish the design exhaust vent stream organic compound concentration level, adsorption cycle time, number of carbon beds and their capacities, type and working capacity of activated carbon used for the carbon beds, design total regeneration stream mass or volumetric flow over the period of each complete carbon bed regeneration cycle, design carbon bed temperature after regeneration, design carbon bed regeneration time, and design service life of carbon. For vacuum desorption, the pressure drop must be included.

(v) For a carbon adsorption system that does not regenerate the carbon bed directly onsite in the control device such as a carbon canister, the design evaluation must consider the vent stream mass or volumetric flow rate, relative humidity, and temperature, and must establish the design exhaust vent stream organic compound concentration level, capacity of the carbon bed, type and working capacity of activated carbon used for the carbon bed, and design carbon replacement interval based on the total carbon working capacity of the control device and source operating schedule.

(vi) For a scrubber, the design evaluation must consider the vent stream composition, constituent concentrations, liquid-to-vapor ratio, scrubbing liquid flow rate and concentration, temperature, and the reaction kinetics of the constituents with the scrubbing liquid. The design evaluation must establish the design exhaust vent stream organic compound concentration level and must include the additional information in paragraphs (a)(1)(vi)(A) and (B) of this section for trays and a packed column scrubber.

(A) Type and total number of theoretical and actual trays;

(B) Type and total surface area of packing for entire column, and for individual packed sections if column contains more than one packed section.

(vii) For fabric filters, the design evaluation must include the pressure drop through the device and the net gas-to-cloth ratio (i.e., cubic feet of gas per square feet of cloth).

(2) *Calculation of TOC or total organic HAP concentration.* The TOC concentration or total organic HAP concentra-

tion is the sum of the concentrations of the individual components. If compliance is being determined based on TOC, the owner or operator shall compute TOC for each run using Equation 6 of this subpart. If compliance is being determined based on total organic HAP, the owner or operator shall compute total organic HAP using Equation 6 of this subpart, except that only organic HAP compounds shall be summed; when determining compliance with the wastewater provisions of § 63.1362(d), the organic HAP compounds shall consist of the organic HAP compounds in Table 9 of subpart G of this part.

$$CG_T = \frac{1}{m} \sum_{j=1}^m \left( \sum_{i=1}^n CGS_{i,j} \right) \quad (\text{Eq. 6})$$

Where:

$CG_T$  = total concentration of TOC or organic HAP in vented gas stream, average of samples, dry basis, ppmv

$CGS_{i,j}$  = concentration of sample components in vented gas stream for sample  $j$ , dry basis, ppmv

$n$  = number of compounds in the sample

$m$  = number of samples in the sample run.

(3) *Initial compliance using flares.* When a flare is used to comply with the standards, the owner or operator shall comply with the provisions in § 63.11(b) of subpart A of this part.

(i) The initial compliance determination shall consist of a visible emissions determination using Method 22 of 40 CFR part 60, appendix A, as described in § 63.11(b)(4) of subpart A of this part, and a determination of net heating value of gas being combusted and exit velocity to comply with the requirements of § 63.11(b)(6) through (8) of subpart A of this part. The net heating value and exit velocity shall be based on the results of performance testing under the conditions described in paragraphs (b)(10) and (11) of this section.

(ii) An owner or operator is not required to conduct a performance test to determine percent emission reduction or outlet organic HAP or TOC concentration when a flare is used.

(4) *Exemptions from compliance demonstrations.* An owner or operator using

any control device specified in paragraphs (a)(4)(i) through (ii) of this section is exempt from the initial compliance provisions in paragraphs (c), (d), and (e) of this section.

(i) A boiler or process heater with a design heat input capacity of 44 megawatts or greater.

(ii) A boiler or process heater into which the emission stream is introduced with the primary fuel.

(5) *Initial compliance with alternative standard.* Initial compliance with the alternative standards in § 63.1362(b)(6) and (c)(4) for combustion devices is demonstrated when the outlet TOC concentration is 20 ppmv or less, and the outlet HCl and chlorine concentration is 20 ppmv or less. Initial compliance with the alternative standards in § 63.1362(b)(6) and (c)(4) for noncombustion devices is demonstrated when the outlet TOC concentration is 50 ppmv or less, and the outlet HCl and chlorine concentration is 50 ppmv or less. To demonstrate initial compliance, the owner or operator shall be in compliance with the monitoring provisions in § 63.1366(b)(5) on the initial compliance date. The owner or operator shall use Method 18 to determine the predominant organic HAP in the emission stream if the TOC monitor is calibrated on the predominant HAP.

(6) *Initial compliance with the 20 ppmv outlet limit.* Initial compliance with the 20 ppmv TOC or total organic HAP concentration is demonstrated when the outlet TOC or total organic HAP concentration is 20 ppmv or less. Initial compliance with the 20 ppmv HCl and chlorine concentration is demonstrated when the outlet HCl and chlorine concentration is 20 ppmv or less. To demonstrate initial compliance, the operator shall use applicable test methods described in paragraphs (b)(1) through (9) of this section, and test under conditions described in paragraph (b)(10) or (11) of this section, as applicable. The owner or operator shall comply with the monitoring provisions in § 63.1366(b)(1) through (5) on the initial compliance date.

(7) *Outlet concentration correction for supplemental gases.* If supplemental gases are added to a vent stream for which compliance with an outlet concentration standard in § 63.1362 or

63.1363 will be demonstrated, the owner or operator must correct the outlet concentration as specified in paragraphs (a)(7)(i) and (ii) of this section.

(i) *Combustion device.* Except as specified in § 63.1366(b)(5)(ii)(A), if the vent stream is controlled with a combustion device, the owner or operator must comply with the provisions in paragraphs (a)(7)(i)(A) through (C) of this section.

(A) To comply with a TOC or total organic HAP outlet concentration standard in § 63.1362(b)(2)(iv)(A), (b)(4)(ii)(A), (b)(6), (c)(2)(iv)(B), (c)(4), (d)(13), or § 63.172, the actual TOC outlet concentration must be corrected to 3 percent oxygen.

(B) If the inlet stream to the combustion device contains any HCl, chlorine, or halogenated compounds, and the owner or operator elects to comply with a total HCl and chlorine outlet concentration standard in § 63.1362(b)(3)(ii), (b)(5)(ii), (b)(5)(iii), (b)(6), or (c)(4), the actual total HCl and chlorine outlet concentration must be corrected to 3 percent oxygen.

(C) The integrated sampling and analysis procedures of Method 3B of 40 CFR part 60, appendix A, shall be used to determine the actual oxygen concentration (%O<sub>2d</sub>). The samples shall be taken during the same time that the TOC, total organic HAP, and total HCl and chlorine samples are taken. The concentration corrected to 3 percent oxygen (C<sub>c</sub>) shall be computed using Equation 7 of this subpart:

$$C_c = C_m \left( \frac{17.9}{20.9 - \%O_{2d}} \right) \quad (\text{Eq. 7})$$

Where:

C<sub>c</sub> = concentration of TOC, total organic HAP, or total HCl and chlorine corrected to 3 percent oxygen, dry basis, ppmv

C<sub>m</sub> = total concentration of TOC, total organic HAP, or total HCl and chlorine in the vented gas stream, average of samples, dry basis, ppmv

%O<sub>2d</sub> = concentration of oxygen measured in vented gas stream, dry basis, percent by volume.

(ii) *Noncombustion devices.* If a control device other than a combustion device, and not in series with a combustion device, is used to comply with a TOC, total organic HAP, or total HCl and

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chlorine outlet concentration standard. The owner or operator must correct the actual concentration for supplemental gases using Equation 8 of this subpart.

$$C_a = C_m \left( \frac{V_s + V_a}{V_a} \right) \quad (\text{Eq. 8})$$

Where:

- $C_a$  = corrected outlet TOC, total organic HAP, or total HCl and chlorine concentration, dry basis, ppmv  
 $C_m$  = actual TOC, total organic HAP, or total HCl and chlorine concentration measured at control device outlet, dry basis, ppmv  
 $V_s$  = total volumetric flow rate of affected streams vented to the control device  
 $V_a$  = total volumetric flow rate of supplemental gases.

(b) *Test methods and conditions.* When testing is conducted to measure emissions from an affected source, the test methods specified in paragraphs (b)(1) through (9) of this section shall be used. Compliance tests shall be performed under conditions specified in paragraphs (b)(10) and (11) of this section.

(1) Method 1 or 1A of appendix A of 40 CFR part 60 shall be used for sample and velocity traverses.

(2) Method 2, 2A, 2C, or 2D of appendix A of 40 CFR part 60 shall be used for velocity and volumetric flow rates.

(3) Method 3 of appendix A of 40 CFR part 60 shall be used for gas analysis.

(4) Method 4 of appendix A of 40 CFR part 60 shall be used for stack gas moisture.

(5) Concentration measurements shall be adjusted to negate the dilution effects of introducing nonaffected gaseous streams into the vent streams prior to control or measurement. The following methods are specified for concentration measurements of organic compounds:

(i) Method 18 of appendix A of 40 CFR part 60 may be used to determine HAP concentration in any control device efficiency determination.

(ii) Method 25 of appendix A of 40 CFR part 60 may be used to determine total gaseous nonmethane organic concentration for control efficiency determinations in combustion devices.

(iii) Method 25A of appendix A of 40 CFR part 60 may be used to determine the HAP or TOC concentration for con-

trol device efficiency determinations under the conditions specified in Method 25 of appendix A of 40 CFR part 60 for direct measurement of an effluent with a flame ionization detector, or in demonstrating compliance with the 20 ppmv TOC outlet standard. If Method 25A of appendix A of 40 CFR part 60 is used to determine the concentration of TOC for the 20 ppmv standard, the instrument shall be calibrated on methane or the predominant HAP. If calibrating on the predominant HAP, the use of Method 25A of appendix A of 40 CFR part 60 shall comply with paragraphs (b)(5)(i)(A) through (C) of this section.

(A) The organic HAP used as the calibration gas for Method 25A, 40 CFR part 60, appendix A, shall be the single organic HAP representing the largest percent by volume.

(B) The use of Method 25A, 40 CFR part 60, appendix A, is acceptable if the response from the high level calibration gas is at least 20 times the standard deviation of the response from the zero calibration gas when the instrument is zeroed on the most sensitive scale.

(C) The span value of the analyzer must be less than 100 ppmv.

(6) The methods in either paragraph (b)(6)(i) or (ii) of this section shall be used to determine the concentration, in mg/dscm, of total HCl and chlorine. Concentration measurements shall be adjusted to negate the dilution effects of introducing nonaffected gaseous streams into the vent streams prior to control or measurement.

(i) Method 26 or 26A of 40 CFR part 60, appendix A.

(ii) Any other method if the method or data have been validated according to the applicable procedures of Method 301 of appendix A of this part.

(7) Method 5 of appendix A of 40 CFR part 60 shall be used to determine the concentration of particulate matter in exhaust gas streams from bag dumps and product dryers.

(8) Wastewater analysis shall be conducted in accordance with § 63.144(b)(5)(i) through (iii) or as specified in paragraph (b)(8)(i) or (ii) of this section.

(i) As an alternative to the methods specified in § 63.144(b)(5)(i), an owner or

operator may conduct wastewater analyses using Method 1666 or 1671 of 40 CFR part 136, appendix A, and comply with the sampling protocol requirements specified in § 63.144(b)(5)(ii). The validation requirements specified in § 63.144(b)(5)(iii) do not apply if an owner or operator uses Method 1666 or 1671 of 40 CFR part 136, appendix A.

(ii) As an alternative to the methods specified in § 63.144(b)(5)(i), an owner or operator may use procedures specified in Method 8260 or 8270 in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication No. SW-846, Third Edition, September 1986, as amended by Update I, November 15, 1992. An owner or operator also may use any more recent, updated version of Method 8260 or 8270 approved by EPA. For the purpose of using Method 8260 or 8270 to comply with this subpart, the owner or operator must maintain a formal quality assurance program consistent with either Section 8 of Method 8260 or Method 8270. This program must include the elements related to measuring the concentrations of volatile compounds that are specified in paragraphs (b)(8)(ii)(A) through (C) of this section.

(A) Documentation of site-specific procedures to minimize the loss of compounds due to volatilization, biodegradation, reaction, or sorption during the sample collection, storage, and preparation steps.

(B) Documentation of specific quality assurance procedures followed during sampling, sample preparation, sample introduction, and analysis.

(C) Measurement of the average accuracy and precision of the specific procedures, including field duplicates and field spiking of the material source before or during sampling with compounds having similar chemical characteristics to the target analytes.

(9) Method 22 of appendix A of 40 CFR part 60 shall be used to determine visible emissions from flares.

(10) *Testing conditions for continuous processes.* Testing of process vents on equipment operating as part of a continuous process shall consist of three one-hour runs. Gas stream volumetric flow rates shall be measured every 15 minutes during each 1-hour run. Organic HAP concentration shall be de-

termined from samples collected in an integrated sample over the duration of each one-hour test run, or from grab samples collected simultaneously with the flow rate measurements (every 15 minutes). If an integrated sample is collected for laboratory analysis, the sampling rate shall be adjusted proportionally to reflect variations in flow rate. For continuous gas streams, the emission rate used to determine compliance shall be the average emission rate of the three test runs.

(11) *Testing conditions for batch processes.* Testing of emissions on equipment where the flow of gaseous emissions is intermittent (batch operations) shall be conducted at absolute peak-case conditions or hypothetical peak-case conditions, as specified in paragraphs (b)(11)(i) and (ii) of this section, respectively. Gas stream volumetric flow rates shall be measured at 15-minute intervals. Organic HAP, TOC, or HCl and chlorine concentration shall be determined from samples collected in an integrated sample over the duration of the test, or from grab samples collected simultaneously with the flow rate measurements (every 15 minutes). If an integrated sample is collected for laboratory analysis, the sampling rate shall be adjusted proportionally to reflect variations in flow rate. In all cases, a site-specific test plan shall be submitted to the Administrator for approval prior to testing in accordance with § 63.7(c). The test plan shall include the emissions profile described in paragraph (b)(11)(iii) of this section. The term "HAP mass loading" as used in paragraphs (b)(11)(i) through (iii) of this section refers to the class of HAP, either organic or HCl and chlorine, that the control device is intended to control.

(i) *Absolute peak-case.* If the most challenging conditions for the control device occur under maximum HAP load, the absolute peak-case conditions shall be characterized by the criteria presented in paragraph (b)(11)(i)(A) or (B) of this section. Otherwise, absolute peak-case conditions are defined by the conditions in paragraph (b)(11)(i)(C) of this section.

(A) The period in which the inlet to the control device will contain at least 50 percent of the maximum HAP mass

load that may be vented to the control device over any 8-hour period. An emission profile as described in paragraph (b)(11)(iii)(A) of this section shall be used to identify the 8-hour period that includes the maximum projected HAP load.

(B) A 1-hour period of time in which the inlet to the control device will contain the highest hourly HAP mass loading rate that may be vented to the control device. An emission profile as described in paragraph (b)(11)(iii)(A) of this section shall be used to identify the 1-hour period of maximum HAP loading.

(C) The period of time when a condition other than the maximum HAP load is most challenging for the control device. These conditions include, but are not limited to the following:

(1) Periods when the streams contain the highest combined VOC and HAP hourly load, as described by the emission profiles in paragraph (b)(11)(iii) of this section; or

(2) Periods when the streams contain HAP constituents that approach the limits of solubility for scrubbing media; or

(3) Periods when the streams contain HAP constituents that approach the limits of adsorptivity for carbon adsorption systems.

(ii) *Hypothetical peak-case.* Hypothetical peak-case conditions are simulated test conditions that, at a minimum, contain the highest total average hourly HAP load of emissions that would be predicted to be vented to the control device from the emissions profile described in either paragraph (b)(11)(iii)(B) or (C) of this section.

(iii) *Emissions profile.* The owner or operator may choose to perform tests only during those periods of the peak-case episode(s) that the owner or operator selects to control as part of achieving the required emission reduction. Except as specified in paragraph (b)(11)(iii)(D) of this section, the owner or operator shall develop an emission profile for the vent to the control device that describes the characteristics of the vent stream at the inlet to the control device under either absolute or hypothetical peak-case conditions. The emissions profile shall be developed based on the applicable procedures de-

scribed in paragraphs (b)(11)(iii)(A) through (C) of this section, as required by paragraphs (b)(11)(i) and (ii) of this section.

(A) *Emissions profile by process.* The emissions profile must consider all emission episodes that could contribute to the vent stack for a period of time that is sufficient to include all processes venting to the stack and shall consider production scheduling. The profile shall describe the HAP load to the device that equals the highest sum of emissions from the episodes that can vent to the control device during the period of absolute peak-case conditions specified in paragraph (b)(11)(i)(A), (B), or (C) as appropriate. Emissions per episode shall be calculated using the procedures specified in paragraph (c)(2) of this section. When complying with paragraph (b)(11)(i)(B) of this section, emissions per episode shall be divided by the duration of the episode if the duration of the episode is longer than 1 hour.

(B) *Emission profile by equipment.* The emission profile must consist of emissions that meet or exceed the highest hourly HAP load that would be expected under actual processing conditions. The profile shall describe equipment configurations used to generate the emission events, volatility of materials processed in the equipment, and the rationale used to identify and characterize the emission events. The emissions may be based on using a compound more volatile than compounds actually used in the process(es), and the emissions may be generated from all equipment in the process(es) or only selected equipment.

(C) *Emission profile by capture and control device limitation.* The emission profile shall consider the capture and control system limitations and the highest hourly emissions that can be routed to the control device, based on maximum flow rate and concentrations possible because of limitations on conveyance and control equipment (e.g., fans, LEL alarms and safety bypasses).

(D) *Exemptions.* The owner or operator is not required to develop an emission profile under the circumstances described in paragraph (b)(11)(iii)(D)(1) or (2) of this section.



(1) If all process vents for a process are controlled using a control device or series of control devices that reduce HAP emissions by 98 percent or more, no other emission streams are vented to the control device when it is used to control emissions from the subject process, and the performance test is conducted over the entire batch cycle.

(2) If a control device is used to comply with the outlet concentration limit for process vent emission streams from a single process (but not necessarily all of the process vents from that process), no other emission streams are vented to the control device while it is used to control emissions from the subject process, and the performance test is conducted over the entire batch cycle.

(iv) *Test duration.* Three runs, at a minimum of 1 hour each, are required for performance testing. When complying with a percent reduction standard, each test run may be a maximum of either 24 hours or the duration of the longest batch controlled by the control device, whichever is shorter, and each run must include the same absolute or hypothetical peak-case conditions, as defined in paragraph (b)(11)(i) or (ii) of this section. When complying with an outlet concentration limit, each run must include the same absolute or hypothetical peak-case conditions, as defined in paragraph (b)(11)(i) or (ii) of this section, and the duration of each run may not exceed the duration of the applicable peak-case condition.

(c) *Initial compliance with process vent provisions.* The owner or operator of an affected source shall demonstrate compliance with the process vent standards in § 63.1362(b) using the procedures described in paragraphs (c)(1) through (3) of this section.

(1) Compliance with the process vent standards in § 63.1362(b) shall be demonstrated in accordance with the provisions specified in paragraphs (c)(1)(i) through (vii) of this section.

(i) Initial compliance with the emission limit cutoffs in § 63.1362(b)(2)(i) and (b)(4)(i) is demonstrated when the uncontrolled organic HAP emissions from the sum of all process vents within a process are less than or equal to 0.15 Mg/yr. Uncontrolled HAP emissions shall be determined using the proce-

dures described in paragraph (c)(2) of this section.

(ii) Initial compliance with the emission limit cutoffs in § 63.1362(b)(3)(i) and (b)(5)(i) is demonstrated when the uncontrolled HCl and Cl<sub>2</sub> emissions from the sum of all process vents within a process are less than or equal to 6.8 Mg/yr. Initial compliance with the emission limit cutoffs in § 63.1362(b)(5)(ii) and (iii) is demonstrated when the uncontrolled HCl and Cl<sub>2</sub> emissions are greater than or equal to 6.8 Mg/yr or greater than or equal to 191 Mg/yr, respectively. Uncontrolled emissions shall be determined using the procedures described in paragraph (c)(2) of this section.

(iii) Initial compliance with the organic HAP percent reduction requirements specified in § 63.1362(b)(2)(ii), (iii), and (b)(4)(ii) is demonstrated by determining controlled HAP emissions using the procedures described in paragraph (c)(3) of this section, determining uncontrolled HAP emissions using the procedures described in paragraph (c)(2) of this section, and calculating the applicable percent reduction. As an alternative, if the conditions specified in paragraph (b)(11)(iii)(D)(I) of this section are met, initial compliance may be demonstrated by showing the control device reduces emissions by 98 percent by weight or greater using the procedures specified in paragraph (c)(3) of this section.

(iv) Initial compliance with the HCl and Cl<sub>2</sub> percent reduction requirements specified in § 63.1362(b)(3)(ii), (b)(5)(ii), and (b)(5)(iii) is demonstrated by determining controlled emissions of HCl and Cl<sub>2</sub> using the procedures described in paragraph (c)(3) of this section, determining uncontrolled emissions of HCl and Cl<sub>2</sub> using the procedures described in paragraph (c)(2) of this section, and calculating the applicable percent reduction.

(v) Initial compliance with the outlet concentration limits in § 63.1362(b)(2)(iv)(A), (b)(3)(ii), (b)(4)(ii)(A), (b)(5)(ii) and (iii) is demonstrated when the outlet TOC or total organic HAP concentration is 20 ppmv or less and the outlet HCl and chlorine concentration is 20 ppmv or less. The owner or operator shall demonstrate

compliance by fulfilling the requirements in paragraph (a)(6) of this section. If an owner or operator elects to develop an emissions profile by process as described in paragraph (b)(11)(iii)(A) of this section, uncontrolled emissions shall be determined using the procedures in paragraph (c)(2) of this section.

(vi) Initial compliance with the alternative standard in § 63.1362(b)(6) is demonstrated by fulfilling the requirements in paragraph (a)(5) of this section.

(vii) Initial compliance when using a flare is demonstrated by fulfilling the requirements in paragraph (a)(3) of this section.

(viii) No initial compliance demonstration is required for control devices specified in § 63.1362(1).

(2) *Uncontrolled emissions.* The owner or operator referred to from paragraphs (c)(1)(i) through (v) of this section shall calculate uncontrolled emissions according to the procedures described in paragraph (c)(2)(i) or (ii) of this section, as appropriate.

(i) *Emission estimation procedures.* The owner or operator shall determine uncontrolled HAP emissions using emission measurements and/or calculations for each batch emission episode according to the engineering evaluation methodology in paragraphs (c)(2)(i)(A) through (H) of this section.

(A) Individual HAP partial pressures in multicomponent systems shall be determined in accordance with the methods specified in paragraphs (c)(2)(i)(A)(1) through (3) of this section. Chemical property data may be obtained from standard references.

(1) If the components are miscible in one another, use Raoult's law to calculate the partial pressures;

(2) If the solution is a dilute aqueous mixture, use Henry's law constants to calculate partial pressures;

(3) If Raoult's law or Henry's law are not appropriate or available, use any of the methods specified in paragraphs (c)(2)(i)(A) (3)(i) through (iii) of this section.

(i) Use experimentally obtained activity coefficients;

(ii) Use models such as the group-contribution models to predict activity coefficients;

(iii) Assume the components of the system behave independently and use the summation of all vapor pressures from the HAP as the total HAP partial pressure;

(B) *Charging or filling.* Emissions from vapor displacement due to transfer of material to a vessel shall be calculated using Equation 9 of this subpart:

$$E = \frac{(V)}{(R)(T)} \times \sum_{i=1}^n (P_i)(MW_i) \quad (\text{Eq. 9})$$

Where:

E = mass of HAP emitted

P<sub>i</sub> = partial pressure of the individual HAP

V = volume of gas displaced from the vessel

R = ideal gas law constant

T = temperature of the vessel vapor space: absolute

MW<sub>i</sub> = molecular weight of the individual HAP

(C) *Purging.* Emissions from purging shall be calculated using Equation 10 of this subpart, except that for purge flow rates greater than 100 scfm, the mole fraction of HAP will be assumed to be 25 percent of the saturated value.

$$E = \sum_{i=1}^n P_i MW_i \times \left( \frac{(V)(t)}{(R)(T)} \right) \times \frac{P_T}{P_T - \sum_{j=1}^m (P_j)} \quad (\text{Eq. 10})$$

Where:

E = mass of HAP emitted

V = purge flow rate at the temperature and pressure of the vessel vapor space

R = ideal gas law constant

T = temperature of the vessel vapor space: absolute

P<sub>i</sub> = partial pressure of the individual HAP

P<sub>j</sub> = partial pressure of individual condensable compounds (including HAP)

P<sub>T</sub> = pressure of the vessel vapor space

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MW<sub>i</sub> = molecular weight of the individual HAP

t = time of purge

n = number of HAP compounds in the emission stream

m = number of condensable compounds (including HAP) in the emission stream.

(D) *Heating.* Emissions caused by heating the contents of a vessel to a temperature less than the boiling point shall be calculated using the procedures in either paragraph (c)(2)(i)(D)(1), (2), or (4) of this section, as appropriate. If the contents of a vessel are

heated to the boiling point, emissions while boiling are assumed to be zero if the owner or operator is complying with the provisions in paragraph (d)(2)(i)(C)(3) of this section.

(1) If the final temperature to which the vessel contents are heated is lower than 50 K below the boiling point of the HAP in the vessel, then emissions shall be calculated using Equations 11 through 14 of this subpart.

(i) The mass of HAP emitted per episode shall be calculated using Equation 11 of this subpart:

$$E = \frac{\sum_{i=1}^n (P_i)_{T1} + \sum_{i=1}^n (P_i)_{T2}}{2 \times \frac{Pa_1}{Pa_2}} \times \Delta\eta \times MW_{HAP} \quad (\text{Eq. 11})$$

Where:

E = mass of HAP vapor displaced from the vessel being heated

(P<sub>i</sub>)<sub>T<sub>n</sub></sub> = partial pressure of each HAP in the vessel headspace at initial (n = 1) and final (n = 2) temperatures

Pa<sub>1</sub> = initial noncondensable gas pressure in the vessel, as calculated using Equation 13 of this subpart

Pa<sub>2</sub> = final noncondensable gas pressure in the vessel, as calculated using Equation 13 of this subpart

ΔH = number of moles of noncondensable gas displaced, as calculated using Equation 12 of this subpart

MW<sub>HAP</sub> = The average molecular weight of HAP present in the vessel, as calculated using Equation 14 of this subpart:

n = number of HAP compounds in the displaced vapor

(ii) The moles of noncondensable gas displaced shall be calculated using Equation 12 of this subpart:

$$\Delta\eta = \frac{V}{R} \left[ \left( \frac{Pa_1}{T_1} \right) - \left( \frac{Pa_2}{T_2} \right) \right] \quad (\text{Eq. 12})$$

Where:

ΔH = number of moles of noncondensable gas displaced

V = volume of free space in the vessel

R = ideal gas law constant

Pa<sub>1</sub> = initial noncondensable gas pressure in the vessel, as calculated using Equation 13 of this subpart

Pa<sub>2</sub> = final noncondensable gas pressure in the vessel, as calculated using Equation 13 of this subpart

T<sub>1</sub> = initial temperature of vessel contents, absolute

T<sub>2</sub> = final temperature of vessel contents, absolute

(iii) The initial and final pressure of the noncondensable gas in the vessel shall be calculated according to Equation 13 of this subpart:

$$Pa_n = Pa_{atm} - \sum_{j=1}^m (P_j)_{Tn} \quad (\text{Eq. 13})$$

Where:

Pa<sub>n</sub> = partial pressure of noncondensable gas in the vessel headspace at initial (n = 1) and final (n = 2) temperatures

Pa<sub>atm</sub> = atmospheric pressure

(P<sub>j</sub>)<sub>T<sub>n</sub></sub> = partial pressure of each condensable volatile organic compound (including HAP) in the vessel headspace at the initial temperature (n = 1) and final (n = 2) temperature

(iv) The average molecular weight of HAP in the displaced gas shall be calculated using Equation 14 of this subpart:

$$MW_{HAP} = \frac{\sum_{i=1}^n \left( (P_i)_{T_1} + (P_i)_{T_2} \right) MW_i}{\sum_{i=1}^n \left( (P_i)_{T_1} + (P_i)_{T_2} \right)} \quad (\text{Eq. 14})$$

Where:

$MW_{HAP}$  = average molecular weight of HAP in the displaced gas  
 $(P_i)_{T_n}$  = partial pressure of each HAP in the vessel headspace at the initial ( $T_1$ ) and final ( $T_2$ ) temperatures  
 $MW_i$  = molecular weight of each HAP  
 $n$  = number of HAP compounds in the emission stream

(2) If the vessel contents are heated to a temperature greater than 50 K below the boiling point, then emissions from the heating of a vessel shall be calculated as the sum of the emissions calculated in accordance with paragraphs (c)(2)(i)(D)(2)(i) and (ii) of this section.

(i) For the interval from the initial temperature to the temperature 50 K below the boiling point, emissions shall be calculated using Equation 11 of this subpart, where  $T_2$  is the temperature 50 K below the boiling point.

(ii) For the interval from the temperature 50 K below the boiling point to the final temperature, emissions shall be calculated as the summation of emissions for each 5 K increment, where the emission for each increment shall be calculated using Equation 11 of this subpart. If the final temperature of the heatup is lower than 5 K below the boiling point, the final temperature for the last increment shall be the final temperature of the heatup, even if the last increment is less than 5 K. If the

final temperature of the heatup is higher than 5 K below the boiling point, the final temperature for the last increment shall be the temperature 5 K below the boiling point, even if the last increment is less than 5 K.

(3) While boiling, the vessel must be operated with a properly operated process condenser. An initial demonstration that a process condenser is properly operated is required for vessels that operate process condensers without secondary condensers that are air pollution control devices. The owner or operator must either measure the condenser exhaust gas temperature and show it is less than the boiling point of the substance(s) in the vessel, or perform a material balance around the vessel and condenser to show that at least 99 percent of the material vaporized while boiling is condensed. Uncontrolled emissions are assumed to be zero under these conditions. The initial demonstration shall be conducted for all appropriate operating scenarios and documented in the Notification of Compliance Status report as specified in § 63.1368(f).

(4)(i) As an alternative to the procedures described in paragraphs (c)(2)(i)(D)(1) and (2) of this section, emissions caused by heating a vessel to any temperature less than the boiling point may be calculated using Equation 15 of this subpart.

$$E = MW_{HAP} \times \left( N_{avg} \times \ln \left( \frac{P_T - \sum_{i=1}^m (P_{i,1})}{P_T - \sum_{i=1}^m (P_{i,2})} \right) - (n_{HAP,2} - n_{HAP,1}) \right) \quad (\text{Eq. 15})$$

Where:

$E$  = mass of HAP vapor displaced from the vessel being heated

$N_{avg}$  = average gas space molar volume during the heating process, as calculated using Equation 16 of this subpart  
 $P_T$  = total pressure in the vessel

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$P_{i,1}$  = partial pressure of the individual HAP compounds at  $T_1$

$P_{i,2}$  = partial pressure of the individual HAP compounds at  $T_2$

$MW_{HAP}$  = average molecular weight of the HAP compounds, as calculated using Equation 14 of this subpart

$n_{HAP,1}$  = number of moles of total HAP in the vessel headspace at  $T_1$

$n_{HAP,2}$  = number of moles of total HAP in the vessel headspace at  $T_2$

$m$  = number of HAP compounds in the emission stream.

(ii) The average gas space molar volume during the heating process is calculated using Equation 16 of this subpart.

$$N_{avg} = \frac{VP_T}{2R} \left( \frac{1}{T_1} + \frac{1}{T_2} \right) \quad (\text{Eq. 16})$$

Where:

$N_{avg}$  = average gas space molar volume during the heating process

$V$  = volume of free space in vessel

$P_T$  = total pressure in the vessel

$R$  = ideal gas law constant

$T_1$  = initial temperature of the vessel contents, absolute

$T_2$  = final temperature of the vessel contents, absolute

(iii) The difference in the number of moles of total HAP in the vessel headspace between the initial and final temperatures is calculated using Equation 17 of this subpart.

$$(n_{HAP,2} - n_{HAP,1}) = \frac{V}{(R)(T_2)} \sum_{i=1}^n P_{i,2} - \frac{V}{(R)(T_1)} \sum_{i=1}^n P_{i,1} \quad (\text{Eq. 17})$$

Where:

$n_{HAP,2}$  = number of moles of total HAP in the vessel headspace at  $T_2$

$n_{HAP,1}$  = number of moles of total HAP in the vessel headspace at  $T_1$

$V$  = volume of free space in vessel

$R$  = ideal gas law constant

$T_1$  = initial temperature of the vessel contents, absolute

$T_2$  = final temperature of the vessel contents, absolute

$P_{i,1}$  = partial pressure of the individual HAP compounds at  $T_1$

$P_{i,2}$  = partial pressure of the individual HAP compounds at  $T_2$

$n$  = number of HAP compounds in the emission stream.

(E) *Depressurization.* Emissions from depressurization shall be calculated using the procedures in paragraphs (c)(2)(i)(E)(1) through (5) of this section. Alternatively, the owner or operator may elect to calculate emissions from depressurization using the procedures in paragraph (c)(2)(i)(E)(6) of this section.

(1) The moles of HAP vapor initially in the vessel are calculated using Equation 18 of this subpart:

$$n_{HAP} = \frac{V}{RT} \times \sum_{i=1}^n (P_i) \quad (\text{Eq. 18})$$

Where:

$n_{HAP}$  = moles of HAP vapor in the vessel

$P_i$  = partial pressure of each HAP in the vessel vapor space

$V$  = free volume in the vessel being depressurized

$R$  = ideal gas law constant

$T$  = absolute temperature in vessel

$n$  = number of HAP compounds in the emission stream

(2) The initial and final moles of noncondensable gas present in the vessel are calculated using Equations 19 and 20 of this subpart:

$$n_1 = \frac{VP_{nc1}}{RT} \quad (\text{Eq. 19})$$

$$n_2 = \frac{VP_{nc2}}{RT} \quad (\text{Eq. 20})$$

Where:

$n_1$  = initial number of moles of noncondensable gas in the vessel

$n_2$  = final number of moles of noncondensable gas in the vessel

$V$  = free volume in the vessel being depressurized

$P_{nc1}$  = initial partial pressure of the noncondensable gas, as calculated using Equation 21 of this subpart

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$P_{nc2}$  = final partial pressure of the noncondensable gas, as calculated using Equation 22 of this subpart  
 $R$  = ideal gas law constant  
 $T$  = temperature, absolute

(3) The initial and final partial pressures of the noncondensable gas in the vessel are determined using Equations 21 and 22 of this subpart.

$$P_{nc1} = P_1 - \sum_{j=1}^m (P_j^*) (x_j) \quad (\text{Eq. 21})$$

$$P_{nc2} = P_2 - \sum_{j=1}^m (P_j^*) (x_j) \quad (\text{Eq. 22})$$

Where:

$P_{nc1}$  = initial partial pressure of the noncondensable gas  
 $P_{nc2}$  = final partial pressure of the noncondensable gas  
 $P_1$  = initial vessel pressure  
 $P_2$  = final vessel pressure  
 $P_j^*$  = vapor pressure of each condensable compound (including HAP) in the emission stream  
 $x_j$  = mole fraction of each condensable compound (including HAP) in the liquid phase  
 $m$  = number of condensable compounds (including HAP) in the emission stream.

(4) The moles of HAP emitted during the depressurization are calculated by taking an approximation of the average ratio of moles of HAP to moles of noncondensables and multiplying by the total moles of noncondensables released during the depressurization, using Equation 23 of this subpart:

$$n_{HAP,e} = \frac{\left( \frac{n_{HAP,1}}{n_1} + \frac{n_{HAP,2}}{n_2} \right)}{2} [n_1 - n_2] \quad (\text{Eq. 23})$$

Where:

$n_{HAP,e}$  = moles of HAP emitted  
 $n_{HAP,1}$  = moles of HAP vapor in vessel at the initial pressure, as calculated using Equation 18 of this subpart  
 $n_{HAP,2}$  = moles of HAP vapor in vessel at the final pressure, as calculated using Equation 18 of this subpart  
 $n_1$  = initial number of moles of noncondensable gas in the vessel, as calculated using Equation 19 of this subpart  
 $n_2$  = final number of moles of noncondensable gas in the vessel, as calculated using Equation 19 of this subpart.

(5) Use Equation 24 of this subpart to calculate the mass of HAP emitted:

$$E = n_{HAP,e} * MW_{HAP} \quad (\text{Eq. 24})$$

Where:

$E$  = mass of HAP emitted  
 $n_{HAP,e}$  = moles of HAP emitted, as calculated using Equation 23 of this subpart  
 $MW_{HAP}$  = average molecular weight of the HAP as calculated using Equation 14 of this subpart

(6) As an alternative to the procedures in paragraphs (c)(2)(i)(E)(1) through (5) of this section, emissions from depressurization may be calculated using Equation 25 of this subpart:

$$E = \frac{V}{(R)(T)} \times \ln \left( \frac{P_1 - \sum_{j=1}^m (P_j)}{P_2 - \sum_{j=1}^m (P_j)} \right) \times \sum_{i=1}^n (P_i) (MW_i) \quad (\text{Eq. 25})$$

Where:

$V$  = free volume in vessel being depressurized

$R$  = ideal gas law constant

$T$  = temperature of the vessel, absolute

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$P_i$ =initial pressure in the vessel  
 $P_f$ =final pressure in the vessel  
 $P_i$ =partial pressure of the individual HAP compounds  
 $P_j$ =partial pressure of individual condensable VOC compounds (including HAP)  
 $MW_i$ =molecular weight of the individual HAP compounds

$n$ =number of HAP compounds in the emission stream  
 $m$ =number of condensable VOC compounds (including HAP) in the emission stream

(F) *Vacuum systems.* Calculate emissions from vacuum systems using Equation 26 of this subpart:

$$E = \frac{(MW_{HAP})(La)(t)}{MW_{nc}} \left( \frac{\sum_{i=1}^n P_i}{P_T - \sum_{j=1}^m P_j} \right) \quad (\text{Eq. 26})$$

Where:

$E$  = mass of HAP emitted  
 $P_T$  = absolute pressure of receiving vessel or ejector outlet conditions, if there is no receiver  
 $P_i$  = partial pressure of individual HAP at the receiver temperature or the ejector outlet conditions  
 $P_j$  = partial pressure of individual condensable compounds (including HAP) at the receiver temperature or the ejector outlet conditions  
 $La$  = total air leak rate in the system, mass/time  
 $MW_{nc}$  = molecular weight of noncondensable gas  
 $t$  = time of vacuum operation  
 $MW_{HAP}$  = average molecular weight of HAP in the emission stream, as calculated using Equation 14 of this subpart, with HAP partial pressures calculated at the temperature of the receiver or ejector outlet, as appropriate  
 $n$  = number of HAP components in the emission stream

$m$  = number of condensable compounds (including HAP) in the emission stream.

(G) *Gas evolution.* Emissions from gas evolution shall be calculated using Equation 10 of this subpart with  $V$  calculated using Equation 27 of this subpart:

$$V = \frac{(W_g)(R)(T)}{(P_T)(MW_g)} \quad (\text{Eq. 27})$$

Where:

$V$ =volumetric flow rate of gas evolution  
 $W_g$ =mass flow rate of gas evolution  
 $R$ =ideal gas law constant  
 $T$ =temperature at the exit, absolute  
 $P_T$ =vessel pressure  
 $MW_g$ =molecular weight of the evolved gas

(H) *Air drying.* Use Equation 28 of this subpart to calculate emissions from air drying:

$$E = B \times \left( \frac{PS_1}{100 - PS_1} - \frac{PS_2}{100 - PS_2} \right) \quad (\text{Eq. 28})$$

Where:

$E$ =mass of HAP emitted  
 $B$ =mass of dry solids  
 $PS_1$ =HAP in material entering dryer, weight percent  
 $PS_2$ =HAP in material exiting dryer, weight percent.

(ii) *Engineering assessments.* The owner or operator shall conduct an engineering assessment to determine un-

controlled HAP emissions for each emission episode that is not due to vapor displacement, purging, heating, depressurization, vacuum systems, gas evolution, or air drying. For a given emission episode caused by any of these seven types of activities, the owner or operator also may request approval to determine uncontrolled HAP

emissions based on an engineering assessment. Except as specified in paragraph (c)(2)(ii)(A) of this section, all data, assumptions, and procedures used in the engineering assessment shall be documented in the Precompliance plan in accordance with § 63.1367(b). An engineering assessment includes, but is not limited to, the information and procedures described in paragraphs (c)(2)(ii)(A) through (D) of this section.

(A) Test results, provided the tests are representative of current operating practices at the process unit. For process vents without variable emission stream characteristics, an engineering assessment based on the results of a previous test may be submitted in the Notification of Compliance Status report instead of the Precompliance plan. Results from a previous test of process vents with variable emission stream characteristics will be acceptable in place of values estimated using the procedures specified in paragraph (c)(2)(i) of this section if the test data show a greater than 20 percent discrepancy between the test value and the estimated value, and the results of the engineering assessment shall be included in the Notification of Compliance Status report. For other process vents with variable emission stream characteristics, engineering assessments based on the results of a previous test must be submitted in the Precompliance plan. For engineering assessments based on new tests, the owner or operator must comply with the test notification requirements in § 63.1368(m), and the results of the engineering assessment may be submitted in the Notification of Compliance Status report rather than the Precompliance plan.

(B) Bench-scale or pilot-scale test data representative of the process under representative operating conditions.

(C) Maximum flow rate, HAP emission rate, concentration, or other relevant parameter specified or implied within a permit limit applicable to the process vent.

(D) Design analysis based on accepted chemical engineering principles, measurable process parameters, or physical or chemical laws or properties. Exam-

ples of analytical methods include, but are not limited to:

(1) Use of material balances based on process stoichiometry to estimate maximum organic HAP concentrations;

(2) Estimation of maximum flow rate based on physical equipment design such as pump or blower capacities; and

(3) Estimation of HAP concentrations based on saturation conditions.

(3) *Controlled emissions.* Except for condensers, the owner or operator shall determine controlled emissions using the procedures in either paragraph (c)(3)(i) or (ii) of this section, as applicable. For condensers, controlled emissions shall be calculated using the emission estimation equations described in paragraph (c)(3)(iii) of this section. The owner or operator is not required to calculate controlled emissions from devices described in paragraph (a)(4) of this section or from flares for which compliance is demonstrated in accordance with paragraph (a)(3) of this section. If the owner or operator is complying with an outlet concentration standard and the control device uses supplemental gases, the outlet concentrations shall be corrected in accordance with the procedures described in paragraph (a)(7) of this section.

(i) *Small control devices, except condensers.* Controlled emissions for each process vent that is controlled using a small control device, except for a condenser, shall be determined by using the design evaluation described in paragraph (c)(3)(i)(A) of this section, or by conducting a performance test in accordance with paragraph (c)(3)(ii) of this section.

(A) *Design evaluation.* The design evaluation shall include documentation demonstrating that the control device being used achieves the required control efficiency under absolute or hypothetical peak-case conditions, as determined from the emission profile described in paragraph (b)(11)(iii) of this section. The control efficiency determined from this design evaluation shall be applied to uncontrolled emissions to estimate controlled emissions. The documentation must be conducted in accordance with the provisions in paragraph (a)(1) of this section. The design evaluation shall also include the



value(s) and basis for the parameter(s) monitored under § 63.1366.

(B) Whenever a small control device becomes a large control device, the owner or operator must comply with the provisions in paragraph (c)(3)(ii) of this section and submit the test report in the next Periodic report.

(ii) *Large control devices, except condensers.* Controlled emissions for each process vent that is controlled using a large control device, except for a condenser, shall be determined by applying the control efficiency of the large control device to the estimated uncontrolled emissions. The control efficiency shall be determined by conducting a performance test on the control device as described in paragraphs (c)(3)(ii)(A) through (C) of this section, or by using the results of a previous performance test as described in paragraph (c)(3)(ii)(D) of this section. If the control device is intended to control only HCl and chlorine, the owner or operator may assume the control efficiency of organic HAP is 0 percent. If the control device is intended to control only organic HAP, the owner or operator may assume the control efficiency for HCl and chlorine is 0 percent.

(A) Performance test measurements shall be conducted at both the inlet and outlet of the control device for TOC, total organic HAP, and total HCl and chlorine, as applicable, using the test methods and procedures described in paragraph (b) of this section. Concentrations shall be calculated from the data obtained through emission testing according to the procedures in paragraph (a)(2) of this section.

(B) Performance testing shall be conducted under absolute or hypothetical peak-case conditions, as defined in paragraphs (b)(11)(i) and (ii) of this section.

(C) The owner or operator may elect to conduct more than one performance test on the control device for the purpose of establishing more than one operating condition at which the control

device achieves the required control efficiency.

(D) The owner or operator is not required to conduct a performance test for any control device for which a previous performance test was conducted, provided the test was conducted using the same procedures specified in paragraphs (b)(1) through (11) of this section over conditions typical of the absolute or hypothetical peak-case, as defined in paragraphs (b)(11)(i) and (ii) of this section. The results of the previous performance test shall be used to demonstrate compliance.

(iii) *Condensers.* The owner or operator using a condenser as a control device shall determine controlled emissions for each batch emission episode according to the engineering methodology in paragraphs (c)(3)(iii)(A) through (G) of this section. The owner or operator must establish the maximum outlet gas temperature and calculate the controlled emissions using this temperature in the applicable equation. Individual HAP partial pressures shall be calculated as specified in paragraph (c)(2)(i) of this section.

(A) Emissions from vapor displacement due to transfer of material to a vessel shall be calculated using Equation 9 of this subpart with T set equal to the temperature of the receiver and the HAP partial pressures determined at the temperature of the receiver.

(B) Emissions from purging shall be calculated using Equation 10 of this subpart with T set equal to the temperature of the receiver and the HAP partial pressures determined at the temperature of the receiver.

(C) Emissions from heating shall be calculated using Equation 29 of this subpart. In Equation 29 of this subpart,  $\Delta n$  is equal to the number of moles of noncondensable displaced from the vessel, as calculated using Equation 12 of this subpart. In Equation 29 of this subpart, the HAP average molecular weight shall be calculated using Equation 14 with the HAP partial pressures determined at the temperature of the receiver.

$$E = \Delta\eta \times \frac{\sum_{i=1}^n P_i}{P_T - \sum_{j=1}^m P_j} \times MW_{HAP} \quad (\text{Eq. 29})$$

Where:

E=mass of HAP emitted  
 Δη=moles of noncondensable gas displaced  
 P<sub>T</sub>=pressure in the receiver  
 P<sub>i</sub>=partial pressure of the individual HAP at the receiver temperature  
 P<sub>j</sub>=partial pressure of the individual condensable VOC (including HAP) at the receiver temperature

n=number of HAP compounds in the emission stream  
 MW<sub>HAP</sub>=the average molecular weight of HAP in vapor exiting the receiver, as calculated using Equation 14 of this subpart  
 m=number of condensable VOC (including HAP) in the emission stream

(D)(1) Emissions from depressurization shall be calculated using Equation 30 of this subpart.

$$E = (V_{nc1} - V_{nc2}) \times \frac{\sum_{i=1}^n (P_i)}{P_T - \sum_{j=1}^m (P_j)} \times \frac{P_T}{RT} \times MW_{HAP} \quad (\text{Eq. 30})$$

Where:

E=mass of HAP vapor emitted  
 V<sub>nc1</sub>=initial volume of noncondensable in the vessel, corrected to the final pressure, as calculated using Equation 31 of this subpart  
 V<sub>nc2</sub>=final volume of noncondensable in the vessel, as calculated using Equation 32 of this subpart  
 P<sub>i</sub>=partial pressure of each individual HAP at the receiver temperature  
 P<sub>j</sub>=partial pressure of each condensable VOC (including HAP) at the receiver temperature  
 P<sub>T</sub>=receiver pressure  
 T=temperature of the receiver, absolute  
 R=ideal gas law constant  
 MW<sub>HAP</sub>=the average molecular weight of HAP calculated using Equation 14 of this subpart with partial pressures determined at the receiver temperature  
 n=number of HAP compounds in the emission stream  
 m=number of condensable VOC (including HAP) in the emission stream

$$V_{nc1} = \frac{VP_{nc1}}{P_T} \quad (\text{Eq. 31})$$

$$V_{nc2} = \frac{VP_{nc2}}{P_T} \quad (\text{Eq. 32})$$

Where:

V<sub>nc1</sub>=initial volume of noncondensable gas in the vessel  
 V<sub>nc2</sub>=final volume of noncondensable gas in the vessel  
 V=free volume in the vessel being depressurized  
 P<sub>nc1</sub>=initial partial pressure of the noncondensable gas, as calculated using Equation 33 of this subpart  
 P<sub>nc2</sub>=final partial pressure of the noncondensable gas, as calculated using Equation 34 of this subpart  
 P<sub>T</sub>=pressure of the receiver

(3) Initial and final partial pressures of the noncondensable gas in the vessel are determined using Equations 33 and 34 of this subpart.

(2) The initial and final volumes of noncondensable gas present in the vessel, adjusted to the pressure of the receiver, are calculated using Equations 31 and 32 of this subpart.

$$P_{nc1} = P_1 - \sum_{j=1}^m P_j \quad (\text{Eq. 33})$$

$$P_{nc2} = P_2 - \sum_{j=1}^m P_j \quad (\text{Eq. 34})$$

Where:

$P_{nc1}$  = initial partial pressure of the non-condensable gas in the vessel

$P_{nc2}$  = final partial pressure of the noncondensable gas in the vessel

$P_1$  = initial vessel pressure

$P_2$  = final vessel pressure

$P_j$  = partial pressure of each condensable VOC (including HAP) in the vessel

$m$  = number of condensable VOC (including HAP) in the emission stream

(E) Emissions from vacuum systems shall be calculated using Equation 26 of this subpart.

(F) Emissions from gas evolution shall be calculated using Equation 8 with  $V$  calculated using Equation 27 of this subpart,  $T$  set equal to the receiver temperature, and the HAP partial pressures determined at the receiver temperature. The term for time,  $t$ , in Equation 10 of this subpart is not needed for the purposes of this calculation.

(G) Emissions from air drying shall be calculated using Equation 9 of this subpart with  $V$  equal to the air flow rate and  $P_i$  determined at the receiver temperature.

(d) *Initial compliance with storage vessel provisions.* The owner or operator of an existing or new affected source shall demonstrate initial compliance with the storage vessel standards in § 63.1362(c)(2) through (4) by fulfilling the requirements in either paragraph (d)(1), (2), (3), (4), (5), or (6) of this section, as applicable. The owner or operator shall demonstrate initial compliance with the planned routine maintenance provision in § 63.1362(c)(5) by fulfilling the requirements in paragraph (d)(7) of this section.

(1) *Percent reduction requirement for control devices.* If the owner or operator equips a Group 1 storage vessel with a closed vent system and control device, the owner or operator shall demonstrate initial compliance with the percent reduction requirement of § 63.1362(c)(2)(iv)(A) or (c)(3) either by

calculating the efficiency of the control device using performance test data as specified in paragraph (d)(1)(i) of this section, or by preparing a design evaluation as specified in paragraph (d)(1)(ii) of this section.

(i) *Performance test option.* If the owner or operator elects to demonstrate initial compliance based on performance test data, the efficiency of the control device shall be calculated as specified in paragraphs (d)(1)(i)(A) through (D) of this section.

(A) At the reasonably expected maximum filling rate. Equations 35 and 36 of this subpart shall be used to calculate the mass rate of total organic HAP or TOC at the inlet and outlet of the control device.

$$E_i = K_2 \left( \sum_{j=1}^n C_{ij} M_{ij} \right) Q_i \quad (\text{Eq. 35})$$

$$E_o = K_2 \left( \sum_{j=1}^n C_{oj} M_{oj} \right) Q_o \quad (\text{Eq. 36})$$

Where:

$C_{ij}$ ,  $C_{oj}$  = concentration of sample component  $j$  of the gas stream at the inlet and outlet of the control device, respectively, dry basis, ppmv

$E_i$ ,  $E_o$  = mass rate of total organic HAP or TOC at the inlet and outlet of the control device, respectively, dry basis, kg/hr

$M_{ij}$ ,  $M_{oj}$  = molecular weight of sample component  $j$  of the gas stream at the inlet and outlet of the control device, respectively, g/gmole

$Q_i$ ,  $Q_o$  = flow rate of gas stream at the inlet and outlet of the control device, respectively, dscmm

$K_2$  = constant,  $2.494 \times 10^{-6}$  (parts per million)<sup>-1</sup> (gram-mole per standard cubic meter) (kilogram/gram) (minute/hour), where standard temperature is 20 °C.

(B) The percent reduction in total organic HAP or TOC shall be calculated using Equation 37 of this subpart:

$$R = \frac{E_i - E_o}{E_i} (100) \quad (\text{Eq. 37})$$

Where:

$R$  = control efficiency of control device, percent

$E_i$  = mass rate of total organic HAP or TOC at the inlet to the control device as calculated under paragraph (d)(1)(i)(A) of this section, kilograms organic HAP per hour

$E_o$  = mass rate of total organic HAP or TOC at the outlet of the control device, as calculated under paragraph (d)(1)(i)(A) of this section, kilograms organic HAP per hour.

(C) A performance test is not required to be conducted if the control device used to comply with § 63.1362(c) (storage tank provisions) is also used to comply with § 63.1362(b) (process vent provisions), provided compliance with § 63.1362(b) is demonstrated in accordance with paragraph (c) of this section and the demonstrated percent reduction is equal to or greater than 95 percent.

(D) A performance test is not required for any control device for which a previous test was conducted, provided the test was conducted using the same procedures specified in paragraph (b) of this section.

(ii) *Design evaluation option.* If the owner or operator elects to demonstrate initial compliance by conducting a design evaluation, the owner or operator shall prepare documentation in accordance with the design evaluation provisions in paragraph (a)(1) of this section, as applicable. The design evaluation shall demonstrate that the control device being used achieves the required control efficiency when the storage vessel is filled at the reasonably expected maximum filling rate.

(2) *Outlet concentration requirement for control devices.* If the owner or operator equips a Group 1 storage vessel with a closed vent system and control device, the owner or operator shall demonstrate initial compliance with the outlet concentration requirements of § 63.1362(c)(2)(iv)(B) or (c)(3) by fulfilling the requirements of paragraph (a)(6) of this section.

(3) *Floating roof.* If the owner or operator equips a Group 1 storage vessel with a floating roof to comply with the provisions in § 63.1362(c)(2) or (c)(3), the owner or operator shall demonstrate initial compliance by complying with the procedures described in paragraphs (d)(3)(i) and (ii) of this section.

(i) Comply with § 63.119(b), (c), or (d) of subpart G of this part, as applicable, with the differences specified in § 63.1362(d)(2)(i) through (iii).

(ii) Comply with the procedures described in § 63.120(a), (b), or (c), as appli-

cable, with the differences specified in paragraphs (d)(3)(ii)(A) through (C) of this section.

(A) When the term "storage vessel" is used in § 63.120, the definition of the term "storage vessel" in § 63.1361 shall apply for the purposes of this subpart.

(B) When the phrase "the compliance date specified in § 63.100 of subpart F of this part" is referred to in § 63.120, the phrase "the compliance date specified in § 63.1364" shall apply for the purposes of this subpart.

(C) When the phrase "the maximum true vapor pressure of the total organic HAP in the stored liquid falls below the values defining Group 1 storage vessels specified in Table 5 or Table 6 of this subpart" is referred to in § 63.120(b)(1)(iv), the phrase "the maximum true vapor pressure of the total organic HAP in the stored liquid falls below the values defining Group 1 storage vessels specified in § 63.1361" shall apply for the purposes of this subpart.

(4) *Flares.* If the owner or operator controls the emissions from a Group 1 storage vessel with a flare, initial compliance is demonstrated by fulfilling the requirements in paragraph (a)(3) of this section.

(5) *Exemptions from initial compliance.* No initial compliance demonstration is required for control devices specified in paragraph (a)(4) of this section.

(6) *Initial compliance with alternative standard.* If the owner or operator equips a Group 1 storage vessel with a closed-vent system and control device, the owner or operator shall demonstrate initial compliance with the alternative standard in § 63.1362(c)(4) by fulfilling the requirements of paragraph (a)(5) of this section.

(7) *Planned routine maintenance.* The owner or operator shall demonstrate initial compliance with the planned routine maintenance provisions of § 63.1362(c)(5) by including the anticipated periods of planned routine maintenance for the first reporting period in the Notification of Compliance Status report as specified in § 63.1368(f).

(e) *Initial compliance with wastewater provisions.* The owner or operator shall demonstrate initial compliance with the wastewater requirements by complying with the applicable provisions in

§ 63.145, except that the owner or operator need not comply with the requirement to determine visible emissions that is specified in § 63.145(j)(1), and references to compounds in Table 8 of subpart G of this part are not applicable for the purposes of this subpart. When § 63.145(i) refers to Method 18 of 40 CFR part 60, appendix A-6, the owner or operator may use any method specified in § 63.1362(d)(12) to demonstrate initial compliance with this subpart.

(f) *Initial compliance with the bag dump and product dryer provisions.* Compliance with the particulate matter concentration limits specified in § 63.1362(e) is demonstrated when the concentration of particulate matter is less than 0.01 gr/dscf, as measured using the method described in paragraph (b)(7) of this section.

(g) *Initial compliance with the pollution prevention alternative standard.* The owner or operator shall demonstrate initial compliance with § 63.1362(g)(2) and (3) for a PAI process unit by preparing the demonstration summary in accordance with paragraph (g)(1) of this section and by calculating baseline and target annual HAP and VOC factors in accordance with paragraphs (g)(2) and (3) of this section. To demonstrate initial compliance with § 63.1362(g)(3), the owner or operator must also comply with the procedures for add-on control devices that are specified in paragraph (g)(4) of this section.

(1) *Demonstration summary.* The owner or operator shall prepare a pollution prevention demonstration summary that shall contain, at a minimum, the information in paragraphs (g)(1)(i) through (iii) of this section. The demonstration summary shall be included in the Precompliance report as specified in § 63.1368(e)(4).

(i) Descriptions of the methodologies and forms used to measure and record consumption of HAP and VOC compounds.

(ii) Descriptions of the methodologies and forms used to measure and record production of the product(s).

(iii) Supporting documentation for the descriptions provided in accordance with paragraphs (g)(1)(i) and (ii) of this section including, but not limited to, operator log sheets and copies of daily,

monthly, and annual inventories of materials and products. The owner or operator must show how this documentation will be used to calculate the annual factors required in § 63.1366(f)(1).

(2) *Baseline factors.* The baseline HAP and VOC factors shall be calculated by dividing the consumption of total HAP and total VOC by the production rate, per process, for the first 3-year period in which the process was operational, beginning no earlier than the period consisting of the 1987 through 1989 calendar years. Alternatively, for a process that has been operational for less than 3 years, but more than 1 year, the baseline factors shall be established for the time period from startup of the process until the present.

(3) *Target annual factors.* The owner or operator must calculate target annual factors in accordance with either paragraph (g)(3)(i) or (ii) of this section.

(i) To demonstrate initial compliance with § 63.1362(g)(2), the target annual HAP factor must be equal to or less than 15 percent of the baseline HAP factor. For each reduction in a HAP that is also a VOC, the target annual VOC factor must be lower than the baseline VOC factor by an equivalent amount on a mass basis. For each reduction in a HAP that is not a VOC, the target annual factor must be equal to or less than the baseline VOC factor.

(ii) To demonstrate initial compliance with § 63.1362(g)(3)(i), the target annual HAP and VOC factors must be calculated as specified in paragraph (g)(3)(i) of this section, except that when "15 percent" is referred to in paragraph (g)(3)(i) of this section, "50 percent" shall apply for the purposes of this paragraph.

(4) *Requirements for add-on control devices.* Initial compliance with the requirements for add-on control devices in § 63.1362(g)(3)(ii) is demonstrated when the requirements in paragraphs (g)(4)(i) through (iii) of this section are met.

(i) The yearly reductions associated with add-on controls that meet the criteria of § 63.1362(g)(3)(ii)(A) through (D), must be equal to or greater than the amounts calculated using Equations 38 and 39 of this subpart:

$$\text{HAP}_{\text{reduced}} = (\text{HF}_{\text{base}})(0.85 - R_{p2})(M_{\text{prod}}) \quad (\text{Eq. 38})$$

$$\text{VOC}_{\text{reduced}} = (\text{VF}_{\text{base}} - \text{VF}_{p2} - \text{VF}_{\text{annual}}) \times M_{\text{prod}} \quad (\text{Eq. 39})$$

Where:

$\text{HAP}_{\text{reduced}}$  = the annual HAP emissions reduction required by add-on controls, kg/yr

$\text{HF}_{\text{base}}$  = the baseline HAP factor, kg HAP consumed/kg product

$R_{p2}$  = the fractional reduction in the annual HAP factor achieved using pollution prevention where  $R_{p2}$  is  $\geq 0.5$

$\text{VOC}_{\text{reduced}}$  = required VOC emission reduction from add-on controls, kg/yr

$\text{VF}_{\text{base}}$  = baseline VOC factor, kg VOC emitted/kg production

$\text{VF}_{p2}$  = reduction in VOC factor achieved by pollution prevention, kg VOC emitted/kg production

$\text{VF}_{\text{annual}}$  = target annual VOC factor, kg VOC emitted/kg production

$M_{\text{prod}}$  = production rate, kg/yr

(ii) Demonstration that the criteria in § 63.1362(g)(3)(ii)(A) through (D) are met shall be accomplished through a description of the control device and of the material streams entering and exiting the control device.

(iii) The annual reduction achieved by the add-on control shall be quantified using the methods described in paragraph (c) of this section.

(h) *Compliance with emissions averaging provisions.* An owner or operator shall demonstrate compliance with the emissions averaging provisions of § 63.1362(h) by fulfilling the requirements of paragraphs (h)(1) through (6) of this section.

(1) The owner or operator shall develop and submit for approval an Emissions Averaging Plan containing all the information required in § 63.1367(d). The Emissions Averaging Plan shall be submitted no later than 18 months prior to the compliance date of the standard. The Administrator shall determine within 120 calendar days whether the Emissions Averaging Plan submitted by sources using emissions averaging presents sufficient information. The Administrator shall either approve the Emissions Averaging Plan, request changes, or request that the owner or operator submit additional information. Once the Administrator receives sufficient information, the Ad-

ministrator shall approve, disapprove, or request changes to the plan within 120 days. If the Emissions Averaging Plan is disapproved, the owner or operator must still be in compliance with the standard by the compliance date.

(2) For all points included in an emissions average, the owner or operator shall comply with the procedures that are specified in paragraphs (h)(2)(i) through (v) of this section.

(i) Calculate and record monthly debits for all Group 1 emission points that are controlled to a level less stringent than the standard for those emission points. Equations in paragraph (h)(5) of this section shall be used to calculate debits.

(ii) Calculate and record monthly credits for all Group 1 and Group 2 emission points that are overcontrolled to compensate for the debits. Equations in paragraph (h)(6) of this section shall be used to calculate credits. All process vent, storage vessel, and wastewater emission points except those specified in § 63.1362(h)(1) through (6) may be included in the credit calculation.

(iii) Demonstrate that annual credits calculated according to paragraph (h)(6) of this section are greater than or equal to debits calculated according to paragraph (h)(5) of this section for the same annual compliance period. The initial demonstration in the Emissions Averaging Plan or operating permit application that credit-generating emission points will be capable of generating sufficient credits to offset the debit-generating emission points shall be made under representative operating conditions. After the compliance date, actual operating data shall be used for all debit and credit calculations.

(iv) Demonstrate that debits calculated for a quarterly (3-month) period according to paragraph (h)(5) of this section are not more than 1.30 times the credits for the same period calculated according to paragraph

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(h)(6) of this section. Compliance for the quarter shall be determined based on the ratio of credits and debits from that quarter, with 30 percent more debits than credits allowed on a quarterly basis.

(v) Record and report quarterly and annual credits and debits as required in §§ 63.1367(d) and 63.1368(d).

(3) Credits and debits shall not include emissions during periods of malfunction. Credits and debits shall not include periods of startup and shutdown for continuous processes.

(4) During periods of monitoring excursions, credits and debits shall be adjusted as specified in paragraphs (h)(4)(i) through (iii) of this section.

(i) No credits shall be assigned to the credit-generating emission point.

(ii) Maximum debits shall be assigned to the debit-generating emission point.

(iii) The owner or operator may demonstrate to the Administrator that full or partial credits or debits should be assigned using the procedures in § 63.150(1) of subpart G of this part.

(5) Debits are generated by the difference between the actual emissions from a Group 1 emission point that is uncontrolled or controlled to a level less stringent than the applicable standard and the emissions allowed for the Group 1 emission point. Debits shall be calculated in accordance with the procedures specified in paragraphs (h)(5)(i) through (iv) of this section.

(i) Source-wide debits shall be calculated using Equation 40 of this subpart.

Debits and all terms of Equation 40 of this subpart are in units of Mg/month

$$\text{Debits} = \sum_{i=1}^n [\text{EPV}_{iA} - (0.10)(\text{EPV}_{iU})] + \sum_{i=1}^n [\text{ES}_{iA} - (0.05)(\text{ES}_{iU})] + \sum_{i=1}^n [\text{EWW}_{iA} - (\text{EWW}_{iC})] \quad (\text{Eq. 40})$$

Where:

EPV<sub>iU</sub> = uncontrolled emissions from process i calculated according to the procedures specified in paragraph (h)(5)(ii) of this section

EPV<sub>iA</sub> = actual emissions from each Group 1 process i that is uncontrolled or is controlled to a level less stringent than the applicable standard. EPV<sub>iA</sub> is calculated using the procedures in paragraph (h)(5)(ii) of this section

ES<sub>iU</sub> = uncontrolled emissions from storage vessel i calculated according to the procedures specified in paragraph (h)(5)(iii) of this section

ES<sub>iA</sub> = actual emissions from each Group 1 storage vessel i that is uncontrolled or is controlled to a level less stringent than the applicable standard. ES<sub>iA</sub> is calculated using the procedures in paragraph (h)(5)(iii) of this section

EWW<sub>iC</sub> = emissions from each Group 1 wastewater stream i if the standard had been applied to the uncontrolled emissions. EWW<sub>iC</sub> is calculated using the procedures in paragraph (h)(5)(iv) of this section

EWW<sub>iA</sub> = actual emissions from each Group 1 wastewater stream i that is uncontrolled or is controlled to a level less stringent than the applicable standard. EWW<sub>iA</sub> is calculated using the procedures in paragraph (h)(5)(iv) of this section

n = the number of emission points being included in the emissions average; the value

of n is not necessarily the same for process vents, storage tanks, and wastewater

(ii) Emissions from process vents shall be calculated in accordance with the procedures specified in paragraphs (h)(5)(ii)(A) through (C) of this section.

(A) Except as provided in paragraph (h)(5)(ii)(C) of this section, uncontrolled emissions for process vents shall be calculated using the procedures that are specified in paragraph (c)(2) of this section.

(B) Except as provided in paragraph (h)(5)(ii)(C) of this section, actual emissions for process vents shall be calculated using the procedures specified in paragraphs (c)(2) and (c)(3) of this section, as applicable.

(C) As an alternative to the procedures described in paragraphs (h)(5)(ii)(A) and (B) of this section, for continuous processes, uncontrolled and actual emissions may be calculated by the procedures described in § 63.150(g)(2) of subpart G of this part. For purposes of complying with this paragraph, a 90 percent reduction shall apply instead of the 98 percent reduction in § 63.150(g)(2)(iii) of subpart G of this part, and the term "process condenser"

shall apply instead of the term "recovery device" in § 63.150(g)(2) for the purposes of this subpart.

(iii) Uncontrolled emissions from storage vessels shall be calculated in accordance with the procedures described in paragraph (d)(1) of this section. Actual emissions from storage vessels shall be calculated using the procedures specified in § 63.150(g)(3)(ii), (iii), or (iv) of subpart G of this subpart, as appropriate, except that when § 63.150(g)(3)(ii)(B) refers to the procedures in § 63.120(d) for determining percent reduction for a control device, § 63.1365(d)(2) or (3) shall apply for the purposes of this subpart.

(iv) Emissions from wastewater shall be calculated using the procedures specified in § 63.150(g)(5) of subpart G of this part.

(6) Credits are generated by the difference between emissions that are allowed for each Group 1 and Group 2

emission point and the actual emissions from that Group 1 or Group 2 emission point that have been controlled after November 15, 1990 to a level more stringent than what is required in this subpart or any other State or Federal rule or statute. Credits shall be calculated in accordance with the procedures specified in paragraphs (h)(6)(i) through (v) of this section.

(i) Source-wide credits shall be calculated using Equation 41 of this subpart. Credits and all terms in Equation 41 of this subpart are in units of Mg/month, the baseline date is November 15, 1990, the terms consisting of a constant multiplied by the uncontrolled emissions are the emissions from each emission point subject to the standards in § 63.1362(b) and (c) that is controlled to a level more stringent than the standard.

$$\begin{aligned} \text{Credits} = & D \sum_{i=1}^n [(0.10)(EPV1_{iU}) - EPV1_{iA}] + D \sum_{i=1}^m (EPV2_{iB} - EPV2_{iA}) + D \sum_{i=1}^n [(0.05)(ES1_{iU}) - ES1_{iA}] + \\ & D \sum_{i=1}^m (ES2_{iB} - ES2_{iA}) + D \sum_{i=1}^n (EWW1_{iC} - EWW1_{iA}) + D \sum_{i=1}^m (EWW2_{iB} - EWW2_{iA}) \quad (\text{Eq. 41}) \end{aligned}$$

Where:

EPV1<sub>iU</sub> = uncontrolled emissions from each Group 1 process i calculated according to the procedures in paragraph (h)(6)(iii)(A) of this section

EPV1<sub>iA</sub> = actual emissions from each Group 1 process i that is controlled to a level more stringent than the applicable standard. EPV1<sub>iA</sub> is calculated according to the procedures in paragraph (h)(6)(iii)(B) of this section

EPV2<sub>iB</sub> = emissions from each Group 2 process i at the baseline date. EPV2<sub>iB</sub> is calculated according to the procedures in paragraph (h)(6)(iii)(C) of this section

EPV2<sub>iA</sub> = actual emissions from each Group 2 process i that is controlled. EPV2<sub>iA</sub> is calculated according to the procedures in paragraph (h)(6)(iii)(C) of this section

ES1<sub>iU</sub> = uncontrolled emissions from each Group 1 storage vessel i calculated according to the procedures in paragraph (h)(6)(iv) of this section

ES1<sub>iA</sub> = actual emissions from each Group 1 storage vessel i that is controlled to a level more stringent than the applicable standard. ES1<sub>iA</sub> is calculated according to the

procedures in paragraph (h)(6)(iv) of this section

ES2<sub>iB</sub> = emissions from each Group 2 storage vessel i at the baseline date. ES2<sub>iB</sub> is calculated according to the procedures in paragraph (h)(6)(iv) of this section

ES2<sub>iA</sub> = actual emissions from each Group 2 storage vessel i that is controlled. ES2<sub>iA</sub> is calculated according to the procedures in paragraph (h)(6)(iv) of this section

EWW1<sub>iC</sub> = emissions from each Group 1 wastewater stream i if the standard had been applied to the uncontrolled emissions. EWW1<sub>iC</sub> is calculated according to the procedures in paragraph (h)(6)(v) of this section

EWW1<sub>iA</sub> = emissions from each Group 1 wastewater stream i that is controlled to a level more stringent than the applicable standard. EWW1<sub>iA</sub> is calculated according to the procedures in paragraph (h)(6)(v) of this section

EWW2<sub>iB</sub> = emissions from each Group 2 wastewater stream i at the baseline date. EWW2<sub>iB</sub> is calculated according to the procedures in paragraph (h)(6)(v) of this section



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$EW\text{W}2_{iA}$  = actual emissions from each Group 2 wastewater stream  $i$  that is controlled.  $EW\text{W}2_{iA}$  is calculated according to the procedures in paragraph (h)(6)(v) of this section

$n$  = number of Group 1 emission points that are included in the emissions average. The value of  $n$  is not necessarily the same for process vents, storage tanks, and wastewater

$m$  = number of Group 2 emission points included in the emissions average. The value of  $m$  is not necessarily the same for process vents, storage tanks, and wastewater

$D$  = discount factor equal to 0.9 for all credit-generating emission points except those controlled by a pollution prevention measure, which will not be discounted

(ii) For an emission point controlled using a pollution prevention measure, the nominal efficiency for calculating

credits shall be as determined as described in § 63.150(j) of subpart G of this part.

(iii) Emissions from process vents shall be calculated in accordance with the procedures specified in paragraphs (h)(6)(iii)(A) through (C) of this section.

(A) Uncontrolled emissions from Group 1 process vents shall be calculated according to the procedures in paragraph (h)(5)(ii)(A) or (C) of this section.

(B) Actual emissions from Group 1 process vents with a nominal efficiency greater than the applicable standard or a pollution prevention measure that achieves reductions greater than the applicable standard shall be calculated using Equation 42 of this subpart:

$$EPV1_{iA} = EPV1_{iU} \times [1 - N_{eff}/100] \quad (\text{Eq. 42})$$

Where:

$EPV1_{iA}$  = actual emissions from each Group 1 process  $i$  that is controlled to a level more stringent than the applicable standard

$EPV1_{iU}$  = uncontrolled emissions from each Group 1 process  $i$

$N_{eff}$  = nominal efficiency of control device or pollution prevention measure, percent

(C) Baseline and actual emissions from Group 2 process vents shall be calculated according to the procedures in § 63.150(h)(2)(iii) and (iv) with the following modifications:

(1) The term "90 percent reduction" shall apply instead of the term "98 percent reduction"; and

(2) When the phrase "paragraph (g)(2)" is referred to in § 63.150(h)(2)(iii) and (iv), the provisions in paragraph (h)(5)(ii) of this section shall apply for the purposes of this subpart.

(iv) Uncontrolled emissions from storage vessels shall be calculated according to the procedures described in paragraph (d)(1) of this section. Actual and baseline emissions from storage tanks shall be calculated according to the procedures specified in § 63.150(h)(3) of subpart G of this part, except when § 63.150(h)(3) refers to § 63.150(g)(3)(i), paragraph (d)(1) of this section shall apply for the purposes of this subpart.

(v) Emissions from wastewater shall be calculated using the procedures in § 63.150(h)(5) of subpart G of this part.

[64 FR 33589, June 23, 1999, as amended at 67 FR 59347, Sept. 20, 2002]

**§ 63.1366 Monitoring and inspection requirements.**

(a) To provide evidence of continued compliance with the standard, the owner or operator of any existing or new affected source shall install, operate, and maintain monitoring devices as specified in this section. During the initial compliance demonstration, maximum or minimum operating parameter levels, or other design and operating characteristics, as appropriate, shall be established for emission sources that will indicate the source is in compliance. Test data, calculations, or information from the evaluation of the control device design, as applicable, shall be used to establish the operating parameter level or characteristic.

(b) *Monitoring for control devices*—(1) *Parameters to monitor.* Except as specified in paragraph (b)(1)(i) of this section, for each control device, the owner or operator shall install and operate monitoring devices and operate within

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the established parameter levels to ensure continued compliance with the standard. Monitoring parameters are specified for control scenarios in paragraphs (b)(1)(ii) through (xii) of this section, and are summarized in Table 3 of this subpart.

(i) *Periodic verification.* For control devices that control vent streams containing total HAP emissions less than 0.91 Mg/yr, before control, monitoring shall consist of a periodic verification that the device is operating properly. This verification shall include, but not be limited to, a daily or more frequent demonstration that the unit is working as designed and may include the daily measurements of the parameters described in paragraphs (b)(1)(ii) through (xii) of this section. This demonstration shall be included in the Precompliance plan, to be submitted 6 months prior to the compliance date of the standard.

(ii) *Scrubbers.* For affected sources using liquid scrubbers, the owner or operator shall establish a minimum scrubber liquid flow rate or pressure drop as a site-specific operating parameter which must be measured and recorded at least once every 15 minutes during the period in which the scrubber is controlling HAP from an emission stream as required by the standards in § 63.1362. If the scrubber uses a caustic solution to remove acid emissions, the pH of the effluent scrubber liquid shall also be monitored once a day. The minimum scrubber liquid flow rate or pressure drop shall be based on the conditions under which the initial compliance demonstration was conducted.

(A) The monitoring device used to determine the pressure drop shall be certified by the manufacturer to be accurate to within a gage pressure of  $\pm 10$  percent of the maximum pressure drop measured.

(B) The monitoring device used for measurement of scrubber liquid flowrate shall be certified by the manufacturer to be accurate to within  $\pm 10$  percent of the design scrubber liquid flowrate.

(C) The monitoring device shall be calibrated annually.

(iii) *Condensers.* For each condenser, the owner or operator shall establish the maximum condenser outlet gas

temperature as a site-specific operating parameter which must be measured and recorded at least once every 15 minutes during the period in which the condenser is controlling HAP from an emission stream as required by the standards in § 63.1362.

(A) The temperature monitoring device must be accurate to within  $\pm 2$  percent of the temperature measured in degrees Celsius or  $\pm 2.5$  °C, whichever is greater.

(B) The temperature monitoring device must be calibrated annually.

(iv) *Regenerative carbon adsorbers.* For each regenerative carbon adsorber, the owner or operator shall comply with the provisions in paragraphs (b)(1)(iv)(A) through (F) of this section.

(A) Establish the regeneration cycle characteristics specified in paragraphs (b)(1)(iv)(A) (1) through (4) of this section under absolute or hypothetical peak-case conditions, as defined in § 63.1365(b)(11)(i) or (ii).

(1) Minimum regeneration frequency (i.e., operating time since last regeneration):

(2) Minimum temperature to which the bed is heated during regeneration;

(3) Maximum temperature to which the bed is cooled, measured within 15 minutes of completing the cooling phase; and

(4) Minimum regeneration stream flow.

(B) Monitor and record the regeneration cycle characteristics specified in paragraphs (b)(1)(iv)(B) (1) through (4) of this section for each regeneration cycle.

(1) Regeneration frequency (i.e., operating time since end of last regeneration);

(2) Temperature to which the bed is heated during regeneration;

(3) Temperature to which the bed is cooled, measured within 15 minutes of the completion of the cooling phase; and

(4) Regeneration stream flow.

(C) Use a temperature monitoring device that is accurate to within  $\pm 2$  percent of the temperature measured in degrees Celsius or  $\pm 2.5$  °C, whichever is greater.

(D) Use a regeneration stream flow monitoring device capable of recording the total regeneration stream flow to

within  $\pm 10$  percent of the established value (i.e., accurate to within  $\pm 10$  percent of the reading).

(E) Calibrate the temperature and flow monitoring devices annually.

(F) Conduct an annual check for bed poisoning in accordance with manufacturer's specifications.

(v) *Nonregenerative carbon adsorbers.* For each nonregenerative carbon adsorption system such as a carbon canister that does not regenerate the carbon bed directly onsite in the control device, the owner or operator shall replace the existing carbon bed in the control device with fresh carbon on a regular schedule based on one of the following procedures:

(A) Monitor the TOC concentration level in the exhaust vent stream from the carbon adsorption system on a regular schedule, and replace the existing carbon with fresh carbon immediately when carbon breakthrough is indicated. The monitoring frequency shall be daily or at an interval no greater than 20 percent of the time required to consume the total carbon working capacity under absolute or hypothetical peak-case conditions as defined in § 63.1365(b)(11)(i) or (ii), whichever is longer.

(B) Establish the maximum time interval between replacement, and replace the existing carbon before this time interval elapses. The time interval shall be established based on the conditions anticipated under absolute or hypothetical peak-case, as defined in § 63.1365(b)(11)(i) or (ii).

(vi) *Flares.* For each flare, the presence of the pilot flame shall be monitored at least once every 15 minutes during the period in which the flare is controlling HAP from an emission stream subject to the standards in § 63.1362. The monitoring device shall be calibrated annually.

(vii) *Thermal incinerators.* For each thermal incinerator, the owner or operator shall monitor the temperature of the gases exiting the combustion chamber as the site-specific operating parameter which must be measured and recorded at least once every 15 minutes during the period in which the combustion device is controlling HAP from an emission stream subject to the standards in § 63.1362.

(A) The temperature monitoring device must be accurate to within  $\pm 0.75$  percent of the temperature measured in degrees Celsius or  $\pm 2.5$  °C, whichever is greater.

(B) The monitoring device must be calibrated annually.

(viii) *Catalytic incinerators.* For each catalytic incinerator, the parameter levels that the owner or operator shall establish are the minimum temperature of the gas stream immediately before the catalyst bed and the minimum temperature difference across the catalyst bed. The owner or operator shall monitor the temperature of the gas stream immediately before and after the catalyst bed, and calculate the temperature difference across the catalyst bed, at least once every 15 minutes during the period in which the catalytic incinerator is controlling HAP from an emission stream subject to the standards in § 63.1362.

(A) The temperature monitoring devices must be accurate to within  $\pm 0.75$  percent of the temperature measured in degrees Celsius or  $\pm 2.5$  °C, whichever is greater.

(B) The temperature monitoring devices must be calibrated annually.

(ix) *Process heaters and boilers.* (A) Except as specified in paragraph (b)(1)(ix)(B) of this section, for each boiler or process heater, the owner or operator shall monitor the temperature of the gases exiting the combustion chamber as the site-specific operating parameter which must be monitored and recorded at least every 15 minutes during the period in which the boiler or process heater is controlling HAP from an emission stream subject to the standards in § 63.1362.

(1) The temperature monitoring device must be accurate to within  $\pm 0.75$  percent of the temperature measured in degrees Celsius or  $\pm 2.5$  °C, whichever is greater.

(2) The temperature monitoring device must be calibrated annually.

(B) The owner or operator is exempt from the monitoring requirements specified in paragraph (b)(1)(ix)(A) of this section if either:

(1) All vent streams are introduced with primary fuel; or

(2) The design heat input capacity of the boiler or process heater is 44 megawatts or greater.

(x) *Continuous emission monitor.* As an alternative to the parameters specified in paragraphs (b)(1)(ii) through (ix) of this section, an owner or operator may monitor and record the outlet HAP concentration or both the outlet TOC concentration and outlet total HCl and chlorine concentration at least every 15 minutes during the period in which the control device is controlling HAP from an emission stream subject to the standards in § 63.1362. The owner or operator need not monitor the total HCl and chlorine concentration if the emission stream does not contain HCl or chlorine. The owner or operator need not monitor the TOC concentration if the owner or operator determines the emission stream does not contain organic compounds. The HAP or TOC monitor must meet the requirements of Performance Specification 8 or 9 of appendix B of part 60 and must be installed, calibrated, and maintained, according to § 63.8 of subpart A of this part. As part of the QA/QC Plan, calibration of the device must include, at a minimum, quarterly cylinder gas audits. If supplemental gases are introduced before the control device, the monitored concentration shall be corrected as specified in § 63.1365(a)(7).

(xi) *Fabric filters.* For each fabric filter used to control particulate matter emissions from bag dumps and product dryers subject to § 63.1362(e), the owner or operator shall install, calibrate, maintain, and continuously operate a bag leak detection system that meets the requirements in paragraphs (b)(1)(xi)(A) through (G) of this section.

(A) The bag leak detection system sensor must provide output of relative particulate matter emissions.

(B) The bag leak detection system must be equipped with an alarm system that will sound when an increase in particulate matter emissions over a preset level is detected.

(C) For positive pressure fabric filters, a bag leak detector must be installed in each fabric filter compartment or cell. If a negative pressure or induced air filter is used, the bag leak detector must be installed downstream

of the fabric filter. Where multiple bag leak detectors are required (for either type of fabric filter), the system instrumentation and alarm may be shared among detectors.

(D) The bag leak detection system shall be installed, operated, calibrated and maintained in a manner consistent with available guidance from the U.S. Environmental Protection Agency or, in the absence of such guidance, the manufacturer's written specifications and instructions.

(E) Calibration of the system shall, at a minimum, consist of establishing the relative baseline output level by adjusting the range and the averaging period of the device and establishing the alarm set points and the alarm delay time.

(F) Following initial adjustment, the owner or operator shall not adjust the sensitivity or range, averaging period, alarm set points, or alarm delay time, except as established in an operation and maintenance plan that is to be submitted with the Precompliance plan. In no event shall the sensitivity be increased more than 100 percent or decreased by more than 50 percent over a 365-day period unless such adjustment follows a complete baghouse inspection which demonstrates the baghouse is in good operating condition.

(G) If the alarm on a bag leak detection system is triggered, the owner or operator shall, within 1 hour of an alarm, initiate the procedures to identify the cause of the alarm and take corrective action as specified in the corrective action plan.

(xii) For each waste management unit, treatment process, or control device used to comply with § 63.1362(d), the owner or operator shall comply with the procedures specified in § 63.143 of subpart G of this part, except that when the procedures to request approval to monitor alternative parameters according to the procedures in § 63.151(f) are referred to in § 63.143(d)(3), the procedures in paragraph (b)(4) of this section shall apply for the purposes of this subpart.

(xiii) *Closed-vent system visual inspections.* The owner or operator shall comply with the requirements in either paragraph (b)(1)(xiii)(A) or (B) of this section:

(A) Set the flow indicator at the entrance to any bypass line that could divert the stream away from the control device to the atmosphere to take a reading at least once every 15 minutes; or

(B) If the bypass device valve installed at the inlet to the bypass device is secured in the closed position with a car-seal or lock-and-key type configuration, visually inspect the seal or closure mechanism at least once every month to verify that the valve is maintained in the closed position and the vent stream is not diverted through the bypass line.

(2) *Averaging periods.* Averaging periods for parametric monitoring levels shall be established according to paragraphs (b)(2)(i) through (iii) of this section.

(i) Except as provided in paragraph (b)(2)(iii) of this section, a daily (24-hour) or block average shall be calculated as the average of all values for a monitored parameter level set according to the procedures in (b)(3)(iii) of this section recorded during the operating day or block.

(ii) The operating day or block shall be defined in the Notification of Compliance Status report. The operating day may be from midnight to midnight or another continuous 24-hour period. The operating block may be used as an averaging period only for vents from batch operations, and is limited to a period of time that is, at a maximum, equal to the time from the beginning to end of a series of consecutive batch operations.

(iii) Monitoring values taken during periods in which the control devices are not controlling HAP from an emission stream subject to the standards in § 63.1362, as indicated by periods of no flow or periods when only streams that are not subject to the standards in § 63.1362 are controlled, shall not be considered in the averages. Where flow to the device could be intermittent, the owner or operator shall install, calibrate and operate a flow indicator at the inlet or outlet of the control device to identify periods of no flow.

(3) *Procedures for setting parameter levels for control devices used to control emissions from process vents.* (i) *Small control devices.* Except as provided in

paragraph (b)(1)(i) of this section, for devices controlling less than 10 tons/yr of HAP for which a performance test is not required, the parametric levels shall be set based on the design evaluation required in § 63.1365(c)(3)(i)(A). If a performance test is conducted, the monitoring parameter level shall be established according to the procedures in paragraph (b)(3)(ii) of this section.

(ii) *Large control devices.* For devices controlling greater than or equal to 10 tons/yr of HAP for which a performance test is required, the parameter level must be established as follows:

(A) If the operating parameter level to be established is a maximum or minimum, it must be based on the average of the average values from each of the three test runs.

(B) The owner or operator may establish the parametric monitoring level(s) based on the performance test supplemented by engineering assessments and/or manufacturer's recommendations. Performance testing is not required to be conducted over the entire range of expected parameter values. The rationale for the specific level for each parameter, including any data and calculations used to develop the level(s) and a description of why the level indicates proper operation of the control device shall be provided in the Precompliance plan. Determination of the parametric monitoring level using these procedures is subject to review and approval by the Administrator.

(iii) *Parameter levels for control devices controlling batch process vents.* For devices controlling batch process vents alone or in combination with other streams, the level(s) shall be established in accordance with paragraph (b)(3)(iii)(A) or (B) of this section.

(A) A single level for the batch process(es) shall be calculated from the initial compliance demonstration.

(B) The owner or operator may establish separate levels for each batch emission episode or combination of emission episodes selected to be controlled. If separate monitoring levels are established, the owner or operator must provide a record indicating at what point in the daily schedule or log of processes required to be recorded per the requirements of § 63.1367(b)(7), the parameter being monitored changes

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levels and must record at least one reading of the new parameter level, even if the duration of monitoring for the new parameter level is less than 15 minutes.

(4) *Requesting approval to monitor alternative parameters.* The owner or operator may request approval to monitor parameters other than those required by paragraphs (b)(1)(ii) through (xiii) of this section. The request shall be submitted according to the procedures specified in § 63.8(f) of subpart A of this part or in the Precompliance report (as specified in § 63.1368(e)).

(5) *Monitoring for the alternative standards.* (i) For control devices that are used to comply with the provisions of § 63.1362(b)(6) and (c)(4), the owner or operator shall monitor and record the outlet TOC concentration and the outlet total HCl and chlorine concentration at least once every 15 minutes during the period in which the device is controlling HAP from emission streams subject to the standards in § 63.1362. A TOC monitor meeting the requirements of Performance Specification 8 or 9 of appendix B of 40 CFR part 60 shall be installed, calibrated, and maintained, according to § 63.8. The owner or operator need not monitor the total HCl and chlorine concentration if the owner or operator determines that the emission stream does not contain HCl or chlorine. The owner or operator need not monitor for TOC concentration if the owner or operator determines that the emission stream does not contain organic compounds.

(ii) If supplemental gases are introduced before the control device, the owner or operator must either correct for supplemental gases as specified in § 63.1365(a)(7) or, if using a combustion control device, comply with the requirements of paragraph (b)(5)(ii)(A) of this section. If the owner or operator corrects for supplemental gases as specified in § 63.1365(a)(7)(ii) for non-combustion control devices, the flow rates must be evaluated as specified in paragraph (b)(5)(ii)(B) of this section.

(A) *Provisions for combustion devices.* As an alternative to correcting for supplemental gases as specified in § 63.1365(a)(7), the owner or operator may monitor residence time and fire-box temperature according to the re-

quirements of paragraphs (b)(5)(ii)(A)(1) and (2) of this section. Monitoring of residence time may be accomplished by monitoring flow rate into the combustion chamber.

(1) If complying with the alternative standard instead of achieving a control efficiency of 95 percent or less, the owner or operator must maintain a minimum residence time of 0.5 seconds and a minimum combustion chamber temperature of 760 °C.

(2) If complying with the alternative standard instead of achieving a control efficiency of 98 percent, the owner or operator must maintain a minimum residence time of 0.75 seconds and a minimum combustion chamber temperature of 816 °C.

(B) *Flow rate evaluation for non-combustion devices.* To demonstrate continuous compliance with the requirement to correct for supplemental gases as specified in § 63.1365(a)(7)(ii) for non-combustion devices, the owner or operator must evaluate the volumetric flow rate of supplemental gases,  $V_s$ , and the volumetric flow rate of all gases,  $V_a$ , each time a new operating scenario is implemented based on process knowledge and representative operating data. The procedures used to evaluate the flow rates, and the resulting correction factor used in Equation 8 of this subpart, must be included in the Notification of Compliance Status Report and in the next Periodic report submitted after an operating scenario change.

(6) *Exceedances of operating parameters.* An exceedance of an operating parameter is defined as one of the following:

(i) If the parameter level, averaged over the operating day or block, is below a minimum value established during the initial compliance demonstration.

(ii) If the parameter level, averaged over the operating day or block, is above the maximum value established during the initial compliance demonstration.

(iii) A loss of all pilot flames for a flare during an operating day or block. Multiple losses of all pilot flames during an operating day constitutes one exceedance.

(iv) Each operating day or block for which the time interval between replacement of a nonregenerative carbon adsorber exceeds the interval established in paragraph (b)(1)(v) of this section.

(v) Each instance in which procedures to initiate the response to a bag leak detector alarm within 1 hour of the alarm as specified in the corrective action plan.

(7) *Excursions.* Excursions are defined by either of the two cases listed in paragraph (b)(7)(i) or (ii) of this section. An excursion also occurs if the periodic verification for a small control device is not conducted as specified in paragraph (b)(1)(i) of this section.

(i) When the period of control device operation is 4 hours or greater in an operating day or block and monitoring data are insufficient to constitute a valid hour of data, as defined in paragraph (b)(7)(iii) of this section, for at least 75 percent of the operating hours.

(ii) When the period of control device operation is less than 4 hours in an operating day or block and more than 1 of the hours during the period of operation does not constitute a valid hour of data due to insufficient monitoring data.

(iii) Monitoring data are insufficient to constitute a valid hour of data, as used in paragraphs (b)(7)(i) and (ii) of this section, if measured values are unavailable for any of the required 15-minute periods within the hour.

(8) *Violations.* Exceedances of parameters monitored according to the provisions of paragraphs (b)(1)(ii), (iv) through (ix), and (b)(5)(i)(A) of this section, or excursions as defined by paragraphs (b)(7)(i) and (ii) of this section, constitute violations of the operating limit according to paragraphs (b)(8)(i), (ii), and (iv) of this section. Exceedances of the temperature limit monitored according to the provisions of paragraph (b)(1)(iii) of this section or exceedances of the outlet concentrations monitored according to the provisions of paragraph (b)(1)(x) of this section constitute violations of the emission limit according to paragraphs (b)(8)(i), (ii), and (iv) of this section. Exceedances of the outlet concentrations monitored according to the provisions

of paragraph (b)(5) of this section constitute violations of the emission limit according to the provisions of paragraphs (b)(8)(iii) and (iv) of this section.

(i) Except as provided in paragraph (b)(8)(iv) of this section, for episodes occurring more than once per day, exceedances of established parameter limits or excursions will result in no more than one violation per operating day for each monitored item of equipment utilized in the process.

(ii) Except as provided in paragraph (b)(8)(iv) of this section, for control devices used for more than one process in the course of an operating day, exceedances or excursions will result in no more than one violation per operating day, per control device, for each process for which the control device is in service.

(iii) Except as provided in paragraph (b)(8)(iv) of this section, exceedances of the 20 or 50 ppmv TOC outlet emission limit, averaged over the operating day, will result in no more than one violation per day per control device. Except as provided in paragraph (b)(8)(iv) of this section, exceedances of the 20 or 50 ppmv HCl and chlorine outlet emission limit, averaged over the operating day, will result in no more than one violation per day per control device.

(iv) Periods of time when monitoring measurements exceed the parameter values as well as periods of inadequate monitoring data do not constitute a violation if they occur during a start-up, shutdown, or malfunction, and the facility operates in accordance with § 63.6(e)(1).

(c) *Monitoring for uncontrolled emission rates.* The owner or operator shall demonstrate continuous compliance with the emission limit in § 63.1362 (b)(2)(i) or (b)(4)(i) by calculating daily a 365-day rolling summation of uncontrolled emissions based on the uncontrolled emissions per emission episode, as calculated using the procedures in § 63.1365(c)(2), and records of the number of batches produced. Each day that the summation for a process exceeds 0.15 Mg/yr is considered a violation of the emission limit.

(d) *Monitoring for equipment leaks.* The standard for equipment leaks is based

on monitoring. All monitoring requirements for equipment leaks are specified in § 63.1363.

(e) *Monitoring for heat exchanger systems.* The standard for heat exchanger systems is based on monitoring. All monitoring requirements for heat exchanger systems are specified in § 63.1362(f).

(f) *Monitoring for the pollution prevention alternative standard.* The owner or operator of an affected source that chooses to comply with the requirements of § 63.1362(g) (2) or (3) shall calculate annual rolling average values of the HAP and VOC factors in accordance with the procedures specified in paragraph (f)(1) of this section. If complying with § 63.1362(g)(3), the owner or operator shall also comply with the monitoring requirements specified in paragraph (b) of this section for the applicable add-on air pollution control device.

(1) *Annual factors.* The annual HAP and VOC factors shall be calculated in accordance with the procedures specified in paragraphs (f)(1) (i) through (iii) of this section.

(i) The consumption of both total HAP and total VOC shall be divided by the production rate, per process, for 12-month periods at the frequency specified in either paragraph (f)(1) (ii) or (iii) of this section, as applicable.

(ii) For continuous processes, the annual factors shall be calculated every 30 days for the 12-month period preceding the 30th day (annual rolling average calculated every 30 days). A process with both batch and continuous operations is considered a continuous process for the purposes of this section.

(iii) For batch processes, the annual factors shall be calculated every 10 batches for the 12-month period preceding the 10th batch (annual rolling average calculated every 10 batches). Additional annual factors shall be calculated every 12 months during the period before the 10th batch if more than 12 months elapse before the 10th batch is produced.

(2) *Violations.* Each rolling average that exceeds the target value established in § 63.1365(g)(3) is considered a violation of the emission limit.

(g) *Monitoring for emissions averaging.* The owner or operator of an affected

source that chooses to comply with the requirements of § 63.1362(h) shall meet all monitoring requirements specified in paragraph (b) of this section, as applicable, for all processes, storage tanks, and waste management units included in the emissions average.

(h) *Leak inspection provisions for vapor suppression equipment.* (1) Except as provided in paragraphs (h)(9) and (10) of this section, for each vapor collection system, closed-vent system, fixed roof, cover, or enclosure required to comply with this section, the owner or operator shall comply with the requirements of paragraphs (h)(2) through (8) of this section.

(2) Except as provided in paragraphs (h)(6) and (7) of this section, each vapor collection system and closed-vent system shall be inspected according to the procedures and schedule specified in paragraphs (h)(2)(i) and (ii) of this section and each fixed roof, cover, and enclosure shall be inspected according to the procedures and schedule specified in paragraph (h)(2)(iii) of this section.

(i) If the vapor collection system or closed-vent system is constructed of hard-piping, the owner or operator shall:

(A) Conduct an initial inspection according to the procedures in paragraph (h)(3) of this section, and

(B) Conduct annual visual inspections for visible, audible, or olfactory indications of leaks.

(ii) If the vapor collection system or closed-vent system is constructed of ductwork, the owner or operator shall:

(A) Conduct an initial inspection according to the procedures in paragraph (h)(3) of this section,

(B) Conduct annual inspections according to the procedures in paragraph (h)(3) of this section, and

(C) Conduct annual visual inspections for visible, audible, or olfactory indications of leaks.

(iii) For each fixed roof, cover, and enclosure, the owner or operator shall:

(A) Conduct an initial inspection according to the procedures in paragraph (h)(3) of this section, and

(B) Conduct semiannual visual inspections for visible, audible, or olfactory indications of leaks.

(3) Each vapor collection system, closed-vent system, fixed roof, cover,



and enclosure shall be inspected according to the procedures specified in paragraphs (h)(3)(i) through (vi) of this section.

(i) Inspections shall be conducted in accordance with Method 21 of 40 CFR part 60, appendix A.

(ii) *Detection instrument performance criteria.* (A) Except as provided in paragraph (h)(3)(ii)(B) of this section, the detection instrument shall meet the performance criteria of Method 21 of 40 CFR part 60, appendix A, except the instrument response factor criteria in section 3.1.2(a) of Method 21 shall be for the average composition of the process fluid not each individual VOC in the stream. For process streams that contain nitrogen, air, or other inerts which are not organic HAP or VOC, the average stream response factor shall be calculated on an inert-free basis.

(B) If no instrument is available at the plant site that will meet the performance criteria specified in paragraph (h)(3)(ii)(A) of this section, the instrument readings may be adjusted by multiplying by the average response factor of the process fluid, calculated on an inert-free basis as described in paragraph (h)(3)(ii)(A) of this section.

(iii) The detection instrument shall be calibrated before use on each day of its use by the procedures specified in Method 21 of 40 CFR part 60, appendix A.

(iv) Calibration gases shall be as follows:

(A) Zero air (less than 10 parts per million hydrocarbon in air); and

(B) Mixtures of methane in air at a concentration less than 10,000 parts per million. A calibration gas other than methane in air may be used if the instrument does not respond to methane or if the instrument does not meet the performance criteria specified in paragraph (h)(2)(ii)(A) of this section. In such cases, the calibration gas may be a mixture of one or more of the compounds to be measured in air.

(v) An owner or operator may elect to adjust or not adjust instrument readings for background. If an owner or operator elects to not adjust readings for background, all such instrument readings shall be compared directly to the applicable leak definition to determine whether there is a leak. If an

owner or operator elects to adjust instrument readings for background, the owner or operator shall measure background concentration using the procedures in § 63.180(b) and (c). The owner or operator shall subtract background reading from the maximum concentration indicated by the instrument.

(vi) The arithmetic difference between the maximum concentration indicated by the instrument and the background level shall be compared with 500 parts per million for determining compliance.

(4) Leaks, as indicated by an instrument reading greater than 500 parts per million above background or by visual inspections, shall be repaired as soon as practicable, except as provided in paragraph (h)(5) of this section.

(i) A first attempt at repair shall be made no later than 5 calendar days after the leak is detected.

(ii) Repair shall be completed no later than 15 calendar days after the leak is detected.

(5) Delay of repair of a vapor collection system, closed-vent system, fixed roof, cover, or enclosure for which leaks have been detected is allowed if the repair is technically infeasible without a shutdown, as defined in § 63.1361, or if the owner or operator determines that emissions resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair. Repair of such equipment shall be complete by the end of the next shutdown.

(6) Any parts of the vapor collection system, closed-vent system, fixed roof, cover, or enclosure that are designated, as described in § 63.1367(f)(1), as unsafe-to-inspect are exempt from the inspection requirements of paragraphs (h)(2)(i), (ii), and (iii) of this section if:

(i) The owner or operator determines that the equipment is unsafe-to-inspect because inspecting personnel would be exposed to an imminent or potential danger as a consequence of complying with paragraph (h)(2)(i), (ii), or (iii) of this section; and

(ii) The owner or operator has a written plan that requires inspection of the equipment as frequently as practicable during safe-to-inspect times. Inspection is not required more than once annually.

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(7) Any parts of the vapor collection system, closed-vent system, fixed roof, cover, or enclosure that are designated, as described in § 63.1367(f)(2), as difficult-to-inspect are exempt from the inspection requirements of paragraphs (h)(2)(i), (ii), and (iii)(A) of this section if:

(i) The owner or operator determines that the equipment cannot be inspected without elevating the inspecting personnel more than 2 meters above a support surface; and

(ii) The owner or operator has a written plan that requires inspection of the equipment at least once every 5 years.

(8) Records shall be maintained as specified in § 63.1367(f).

(9) If a closed-vent system subject to this section is also subject to the equipment leak provisions of § 63.1363, the owner or operator shall comply with the provisions of § 63.1363 and is exempt from the requirements of this section.

(10) For any closed-vent system that is operated and maintained under negative pressure, the owner or operator is not required to comply with the requirements specified in paragraphs (h)(2) through (8) of this section.

[64 FR 33589, June 23, 1999, as amended at 67 FR 59352, Sept. 20, 2002; 68 FR 37358, June 23, 2003; 71 FR 20460, Apr. 20, 2006]

**§ 63.1367 Recordkeeping requirements.**

(a) *Requirements of subpart A of this part.* The owner or operator of an affected source shall comply with the recordkeeping requirements in subpart A of this part as specified in Table 1 of this subpart and in paragraphs (a)(1) through (5) of this section.

(1) *Data retention.* Each owner or operator of an affected source shall keep copies of all records and reports required by this subpart for at least 5 years, as specified in § 63.10(b)(1) of subpart A of this part.

(2) *Records of applicability determinations.* The owner or operator of a stationary source that is not subject to this subpart shall keep a record of the applicability determination, as specified in § 63.10(b)(3) of subpart A of this part.

(3) *Startup, shutdown, and malfunction plan.* The owner or operator of an affected source shall develop a written

startup, shutdown, and malfunction plan as specified in § 63.6(e)(3). This plan shall describe, in detail, procedures for operating and maintaining the affected source during periods of startup, shutdown, and malfunction and a program for corrective action for a malfunctioning process, air pollution control, and monitoring equipment used to comply with this subpart. The owner or operator of an affected source shall keep the current and superseded versions of this plan onsite, as specified in § 63.6(e)(3)(v) of subpart A of this part. The owner or operator shall keep the startup, shutdown, and malfunction records specified in paragraphs (a)(3)(i) through (iii) of this section. Reports related to the plan shall be submitted as specified in § 63.1368(i).

(i) The owner or operator shall record the occurrence and duration of each malfunction of the process operations or of air pollution control equipment used to comply with this subpart, as specified in § 63.6(e)(3)(iii).

(ii) The owner or operator shall record the occurrence and duration of each malfunction of continuous monitoring systems used to comply with this subpart.

(iii) For each startup, shutdown, or malfunction, the owner or operator shall record all information necessary to demonstrate that the procedures specified in the affected source's startup, shutdown, and malfunction plan were followed, as specified in § 63.6(e)(3)(iii) of subpart A of this part; alternatively, the owner or operator shall record any actions taken that are not consistent with the plan, as specified in § 63.6(e)(3)(iv) of subpart A of this part.

(4) *Recordkeeping requirements for sources with continuous monitoring systems.* The owner or operator of an affected source who installs a continuous monitoring system to comply with the alternative standards in § 63.1362(b)(6) or (c)(4) shall maintain records specified in § 63.10(c)(1) through (14) of subpart A of this part.

(5) *Application for approval of construction or reconstruction.* For new affected sources, each owner or operator shall comply with the provisions regarding construction and reconstruction in § 63.5 of subpart A of this part.

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(b) *Records of equipment operation.* The owner or operator must keep the records specified in paragraphs (b)(1) through (11) of this section up-to-date and readily accessible.

(1) Each measurement of a control device operating parameter monitored in accordance with § 63.1366 and each measurement of a treatment process parameter monitored in accordance with the provisions of § 63.1362(d).

(2) For processes subject to § 63.1362(g), records of consumption, production, and the rolling average values of the HAP and VOC factors.

(3) For each continuous monitoring system used to comply with the alternative standards in § 63.1362(b)(6) and (c)(4), records documenting the completion of calibration checks and maintenance of the continuous monitoring systems.

(4) For processes in compliance with the 0.15 Mg/yr emission limit of § 63.1362(b)(2)(i) or (b)(4)(i), daily records of the rolling annual calculations of uncontrolled emissions.

(5) For each bag leak detector used to monitor particulate HAP emissions from a fabric filter, the owner or operator shall maintain records of any bag leak detection alarm, including the date and time, with a brief explanation of the cause of the alarm and the corrective action taken.

(6) The owner or operator of an affected source that complies with the standards for process vents, storage tanks, and wastewater systems shall maintain up-to-date, readily accessible records of the information specified in paragraphs (b)(6)(i) through (vii) of this section to document that HAP emissions or HAP loadings (for wastewater) are below the limits specified in § 63.1362:

(i) Except as specified in paragraph (b)(6)(ix) of this section, the initial calculations of uncontrolled and controlled emissions of gaseous organic HAP and HCl per batch for each process.

(ii) The wastewater concentrations and flow rates per POD and process.

(iii) The number of batches per year for each batch process.

(iv) The operating hours per year for continuous processes.

(v) The number of batches and the number of operating hours for processes that contain both batch and continuous operations.

(vi) The number of tank turnovers per year, if used in an emissions average or for determining applicability of a new PAI process unit.

(vii) A description of absolute or hypothetical peak-case operating conditions as determined using the procedures in § 63.1365(b)(11).

(viii) Periods of planned routine maintenance as described in § 63.1362(c)(5).

(ix) As an alternative to the records in paragraph (b)(6)(i) of this section, a record of the determination that the conditions in § 63.1365(b)(11)(iii)(D)(1) or (2) are met.

(7) Daily schedule or log of each operating scenario updated daily or, at a minimum, each time a different operating scenario is put into operation.

(8) If the owner or operator elects to comply with the vapor balancing alternative in § 63.1362(c)(6), the owner or operator must keep records of the DOT certification required by § 63.1362(c)(6)(ii) and the pressure relief vent setting and leak detection records specified in § 63.1362(c)(6)(v).

(9) If the owner or operator elects to develop process unit groups, the owner or operator must keep records of the PAI and non-PAI process units in the process unit group, including records of the operating time for process units used to establish the process unit group. The owner or operator must also keep records of any redetermination of the primary product for the process unit group.

(10) All maintenance performed on the air pollution control equipment.

(11) If the owner or operator elects to comply with § 63.1362(c) by installing a floating roof, the owner or operator must keep records of each inspection and seal gap measurement in accordance with § 63.123(c) through (e) as applicable.

(c) *Records of equipment leak detection and repair.* The owner or operator of an affected source subject to the equipment leak standards in § 63.1363 shall implement the recordkeeping requirements specified in § 63.1363(g). All records shall be retained for a period of

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5 years, in accordance with the requirements of § 63.10(b)(1) of subpart A of this part.

(d) *Records of emissions averaging.* The owner or operator of an affected source that chooses to comply with the requirements of § 63.1362(h) shall maintain up-to-date records of the following information:

(1) An Emissions Averaging Plan which shall include in the plan, for all emission points included in each of the emissions averages, the information listed in paragraphs (d)(1)(i) through (v) of this section.

(i) The identification of all emission points in each emissions average.

(ii) The values of all parameters needed for input to the emission debits and credits equations in § 63.1365(h).

(iii) The calculations used to obtain the debits and credits.

(iv) The estimated values for all parameters required to be monitored under § 63.1366(g) for each emission point included in an average. These parameter values, or as appropriate, limited ranges for parameter values, shall be specified as enforceable operating conditions for the operation of the process, storage vessel, or waste management unit, as appropriate. Changes to the parameters must be reported as required by § 63.1368(k).

(v) A statement that the compliance demonstration, monitoring, inspection, recordkeeping and reporting provisions in § 63.1365(h), § 63.1366(g), and § 63.1368(k) that are applicable to each emission point in the emissions average will be implemented beginning on the date of compliance.

(2) The Emissions Averaging Plan shall demonstrate that the emissions from the emission points proposed to be included in the average will not result in greater hazard or, at the option of the operating permit authority, greater risk to human health or the environment than if the emission points were controlled according to the provisions in § 63.1362(b) through (d).

(i) This demonstration of hazard or risk equivalency shall be made to the satisfaction of the operating permit authority.

(A) The Administrator may require an owner or operator to use specific

methodologies and procedures for making a hazard or risk determination.

(B) The demonstration and approval of hazard or risk equivalency shall be made according to any guidance that the Administrator makes available for use or any other technically sound information or methods.

(ii) An Emissions Averaging Plan that does not demonstrate hazard or risk equivalency to the satisfaction of the Administrator shall not be approved. The Administrator may require such adjustments to the Emissions Averaging Plan as are necessary in order to ensure that the average will not result in greater hazard or risk to human health or the environment than would result if the emission points were controlled according to § 63.1362(b) through (d).

(iii) A hazard or risk equivalency demonstration must satisfy the requirements specified in paragraphs (d)(2)(iii) (A) through (C) of this section.

(A) Be a quantitative, comparative chemical hazard or risk assessment;

(B) Account for differences between averaging and nonaveraging options in chemical hazard or risk to human health or the environment; and

(C) Meet any requirements set by the Administrator for such demonstrations.

(3) Records as specified in paragraphs (a) and (b) of this section.

(4) A calculation of the debits and credits as specified in § 63.1365(h) for the last quarter and the prior four quarters.

(e) The owner or operator of an affected source subject to the requirements for heat exchanger systems in § 63.1362(g) shall retain the records as specified in § 63.104(f)(1)(i) through (iv) of subpart G of this part.

(f) *Records of inspections.* The owner or operator shall keep records specified in paragraphs (f)(1) through (6) of this section.

(1) Records identifying all parts of the vapor collection system, closed-vent system, fixed roof, cover, or enclosure that are designated as unsafe to inspect in accordance with § 63.1366(h)(6), an explanation of why the equipment is unsafe-to-inspect, and the plan for inspecting the equipment.

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(2) Records identifying all parts of the vapor collection system, closed-vent system, fixed roof, cover, or enclosure that are designated as difficult-to-inspect in accordance with § 63.1366(h)(7), an explanation of why the equipment is difficult-to-inspect, and the plan for inspecting the equipment.

(3) For each vapor collection system or closed-vent system that contains bypass lines that could divert a vent stream away from the control device and to the atmosphere, the owner or operator shall keep a record of the information specified in either paragraph (f)(3)(i) or (ii) of this section.

(i) Hourly records of whether the flow indicator specified under § 63.1362(j)(1) was operating and whether a diversion was detected at any time during the hour, as well as records of the times and durations of all periods when the vent stream is diverted from the control device or the flow indicator is not operating.

(ii) Where a seal mechanism is used to comply with § 63.1362(j)(2), hourly records of flow are not required. In such cases, the owner or operator shall record that the monthly visual inspection of the seals or closure mechanisms has been done and shall record the occurrence of all periods when the seal mechanism is broken, the bypass line valve position has changed, or the key for a lock-and-key type lock has been checked out, and records of any car-seal that has broken.

(4) For each inspection conducted in accordance with § 63.1366(h)(2) and (3) during which a leak is detected, a record of the information specified in paragraphs (f)(4)(i) through (ix) of this section.

(i) Identification of the leaking equipment.

(ii) The instrument identification numbers and operator name or initials, if the leak was detected using the procedures described in § 63.1366(h)(3); or a record of that the leak was detected by sensory observations.

(iii) The date the leak was detected and the date of the first attempt to repair the leak.

(iv) Maximum instrument reading measured by the method specified in § 63.1366(h)(4) after the leak is success-

fully repaired or determined to be non-repairable.

(v) "Repair delayed" and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.

(vi) The name, initials, or other form of identification of the owner or operator (or designee) whose decision it was that repair could not be effected without a shutdown.

(vii) The expected date of successful repair of the leak if a leak is not repaired within 15 calendar days.

(viii) Dates of shutdowns that occur while the equipment is unrepaired.

(ix) The date of successful repair of the leak.

(5) For each inspection conducted in accordance with § 63.1366(h)(3) during which no leaks are detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected.

(6) For each visual inspection conducted in accordance with § 63.1366(h)(2)(i)(B) or (iii)(B) of this section during which no leaks are detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected.

(g) *Records of primary use.* For a PAI process unit that is used to produce a given material for use as a PAI as well as for other purposes, the owner or operator shall keep records of the total production and the production for use as a PAI on a semiannual or more frequent basis if the use as a PAI is not the primary use.

[64 FR 33589, June 23, 1999, as amended at 67 FR 59353, Sept. 20, 2002; 71 FR 20460, Apr. 20, 2006]

§ 63.1368 Reporting requirements.

(a) The owner or operator of an affected source shall comply with the reporting requirements of paragraphs (b) through (l) of this section. The owner or operator shall also comply with applicable paragraphs of §§ 63.9 and 63.10 of subpart A of this part, as specified in Table 1 of this subpart.

(b) *Initial notification.* The owner or operator shall submit the applicable initial notification in accordance with § 63.9(b) or (d) of subpart A of this part.

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(c) *Application for approval of construction or reconstruction.* The owner or operator who is subject to § 63.5(b)(3) of subpart A of this part shall submit to the Administrator an application for approval of the construction of a new major source, the reconstruction of a major affected source, or the reconstruction of a major affected source subject to the standards. The application shall be prepared in accordance with § 63.5(d) of subpart A of this part.

(d) *Notification of continuous monitoring system performance evaluation.* An owner or operator who is required by the Administrator to conduct a performance evaluation for a continuous monitoring system that is used to comply with the alternative standard in § 63.1362(b)(6) or (c)(4) shall notify the Administrator of the date of the performance evaluation as specified in § 63.8(e)(2) of subpart A of this part.

(e) *Precompliance plan.* The Precompliance plan shall be submitted at least 3 months prior to the compliance date of the standard. For new sources, the Precompliance plan shall be submitted to the Administrator with the application for approval of construction or reconstruction. The Administrator shall have 90 days to approve or disapprove the Precompliance plan. The Precompliance plan shall be considered approved if the Administrator either approves it in writing, or fails to disapprove it in writing within the 90-day time period. The 90-day period shall begin when the Administrator receives the Precompliance plan. If the Precompliance plan is disapproved, the owner or operator must still be in compliance with the standard by the compliance date. To change any of the information submitted in the Precompliance plan, the owner or operator shall notify the Administrator at least 90 days before the planned change is to be implemented; the change shall be considered approved if the Administrator either approves the change in writing, or fails to disapprove the change in writing within 90 days of receipt of the change. The Precompliance plan shall include the information specified in paragraphs (e)(1) through (5) of this section.

(1) Requests for approval to use alternative monitoring parameters or re-

quests to set monitoring parameters according to § 63.1366(b)(4).

(2) Descriptions of the daily or per batch demonstrations to verify that control devices subject to § 63.1366(b)(1)(i) are operating as designed.

(3) Data and rationale used to support the parametric monitoring level(s) that are set according to § 63.1366(b)(3)(ii)(B).

(4) For owners and operators complying with the requirements of § 63.1362(g), the pollution prevention demonstration summary required in § 63.1365(g)(1).

(5) Data and rationale used to support an engineering assessment to calculate uncontrolled emissions from process vents as required in § 63.1365(c)(2)(ii).

(6) For fabric filters that are monitored with bag leak detectors, an operation and maintenance plan that describes proper operation and maintenance procedures, and a corrective action plan that describes corrective actions to be taken, and the timing of those actions, when the particulate matter concentration exceeds the setpoint and activates the alarm.

(f) *Notification of compliance status report.* The Notification of Compliance Status report required under § 63.9(h) shall be submitted no later than 150 calendar days after the compliance date and shall include the information specified in paragraphs (f)(1) through (7) of this section.

(1) The results of any applicability determinations, emission calculations, or analyses used to identify and quantify HAP emissions from the affected source.

(2) The results of emissions profiles, performance tests, engineering analyses, design evaluations, or calculations used to demonstrate compliance. For performance tests, results should include descriptions of sampling and analysis procedures and quality assurance procedures.

(3) Descriptions of monitoring devices, monitoring frequencies, and the values of monitored parameters established during the initial compliance determinations, including data and calculations to support the levels established.

- (4) Operating scenarios.
- (5) Descriptions of absolute or hypothetical peak-case operating and/or testing conditions for control devices.
- (6) Identification of emission points subject to overlapping requirements described in § 63.1360(i) and the authority under which the owner or operator will comply, and identification of emission sources discharging to devices described by § 63.1362(1).
- (7) Anticipated periods of planned routine maintenance during which the owner or operator would not be in compliance with the provisions in § 63.1362(c)(1) through (4).
- (8) Percentage of total production from a PAI process unit that is anticipated to be produced for use as a PAI in the 3 years after either June 23, 1999 or startup, whichever is later.
- (9) Records of the initial process units used to create each process unit group, if applicable.
  - (g) *Periodic reports.* The owner or operator shall prepare Periodic reports in accordance with paragraphs (g)(1) and (2) of this section and submit them to the Administrator.
    - (1) *Submittal schedule.* Except as provided in paragraphs (g)(1)(i) and (ii) of this section, the owner or operator shall submit Periodic reports semi-annually. The first report shall be submitted no later than 240 days after the date the Notification of Compliance Status report is due and shall cover the 6-month period beginning on the date the Notification of Compliance Status report is due. Each subsequent Periodic report shall cover the 6-month period following the preceding period and shall be submitted no later than 60 days after the end of the applicable period.
    - (i) The Administrator may determine on a case-by-case basis that more frequent reporting is necessary to accurately assess the compliance status of the affected source.
    - (ii) Quarterly reports shall be submitted when the monitoring data are used to comply with the alternative standards in § 63.1362(b)(6) or (c)(4) and the source experiences excess emissions. Once an affected source reports excess emissions, the affected source shall follow a quarterly reporting format until a request to reduce reporting frequency is approved. If an owner or operator submits a request to reduce the frequency of reporting, the provisions in § 63.10(e)(3) (ii) and (iii) of subpart A of this part shall apply, except that the term "excess emissions and continuous monitoring system performance report and/or summary report" shall mean "Periodic report" for the purposes of this section.
  - (2) *Content of periodic report.* The owner or operator shall include the information in paragraphs (g)(2)(i) through (xii) of this section, as applicable.
    - (i) Each Periodic report must include the information in § 63.10(e)(3)(vi)(A) through (M) of subpart A of this part, as applicable.
    - (ii) If the total duration of excess emissions, parameter exceedances, or excursions for the reporting period is 1 percent or greater of the total operating time for the reporting period, or the total continuous monitoring system downtime for the reporting period is 5 percent or greater of the total operating time for the reporting period, the Periodic report must include the information in paragraphs (g)(2)(ii)(A) through (D) of this section.
      - (A) Monitoring data, including 15-minute monitoring values as well as daily average values of monitored parameters, for all operating days when the average values were outside the ranges established in the Notification of Compliance Status report or operating permit.
      - (B) Duration of excursions, as defined in § 63.1366(b)(7).
      - (C) Operating logs and operating scenarios for all operating days when the values are outside the levels established in the Notification of Compliance Status report or operating permit.
      - (D) When a continuous monitoring system is used, the information required in § 63.10(c)(5) through (13) of subpart A of this part.
    - (iii) For each vapor collection system or closed vent system with a bypass line subject to § 63.1362(j)(1), records required under § 63.1366(f) of all periods when the vent stream is diverted from the control device through a bypass line. For each vapor collection system or closed vent system with a bypass

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line subject to § 63.1362(j)(2), records required under § 63.1366(f) of all periods in which the seal mechanism is broken, the bypass valve position has changed, or the key to unlock the bypass line valve was checked out.

(iv) The information in paragraphs (g)(2)(iv)(A) through (D) of this section shall be stated in the Periodic report, when applicable.

(A) No excess emissions.

(B) No exceedances of a parameter.

(C) No excursions.

(D) No continuous monitoring system has been inoperative, out of control, repaired, or adjusted.

(v) For each storage vessel subject to control requirements:

(A) Actual periods of planned routine maintenance during the reporting period in which the control device does not meet the specifications of § 63.1362(c)(5); and

(B) Anticipated periods of planned routine maintenance for the next reporting period.

(vi) For each PAI process unit that does not meet the definition of primary use, the percentage of the production in the reporting period produced for use as a PAI.

(viii) Updates to the corrective action plan.

(ix) Records of process units added to each process unit group, if applicable.

(x) Records of redetermination of the primary product for a process unit group.

(xi) For each inspection conducted in accordance with § 63.1366(h)(2) or (3) during which a leak is detected, the records specify in § 63.1367(h)(4) must be included in the next Periodic report.

(xii) If the owner or operator elects to comply with the provisions of § 63.1362(c) by installing a floating roof, the owner or operator shall submit the information specified in § 63.122(d) through (f) as applicable. References to § 63.152 in § 63.122 shall not apply for the purposes of this subpart.

(h) *Notification of process change.* (1) Except as specified in paragraph (h)(2) of this section, whenever a process change is made, or any of the information submitted in the Notification of Compliance Status report changes, the owner or operator shall submit the information specified in paragraphs

(h)(1)(i) through (iv) of this section with the next Periodic report required under paragraph (g) of this section. For the purposes of this section, a process change means the startup of a new process, as defined in § 63.1361.

(i) A brief description of the process change;

(ii) A description of any modifications to standard procedures or quality assurance procedures;

(iii) Revisions to any of the information reported in the original Notification of Compliance Status report under paragraph (f) of this section; and

(iv) Information required by the Notification of Compliance Status report under paragraph (f) of this section for changes involving the addition of processes or equipment.

(2) The owner or operator must submit a report 60 days before the scheduled implementation date of either of the following:

(i) Any change in the activity covered by the Precompliance report.

(ii) A change in the status of a control device from small to large.

(i) *Reports of startup, shutdown, and malfunction.* For the purposes of this subpart, the startup, shutdown, and malfunction reports shall be submitted on the same schedule as the Periodic reports required under paragraph (g) of this section instead of the schedule specified in § 63.10(d)(5)(i) of subpart A of this part. These reports shall include the information specified in § 63.1367(a)(3)(i) through (iii) and shall contain the name, title, and signature of the owner or operator or other responsible official who is certifying its accuracy. Reports are only required if a startup, shutdown, or malfunction occurred during the reporting period. Any time an owner or operator takes an action that is not consistent with the procedures specified in the affected source's startup, shutdown, and malfunction plan, the owner or operator shall submit an immediate startup, shutdown, and malfunction report as specified in § 63.10(d)(5)(ii) of subpart A of this part.

(j) *Reports of equipment leaks.* The owner or operator of an affected source subject to the standards in § 63.1363, shall implement the reporting requirements specified in § 63.1363(h). Copies of



all reports shall be retained as records for a period of 5 years, in accordance with the requirements of § 63.10(b)(1) of subpart A of this part.

(k) *Reports of emissions averaging.* The owner or operator of an affected source that chooses to comply with the requirements of § 63.1362(h) shall submit all information as specified in § 63.1367(d) for all emission points included in the emissions average. The owner or operator shall also submit to the Administrator all information specified in paragraph (g) of this section for each emission point included in the emissions average.

(1) The reports shall also include the information listed in paragraphs (k)(1)(i) through (iv) of this section:

(i) Any changes to the processes, storage tanks, or waste management unit included in the average.

(ii) The calculation of the debits and credits for the reporting period.

(iii) Changes to the Emissions Averaging Plan which affect the calculation methodology of uncontrolled or controlled emissions or the hazard or risk equivalency determination.

(iv) Any changes to the parameters monitored according to § 63.1366(g).

(2) Every second semiannual or fourth quarterly report, as appropriate, shall include the results according to § 63.1367(d)(4) to demonstrate the emissions averaging provisions of § 63.1362(h), § 63.1365(h), § 63.1366(g), and § 63.1367(d) are satisfied.

(l) *Reports of heat exchange systems.* The owner or operator of an affected source subject to the requirements for heat exchange systems in § 63.1362(f) shall submit information about any delay of repairs as specified in § 63.104(f)(2) of subpart F of this part, except that when the phrase "periodic reports required by § 63.152(c) of subpart G of this part" is referred to in § 63.104(f)(2) of subpart F of this part, the periodic reports required in paragraph (g) of this section shall apply for the purposes of this subpart.

(m) *Notification of performance test and test Plan.* The owner or operator of an affected source shall notify the Administrator of the planned date of a performance test at least 60 days before the test in accordance with § 63.7(b) of subpart A of this part. The owner or

operator also must submit the test Plan required by § 63.7(c) of subpart A of this part and the emission profile required by § 63.1365(b)(11)(iii) with the notification of the performance test.

(n) *Request for extension of compliance.* The owner or operator may submit to the Administrator a request for an extension of compliance in accordance with § 63.1364(a)(2).

(o) The owner or operator who submits an operating permit application before the date the Emissions Averaging Plan is due shall submit the information specified in paragraphs (o)(1) through (3) of this section with the operating permit application instead of the Emissions Averaging Plan.

(1) The information specified in § 63.1367(d) for emission points included in the emissions average;

(2) The information specified in § 63.9(h) of subpart A of this part, as applicable; and

(3) The information specified in paragraph (e) of this section, as applicable.

[64 FR 33589, June 23, 1999, as amended at 66 FR 58396, Nov. 21, 2001; 67 FR 59354, Sept. 20, 2002]

#### § 63.1369 Implementation and enforcement.

(a) This subpart can be implemented and enforced by the U.S. EPA, or a delegated authority such as the applicable State, local, or Tribal agency. If the U.S. EPA Administrator has delegated authority to a State, local, or Tribal agency, then that agency, in addition to the U.S. EPA, has the authority to implement and enforce this subpart. Contact the applicable U.S. EPA Regional Office to find out if implementation and enforcement of this subpart is delegated to a State, local, or Tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or Tribal agency under subpart E of this part, the authorities contained in paragraph (c) of this section are retained by the Administrator of U.S. EPA and cannot be transferred to the State, local, or Tribal agency.

(c) The authorities that cannot be delegated to State, local, or Tribal agencies are as specified in paragraphs (c)(1) through (4) of this section.

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(1) Approval of alternatives to the requirements in §§63.1360 and 63.1362 through 63.1364. Where these standards reference another subpart, the cited provisions will be delegated according to the delegation provisions of the referenced subpart. Where these standards reference another subpart and modify the requirements, the requirements shall be modified as described in this subpart. Delegation of the modified requirements will also occur according to the delegation provisions of the referenced subpart.

(2) Approval of major alternatives to test methods for under §63.7(e)(2)(ii) and (f), as defined in §63.90, and as required in this subpart.

(3) Approval of major alternatives to monitoring under §63.8(f), as defined in §63.90, and as required in this subpart.

(4) Approval of major alternatives to recordkeeping and reporting under §63.10(f), as defined in §63.90, and as required in this subpart.

[ 68 FR 37358, June 23, 2003]

TABLE 1 TO SUBPART MMM OF PART 63—GENERAL PROVISIONS APPLICABILITY TO SUBPART MMM

Reference to subpart A	Applies to subpart MMM	Explanation
§ 63.1(a)(1)	Yes	Additional terms are defined in § 63.1361.
§ 63.1(a)(2)–(3)	Yes	Subpart MMM (this table) specifies applicability of each paragraph in subpart A to subpart MMM.
§ 63.1(a)(4)	Yes	
§ 63.1(a)(5)	N/A	
§ 63.1(a)(6)–(7)	Yes	Discusses State programs.
§ 63.1(a)(8)	No	
§ 63.1(a)(9)	N/A	Reserved.
§ 63.1(a)(10)–(14)	Yes	§ 63.1360 specifies applicability.
§ 63.1(b)(1)	No	
§ 63.1(b)(2)–(3)	Yes	Subpart MMM (this table) specifies the applicability of each paragraph in subpart A to sources subject to subpart MMM.
§ 63.1(c)(1)	Yes	
§ 63.1(c)(2)	No	
§ 63.1(c)(3)	N/A	Reserved.
§ 63.1(c)(4)–(5)	Yes	Reserved.
§ 63.1(d)	N/A	
§ 63.1(e)	Yes	Additional terms are defined in § 63.1361; when overlap between subparts A and MMM occurs, subpart MMM takes precedence.
§ 63.2	Yes	
§ 63.3	Yes	Reserved.
§ 63.4(a)(1)–(3)	Yes	
§ 63.4(a)(4)	N/A	
§ 63.4(a)(5)–(c)	Yes	Except the term "affected source" shall apply instead of the terms "source" and "stationary source" in § 63.5(a)(1) of subpart A.
§ 63.5(a)	Yes	
§ 63.5(b)(1)	Yes	Reserved.
§ 63.5(b)(2)	N/A	
§ 63.5(b)(3)–(5)	Yes	§ 63.1360(g) specifies requirements for determining applicability of added PAI equipment.
§ 63.5(b)(6)	No	
§ 63.5(c)	N/A	Reserved.
§ 63.5(d)–(e)	Yes	Except "affected source" shall apply instead of "source" in § 63.5(f)(1) of subpart A.
§ 63.5(f)(1)	Yes	
§ 63.5(f)(2)	Yes	§ 63.1364 specifies compliance dates.
§ 63.6(a)	Yes	
§ 63.6(b)(1)–(2)	No	
§ 63.6(b)(3)–(4)	Yes	Reserved.
§ 63.6(b)(5)	Yes	
§ 63.6(b)(6)	N/A	Except "affected source" shall apply instead of "source" in § 63.6(c)(1)–(2) of subpart A.
§ 63.6(b)(7)	Yes	
§ 63.6(c)(1)–(2)	Yes	Reserved.
§ 63.6(c)(3)–(4)	N/A	Reserved.
§ 63.6(c)(5)	Yes	
§ 63.6(d)	N/A	Except § 63.1360 specifies that the standards in subpart MMM apply during startup and shutdown for batch processes; therefore, these activities would not be covered in the startup, shutdown, and malfunction Plan.
§ 63.6(e)	Yes	

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Reference to subpart A	Applies to subpart MMM	Explanation
§ 63.6(f)	Yes	Except § 63.1360 specifies that the standards in subpart MMM also apply during startup and shutdown for batch processes.
§ 63.6(g)	Yes	An alternative standard has been proposed; however, affected sources will have the opportunity to demonstrate other alternatives to the Administrator.
§ 63.6(h)	No	Subpart MMM does not contain any opacity or visible emissions standards.
§ 63.6(i)(1)	Yes	
§ 63.6(i)(2)	Yes	Except "affected source" shall apply instead of "source" in § 63.6(i)(2)(i) and (ii) of subpart A.
§ 63.6(i)(3)-(14)	Yes	
§ 63.6(i)(15)	N/A	Reserved.
§ 63.6(i)(16)	Yes	
§ 63.6(j)	Yes	
§ 63.7(a)(1)	Yes	
§ 63.7(a)(2)(i)-(vi)	Yes	§ 63.1368 specifies that test results must be submitted in the Notification of Compliance Status due 150 days after the compliance date.
§ 63.7(a)(2)(vii)-(viii)	N/A	Reserved.
§ 63.7(a)(2)(ix)-(c)	Yes	
§ 63.7(d)	Yes	Except "affected source" shall apply instead of "source" in § 63.7(d) of subpart A.
§ 63.7(e)(1)	Yes	§ 63.1365 contains test methods specific to PAI sources.
§ 63.7(e)(2)	Yes	
§ 63.7(e)(3)	Yes	
§ 63.7(e)(4)	Yes	Except § 63.1365 specifies less than 3 runs for certain tests.
§ 63.7(f)	Yes	
§ 63.7(g)(1)	Yes	Except § 63.1368(a) specifies that the results of the performance test be submitted with the Notification of Compliance Status report.
§ 63.7(g)(2)	N/A	Reserved.
§ 63.7(g)(3)	Yes	
§ 63.7(h)	Yes	
§ 63.8(a)(1)-(2)	Yes	
§ 63.8(a)(3)	N/A	Reserved.
§ 63.8(a)(4)	Yes	
§ 63.8(b)(1)	Yes	
§ 63.8(b)(2)	No	
§ 63.8(b)(3)-(c)(3)	Yes	§ 63.1366 specifies CMS requirements.
§ 63.8(c)(4)	No	Except the submittal date of the immediate startup, shutdown, and malfunction reports for CMS events shall be 2 days as in § 63.6(e)(3)(iv).
§ 63.8(c)(5)-(8)	No	§ 63.1366 specifies monitoring frequencies.
§ 63.8(d)-(f)(3)	Yes	
§ 63.8(f)(4)	Yes	Except § 63.1368(b) specifies that requests may also be included in the Precompliance report.
§ 63.8(f)(5)	Yes	
§ 63.8(f)(6)	No	
§ 63.8(g)	No	Subpart MMM does not require CEM's.
§ 63.9(a)-(d)	Yes	§ 63.1366 specifies data reduction procedures.
§ 63.9(e)	No	
§ 63.9(f)	No	
§ 63.9(g)	No	Subpart MMM does not contain opacity and visible emission standards.
§ 63.9(h)(1)	Yes	
§ 63.9(h)(2)(i)	Yes	Except § 63.1368(a)(1) specifies additional information to include in the Notification of Compliance Status report.
§ 63.9(h)(2)(ii)	No	§ 63.1368 specifies the Notification of Compliance Status report is to be submitted within 150 days after the compliance date.
§ 63.9(h)(3)	Yes	
§ 63.9(h)(4)	N/A	Reserved.
§ 63.9(h)(5)-(6)	Yes	
63.9(i)	Yes	
63.9(j)	No	
§ 63.10(a)-(b)(1)	Yes	§ 63.1368(h) specifies procedures for notification of changes.
§ 63.10(b)(2)	No	
§ 63.10(b)(3)	Yes	§ 63.1367 specifies recordkeeping requirements.
§ 63.10(c)	Yes	
§ 63.10(d)(1)	Yes	
§ 63.10(d)(2)	Yes	
§ 63.10(d)(3)	No	Subpart MMM does not include opacity and visible emission standards.
§ 63.10(d)(4)	Yes	
§ 63.10(d)(5)	Yes	Except that actions and reporting for batch processes do not apply during start-up and shutdown.
§ 63.10(e)(1)-(2)(i)	Yes	
§ 63.10(e)(2)(ii)	No	
§ 63.10(e)(3)	Yes	Subpart MMM does not include opacity monitoring requirements.
§ 63.10(e)(4)	No	
§ 63.10(f)	Yes	Subpart MMM does not include opacity monitoring requirements.

Reference to subpart A	Applies to subpart MMM	Explanation
§ 63.11-§ 63.15	Yes.	

[64 FR 33589, June 23, 1999, as amended at 67 FR 59355, Sept. 20, 2002]

TABLE 2 TO SUBPART MMM OF PART 63—STANDARDS FOR NEW AND EXISTING PAI SOURCES

Emission source	Applicability	Requirement
Process vents	<p>Existing:</p> <p>Processes having uncontrolled organic HAP emissions <math>\geq 0.15</math> Mg/yr.</p> <p>Processes having uncontrolled HCl and chlorine emissions <math>\geq 6.8</math> Mg/yr.</p> <p>Individual process vents meeting flow and mass emissions criteria that have gaseous organic HAP emissions controlled to less than 90% on or after November 10, 1997.</p> <p>New:</p> <p>Processes having uncontrolled organic HAP emissions <math>\geq 0.15</math> Mg/yr</p> <p>Processes having uncontrolled HCl and chlorine emissions <math>\geq 6.8</math> Mg/yr and <math>&lt; 191</math> Mg/yr.</p> <p>Processes having uncontrolled HCl and chlorine emissions <math>\geq 191</math> Mg/yr.</p>	<p>90% for organic HAP per process or to outlet concentration of <math>\leq 20</math> ppmv TOC.</p> <p>94% for HCl and chlorine per process or to outlet HCl and chlorine concentration of <math>\leq 20</math> ppmv.</p> <p>98% gaseous organic HAP control per vent or <math>\leq 20</math> ppmv TOC outlet limit.</p> <p>98% for organic HAP per process or <math>\leq 20</math> ppmv TOC.</p> <p>94% for HCl and chlorine per process or to outlet concentration of <math>\leq 20</math> ppmv HCl and chlorine.</p> <p>99% for HCl and chlorine per process or to outlet concentration of <math>\leq 20</math> ppmv HCl and chlorine.</p>
Storage vessels	<p>Existing: <math>\geq 75</math> m<sup>3</sup> capacity and vapor pressure <math>\geq 3.45</math> kPa.</p> <p>New: <math>\geq 38</math> m<sup>3</sup> capacity and vapor pressure <math>\geq 16.5</math> kPa.</p> <p><math>\geq 75</math> m<sup>3</sup> capacity and vapor pressure <math>\geq 3.45</math> kPa</p>	<p>Install a floating roof, reduce HAP by 95% per vessel, or to outlet concentration of <math>\leq 20</math> ppmv TOC.</p> <p>Same as for existing sources.</p>
Wastewater	<p>Existing: Process wastewater with <math>\geq 10,000</math> ppmw Table 9 compounds at any flowrate or <math>\geq 1,000</math> ppmw Table 9 compounds at <math>\geq 10</math> L/min, and maintenance wastewater with HAP load <math>\geq 5.3</math> Mg per discharge event.</p> <p>New:</p> <p>Same criteria as for existing sources</p> <p>Total HAP load in wastewater POD streams <math>\geq 2,100</math> Mg/yr.</p>	<p>Reduce concentration of total Table 9 compounds to <math>&lt; 50</math> ppmw (or other options).</p> <p>Reduce concentration of total Table 9 compounds to <math>&lt; 50</math> ppmw (or other options).</p> <p>99% reduction of Table 9 compounds from all streams.</p>
Equipment leaks	Subpart H	Subpart H with minor changes, including monitoring frequencies consistent with the proposed CAR.
Product dryers and bag dumps	Dryers used to dry PAI that is also a HAP, and bag dumps used to introduce feedstock that is a solid and a HAP.	Particulate matter concentration not to exceed 0.01 gr/dscf.
Heat exchange systems	Each heat exchange system used to cool process equipment in PAI manufacturing operations.	Monitoring and leak repair program as in HON.

\* Table 9 is listed in the appendix to subpart G of 40 CFR part 63.

TABLE 3 TO SUBPART MMM OF PART 63—MONITORING REQUIREMENTS FOR CONTROL DEVICES A

Control device	Monitoring equipment required	Parameters to be monitored	Frequency
All control devices	<p>1. Flow indicator installed at all bypass lines to the atmosphere and equipped with continuous recorder or.</p> <p>2. Valves sealed closed with car-seal or lock-and-key configuration.</p>	<p>1. Presence of flow diverted from the control device to the atmosphere or.</p> <p>2. Monthly inspections of sealed valves.</p>	<p>Hourly records of whether the flow indicator was operating and whether a diversion was detected at any time during each hour.</p> <p>Monthly.</p>

Control device	Monitoring equipment required	Parameters to be monitored	Frequency
Scrubber .....	Liquid flow rate or pressure drop mounting device. Also a pH monitor if the scrubber is used to control acid emissions..	1. Liquid flow rate into or out of the scrubber or the pressure drop across the scrubber..  2. pH of effluent scrubber liquid.	1. Every 15 minutes.  2. Once a day.
Thermal incinerator .....	Temperature monitoring device installed in firebox or in ductwork immediately downstream of firebox <sup>a</sup> .	Firebox temperature .....	Every 15 minutes.
Catalytic incinerator .....	Temperature monitoring device installed in gas stream immediately before and after catalyst bed.	Temperature difference across catalyst bed.	Every 15 minutes.
Flare .....	Heat sensing device installed at the pilot light.	Presence of a flame at the pilot light.	Every 15 minutes.
Boiler or process heater <44 megawatts and vent stream is not mixed with the primary fuel.	Temperature monitoring device installed in firebox <sup>a</sup> .	Combustion temperature .....	Every 15 minutes.
Condenser .....	Temperature monitoring device installed at condenser exit.	Condenser exit (product side) temperature.	Every 15 minutes.
Carbon adsorber (nonregenerative).	None .....	Operating time since last replacement.	N/A.
Carbon adsorber (regenerative)	Stream flow monitoring device, and.  Carbon bed temperature monitoring device.	1. Total regeneration stream mass or volumetric flow during carbon bed regeneration cycle(s). 2. Temperature of carbon bed after regeneration. 3. Temperature of carbon bed within 15 minutes of completing any cooling cycle(s). 4. Operating time since end of last regeneration. 5. Check for bed poisoning ....	1. For each regeneration cycle, record the total regeneration stream mass or volumetric flow. 2. For each regeneration cycle, record the maximum carbon bed-temperature. 3. Within 15 minutes of completing any cooling cycle, record the carbon bed temperature. 4. Operating time to be based on worst-case conditions. 5. Yearly.

<sup>a</sup> As an alternative to the monitoring requirements specified in this table, the owner or operator may use a CEM meeting the requirements of Performance Specifications 8 or 9 of appendix B of part 60 to monitor TOC every 15 minutes.  
<sup>b</sup> Monitor may be installed in the firebox or in the ductwork immediately downstream of the firebox before any substantial heat exchange is encountered.

TABLE 4 TO SUBPART MMM OF PART 63—CONTROL REQUIREMENTS FOR ITEMS OF EQUIPMENT THAT MEET THE CRITERIA OF § 63.1362(K)

Item of equipment	Control requirement <sup>a</sup>
1. Drain or drain hub .....	(a) Tightly fitting solid cover (TFSC); or (b) TFSC with a vent to either a process, or to a control device meeting the requirements of § 63.139(c); or (c) Water seal with submerged discharge or barrier to protect discharge from wind.
2. Manhole <sup>b</sup> .....	(a) TFSC; or (b) TFSC with a vent to either a process or to a control device meeting the requirements of § 63.139(c); or (c) If the item is vented to the atmosphere, use a TFSC with a properly operating water seal at the entrance or exit to the item to restrict ventilation in the collection system. The vent pipe shall be at least 90 cm in length and not exceeding 10.2 cm in nominal inside diameter.
3. Lift station .....	(a) TFSC; or (b) TFSC with a vent to either a process, or to a control device meeting the requirements of § 63.139(c); or (c) If the lift station is vented to the atmosphere, use a TFSC with a properly operating water seal at the entrance or exit to the item to restrict ventilation in the collection system. The vent pipe shall be at least 90 cm in length and not exceeding 10.2 cm in nominal inside diameter. The lift station shall be level controlled to minimize changes in the liquid level.

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Item of equipment	Control requirement <sup>a</sup>
4. Trench .....	(a) TFSC; or (b) TFSC with a vent to either a process, or to a control device meeting the requirements of § 63.139(c); or (c) If the item is vented to the atmosphere, use a TFSC with a properly operating water seal at the entrance or exit to the item to restrict ventilation in the collection system. The vent pipe shall be at least 90 cm in length and not exceeding 10.2 cm in nominal inside diameter.
5. Pipe .....	Each pipe shall have no visible gaps in joints, seals, or other emission interfaces.
6. Oil/water separator .....	(a) Equip with a fixed roof and route vapors to a process, or equip with a closed-vent system that routes vapors to a control device meeting the requirements of § 63.139(c); or (b) Equip with a floating roof that meets the equipment specifications of § 60.693 (a)(1)(i), (a)(1)(ii), (a)(2), (a)(3), and (a)(4).
7. Tank .....	Maintain a fixed roof and consider vents as process vents. <sup>c</sup>

<sup>a</sup> Where a tightly fitting solid cover is required, it shall be maintained with no visible gaps or openings, except during periods of sampling, inspection, or maintenance.

<sup>b</sup> Manhole includes sumps and other points of access to a conveyance system.

<sup>c</sup> A fixed roof may have openings necessary for proper venting of the tank, such as pressure/vacuum vent, 1-pipe vent.

[67 FR 59355, Sept. 20, 2002]

### Subpart NNN—National Emission Standards for Hazardous Air Pollutants for Wool Fiberglass Manufacturing

SOURCE: 64 FR 31709, June 14, 1999, unless otherwise noted.

#### § 63.1380 Applicability.

(a) Except as provided in paragraphs (b) and (c) of this section, the requirements of this subpart apply to the owner or operator of each wool fiberglass manufacturing facility that is a major source or is located at a facility that is a major source.

(b) The requirements of this subpart apply to emissions of hazardous air pollutants (HAPs), as measured according to the methods and procedures in this subpart, emitted from the following new and existing sources at a wool fiberglass manufacturing facility subject to this subpart:

(1) Each new and existing glass-melting furnace located at a wool fiberglass manufacturing facility;

(2) Each new and existing rotary spin wool fiberglass manufacturing line producing a bonded wool fiberglass building insulation product; and

(3) Each new and existing flame attenuation wool fiberglass manufacturing line producing a bonded pipe product and each new flame attenuation wool fiberglass manufacturing line producing a bonded heavy-density product.

(c) The requirements of this subpart do not apply to a wool fiberglass manufacturing facility that the owner or operator demonstrates to the Administrator is not a major source as defined in § 63.2.

(d) The provisions of this part 63, subpart A that apply and those that do not apply to this subpart are specified in Table 1 of this subpart.

#### § 63.1381 Definitions.

Terms used in this subpart are defined in the Clean Air Act, in § 63.2, or in this section as follows:

*Bag leak detection system* means systems that include, but are not limited to, devices using triboelectric, light scattering, and other effects to monitor relative or absolute particulate matter (PM) emissions.

*Bonded* means wool fiberglass to which a phenol-formaldehyde binder has been applied.

*Building insulation* means bonded wool fiberglass insulation, having a loss on ignition of less than 8 percent and a density of less than 32 kilograms per cubic meter (kg/m<sup>3</sup>) (2 pounds per cubic foot [lb/ft<sup>3</sup>]).

*Cold top electric furnace* means an all-electric glass-melting furnace that operates with a temperature of 120 °C (250 °F) or less as measured at a location 46 to 61 centimeters (18 to 24 inches) above the molten glass surface.

*Flame attenuation* means a process used to produce wool fiberglass where molten glass flows by gravity from

**Subpart FFFF—National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing**

SOURCE: 68 FR 63888, Nov. 10, 2003, unless otherwise noted.

**WHAT THIS SUBPART COVERS**

**§ 63.2430 What is the purpose of this subpart?**

This subpart establishes national emission standards for hazardous air pollutants (NESHAP) for miscellaneous organic chemical manufacturing. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission limits, operating limits, and work practice standards.

**§ 63.2435 Am I subject to the requirements in this subpart?**

(a) You are subject to the requirements in this subpart if you own or operate miscellaneous organic chemical manufacturing process units (MCPU) that are located at, or are part of, a major source of hazardous air pollutants (HAP) emissions as defined in section 112(a) of the Clean Air Act (CAA).

(b) An MCPU includes equipment necessary to operate a miscellaneous organic chemical manufacturing process, as defined in § 63.2550, that satisfies all of the conditions specified in paragraphs (b)(1) through (3) of this section. An MCPU also includes any assigned storage tanks and transfer racks; equipment in open systems that is used to convey or store water having the same concentration and flow characteristics as wastewater; and components such as pumps, compressors, agitators, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, connectors, and instrumentation systems that are used to manufacture any material or family of materials described in paragraphs (b)(1)(i) through (v) of this section.

(1) The MCPU produces material or family of materials that is described in paragraph (b)(1)(i), (ii), (iii), (iv), or (v) of this section.

(i) An organic chemical(s) classified using the 1987 version of SIC code 282,

283, 284, 285, 286, 287, 289, or 386, except as provided in paragraph (c)(5) of this section.

(ii) An organic chemical(s) classified using the 1997 version of NAICS code 325, except as provided in paragraph (c)(5) of this section.

(iii) Quaternary ammonium compounds and ammonium sulfate produced with caprolactam.

(iv) Hydrazine.

(v) Organic solvents classified in any of the SIC or NAICS codes listed in paragraph (b)(1)(i) or (ii) of this section that are recovered using nondedicated solvent recovery operations.

(2) The MCPU processes, uses, or generates any of the organic HAP listed in section 112(b) of the CAA or hydrogen halide and halogen HAP, as defined in § 63.2550.

(3) The MCPU is not an affected source or part of an affected source under another subpart of this part 63, except for process vents from batch operations within a chemical manufacturing process unit (CMPU), as identified in § 63.100(j)(4). For this situation, the MCPU is the same as the CMPU as defined in § 63.100, and you are subject only to the requirements for batch process vents in this subpart.

(c) The requirements in this subpart do not apply to the operations specified in paragraphs (c)(1) through (7) of this section.

(1) Research and development facilities, as defined in section 112(c)(7) of the CAA.

(2) The manufacture of ammonium sulfate as a by-product, if the slurry entering the by-product manufacturing process contains 50 parts per million by weight (ppmw) HAP or less or 10 ppmw benzene or less. You must retain information, data, and analysis to document the HAP concentration in the entering slurry in order to claim this exemption.

(3) The affiliated operations located at an affected source under subparts GG (National Emission Standards for Aerospace Manufacturing and Rework Facilities), KK (National Emission Standards for the Printing and Publishing Industry), JJJJ (NESHAP: Paper and Other Web Coating), future MMMM (NESHAP: Surface Coating of

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Miscellaneous Metal Parts and Products), and SSSS (NESHAP: Surface Coating of Metal Coil) of this part 63. Affiliated operations include, but are not limited to, mixing or dissolving of coating ingredients; coating mixing for viscosity adjustment, color tint or additive blending, or pH adjustment; cleaning of coating lines and coating line parts; handling and storage of coatings and solvent; and conveyance and treatment of wastewater.

(4) Fabricating operations (such as spinning or compressing a solid polymer into its end use); compounding operations (in which blending, melting, and resolidification of a solid polymer product occur for the purpose of incorporating additives, colorants, or stabilizers); and extrusion and drawing operations (converting an already produced solid polymer into a different shape by melting or mixing the polymer and then forcing it or pulling it through an orifice to create an extruded product). An operation is not exempt if it involves processing with HAP solvent or if an intended purpose of the operation is to remove residual HAP monomer.

(5) Production activities described using the 1997 version of NAICS codes 325131, 325181, 325188 (except the requirements do apply to hydrazine), 325314, 325991 (except the requirements do apply to reformulating plastics resins from recycled plastics products), and 325992 (except the requirements do apply to photographic chemicals).

(6) Tall oil recovery systems.

(7) Carbon monoxide production.

(d) If the predominant use of a transfer rack loading arm or storage tank (including storage tanks in series) is associated with a miscellaneous organic chemical manufacturing process, and the loading arm or storage tank is not part of an affected source under a subpart of this part 63, then you must assign the loading arm or storage tank to the MCPU for that miscellaneous organic chemical manufacturing process. If the predominant use cannot be determined, then you may assign the loading arm or storage tank to any MCPU that shares it and is subject to this subpart. If the use varies from year to year, then you must base the determination on the utilization that occurred during the year preceding No-

vember 10, 2003 or, if the loading arm or storage tank was not in operation during that year, you must base the use on the expected use for the first 5-year period after startup. You must include the determination in the notification of compliance status report specified in § 63.2520(d). You must redetermine the primary use at least once every 5 years, or any time you implement emissions averaging or pollution prevention after the compliance date.

(e) For nondedicated equipment used to create at least one MCPU, you may elect to develop process unit groups (PUG), determine the primary product of each PUG, and comply with the requirements of the subpart in 40 CFR part 63 that applies to that primary product as specified in § 63.2535(l).

[68 FR 63888, Nov. 10, 2003, as amended at 71 FR 40331, July 14, 2006]

**§ 63.2440 What parts of my plant does this subpart cover?**

(a) This subpart applies to each miscellaneous organic chemical manufacturing affected source.

(b) The miscellaneous organic chemical manufacturing affected source is the facilitywide collection of MCPU and heat exchange systems, wastewater, and waste management units that are associated with manufacturing materials described in § 63.2435(b)(1).

(c) A new affected source is described by either paragraph (c)(1) or (2) of this section.

(1) Each affected source defined in paragraph (b) of this section for which you commenced construction or reconstruction after April 4, 2002, and you meet the applicability criteria at the time you commenced construction or reconstruction.

(2) Each dedicated MCPU that has the potential to emit 10 tons per year (tpy) of any one HAP or 25 tpy of combined HAP, and you commenced construction or reconstruction of the MCPU after April 4, 2002. For the purposes of this paragraph, an MCPU is an affected source in the definition of the term "reconstruction" in § 63.2.

(d) An MCPU that is also a CMPU under § 63.100 is reconstructed for the purposes of this subpart if, and only if,



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the CMPU meets the requirements for reconstruction in § 63.100(1)(2).

COMPLIANCE DATES

**§ 63.2445 When do I have to comply with this subpart?**

(a) If you have a new affected source, you must comply with this subpart according to the requirements in paragraphs (a)(1) and (2) of this section.

(1) If you startup your new affected source before November 10, 2003, then you must comply with the requirements for new sources in this subpart no later than November 10, 2003.

(2) If you startup your new affected source after November 10, 2003, then you must comply with the requirements for new sources in this subpart upon startup of your affected source.

(b) If you have an existing source on November 10, 2003, you must comply with the requirements for existing sources in this subpart no later than May 10, 2008.

(c) You must meet the notification requirements in § 63.2515 according to the dates specified in that section and in subpart A of this part 63. Some of the notifications must be submitted before you are required to comply with the emission limits, operating limits, and work practice standards in this subpart.

(d) If you have a Group 2 emission point that becomes a Group 1 emission point after the compliance date for your affected source, you must comply with the Group 1 requirements beginning on the date the switch occurs. An initial compliance demonstration as specified in this subpart must be conducted within 150 days after the switch occurs.

(e) If, after the compliance date for your affected source, hydrogen halide and halogen HAP emissions from process vents in a process increase to more than 1,000 lb/yr, or HAP metals emissions from a process at a new affected source increase to more than 150 lb/yr, you must comply with the applicable emission limits specified in Table 3 to this subpart and the associated compliance requirements beginning on the date the emissions exceed the applicable threshold. An initial compliance demonstration as specified in this sub-

part must be conducted within 150 days after the switch occurs.

(f) If you have a small control device for process vent or transfer rack emissions that becomes a large control device, as defined in § 63.2550(i), you must comply with monitoring and associated recordkeeping and reporting requirements for large control devices beginning on the date the switch occurs. An initial compliance demonstration as specified in this subpart must be conducted within 150 days after the switch occurs.

[68 FR 63888, Nov. 10, 2003, as amended at 71 FR 10442, Mar. 1, 2006; 71 FR 40332, July 14, 2006]

EMISSION LIMITS, WORK PRACTICE STANDARDS, AND COMPLIANCE REQUIREMENTS

**§ 63.2450 What are my general requirements for complying with this subpart?**

(a) You must be in compliance with the emission limits and work practice standards in Tables 1 through 7 to this subpart at all times, except during periods of startup, shutdown, and malfunction (SSM), and you must meet the requirements specified in §§ 63.2455 through 63.2490 (or the alternative means of compliance in § 63.2495, § 63.2500, or § 63.2505), except as specified in paragraphs (b) through (s) of this section. You must meet the notification, reporting, and recordkeeping requirements specified in §§ 63.2515, 63.2520, and 63.2525.

(b) *Determine halogenated vent streams.* You must determine if an emission stream is a halogenated vent stream, as defined in § 63.2550, by calculating the mass emission rate of halogen atoms in accordance with § 63.115(d)(2)(v). Alternatively, you may elect to designate the emission stream as halogenated.

(c) *Requirements for combined emission streams.* When organic HAP emissions from different emission types (e.g., continuous process vents, batch process vents, storage tanks, transfer operations, and waste management units) are combined, you must comply with the requirements of either paragraph (c)(1) or (2) of this section.

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(1) Comply with the applicable requirements of this subpart for each kind of organic HAP emissions in the stream (e.g., the requirements of Table 1 to this subpart for continuous process vents and the requirements of Table 4 to this subpart for emissions from storage tanks).

(2) Determine the applicable requirements based on the hierarchy presented in paragraphs (c)(2)(i) through (vi) of this section. For a combined stream, the applicable requirements are specified in the highest-listed paragraph in the hierarchy that applies to any of the individual streams that make up the combined stream. For example, if a combined stream consists of emissions from Group 1 batch process vents and any other type of emission stream, then you must comply with the requirements in paragraph (c)(2)(i) of this section for the combined stream; compliance with the requirements in paragraph (c)(2)(i) of this section constitutes compliance for the other emission streams in the combined stream. Two exceptions are that you must comply with the requirements in Table 3 to this subpart and § 63.2465 for all process vents with hydrogen halide and halogen HAP emissions, and recordkeeping requirements for Group 2 applicability or compliance are still required (e.g., the requirement in § 63.2525(f) to track the number of batches produced and calculate rolling annual emissions for processes with Group 2 batch process vents).

(i) The requirements of Table 2 to this subpart and § 63.2460 for Group 1 batch process vents, including applicable monitoring, recordkeeping, and reporting.

(ii) The requirements of Table 1 to this subpart and § 63.2455 for continuous process vents that are routed to a control device, as defined in § 63.981, including applicable monitoring, recordkeeping, and reporting.

(iii) The requirements of Table 5 to this subpart and § 63.2475 for transfer operations, including applicable monitoring, recordkeeping, and reporting.

(iv) The requirements of Table 7 to this subpart and § 63.2485 for emissions from waste management units that are used to manage and treat Group 1 wastewater streams and residuals from

Group 1 wastewater streams, including applicable monitoring, recordkeeping, and reporting.

(v) The requirements of Table 4 to this subpart and § 63.2470 for control of emissions from storage tanks, including applicable monitoring, recordkeeping, and reporting.

(vi) The requirements of Table 1 to this subpart and § 63.2455 for continuous process vents after a recovery device including applicable monitoring, recordkeeping, and reporting.

(d) [Reserved]

(e) *Requirements for control devices.* (1) Except when complying with § 63.2485, if you reduce organic HAP emissions by venting emissions through a closed-vent system to any combination of control devices (except a flare) or recovery devices, you must meet the requirements of § 63.982(c) and the requirements referenced therein.

(2) Except when complying with § 63.2485, if you reduce organic HAP emissions by venting emissions through a closed-vent system to a flare, you must meet the requirements of § 63.982(b) and the requirements referenced therein.

(3) If you use a halogen reduction device to reduce hydrogen halide and halogen HAP emissions from halogenated vent streams, you must meet the requirements of § 63.994 and the requirements referenced therein. If you use a halogen reduction device before a combustion device, you must determine the halogen atom emission rate prior to the combustion device according to the procedures in § 63.115(d)(2)(v).

(f) *Requirements for flare compliance assessments.* (1) As part of a flare compliance assessment required in § 63.987(b), you have the option of demonstrating compliance with the requirements of § 63.11(b) by complying with the requirements in either § 63.11(b)(6)(i) or § 63.987(b)(3)(ii).

(2) If you elect to meet the requirements in § 63.11(b)(6)(i), you must keep flare compliance assessment records as specified in paragraphs (f)(2)(i) and (ii) of this section.

(i) Keep records as specified in § 63.998(a)(1)(i), except that a record of the heat content determination is not required.

(ii) Keep records of the flare diameter, hydrogen content, exit velocity, and maximum permitted velocity. Include these records in the flare compliance report required in § 63.999(a)(2).

(g) *Requirements for performance tests.* The requirements specified in paragraphs (g)(1) through (5) of this section apply instead of or in addition to the requirements specified in subpart SS of this part 63.

(1) Conduct gas molecular weight analysis using Method 3, 3A, or 3B in appendix A to part 60 of this chapter.

(2) Measure moisture content of the stack gas using Method 4 in appendix A to part 60 of this chapter.

(3) If the uncontrolled or inlet gas stream to the control device contains carbon disulfide, you must conduct emissions testing according to paragraph (g)(3)(i) or (ii) of this section.

(i) If you elect to comply with the percent reduction emission limits in Tables 1 through 7 to this subpart, and carbon disulfide is the principal organic HAP component (*i.e.*, greater than 50 percent of the HAP in the stream by volume), then you must use Method 18, or Method 15 (40 CFR part 60, appendix A) to measure carbon disulfide at the inlet and outlet of the control device. Use the percent reduction in carbon disulfide as a surrogate for the percent reduction in total organic HAP emissions.

(ii) If you elect to comply with the outlet total organic compound (TOC) concentration emission limits in Tables 1 through 7 to this subpart, and the uncontrolled or inlet gas stream to the control device contains greater than 10 percent (volume concentration) carbon disulfide, you must use Method 18 or Method 15 to separately determine the carbon disulfide concentration. Calculate the total HAP or TOC emissions by totaling the carbon disulfide emissions measured using Method 18 or 15 and the other HAP emissions measured using Method 18 or 25A.

(4) As an alternative to using Method 18, Method 25/25A, or Method 26/26A of 40 CFR part 60, appendix A, to comply with any of the emission limits specified in Tables 1 through 7 to this subpart, you may use Method 320 of 40 CFR part 60, appendix A. When using Method 320, you must follow the analyte

spiking procedures of section 13 of Method 320, unless you demonstrate that the complete spiking procedure has been conducted at a similar source.

(5) Section 63.997(c)(1) does not apply. For the purposes of this subpart, results of all initial compliance demonstrations must be included in the notification of compliance status report, which is due 150 days after the compliance date, as specified in § 63.2520(d)(1).

(h) *Design evaluation.* To determine the percent reduction of a small control device that is used to comply with an emission limit specified in Table 1, 2, 3, or 5 to this subpart, you may elect to conduct a design evaluation as specified in § 63.1257(a)(1) instead of a performance test as specified in subpart SS of this part 63. You must establish the value(s) and basis for the operating limits as part of the design evaluation. For continuous process vents, the design evaluation must be conducted at maximum representative operating conditions for the process, unless the Administrator specifies or approves alternate operating conditions. For transfer racks, the design evaluation must demonstrate that the control device achieves the required control efficiency during the reasonably expected maximum transfer loading rate.

(i) *Outlet concentration correction for combustion devices.* When § 63.997(e)(2)(iii)(C) requires you to correct the measured concentration at the outlet of a combustion device to 3 percent oxygen if you add supplemental combustion air, the requirements in either paragraph (i)(1) or (2) of this section apply for the purposes of this subpart.

(1) You must correct the concentration in the gas stream at the outlet of the combustion device to 3 percent oxygen if you add supplemental gases, as defined in § 63.2550, to the vent stream, or;

(2) You must correct the measured concentration for supplemental gases using Equation 1 of § 63.2460; you may use process knowledge and representative operating data to determine the fraction of the total flow due to supplemental gas.

(j) *Continuous emissions monitoring systems.* Each continuous emissions

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monitoring system (CEMS) must be installed, operated, and maintained according to the requirements in § 63.8 and paragraphs (j)(1) through (5) of this section.

(1) Each CEMS must be installed, operated, and maintained according to the applicable Performance Specification of 40 CFR part 60, appendix B, and according to paragraph (j)(2) of this section, except as specified in paragraph (j)(1)(i) of this section. For any CEMS meeting Performance Specification 8, you must also comply with appendix F, procedure I of 40 CFR part 60.

(i) If you wish to use a CEMS other than an Fourier Transform Infrared Spectroscopy (FTIR) meeting the requirements of Performance Specification 15 to measure hydrogen halide and halogen HAP before we promulgate a Performance Specification for such CEMS, you must prepare a monitoring plan and submit it for approval in accordance with the procedures specified in § 63.8.

(ii) [Reserved]

(2) You must determine the calibration gases and reporting units for TOC CEMS in accordance with paragraph (j)(2)(i), (ii), or (iii) of this section.

(i) For CEMS meeting Performance Specification 9 or 15 requirements, determine the target analyte(s) for calibration using either process knowledge of the control device inlet stream or the screening procedures of Method 18 on the control device inlet stream.

(ii) For CEMS meeting Performance Specification 8 used to monitor performance of a combustion device, calibrate the instrument on the predominant organic HAP and report the results as carbon (C<sub>1</sub>), and use Method 25A or any approved alternative as the reference method for the relative accuracy tests.

(iii) For CEMS meeting Performance Specification 8 used to monitor performance of a noncombustion device, determine the predominant organic HAP using either process knowledge or the screening procedures of Method 18 on the control device inlet stream, calibrate the monitor on the predominant organic HAP, and report the results as C<sub>1</sub>. Use Method 18, ASTM D6420-99, or any approved alternative as the reference method for the rel-

ative accuracy tests, and report the results as C<sub>1</sub>.

(3) You must conduct a performance evaluation of each CEMS according to the requirements in 40 CFR 63.8 and according to the applicable Performance Specification of 40 CFR part 60, appendix B, except that the schedule in § 63.8(e)(4) does not apply, and the results of the performance evaluation must be included in the notification of compliance status report.

(4) The CEMS data must be reduced to operating day or operating block averages computed using valid data consistent with the data availability requirements specified in § 63.999(c)(6)(i)(B) through (D), except monitoring data also are sufficient to constitute a valid hour of data if measured values are available for at least two of the 15-minute periods during an hour when calibration, quality assurance, or maintenance activities are being performed. An operating block is a period of time from the beginning to end of batch operations within a process. Operating block averages may be used only for batch process vent data.

(5) If you add supplemental gases, you must correct the measured concentrations in accordance with paragraph (i) of this section and § 63.2460(c)(6).

(k) *Continuous parameter monitoring.* The provisions in paragraphs (k)(1) through (6) of this section apply in addition to the requirements for continuous parameter monitoring system (CPMS) in subpart SS of this part 63.

(1) You must record the results of each calibration check and all maintenance performed on the CPMS as specified in § 63.998(c)(1)(ii)(A).

(2) When subpart SS of this part 63 uses the term "a range" or "operating range" of a monitored parameter, it means an "operating limit" for a monitored parameter for the purposes of this subpart.

(3) As an alternative to continuously measuring and recording pH as specified in §§ 63.994(c)(1)(i) and 63.998(a)(2)(ii)(D), you may elect to continuously monitor and record the caustic strength of the effluent. For halogen scrubbers used to control only batch process vents you may elect to monitor and record either the pH or

the caustic strength of the scrubber effluent at least once per day.

(4) As an alternative to the inlet and outlet temperature monitoring requirements for catalytic incinerators as specified in § 63.988(c)(2) and the related recordkeeping requirements specified in § 63.998(a)(2)(ii)(B)(2) and (c)(2)(ii), you may elect to comply with the requirements specified in paragraphs (k)(4)(i) through (iv) of this section.

(i) Monitor and record the inlet temperature as specified in subpart SS of this part 63.

(ii) Check the activity level of the catalyst at least every 12 months and take any necessary corrective action, such as replacing the catalyst to ensure that the catalyst is performing as designed.

(iii) Maintain records of the annual checks of catalyst activity levels and the subsequent corrective actions.

(iv) Recording the downstream temperature and temperature difference across the catalyst bed as specified in § 63.998(a)(2)(ii)(B)(2) and (b)(2)(ii) is not required.

(5) For absorbers that control organic compounds and use water as the scrubbing fluid, you must conduct monitoring and recordkeeping as specified in paragraphs (k)(5)(i) through (iii) of this section instead of the monitoring and recordkeeping requirements specified in §§ 63.990(c)(1), 63.993(c)(1), and 63.998(a)(2)(ii)(C).

(i) You must use a flow meter capable of providing a continuous record of the absorber influent liquid flow.

(ii) You must determine gas stream flow using one of the procedures specified in § 63.994(c)(1)(ii)(A) through (D).

(iii) You must record the absorber liquid-to-gas ratio averaged over the time period of any performance test.

(6) For a control device with total inlet HAP emissions less than 1 tpy, you must establish an operating limit(s) for a parameter(s) that you will measure and record at least once per averaging period (i.e., daily or block) to verify that the control device is operating properly. You may elect to measure the same parameter(s) that is required for control devices that control inlet HAP emissions equal to or greater than 1 tpy. If the parameter

will not be measured continuously, you must request approval of your proposed procedure in the precompliance report. You must identify the operating limit(s) and the measurement frequency, and you must provide rationale to support how these measurements demonstrate the control device is operating properly.

(l) *Startup, shutdown, and malfunction.* Sections 63.152(f)(7)(ii) through (iv) and 63.998(b)(2)(iii) and (b)(6)(i)(A), which apply to the exclusion of monitoring data collected during periods of SSM from daily averages, do not apply for the purposes of this subpart.

(m) *Reporting.* (1) When §§ 63.2455 through 63.2490 reference other subparts in this part 63 that use the term "periodic report," it means "compliance report" for the purposes of this subpart. The compliance report must include the information specified in § 63.2520(e), as well as the information specified in referenced subparts.

(2) When there are conflicts between this subpart and referenced subparts for the due dates of reports required by this subpart, reports must be submitted according to the due dates presented in this subpart.

(3) Excused excursions, as defined in subparts G and SS of this part 63, are not allowed.

(n) [Reserved]

(o) You may not use a flare to control halogenated vent streams or hydrogen halide and halogen HAP emissions.

(p) Opening a safety device, as defined in § 63.2550, is allowed at any time conditions require it to avoid unsafe conditions.

(q) If an emission stream contains energetics or organic peroxides that, for safety reasons, cannot meet an applicable emission limit specified in Tables 1 through 7 to this subpart, then you must submit documentation in your precompliance report explaining why an undue safety hazard would be created if the air emission controls were installed, and you must describe the procedures that you will implement to minimize HAP emissions from these vent streams.

(r) *Surge control vessels and bottoms receivers.* For each surge control vessel or

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bottoms receiver that meets the capacity and vapor pressure thresholds for a Group 1 storage tank, you must meet emission limits and work practice standards specified in Table 4 to this subpart.

(s) For the purposes of determining Group status for continuous process vents, batch process vents, and storage tanks in §§ 63.2455, 63.2460, and 63.2470, hydrazine is to be considered an organic HAP.

[68 FR 63888, Nov. 10, 2003, as amended at 70 FR 38559, July 1, 2005; 71 FR 40332, July 14, 2006]

#### § 63.2455 What requirements must I meet for continuous process vents?

(a) You must meet each emission limit in Table 1 to this subpart that applies to your continuous process vents, and you must meet each applicable requirement specified in paragraphs (b) through (c) of this section.

(b) For each continuous process vent, you must either designate the vent as a Group 1 continuous process vent or determine the total resource effectiveness (TRE) index value as specified in § 63.115(d), except as specified in paragraphs (b)(1) through (3) of this section.

(1) You are not required to determine the Group status or the TRE index value for any continuous process vent that is combined with Group 1 batch process vents before a control device or recovery device because the requirements of § 63.2450(c)(2)(i) apply to the combined stream.

(2) When a TRE index value of 4.0 is referred to in § 63.115(d), TRE index values of 5.0 for existing affected sources and 8.0 for new and reconstructed affected sources apply for the purposes of this subpart.

(3) When § 63.115(d) refers to "emission reductions specified in § 63.113(a)," the reductions specified in Table 1 to this subpart apply for the purposes of this subpart.

(c) If you use a recovery device to maintain the TRE above a specified threshold, you must meet the requirements of § 63.982(e) and the requirements referenced therein, except as specified in § 63.2450 and paragraph (c)(1) of this section.

(1) When § 63.993 uses the phrase "the TRE index value is between the level

specified in a referencing subpart and 4.0," the phrase "the TRE index value is >1.9 but ≤5.0" applies for an existing affected source, and the phrase "the TRE index value is >5.0 but ≤8.0" applies for a new and reconstructed affected source, for the purposes of this subpart.

(2) [Reserved]

#### § 63.2460 What requirements must I meet for batch process vents?

(a) You must meet each emission limit in Table 2 to this subpart that applies to you, and you must meet each applicable requirement specified in paragraphs (b) and (c) of this section.

(b) *Group status.* If a process has batch process vents, as defined in § 63.2550, you must determine the group status of the batch process vents by determining and summing the uncontrolled organic HAP emissions from each of the batch process vents within the process using the procedures specified in § 63.1257(d)(2)(i) and (ii), except as specified in paragraphs (b)(1) through (7) of this section.

(1) To calculate emissions caused by the heating of a vessel without a process condenser to a temperature lower than the boiling point, you must use the procedures in § 63.1257(d)(2)(i)(C)(3).

(2) To calculate emissions from depressurization of a vessel without a process condenser, you must use the procedures in § 63.1257(d)(2)(i)(D)(10).

(3) To calculate emissions from vacuum systems for the purposes of this subpart, the receiving vessel is part of the vacuum system, and terms used in Equation 33 to 40 CFR part 63, subpart GGG, are defined as follows:

$P_{\text{system}}$  = absolute pressure of the receiving vessel;

$P_i$  = partial pressure of the HAP determined at the exit temperature and exit pressure conditions of the condenser or at the conditions of the dedicated receiver;

$P_j$  = partial pressure of condensables (including HAP) determined at the exit temperature and exit pressure conditions of the condenser or at the conditions of the dedicated receiver;

$MW_{\text{HAP}}$  = molecular weight of the HAP determined at the exit temperature and exit pressure conditions of the

condenser or at the conditions of the dedicated receiver.

(4) To calculate uncontrolled emissions when a vessel is equipped with a process condenser, you must use the procedures in § 63.1257(d)(3)(i)(B), except as specified in paragraphs (b)(4)(i) through (vii) of this section.

(i) You must determine the flowrate of gas (or volume of gas), partial pressures of condensables, temperature (T), and HAP molecular weight ( $MW_{HAP}$ ) at the exit temperature and exit pressure conditions of the condenser or at the conditions of the dedicated receiver.

(ii) You must assume that all of the components contained in the condenser exit vent stream are in equilibrium with the same components in the exit condensate stream (except for noncondensables).

(iii) You must perform a material balance for each component.

(iv) For the emissions from gas evolution, the term for time,  $t$ , must be used in Equation 12 to 40 CFR part 63, subpart GGG.

(v) Emissions from empty vessel purging shall be calculated using Equation 36 to 40 CFR part 63, subpart GGG and the exit temperature and exit pressure conditions of the condenser or the conditions of the dedicated receiver.

(vi) You must conduct an engineering assessment as specified in § 63.1257(d)(2)(ii) for each emission episode that is not due to vapor displacement, purging, heating, depressurization, vacuum operations, gas evolution, air drying, or empty vessel purging. The requirements of paragraphs (b)(3) through (4) of this section shall apply.

(vii) You may elect to conduct an engineering assessment if you can demonstrate to the Administrator that the methods in § 63.1257(d)(3)(i)(B) are not appropriate.

(5) You may elect to designate the batch process vents within a process as Group 1 and not calculate uncontrolled emissions under either of the situations in paragraph (b)(5)(i), (ii), or (iii) of this section.

(i) If you comply with the alternative standard specified in § 63.2505.

(ii) If all Group 1 batch process vents within a process are controlled; you conduct the performance test under hypothetical worst case conditions, as de-

defined in § 63.1257(b)(8)(i)(B); and the emission profile is based on capture and control system limitations as specified in § 63.1257(b)(8)(ii)(C).

(iii) If you comply with an emission limit using a flare that meets the requirements specified in § 63.987.

(6) You may change from Group 2 to Group 1 in accordance with either paragraph (b)(6)(i) or (ii) of this section. You must comply with the requirements of this section and submit the test report in the next Compliance report.

(i) You may switch at any time after operating as Group 2 for at least 1 year so that you can show compliance with the 10,000 pounds per year (lb/yr) threshold for Group 2 batch process vents for at least 365 days before the switch. You may elect to start keeping records of emissions from Group 2 batch process vents before the compliance date. Report a switch based on this provision in your next compliance report in accordance with § 63.2520(e)(10)(i).

(ii) If the conditions in paragraph (b)(6)(i) of this section are not applicable, you must provide a 60-day advance notice in accordance with § 63.2520(e)(10)(ii) before switching.

(7) As an alternative to determining the uncontrolled organic HAP emissions as specified in § 63.1257(d)(2)(i) and (ii), you may elect to demonstrate that non-reactive organic HAP are the only HAP used in the process and non-reactive HAP usage in the process is less than 10,000 lb/yr. You must provide data and supporting rationale in your notification of compliance status report explaining why the non-reactive organic HAP usage will be less than 10,000 lb/yr. You must keep records of the non-reactive organic HAP usage as specified in § 63.2525(e)(2) and include information in compliance reports as specified in § 63.2520(e)(5)(iv).

(c) Exceptions to the requirements in subparts SS and WW of this part 63 are specified in paragraphs (c)(1) through (9) of this section.

(1) *Process condensers.* Process condensers, as defined in § 63.2550(i), are not considered to be control devices for batch process vents. You must determine whether a condenser is a control device for a batch process vent or a

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process condenser from which the uncontrolled HAP emissions are evaluated as part of the initial compliance demonstration for each MCPU and report the results with supporting rationale in your notification of compliance status report.

(2) *Initial compliance.* (i) To demonstrate initial compliance with a percent reduction emission limit in Table 2 to this subpart FFFF, you must compare the sums of the controlled and uncontrolled emissions for the applicable Group 1 batch process vents within the process, and show that the specified reduction is met. This requirement does not apply if you comply with the emission limits of Table 2 to this subpart FFFF by using a flare that meets the requirements of § 63.987.

(ii) When you conduct a performance test or design evaluation for a non-flare control device used to control emissions from batch process vents, you must establish emission profiles and conduct the test under worst-case conditions according to § 63.1257(b)(8) instead of under normal operating conditions as specified in § 63.7(e)(1). The requirements in § 63.997(e)(1)(i) and (iii) also do not apply for performance tests conducted to determine compliance with the emission limits for batch process vents. For purposes of this subpart FFFF, references in § 63.997(b)(1) to "methods specified in § 63.997(e)" include the methods specified in § 63.1257(b)(8).

(iii) As an alternative to conducting a performance test or design evaluation to demonstrate initial compliance with a percent reduction requirement for a condenser, you may determine controlled emissions using the procedures specified in § 63.1257(d)(3)(i)(B) and paragraphs (b)(3) through (4) of this section.

(iv) When § 63.1257(d)(3)(i)(B)(7) specifies that condenser-controlled emissions from an air dryer must be calculated using Equation 11 of 40 CFR part 63, subpart GGG, with "V equal to the air flow rate," it means "V equal to the dryer outlet gas flow rate," for the purposes of this subpart. Alternatively, you may use Equation 12 of 40 CFR part 63, subpart GGG, with V equal to the dryer inlet air flow rate.

Account for time as appropriate in either equation.

(v) If a process condenser is used for any boiling operations, you must demonstrate that it is properly operated according to the procedures specified in § 63.1257(d)(2)(i)(C)(4)(ii) and (d)(3)(iii)(B), and the demonstration must occur only during the boiling operation. The reference in § 63.1257(d)(3)(iii)(B) to the alternative standard in § 63.1254(c) means § 63.2505 for the purposes of this subpart. As an alternative to measuring the exhaust gas temperature, as required by § 63.1257(d)(3)(iii)(B), you may elect to measure the liquid temperature in the receiver.

(vi) You must conduct a subsequent performance test or compliance demonstration equivalent to an initial compliance demonstration within 180 days of a change in the worst-case conditions.

(3) *Establishing operating limits.* You must establish operating limits under the conditions required for your initial compliance demonstration, except you may elect to establish operating limit(s) for conditions other than those under which a performance test was conducted as specified in paragraph (c)(3)(i) of this section and, if applicable, paragraph (c)(3)(ii) of this section.

(i) The operating limits may be based on the results of the performance test and supplementary information such as engineering assessments and manufacturer's recommendations. These limits may be established for conditions as unique as individual emission episodes for a batch process. You must provide rationale in the precompliance report for the specific level for each operating limit, including any data and calculations used to develop the limit and a description of why the limit indicates proper operation of the control device. The procedures provided in this paragraph (c)(3)(i) have not been approved by the Administrator and determination of the operating limit using these procedures is subject to review and approval by the Administrator.

(ii) If you elect to establish separate monitoring levels for different emission episodes within a batch process, you must maintain records in your



daily schedule or log of processes indicating each point at which you change from one operating limit to another, even if the duration of the monitoring for an operating limit is less than 15 minutes. You must maintain a daily schedule or log of processes according to § 63.2525(c).

(4) *Averaging periods.* As an alternative to the requirement for daily averages in § 63.998(b)(3), you may determine averages for operating blocks. An operating block is a period of time that is equal to the time from the beginning to end of batch process operations within a process.

(5) [Reserved]

(6) *Outlet concentration correction for supplemental gases.* If you use a control device other than a combustion device to comply with a TOC, organic HAP, or hydrogen halide and halogen HAP outlet concentration emission limit for batch process vents, you must correct the actual concentration for supplemental gases using Equation 1 of this section; you may use process knowledge and representative operating data to determine the fraction of the total flow due to supplemental gas.

$$C_a = C_m \left( \frac{Q_s + Q_a}{Q_a} \right) \quad (\text{Eq. 1})$$

Where:

$C_a$  = corrected outlet TOC, organic HAP, or hydrogen halide and halogen HAP concentration, dry basis, ppmv;

$C_m$  = actual TOC, organic HAP, or hydrogen halide and halogen HAP concentration measured at control device outlet, dry basis, ppmv;

$Q_a$  = total volumetric flowrate of all gas streams vented to the control device, except supplemental gases;

$Q_s$  = total volumetric flowrate of supplemental gases.

(7) If flow to a control device could be intermittent, you must install, calibrate, and operate a flow indicator at the inlet or outlet of the control device to identify periods of no flow. Periods of no flow may not be used in daily or block averages, and it may not be used in fulfilling a minimum data availability requirement.

(8) *Terminology.* When the term "storage vessel" is used in subpart WW of this part 63, the term "process

tank," as defined in § 63.2550(i), applies for the purposes of this section.

(9) *Requirements for a biofilter.* If you use a biofilter to meet either the 95 percent reduction requirement or outlet concentration requirement specified in Table 2 to this subpart, you must meet the requirements specified in paragraphs (c)(9)(i) through (iv) of this section.

(i) *Operational requirements.* The biofilter must be operated at all times when emissions are vented to it.

(ii) *Performance tests.* To demonstrate initial compliance, you must conduct a performance test according to the procedures in § 63.997 and paragraphs (c)(9)(ii)(A) through (D) of this section. The design evaluation option for small control devices is not applicable if you use a biofilter.

(A) Keep up-to-date, readily accessible continuous records of either the biofilter bed temperature averaged over the full period of the performance test or the outlet total organic HAP or TOC concentration averaged over the full period of the performance test. Include these data in your notification of compliance status report as required by § 63.999(b)(3)(ii).

(B) Record either the percent reduction of total organic HAP achieved by the biofilter determined as specified in § 63.997(e)(2)(iv) or the concentration of TOC or total organic HAP determined as specified in § 63.997(e)(2)(iii) at the outlet of the biofilter, as applicable.

(C) If you monitor the biofilter bed temperature, you may elect to use multiple thermocouples in representative locations throughout the biofilter bed and calculate the average biofilter bed temperature across these thermocouples prior to reducing the temperature data to 15 minute (or shorter) averages for purposes of establishing operating limits for the biofilter. If you use multiple thermocouples, include your rationale for their site selection in your notification of compliance status report.

(D) Submit a performance test report as specified in § 63.999(a)(2)(i) and (ii). Include the records from paragraph (c)(9)(ii)(B) of this section in your performance test report.

(iii) *Monitoring requirements.* Use either a biofilter bed temperature monitoring device (or multiple devices) capable of providing a continuous record or an organic monitoring device capable of providing a continuous record. Keep records of temperature or other parameter monitoring results as specified in § 63.998(b) and (c), as applicable. General requirements for monitoring are contained in § 63.996. If you monitor temperature, the operating temperature range must be based on only the temperatures measured during the performance test; these data may not be supplemented by engineering assessments or manufacturer's recommendations as otherwise allowed in § 63.999(b)(3)(ii)(A). If you establish the operating range (minimum and maximum temperatures) using data from previous performance tests in accordance with § 63.996(c)(6), replacement of the biofilter media with the same type change under § 63.997(b)(1). You may expand your biofilter bed temperature operating range by conducting a repeat performance test that demonstrates compliance with the 95 percent reduction requirement or outlet concentration limit, as applicable.

(iv) *Repeat performance tests.* You must conduct a repeat performance test using the applicable methods specified in § 63.997 within 2 years following the previous performance test and within 150 days after each replacement of any portion of the biofilter bed media with a different type of media or each replacement of more than 50 percent (by volume) of the biofilter bed media with the same type of media.

[68 FR 63888, Nov. 10, 2003, as amended at 70 FR 38559, July 1, 2005; 71 FR 40333, July 14, 2006]

**§ 63.2465 What requirements must I meet for process vents that emit hydrogen halide and halogen HAP or HAP metals?**

(a) You must meet each emission limit in Table 3 to this subpart that applies to you, and you must meet each applicable requirement in paragraphs (b) through (d) of this section.

(b) If any process vents within a process emit hydrogen halide and halogen HAP, you must determine and sum the

uncontrolled hydrogen halide and halogen HAP emissions from each of the process vents within the process using the procedures specified in § 63.1257(d)(2)(i) and/or (ii), as appropriate. When § 63.1257(d)(2)(ii)(E) requires documentation to be submitted in the precompliance report, it means the notification of compliance status report for the purposes of this paragraph.

(c) If collective uncontrolled hydrogen halide and halogen HAP emissions from the process vents within a process are greater than or equal to 1,000 pounds per year (lb/yr), you must comply with § 63.994 and the requirements referenced therein, except as specified in paragraphs (c)(1) through (3) of this section.

(1) When § 63.994(b)(1) requires a performance test, you may elect to conduct a design evaluation in accordance with § 63.1257(a)(1).

(2) When § 63.994(b)(1) refers to "a combustion device followed by a halogen scrubber or other halogen reduction device," it means any combination of control devices used to meet the emission limits specified in Table 3 to this subpart.

(3) Section 63.994(b)(2) does not apply for the purposes of this section.

(d) To demonstrate compliance with the emission limit in Table 3 to this subpart for HAP metals at a new source, you must comply with paragraphs (d)(1) through (3) of this section.

(1) Determine the mass emission rate of HAP metals based on process knowledge, engineering assessment, or test data.

(2) Conduct an initial performance test of each control device that is used to comply with the emission limit for HAP metals specified in Table 3 to this subpart. Conduct the performance test according to the procedures in § 63.997. Use Method 29 of appendix A of 40 CFR part 60 to determine the HAP metals at the inlet and outlet of each control device, or use Method 5 of appendix A of 40 CFR part 60 to determine the total particulate matter (PM) at the inlet and outlet of each control device. You have demonstrated initial compliance if the overall reduction of either HAP metals or total PM from the process is

greater than or equal to 97 percent by weight.

(3) Comply with the monitoring requirements specified in § 63.1366(b)(1)(xi) for each fabric filter used to control HAP metals.

[68 FR 63888, Nov. 10, 2003, as amended at 71 FR 40334, July 14, 2006]

**§ 63.2470 What requirements must I meet for storage tanks?**

(a) You must meet each emission limit in Table 4 to this subpart that applies to your storage tanks, and you must meet each applicable requirement specified in paragraphs (b) through (e) of this section.

(b) [Reserved]

(c) *Exceptions to subparts SS and WW of this part 63.* (1) If you conduct a performance test or design evaluation for a control device used to control emissions only from storage tanks, you must establish operating limits, conduct monitoring, and keep records using the same procedures as required in subpart SS of this part 63 for control devices used to reduce emissions from process vents instead of the procedures specified in §§ 63.985(c), 63.998(d)(2)(i), and 63.999(b)(2).

(2) When the term "storage vessel" is used in subparts SS and WW of this part 63, the term "storage tank," as defined in § 63.2550 applies for the purposes of this subpart.

(d) *Planned routine maintenance.* The emission limits in Table 4 to this subpart for control devices used to control emissions from storage tanks do not apply during periods of planned routine maintenance. Periods of planned routine maintenance of each control device, during which the control device does not meet the emission limit specified in Table 4 to this subpart, must not exceed 240 hours per year (hr/yr). You may submit an application to the Administrator requesting an extension of this time limit to a total of 360 hr/yr. The application must explain why the extension is needed, it must indicate that no material will be added to the storage tank between the time the 240-hr limit is exceeded and the control device is again operational, and it must be submitted at least 60 days before the 240-hr limit will be exceeded.

(e) *Vapor balancing alternative.* As an alternative to the emission limits specified in Table 4 to this subpart, you may elect to implement vapor balancing in accordance with § 63.1253(f), except as specified in paragraphs (e)(1) through (3) of this section.

(1) When § 63.1253(f)(6)(i) refers to a 90 percent reduction, 95 percent applies for the purposes of this subpart.

(2) To comply with § 63.1253(f)(6)(i), the owner or operator of an offsite cleaning or reloading facility must comply with §§ 63.2445 through 63.2550 instead of complying with § 63.1253(f)(7)(ii), except as specified in paragraph (e)(2)(i) or (ii) of this section.

(i) The reporting requirements in § 63.2520 do not apply to the owner or operator of the offsite cleaning or reloading facility.

(ii) As an alternative to complying with the monitoring, recordkeeping, and reporting provisions in §§ 63.2445 through 63.2550, the owner or operator of an offsite cleaning or reloading facility may comply as specified in § 63.2535(a)(2) with any other subpart of this part 63 which has monitoring, recordkeeping, and reporting provisions as specified in § 63.2535(a)(2).

(3) You may elect to set a pressure relief device to a value less than the 2.5 pounds per square inch gage pressure (psig) required in § 63.1253(f)(5) if you provide rationale in your notification of compliance status report explaining why the alternative value is sufficient to prevent breathing losses at all times.

(4) You may comply with the vapor balancing alternative in § 63.1253(f) when your storage tank is filled from a barge. All requirements for tank trucks and railcars specified in § 63.1253(f) also apply to barges, except as specified in § 63.2470(e)(4)(i).

(i) When § 63.1253(f)(2) refers to pressure testing certifications, the requirements in 40 CFR 61.304(f) apply for barges.

(ii) [Reserved]

[68 FR 63888, Nov. 10, 2003, as amended at 70 FR 38559, July 1, 2005; 71 FR 40335, July 14, 2006]

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**§ 63.2475 What requirements must I meet for transfer racks?**

(a) You must comply with each emission limit and work practice standard in Table 5 to this subpart that applies to your transfer racks, and you must meet each applicable requirement in paragraphs (b) and (c) of this section.

(b) When the term "high throughput transfer rack" is used in subpart SS of this part 63, the term "Group 1 transfer rack," as defined in § 63.2550, applies for the purposes of this subpart.

[68 FR 63888, Nov. 10, 2003, as amended at 71 FR 40335, July 14, 2006]

**§ 63.2480 What requirements must I meet for equipment leaks?**

(a) You must meet each requirement in Table 6 to this subpart that applies to your equipment leaks, except as specified in paragraphs (b) through (d) of this section.

(b) If you comply with either subpart H or subpart UU of this part 63, you may elect to comply with the provisions in paragraphs (b)(1) through (5) of this section as an alternative to the referenced provisions in subpart H or subpart UU of this part.

(1) The requirements for pressure testing in § 63.179(b) or § 63.1036(b) may be applied to all processes, not just batch processes.

(2) For the purposes of this subpart, pressure testing for leaks in accordance with § 63.179(b) or § 63.1036(b) is not required after reconfiguration of an equipment train if flexible hose connections are the only disturbed equipment.

(3) For an existing source, you are not required to develop an initial list of identification numbers for connectors as would otherwise be required under § 63.1022(b)(1) or § 63.181(b)(1)(i).

(4) For connectors in gas/vapor and light liquid service at an existing source, you may elect to comply with the requirements in § 63.169 or § 63.1029 for connectors in heavy liquid service, including all associated recordkeeping and reporting requirements, rather than the requirements of § 63.174 or § 63.1027.

(5) For pumps in light liquid service in an MCPU that has no continuous process vents and is part of an existing source, you may elect to consider the

leak definition that defines a leak to be 10,000 parts per million (ppm) or greater as an alternative to the values specified in § 63.1026(b)(2)(i) through (iii) or § 63.163(b)(2).

(c) If you comply with 40 CFR part 65, subpart F, you may elect to comply with the provisions in paragraphs (c)(1) through (9) of this section as an alternative to the referenced provisions in 40 CFR part 65, subpart F.

(1) The requirements for pressure testing in § 65.117(b) may be applied to all processes, not just batch processes.

(2) For the purposes of this subpart, pressure testing for leaks in accordance with § 65.117(b) is not required after reconfiguration of an equipment train if flexible hose connections are the only disturbed equipment.

(3) For an existing source, you are not required to develop an initial list of identification numbers for connectors as would otherwise be required under § 65.103(b)(1).

(4) You may elect to comply with the monitoring and repair requirements specified in § 65.108(e)(3) as an alternative to the requirements specified in § 65.108(a) through (d) for any connectors at your affected source.

(5) For pumps in light liquid service in an MCPU that has no continuous process vents and is part of an existing source, you may elect to consider the leak definition that defines a leak to be 10,000 ppm or greater as an alternative to the values specified in § 65.107(b)(2)(i) through (iii).

(6) When 40 CFR part 65, subpart F refers to the implementation date specified in § 65.1(f), it means the compliance date specified in § 63.2445.

(7) When §§ 65.105(f) and 65.117(d)(3) refer to § 65.4, it means § 63.2525.

(8) When § 65.120(a) refers to § 65.5(d), it means § 63.2515.

(9) When § 65.120(b) refers to § 65.5(e), it means § 63.2520.

(d) The provisions of this section do not apply to bench-scale processes, regardless of whether the processes are located at the same plant site as a process subject to the provisions of this subpart.

[71 FR 40335, July 14, 2006]

**§ 63.2485 What requirements must I meet for wastewater streams and liquid streams in open systems within an MCPU?**

(a) You must meet each requirement in Table 7 to this subpart that applies to your wastewater streams and liquid streams in open systems within an MCPU, except as specified in paragraphs (b) through (o) of this section.

(b) *Wastewater HAP.* Where § 63.105 and §§ 63.132 through 63.148 refer to compounds in Table 9 of subpart G of this part 63, the compounds in Tables 8 and 9 to this subpart apply for the purposes of this subpart.

(c) *Group 1 wastewater.* Section 63.132(c)(1) (i) and (ii) do not apply. For the purposes of this subpart, a process wastewater stream is Group 1 for compounds in Tables 8 and 9 to this subpart if any of the conditions specified in paragraphs (c) (1) through (3) of this section are met.

(1) The total annual average concentration of compounds in Table 8 to this subpart is greater than or equal to 10,000 ppmw at any flowrate, and the total annual load of compounds in Table 8 to this subpart is greater than or equal to 200 lb/yr.

(2) The total annual average concentration of compounds in Table 8 to this subpart is greater than or equal to 1,000 ppmw, and the annual average flowrate is greater than or equal to 1 l/min.

(3) The combined total annual average concentration of compounds in Tables 8 and 9 to this subpart is greater than or equal to 30,000 ppmw, and the combined total annual load of compounds in Tables 8 and 9 to this subpart is greater than or equal to 1 tpy.

(d) *Wastewater tank requirements.* (1) When §§ 63.133 and 63.147 reference floating roof requirements in §§ 63.119 and 63.120, the corresponding requirements in subpart WW of this part 63 may be applied for the purposes of this subpart.

(2) When § 63.133(a) refers to Table 10 of subpart G of this part 63, the maximum true vapor pressure in the table shall be limited to the HAP listed in Tables 8 and 9 of this subpart FFFF.

(3) For the purposes of this subpart, the requirements of § 63.133(a)(2) are satisfied by operating and maintaining

a fixed roof if you demonstrate that the total soluble and partially soluble HAP emissions from the wastewater tank are no more than 5 percent higher than the emissions would be if the contents of the wastewater tank were not heated, treated by an exothermic reaction, or sparged.

(4) The emission limits specified in §§ 63.133(b)(2) and 63.139 for control devices used to control emissions from wastewater tanks do not apply during periods of planned routine maintenance of the control device(s) of no more than 240 hr/yr. You may request an extension to a total of 360 hr/yr in accordance with the procedures specified in § 63.2470(d).

(e) *Individual drain systems.* The provisions of § 63.136(e)(3) apply except as specified in paragraph (e)(1) of this section.

(1) A sewer line connected to drains that are in compliance with § 63.136(e)(1) may be vented to the atmosphere, provided that the sewer line entrance to the first downstream junction box is water sealed and the sewer line vent pipe is designed as specified in § 63.136(e)(2)(ii)(A).

(2) [Reserved]

(f) *Closed-vent system requirements.* When § 63.148(k) refers to closed vent systems that are subject to the requirements of § 63.172, the requirements of either § 63.172 or § 63.1034 apply for the purposes of this subpart.

(g) *Halogenated vent stream requirements.* For each halogenated vent stream from a Group 1 wastewater stream or residual removed from a Group 1 wastewater stream that is vented through a closed-vent system to a combustion device to reduce organic HAP emissions, you must meet the same emission limits as specified for batch process vents in item 2 of Table 2 to this subpart.

(h) *Alternative test methods.* (1) As an alternative to the test methods specified in § 63.144(b)(5)(i), you may use Method 8260 or 8270 as specified in § 63.1257(b)(10)(iii).

(2) As an alternative to using the methods specified in § 63.144(b)(5)(i), you may conduct wastewater analyses using Method 1666 or 1671 of 40 CFR part 136 and comply with the sampling protocol requirements specified in

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§ 63.144(b)(5)(ii). The validation requirements specified in § 63.144(b)(5)(iii) do not apply if you use Method 1666 or 1671 of 40 CFR part 136.

(3) As an alternative to using Method 18 of 40 CFR part 60, as specified in §§ 63.139(c)(1)(ii) and 63.145(i)(2), you may elect to use Method 25A of 40 CFR part 60 as specified in § 63.997.

(i) *Offsite management and treatment option.* (1) If you ship wastewater to an offsite treatment facility that meets the requirements of § 63.138(h), you may elect to document in your notification of compliance status report that the wastewater will be treated as hazardous waste at a facility that meets the requirements of § 63.138(h) as an alternative to having the offsite facility submit the certification specified in § 63.132(g)(2).

(2) As an alternative to the management and treatment options specified in § 63.132(g)(2), any affected wastewater stream (or residual removed from an affected wastewater stream) with a total annual average concentration of compounds in Table 8 to this subpart less than 50 ppmw may be transferred offsite in accordance with paragraphs (i)(2) (i) and (ii) of this section.

(i) The transferee (or you) must demonstrate that less than 5 percent of the HAP in Table 9 to this subpart is emitted from the waste management units up to the activated sludge unit.

(ii) The transferee must treat the wastewater stream or residual in a biological treatment unit in accordance with §§ 63.138 and 63.145 and the requirements referenced therein.

(j) You must determine the annual average concentration and annual average flowrate for wastewater streams for each MCPU. The procedures for flexible operation units specified in § 63.144 (b) and (c) do not apply for the purposes of this subpart.

(k) The requirement to correct outlet concentrations from combustion devices to 3 percent oxygen in §§ 63.139(c)(1)(ii) and 63.146(i)(6) applies only if supplemental gases are combined with a vent stream from a Group 1 wastewater stream. If emissions are controlled with a vapor recovery system as specified in § 63.139(c)(2), you

must correct for supplemental gases as specified in § 63.2460(c)(6).

(l) *Requirements for liquid streams in open systems.* (1) References in § 63.149 to § 63.100(b) mean § 63.2435(b) for the purposes of this subpart.

(2) When § 63.149(e) refers to 40 CFR 63.100(l) (1) or (2), § 63.2445(a) applies for the purposes of this subpart.

(3) When § 63.149 uses the term "chemical manufacturing process unit," the term "MCPU" applies for the purposes of this subpart.

(4) When § 63.149(e)(1) refers to characteristics of water that contain compounds in Table 9 to 40 CFR part 63, subpart G, the characteristics specified in paragraphs (c) (1) through (3) of this section apply for the purposes of this subpart.

(5) When § 63.149(e)(2) refers to characteristics of water that contain compounds in Table 9 to 40 CFR part 63, subpart G, the characteristics specified in paragraph (c)(2) of this section apply for the purposes of this subpart.

(m) When § 63.132(f) refers to "a concentration of greater than 10,000 ppmw of Table 9 compounds," the phrase "a concentration of greater than 30,000 ppmw of total partially soluble HAP (PSHAP) and soluble HAP (SHAP) or greater than 10,000 ppmw of PSHAP" shall apply for the purposes of this subpart.

(n) *Alternative requirements for wastewater that is Group 1 for soluble HAP only.* The option specified in this paragraph (n) applies to wastewater that is Group 1 for soluble HAP in accordance with paragraph (c)(3) of this section and is discharged to biological treatment. Except as provided in paragraph (n)(4) of this section, this option does not apply to wastewater that is Group 1 for partially soluble HAP in accordance with paragraph (c)(1), (c)(2), or (c)(4) of this section. For wastewater that is Group 1 for SHAP, you need not comply with §§ 63.133 through 63.137 for any equalization unit, neutralization unit, and/or clarifier prior to the activated sludge unit, and you need not comply with the venting requirements in § 63.136(e)(2)(ii)(A) for lift stations with a volume larger than 10,000 gal, provided you comply with the requirements specified in paragraphs (n)(1)

through (3) of this section and all otherwise applicable requirements specified in Table 7 to this subpart. For this option, the treatment requirements in §63.138 and the performance testing requirements in §63.145 do not apply to the biological treatment unit, except as specified in paragraphs (n)(2)(i) through (iv) of this section.

(1) Wastewater must be hard-piped between the equalization unit, clarifier, and activated sludge unit. This re-

quirement does not apply to the transfer between any of these types of units that are part of the same structure and one unit overflows into the next.

(2) Calculate the destruction efficiency of the biological treatment unit using Equation 1 of this section in accordance with the procedures described in paragraphs (n)(2)(i) through (vi) of this section. You have demonstrated initial compliance if E is greater than or equal to 90 percent.

$$E = \frac{(QMW_a - QMG_e - QMG_n - QMG_c)(F_{bio})}{QMW_a} \times 100 \quad (\text{Eq. 1})$$

Where:

E = destruction efficiency of total PSHAP and SHAP for the biological treatment unit including the equalization unit, neutralization unit, and/or clarifier, percent;

$QMW_a$  = mass flow rate of total PSHAP and SHAP compounds entering the equalization unit (or whichever of the three types of units is first), kilograms per hour (kg/hr);

$QMG_e$  = mass flow rate of total PSHAP and SHAP compounds emitted from the equalization unit, kg/hr;

$QMG_n$  = mass flow rate of total PSHAP and SHAP compounds emitted from the neutralization unit, kg/hr;

$QMG_c$  = mass flow rate of total PSHAP and SHAP compounds emitted from the clarifier, kg/hr

$F_{bio}$  = site-specific fraction of PSHAP and SHAP compounds biodegraded in the biological treatment unit.

(i) Include all PSHAP and SHAP compounds in both Group 1 and Group 2 wastewater streams from all MCPU, except you may exclude any compounds that meet the criteria specified in §63.145(a)(6)(ii) or (iii).

(ii) Conduct the demonstration under representative process unit and treatment unit operating conditions in accordance with §63.145(a)(3) and (4).

(iii) Determine PSHAP and SHAP concentrations and the total wastewater flow rate at the inlet to the equalization unit in accordance with §63.145(f)(1) and (2). References in §63.145(f)(1) and (2) to required mass re-

moval and actual mass removal do not apply for the purposes of this section.

(iv) Determine  $F_{bio}$  for the activated sludge unit as specified in §63.145(h), except as specified in paragraph (n)(2)(iv)(A) or paragraph (n)(2)(iv)(B) of this section.

(A) If the biological treatment process meets both of the requirements specified in §63.145(h)(1)(i) and (ii), you may elect to replace the  $F_{bio}$  term in Equation 1 of this section with the numeral "1."

(B) You may elect to assume  $f_{bio}$  is zero for any compounds on List 2 of Table 36 in subpart G.

(v) Determine  $QMG_e$ ,  $QMG_n$ , and  $QMG_c$  using EPA's WATER9 model or the most recent update to this model, and conduct testing or use other procedures to validate the modeling results.

(vi) Submit the data and results of your demonstration, including both a description of and the results of your WATER9 modeling validation procedures, in your notification of compliance status report as specified in §63.2520(d)(2)(ii).

(3) As an alternative to the venting requirements in §63.136(e)(2)(ii)(A), a lift station with a volume larger than 10,000 gal may have openings necessary for proper venting of the lift station. The size and other design characteristics of these openings may be established based on manufacturer recommendations or engineering judgment for venting under normal operating conditions. You must describe

the design of such openings and your supporting calculations and other rationale in your notification of compliance status report.

(4) For any wastewater streams that are Group 1 for both PSHAP and SHAP, you may elect to meet the requirements specified in Table 7 to this subpart for the PSHAP and then comply with paragraphs (n)(1) through (3) of this section for the SHAP in the wastewater system. You may determine the SHAP mass removal rate, in kg/hr, in treatment units that are used to meet the requirements for PSHAP and add this amount to both the numerator and denominator in Equation 1 of this section.

(o) *Compliance records.* For each CPMS used to monitor a nonflare control device for wastewater emissions, you must keep records as specified in §63.998(c)(1) in addition to the records required in §63.147(d).

[68 FR 63888, Nov. 10, 2003, as amended at 70 FR 38559, July 1, 2005; 71 FR 40335, July 14, 2006]

**§63.2490 What requirements must I meet for heat exchange systems?**

(a) You must comply with each requirement in Table 10 to this subpart that applies to your heat exchange systems, except as specified in paragraphs (b) and (c) of this section.

(b) The phrase "a chemical manufacturing process unit meeting the conditions of §63.100 (b)(1) through (b)(3) of this section" in §63.104(a) means "an MCPU meeting the conditions of §63.2435" for the purposes of this subpart.

(c) The reference to §63.100(c) in §63.104(a) does not apply for the purposes of this subpart.

**ALTERNATIVE MEANS OF COMPLIANCE**

**§63.2495 How do I comply with the pollution prevention standard?**

(a) You may elect to comply with the pollution prevention alternative requirements specified in paragraphs (a) (1) and (2) of this section in lieu of the emission limitations and work practice standards contained in Tables 1 through 7 to this subpart for any MCPU for which initial startup occurred before April 4, 2002.

(1) You must reduce the production-indexed HAP consumption factor (HAP factor) by at least 65 percent from a 3-year average baseline beginning no earlier than the 1994 through 1996 calendar years. For any reduction in the HAP factor that you achieve by reducing HAP that are also volatile organic compounds (VOC), you must demonstrate an equivalent reduction in the production-indexed VOC consumption factor (VOC factor) on a mass basis. For any reduction in the HAP factor that you achieve by reducing a HAP that is not a VOC, you may not increase the VOC factor.

(2) Any MCPU for which you seek to comply by using the pollution prevention alternative must begin with the same starting material(s) and end with the same product(s). You may not comply by eliminating any steps of a process by transferring the step offsite (to another manufacturing location). You may also not merge a solvent recovery step conducted offsite to onsite and as part of an existing process as a method of reducing consumption.

(3) You may comply with the requirements of paragraph (a)(1) of this section for a series of processes, including situations where multiple processes are merged, if you demonstrate to the satisfaction of the Administrator that the multiple processes were merged after the baseline period into an existing process or processes.

(b) *Exclusions.* (1) You must comply with the emission limitations and work practice standards contained in Tables 1 through 7 of this subpart for all HAP that are generated in the MCPU and that are not included in consumption, as defined in §63.2550. If any vent stream routed to the combustion control is a halogenated vent stream, as defined in §63.2550, then hydrogen halides that are generated as a result of combustion control must be controlled according to the requirements of §63.994 and the requirements referenced therein.

(2) You may not merge nondedicated formulation or nondedicated solvent recovery processes with any other processes.

(c) *Initial compliance procedures.* To demonstrate initial compliance with paragraph (a) of this section, you must



prepare a demonstration summary in accordance with paragraph (c) (1) of this section and calculate baseline and target annual HAP and VOC factors in accordance with paragraphs (c) (2) and (3) of this section.

(1) *Demonstration plan.* You must prepare a pollution prevention demonstration plan that contains, at a minimum, the information in paragraphs (c)(1) (i) through (iii) of this section for each MCPU for which you comply with paragraph (a) of this section.

(i) Descriptions of the methodologies and forms used to measure and record consumption of HAP and VOC compounds.

(ii) Descriptions of the methodologies and forms used to measure and record production of the product(s).

(iii) Supporting documentation for the descriptions provided in accordance with paragraphs (c)(1) (i) and (ii) of this section including, but not limited to, samples of operator log sheets and daily, monthly, and/or annual inventories of materials and products. You must describe how this documentation will be used to calculate the annual factors required in paragraph (d) of this section.

(2) *Baseline factors.* You must calculate baseline HAP and VOC factors by dividing the consumption of total HAP and total VOC by the production rate, per process, for the first 3-year period in which the process was operational, beginning no earlier than the period consisting of the 1994 through 1996 calendar years.

(3) *Target annual factors.* You must calculate target annual HAP and VOC factors. The target annual HAP factor must be equal to 35 percent of the baseline HAP factor. The target annual VOC factor must be lower than the baseline VOC factor by an amount equivalent to the reduction in any HAP that is also a VOC, on a mass basis. The target annual VOC factor may be the same as the baseline VOC factor if the only HAP you reduce is not a VOC.

(d) *Continuous compliance requirements.* You must calculate annual rolling average values of the HAP and VOC factors (annual factors) in accordance with the procedures specified in paragraphs (d) (1) through (3) of this section. To show continuous compliance,

the annual factors must be equal to or less than the target annual factors calculated according to paragraph (c)(3) of this section.

(1) To calculate the annual factors, you must divide the consumption of both total HAP and total VOC by the production rate, per process, for 12-month periods at the frequency specified in either paragraph (d) (2) or (3) of this section, as applicable.

(2) For continuous processes, you must calculate the annual factors every 30 days for the 12-month period preceding the 30th day (i.e., annual rolling average calculated every 30 days). A process with both batch and continuous operations is considered a continuous process for the purposes of this section.

(3) For batch processes, you must calculate the annual factors every 10 batches for the 12-month period preceding the 10th batch (i.e., annual rolling average calculated every 10 batches), except as specified in paragraphs (d)(3) (i) and (ii) of this section.

(i) If you produce more than 10 batches during a month, you must calculate the annual factors at least once during that month.

(ii) If you produce less than 10 batches in a 12-month period, you must calculate the annual factors for the number of batches in the 12-month period since the previous calculations.

(e) *Records.* You must keep records of HAP and VOC consumption, production, and the rolling annual HAP and VOC factors for each MCPU for which you are complying with paragraph (a) of this section.

(f) *Reporting.* (1) You must include the pollution prevention demonstration plan in the precompliance report required by § 63.2520(c).

(2) You must identify all days when the annual factors were above the target factors in the compliance reports.

[68 FR 63888, Nov. 10, 2003, as amended at 71 FR 40336, July 14, 2006]

#### § 63.2500 How do I comply with emissions averaging?

(a) For an existing source, you may elect to comply with the percent reduction emission limitations in Tables 1, 2, 4, 5, and 7 to this subpart by complying

with the emissions averaging provisions specified in §63.150, except as specified in paragraphs (b) through (f) of this section.

(b) The batch process vents in an MCPU collectively are considered one individual emission point for the purposes of emissions averaging, except that only individual batch process vents must be excluded to meet the requirements of §63.150(d)(5).

(c) References in §63.150 to §§63.112 through 63.130 mean the corresponding requirements in §§63.2450 through 63.2490, including applicable monitoring, recordkeeping, and reporting.

(d) References to "periodic reports" in §63.150 mean "compliance report" for the purposes of this subpart.

(e) For batch process vents, estimate uncontrolled emissions for a standard batch using the procedures in §63.1257(d)(2)(i) and (ii) instead of the procedures in §63.150(g)(2). Multiply the calculated emissions per batch by the number of batches per month when calculating the monthly emissions for use in calculating debits and credits.

(f) References to "storage vessels" in §63.150 mean "storage tank" as defined in §63.2550 for the purposes of this subpart.

**§ 63.2505 How do I comply with the alternative standard?**

As an alternative to complying with the emission limits and work practice standards for process vents and storage tanks in Tables 1 through 4 to this subpart and the requirements in §§63.2455 through 63.2470, you may comply with the emission limits in paragraph (a) of this section and demonstrate compliance in accordance with the requirements in paragraph (b) of this section.

(a) *Emission limits and work practice standards.* (1) You must route vent streams through a closed-vent system to a control device that reduces HAP emissions as specified in either paragraph (a)(1)(i) or (ii) of this section.

(i) If you use a combustion control device, it must reduce HAP emissions as specified in paragraphs (a)(1)(i)(A), (B), and (C) of this section.

(A) To an outlet TOC concentration of 20 parts per million by volume (ppmv) or less.

(B) To an outlet concentration of hydrogen halide and halogen HAP of 20 ppmv or less.

(C) As an alternative to paragraph (a)(1)(i)(B) of this section, if you control halogenated vent streams emitted from a combustion device followed by a scrubber, reduce the hydrogen halide and halogen HAP generated in the combustion device by greater than or equal to 95 percent by weight in the scrubber.

(ii) If you use a noncombustion control device(s), it must reduce HAP emissions to an outlet total organic HAP concentration of 50 ppmv or less, and an outlet concentration of hydrogen halide and halogen HAP of 50 ppmv or less.

(2) Any Group 1 process vents within a process that are not controlled according to this alternative standard must be controlled according to the emission limits in Tables 1 through 3 to this subpart.

(b) *Compliance requirements.* To demonstrate compliance with paragraph (a) of this section, you must meet the requirements of §63.1258(b)(5) beginning no later than the initial compliance date specified in §63.2445, except as specified in paragraphs (b)(1) through (9) of this section.

(1) You must comply with the requirements in §63.983 and the requirements referenced therein for closed-vent systems.

(2) When §63.1258(b)(5)(i) refers to §§63.1253(d) and 63.1254(c), the requirements in paragraph (a) of this section apply for the purposes of this subpart FFFF.

(3) When §63.1258(b)(5)(i)(B) refers to "HCl," it means "total hydrogen halide and halogen HAP" for the purposes of this subpart FFFF.

(4) When §63.1258(b)(5)(ii) refers to §63.1257(a)(3), it means §63.2450(j)(5) for the purposes of this subpart FFFF.

(5) You must submit the results of any determination of the target analytes of predominant HAP in the notification of compliance status report.

(6) If you elect to comply with the requirement to reduce hydrogen halide and halogen HAP by greater than or equal to 95 percent by weight in paragraph (a)(1)(i)(C) of this section, you

must meet the requirements in paragraphs (b)(6)(i) and (ii) of this section.

(i) Demonstrate initial compliance with the 95 percent reduction by conducting a performance test and setting a site-specific operating limit(s) for the scrubber in accordance with § 63.994 and the requirements referenced therein. You must submit the results of the initial compliance demonstration in the notification of compliance status report.

(ii) Install, operate, and maintain CPMS for the scrubber as specified in §§ 63.994(c) and 63.2450(k), instead of as specified in § 63.1258(b)(5)(i)(C).

(7) If flow to the scrubber could be intermittent, you must install, calibrate, and operate a flow indicator as specified in § 63.2460(c)(7).

(8) Use the operating day as the averaging period for CEMS data and scrubber parameter monitoring data.

(9) The requirements in paragraph (a) of this section do not apply to emissions from storage tanks during periods of planned routine maintenance of the control device that do not exceed 240 hr/yr. You may submit an application to the Administrator requesting an extension of this time limit to a total of 360 hr/yr in accordance with the procedures specified in § 63.2470(d). You must comply with the record-keeping and reporting specified in §§ 63.998(d)(2)(ii) and 63.999(c)(4) for periods of planned routine maintenance.

[68 FR 63888, Nov. 10, 2003, as amended at 70 FR 38559, July 1, 2005]

#### NOTIFICATION, REPORTS, AND RECORDS

##### § 63.2515 What notifications must I submit and when?

(a) You must submit all of the notifications in §§ 63.6(h)(4) and (5), 63.7(b) and (c), 63.8(e), (f)(4) and (6), and 63.9(b) through (h) that apply to you by the dates specified.

(b) *Initial notification.* As specified in § 63.9(b)(2), if you startup your affected source before November 10, 2003, you must submit an initial notification not later than 120 calendar days after November 10, 2003.

(2) As specified in § 63.9(b)(3), if you startup your new affected source on or after November 10, 2003, you must submit an initial notification not later

than 120 calendar days after you become subject to this subpart.

(c) *Notification of performance test.* If you are required to conduct a performance test, you must submit a notification of intent to conduct a performance test at least 60 calendar days before the performance test is scheduled to begin as required in § 63.7(b)(1). For any performance test required as part of the initial compliance procedures for batch process vents in Table 2 to this subpart, you must also submit the test plan required by § 63.7(c) and the emission profile with the notification of the performance test.

##### § 63.2520 What reports must I submit and when?

(a) You must submit each report in Table 11 to this subpart that applies to you.

(b) Unless the Administrator has approved a different schedule for submission of reports under § 63.10(a), you must submit each report by the date in Table 11 to this subpart and according to paragraphs (b)(1) through (5) of this section.

(1) The first compliance report must cover the period beginning on the compliance date that is specified for your affected source in § 63.2445 and ending on June 30 or December 31, whichever date is the first date following the end of the first 6 months after the compliance date that is specified for your affected source in § 63.2445.

(2) The first compliance report must be postmarked or delivered no later than August 31 or February 28, whichever date is the first date following the end of the first reporting period specified in paragraph (b)(1) of this section.

(3) Each subsequent compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.

(4) Each subsequent compliance report must be postmarked or delivered no later than August 31 or February 28, whichever date is the first date following the end of the semiannual reporting period.

(5) For each affected source that is subject to permitting regulations pursuant to 40 CFR part 70 or 40 CFR part

71, and if the permitting authority has established dates for submitting semi-annual reports pursuant to 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), you may submit the first and subsequent compliance reports according to the dates the permitting authority has established instead of according to the dates in paragraphs (b)(1) through (4) of this section.

(c) *Precompliance report.* You must submit a precompliance report to request approval for any of the items in paragraphs (c)(1) through (7) of this section. We will either approve or disapprove the report within 90 days after we receive it. If we disapprove the report, you must still be in compliance with the emission limitations and work practice standards in this subpart by the compliance date. To change any of the information submitted in the report, you must notify us 60 days before the planned change is to be implemented.

(1) Requests for approval to set operating limits for parameters other than those specified in §§63.2455 through 63.2485 and referenced therein. Alternatively, you may make these requests according to §63.8(f).

(2) Descriptions of daily or per batch demonstrations to verify that control devices subject to §63.2460(c)(5) are operating as designed.

(3) A description of the test conditions, data, calculations, and other information used to establish operating limits according to §63.2460(c)(3).

(4) Data and rationale used to support an engineering assessment to calculate uncontrolled emissions in accordance with §63.1257(d)(2)(ii). This requirement does not apply to calculations of hydrogen halide and halogen HAP emissions as specified in §63.2465(b), to determinations that the total HAP concentration is less than 50 ppmv, or if you use previous test data to establish the uncontrolled emissions.

(5) The pollution prevention demonstration plan required in §63.2495(c)(1), if you are complying with the pollution prevention alternative.

(6) Documentation of the practices that you will implement to minimize HAP emissions from streams that contain energetics and organic peroxides,

and rationale for why meeting the emission limit specified in Tables 1 through 7 to this subpart would create an undue safety hazard.

(7) For fabric filters that are monitored with bag leak detectors, an operation and maintenance plan that describes proper operation and maintenance procedures, and a corrective action plan that describes corrective actions to be taken, and the timing of those actions, when the PM concentration exceeds the set point and activates the alarm.

(d) *Notification of compliance status report.* You must submit a notification of compliance status report according to the schedule in paragraph (d)(1) of this section, and the notification of compliance status report must contain the information specified in paragraph (d)(2) of this section.

(1) You must submit the notification of compliance status report no later than 150 days after the applicable compliance date specified in §63.2445.

(2) The notification of compliance status report must include the information in paragraphs (d)(2)(i) through (ix) of this section.

(i) The results of any applicability determinations, emission calculations, or analyses used to identify and quantify HAP usage or HAP emissions from the affected source.

(ii) The results of emissions profiles, performance tests, engineering analyses, design evaluations, flare compliance assessments, inspections and repairs, and calculations used to demonstrate initial compliance according to §§63.2455 through 63.2485. For performance tests, results must include descriptions of sampling and analysis procedures and quality assurance procedures.

(iii) Descriptions of monitoring devices, monitoring frequencies, and the operating limits established during the initial compliance demonstrations, including data and calculations to support the levels you establish.

(iv) All operating scenarios.

(v) Descriptions of worst-case operating and/or testing conditions for control devices.

(vi) Identification of parts of the affected source subject to overlapping requirements described in §63.2535 and

the authority under which you will comply.

(vii) The information specified in § 63.1039(a)(1) through (3) for each process subject to the work practice standards for equipment leaks in Table 6 to this subpart.

(viii) Identify storage tanks for which you are complying with the vapor balancing alternative in § 63.2470(e).

(ix) Records as specified in § 63.2535(l)(1) through (3) of process units used to create a PUG and calculations of the initial primary product of the PUG.

(e) *Compliance report.* The compliance report must contain the information specified in paragraphs (e)(1) through (10) of this section.

(1) Company name and address.

(2) Statement by a responsible official with that official's name, title, and signature, certifying the accuracy of the content of the report.

(3) Date of report and beginning and ending dates of the reporting period.

(4) For each SSM during which excess emissions occur, the compliance report must include records that the procedures specified in your startup, shutdown, and malfunction plan (SSMP) were followed or documentation of actions taken that are not consistent with the SSMP, and include a brief description of each malfunction.

(5) The compliance report must contain the information on deviations, as defined in § 63.2550, according to paragraphs (e)(5)(i), (ii), (iii), and (iv) of this section.

(i) If there are no deviations from any emission limit, operating limit or work practice standard specified in this subpart, include a statement that there were no deviations from the emission limits, operating limits, or work practice standards during the reporting period.

(ii) For each deviation from an emission limit, operating limit, and work practice standard that occurs at an affected source where you are not using a continuous monitoring system (CMS) to comply with the emission limit or work practice standard in this subpart, you must include the information in paragraphs (e)(5)(ii)(A) through (C) of

this section. This includes periods of SSM.

(A) The total operating time of the affected source during the reporting period.

(B) Information on the number, duration, and cause of deviations (including unknown cause, if applicable), as applicable, and the corrective action taken.

(C) Operating logs of processes with batch vents from batch operations for the day(s) during which the deviation occurred, except operating logs are not required for deviations of the work practice standards for equipment leaks.

(iii) For each deviation from an emission limit or operating limit occurring at an affected source where you are using a CMS to comply with an emission limit in this subpart, you must include the information in paragraphs (e)(5)(iii)(A) through (L) of this section. This includes periods of SSM.

(A) The date and time that each CMS was inoperative, except for zero (low-level) and high-level checks.

(B) The date, time, and duration that each CEMS was out-of-control, including the information in § 63.8(c)(8).

(C) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of startup, shutdown, or malfunction or during another period.

(D) A summary of the total duration of the deviation during the reporting period, and the total duration as a percent of the total operating time of the affected source during that reporting period.

(E) A breakdown of the total duration of the deviations during the reporting period into those that are due to startup, shutdown, control equipment problems, process problems, other known causes, and other unknown causes.

(F) A summary of the total duration of CMS downtime during the reporting period, and the total duration of CMS downtime as a percent of the total operating time of the affected source during that reporting period.

(G) An identification of each HAP that is known to be in the emission stream.

(H) A brief description of the process units.

(I) A brief description of the CMS.

(J) The date of the latest CMS certification or audit.

(K) Operating logs of processes with batch vents from batch operations for each day(s) during which the deviation occurred.

(L) The operating day or operating block average values of monitored parameters for each day(s) during which the deviation occurred.

(iv) If you documented in your notification of compliance status report that an MCPU has Group 2 batch process vents because the non-reactive HAP is the only HAP and usage is less than 10,000 lb/yr, the total uncontrolled organic HAP emissions from the batch process vents in an MCPU will be less than 1,000 lb/yr for the anticipated number of standard batches, or total uncontrolled hydrogen halide and halogen HAP emissions from all batch process vents and continuous process vents in a process are less than 1,000 lb/yr, include the records associated with each calculation required by § 63.2525(e) that exceeds an applicable HAP usage or emissions threshold.

(6) If you use a CEMS, and there were no periods during which it was out-of-control as specified in § 63.8(c)(7), include a statement that there were no periods during which the CEMS was out-of-control during the reporting period.

(7) Include each new operating scenario which has been operated since the time period covered by the last compliance report and has not been submitted in the notification of compliance status report or a previous compliance report. For each new operating scenario, you must provide verification that the operating conditions for any associated control or treatment device have not been exceeded and that any required calculations and engineering analyses have been performed. For the purposes of this paragraph, a revised operating scenario for an existing process is considered to be a new operating scenario.

(8) Records of process units added to a PUG as specified in § 63.2525(i)(4) and records of primary product redeterminations as specified in § 63.2525(i)(5).

(9) Applicable records and information for periodic reports as specified in referenced subparts F, G, H, SS, UU,

WW, and GGC of this part and subpart F of 40 CFR part 65.

(10) *Notification of process change.* (i) Except as specified in paragraph (e)(10)(ii) of this section, whenever you make a process change, or change any of the information submitted in the notification of compliance status report or a previous compliance report, that is not within the scope of an existing operating scenario, you must document the change in your compliance report. A process change does not include moving within a range of conditions identified in the standard batch, and a non-standard batch does not constitute a process change. The notification must include all of the information in paragraphs (e)(10)(i)(A) through (C) of this section.

(A) A description of the process change.

(B) Revisions to any of the information reported in the original notification of compliance status report under paragraph (d) of this section.

(C) Information required by the notification of compliance status report under paragraph (d) of this section for changes involving the addition of processes or equipment at the affected source.

(ii) You must submit a report 60 days before the scheduled implementation date of any of the changes identified in paragraph (e)(10)(ii)(A), (B), or (C) of this section.

(A) Any change to the information contained in the precompliance report.

(B) A change in the status of a control device from small to large.

(C) A change from Group 2 to Group 1 for any emission point except for batch process vents that meet the conditions specified in § 63.2460(b)(6)(i).

[68 FR 63888, Nov. 10, 2003, as amended at 70 FR 38560, July 1, 2005; 71 FR 40336, July 14, 2006]

**§ 63.2525 What records must I keep?**

You must keep the records specified in paragraphs (a) through (k) of this section.

(a) Each applicable record required by subpart A of this part 63 and in referenced subparts F, G, SS, UU, WW, and GGC of this part 63 and in referenced subpart F of 40 CFR part 65.

(b) Records of each operating scenario as specified in paragraphs (b)(1) through (8) of this section.

(1) A description of the process and the type of process equipment used.

(2) An identification of related process vents, including their associated emissions episodes if not complying with the alternative standard in § 63.2505; wastewater point of determination (POD); storage tanks; and transfer racks.

(3) The applicable control requirements of this subpart, including the level of required control, and for vents, the level of control for each vent.

(4) The control device or treatment process used, as applicable, including a description of operating and/or testing conditions for any associated control device.

(5) The process vents, wastewater POD, transfer racks, and storage tanks (including those from other processes) that are simultaneously routed to the control device or treatment process(s).

(6) The applicable monitoring requirements of this subpart and any parametric level that assures compliance for all emissions routed to the control device or treatment process.

(7) Calculations and engineering analyses required to demonstrate compliance.

(8) For reporting purposes, a change to any of these elements not previously reported, except for paragraph (b)(5) of this section, constitutes a new operating scenario.

(c) A schedule or log of operating scenarios for processes with batch vents from batch operations updated each time a different operating scenario is put into effect.

(d) The information specified in paragraphs (d)(1) and (2) of this section for Group 1 batch process vents in compliance with a percent reduction emission limit in Table 2 to this subpart if some of the vents are controlled to less than the percent reduction requirement.

(1) Records of whether each batch operated was considered a standard batch.

(2) The estimated uncontrolled and controlled emissions for each batch that is considered to be a nonstandard batch.

(e) The information specified in paragraph (e)(2), (3), or (4) of this section, as applicable, for each process with Group 2 batch process vents or uncontrolled hydrogen halide and halogen HAP emissions from the sum of all batch and continuous process vents less than 1,000 lb/yr. No records are required for situations described in paragraph (e)(1) of this section.

(1) No records are required if you documented in your notification of compliance status report that the MCPU meets any of the situations described in paragraph (e)(1)(i), (ii), or (iii) of this section.

(i) The MCPU does not process, use, or generate HAP.

(ii) You control the Group 2 batch process vents using a flare that meets the requirements of § 63.987.

(iii) You control the Group 2 batch process vents using a control device for which your determination of worst case for initial compliance includes the contribution of all Group 2 batch process vents.

(2) If you documented in your notification of compliance status report that an MCPU has Group 2 batch process vents because the non-reactive organic HAP is the only HAP and usage is less than 10,000 lb/yr, as specified in § 63.2460(b)(7), you must keep records of the amount of HAP material used, and calculate the daily rolling annual sum of the amount used no less frequently than monthly. If a record indicates usage exceeds 10,000 lb/yr, you must estimate emissions for the preceding 12 months based on the number of batches operated and the estimated emissions for a standard batch, and you must begin recordkeeping as specified in paragraph (e)(4) of this section. After 1 year, you may revert to recording only usage if the usage during the year is less than 10,000 lb.

(3) If you documented in your notification of compliance status report that total uncontrolled organic HAP emissions from the batch process vents in an MCPU will be less than 1,000 lb/yr for the anticipated number of standard batches, then you must keep records of the number of batches operated and calculate a daily rolling annual sum of batches operated no less frequently than monthly. If the number of batches

operated results in organic HAP emissions that exceed 1,000 lb/yr, you must estimate emissions for the preceding 12 months based on the number of batches operated and the estimated emissions for a standard batch, and you must begin recordkeeping as specified in paragraph (e)(4) of this section. After 1 year, you may revert to recording only the number of batches if the number of batches operated during the year results in less than 1,000 lb of organic HAP emissions.

(4) If you meet none of the conditions specified in paragraphs (e)(1) through (3) of this section, you must keep records of the information specified in paragraphs (e)(4)(i) through (iv) of this section.

(i) A record of the day each batch was completed and/or the operating hours per day for continuous operations with hydrogen halide and halogen emissions.

(ii) A record of whether each batch operated was considered a standard batch.

(iii) The estimated uncontrolled and controlled emissions for each batch that is considered to be a nonstandard batch.

(iv) Records of the daily 365-day rolling summations of emissions, or alternative records that correlate to the emissions (e.g., number of batches), calculated no less frequently than monthly.

(f) A record of each time a safety device is opened to avoid unsafe conditions in accordance with § 63.2450(s).

(g) Records of the results of each CPMS calibration check and the maintenance performed, as specified in § 63.2450(k)(1).

(h) For each CEMS, you must keep records of the date and time that each deviation started and stopped, and whether the deviation occurred during a period of startup, shutdown, or malfunction or during another period.

(i) For each PUG, you must keep records specified in paragraphs (i)(1) through (5) of this section.

(1) Descriptions of the MCPU and other process units in the initial PUG required by § 63.2535(l)(1)(v).

(2) Rationale for including each MCPU and other process unit in the initial PUG (*i.e.*, identify the overlap-

ping equipment between process units) required by § 63.2535(l)(1)(v).

(3) Calculations used to determine the primary product for the initial PUG required by § 63.2535(l)(2)(iv).

(4) Descriptions of process units added to the PUG after the creation date and rationale for including the additional process units in the PUG as required by § 63.2535(l)(1)(v).

(5) The calculation of each primary product redetermination required by § 63.2535(l)(2)(iv).

(j) In the SSMP required by § 63.6(e)(3), you are not required to include Group 2 emission points, unless those emission points are used in an emissions average. For equipment leaks, the SSMP requirement is limited to control devices and is optional for other equipment.

(k) For each bag leak detector used to monitor PM HAP emissions from a fabric filter, maintain records of any bag leak detection alarm, including the date and time, with a brief explanation of the cause of the alarm and the corrective action taken.

[68 FR 63888, Nov. 10, 2003, as amended at 70 FR 38560, July 1, 2005; 71 FR 40337, July 14, 2006]

#### OTHER REQUIREMENTS AND INFORMATION

##### § 63.2535 What compliance options do I have if part of my plant is subject to both this subpart and another subpart?

For any equipment, emission stream, or wastewater stream subject to the provisions of both this subpart and another rule, you may elect to comply only with the provisions as specified in paragraphs (a) through (l) of this section. You also must identify the subject equipment, emission stream, or wastewater stream, and the provisions with which you will comply, in your notification of compliance status report required by § 63.2520(d).

(a) *Compliance with other subparts of this part 63.* (1) If you have an MCPU that includes a batch process vent that also is part of a CMPU as defined in subparts F and G of this part 63, you must comply with the emission limits; operating limits; work practice standards; and the compliance, monitoring,



reporting, and recordkeeping requirements for batch process vents in this subpart, and you must continue to comply with the requirements in subparts F, G, and H of this part 63 that are applicable to the CPU and associated equipment.

(2) After the compliance dates specified in § 63.2445, at an offsite reloading or cleaning facility subject to § 63.1253(f), as referenced from § 63.2470(e), compliance with the monitoring, recordkeeping, and reporting provisions of any other subpart of this part 63 constitutes compliance with the monitoring, recordkeeping, and reporting provisions of § 63.1253(f)(7)(ii) or § 63.1253(f)(7)(iii). You must identify in your notification of compliance status report required by § 63.2520(d) the subpart of this part 63 with which the owner or operator of the offsite reloading or cleaning facility complies.

(b) *Compliance with 40 CFR parts 264 and 265, subparts AA, BB, and/or CC.* (1) After the compliance dates specified in § 63.2445, if a control device that you use to comply with this subpart is also subject to monitoring, recordkeeping, and reporting requirements in 40 CFR part 264, subpart AA, BB, or CC; or the monitoring and recordkeeping requirements in 40 CFR part 265, subpart AA, BB, or CC; and you comply with the periodic reporting requirements under 40 CFR part 264, subpart AA, BB, or CC that would apply to the device if your facility had final-permitted status, you may elect to comply either with the monitoring, recordkeeping, and reporting requirements of this subpart; or with the monitoring and recordkeeping requirements in 40 CFR part 264 or 265 and the reporting requirements in 40 CFR part 264, as described in this paragraph (b)(1), which constitute compliance with the monitoring, recordkeeping, and reporting requirements of this subpart. If you elect to comply with the monitoring, recordkeeping, and reporting requirements in 40 CFR parts 264 and/or 265, you must report the information described in § 63.2520(e).

(2) After the compliance dates specified in § 63.2445, if you have an affected source with equipment that is also subject to 40 CFR part 264, subpart BB, or to 40 CFR part 265, subpart BB, then

compliance with the recordkeeping and reporting requirements of 40 CFR parts 264 and/or 265 may be used to comply with the recordkeeping and reporting requirements of this subpart, to the extent that the requirements of 40 CFR parts 264 and/or 265 duplicate the requirements of this subpart.

(c) *Compliance with 40 CFR part 60, subpart Kb and 40 CFR part 61, subpart Y.* After the compliance dates specified in § 63.2445, you are in compliance with the provisions of this subpart FFFF for any storage tank that is assigned to an MCPU and that is both controlled with a floating roof and in compliance with the provisions of either 40 CFR part 60, subpart Kb, or 40 CFR part 61, subpart Y. You are in compliance with this subpart FFFF if you have a storage tank with a fixed roof, closed-vent system, and control device in compliance with the provisions of either 40 CFR part 60, subpart Kb, or 40 CFR part 61, subpart Y, except that you must comply with the monitoring, recordkeeping, and reporting requirements in this subpart FFFF. Alternatively, if a storage tank assigned to an MCPU is subject to control under 40 CFR part 60, subpart Kb, or 40 CFR part 61, subpart Y, you may elect to comply only with the requirements for Group 1 storage tanks in this subpart FFFF.

(d) *Compliance with subpart I, GGG, or MMM of this part 63.* After the compliance dates specified in § 63.2445, if you have an affected source with equipment subject to subpart I, GGG, or MMM of this part 63, you may elect to comply with the provisions of subpart H, GGG, or MMM of this part 63, respectively, for all such equipment.

(e) *Compliance with subpart GGG of this part 63 for wastewater.* After the compliance dates specified in § 63.2445, if you have an affected source subject to this subpart and you have an affected source that generates wastewater streams that meet the applicability thresholds specified in § 63.1256, you may elect to comply with the provisions of this subpart FFFF for all such wastewater streams.

(f) *Compliance with subpart MMM of this part 63 for wastewater.* After the compliance dates specified in § 63.2445, if you have an affected source subject

to this subpart, and you have an affected source that generates wastewater streams that meet the applicability thresholds specified in § 63.1362(d), you may elect to comply with the provisions of this subpart FFFF for all such wastewater streams (except that the 99 percent reduction requirement for streams subject to § 63.1362(d)(10) still applies).

(g) *Compliance with other regulations for wastewater.* After the compliance dates specified in § 63.2445, if you have a Group 1 wastewater stream that is also subject to provisions in 40 CFR parts 260 through 272, you may elect to determine whether this subpart or 40 CFR parts 260 through 272 contain the more stringent control requirements (e.g., design, operation, and inspection requirements for waste management units; numerical treatment standards; etc.) and the more stringent testing, monitoring, recordkeeping, and reporting requirements. Compliance with provisions of 40 CFR parts 260 through 272 that are determined to be more stringent than the requirements of this subpart constitute compliance with this subpart. For example, provisions of 40 CFR parts 260 through 272 for treatment units that meet the conditions specified in § 63.138(h) constitute compliance with this subpart. You must identify in the notification of compliance status report required by § 63.2520(d) the information and procedures that you used to make any stringency determinations.

(h) *Compliance with 40 CFR part 60, subpart DDD, III, NNN, or RRR.* After the compliance dates specified in § 63.2445, if you have an MCPU that contains equipment subject to the provisions of this subpart that are also subject to the provisions of 40 CFR part 60, subpart DDD, III, NNN, or RRR, you may elect to apply this subpart to all such equipment in the MCPU. If an MCPU subject to the provisions of this subpart has equipment to which this subpart does not apply but which is subject to a standard in 40 CFR part 60, subpart DDD, III, NNN, or RRR, you may elect to comply with the requirements for Group 1 process vents in this subpart for such equipment. If you elect any of these methods of compliance, you must consider all total or-

ganic compounds, minus methane and ethane, in such equipment for purposes of compliance with this subpart, as if they were organic HAP. Compliance with the provisions of this subpart, in the manner described in this paragraph (h), will constitute compliance with 40 CFR part 60, subpart DDD, III, NNN, or RRR, as applicable.

(i) *Compliance with 40 CFR part 61, subpart BB.* (1) After the compliance dates specified in § 63.2445, a Group 1 transfer rack, as defined in § 63.2550, that is also subject to the provisions of 40 CFR part 61, subpart BB, you are required to comply only with the provisions of this subpart.

(2) After the compliance dates specified in § 63.2445, a Group 2 transfer rack, as defined in § 63.2550, that is also subject to the provisions of 40 CFR part 61, subpart BB, is required to comply with the provisions of either paragraph (1)(2)(i) or (ii) of this section.

(i) If the transfer rack is subject to the control requirements specified in § 61.302 of 40 CFR part 61, subpart BB, then you may elect to comply with either the requirements of 40 CFR part 61, subpart BB, or the requirements for Group 1 transfer racks under this subpart FFFF.

(ii) If the transfer rack is subject only to reporting and recordkeeping requirements under 40 CFR part 61, subpart BB, then you are required to comply only with the reporting and recordkeeping requirements specified in this subpart for Group 2 transfer racks, and you are exempt from the reporting and recordkeeping requirements in 40 CFR part 61, subpart BB.

(j) *Compliance with 40 CFR part 61, subpart FF.* After the compliance date specified in § 63.2445, for a Group 1 or Group 2 wastewater stream that is also subject to the provisions of 40 CFR 61.342(c) through (h), and is not exempt under 40 CFR 61.342(c)(2) or (3), you may elect to comply only with the requirements for Group 1 wastewater streams in this subpart FFFF. If a Group 2 wastewater stream is exempted from 40 CFR 61.342(c)(1) under 40 CFR 61.342(c)(2) or (3), then you are required to comply only with the reporting and recordkeeping requirements specified in this subpart for Group 2

wastewater streams, and you are exempt from the requirements in 40 CFR part 61, subpart FF.

(k) *Compliance with 40 CFR part 60, subpart VV, and 40 CFR part 61, subpart V.* After the compliance date specified in § 63.2445, if you have an affected source with equipment that is also subject to the requirements of 40 CFR part 60, subpart VV, or 40 CFR part 61, subpart V, you may elect to apply this subpart to all such equipment. After the compliance date specified in § 63.2445, if you have an affected source with equipment to which this subpart does not apply, but which is subject to the requirements of 40 CFR part 60, subpart VV, or 40 CFR part 61, subpart V, you may elect to apply this subpart to all such equipment. If you elect either of these methods of compliance, you must consider all total organic compounds, minus methane and ethane, in such equipment for purposes of compliance with this subpart, as if they were organic HAP. Compliance with the provisions of this subpart, in the manner described in this paragraph (k), will constitute compliance with 40 CFR part 60, subpart VV and 40 CFR part 61, subpart V, as applicable.

(l) *Applicability of process units included in a process unit group.* You may elect to develop and comply with the requirements for PUG in accordance with paragraphs (l)(1) through (3) of this section.

(1) *Procedures to create process unit groups.* Develop and document changes in a PUG in accordance with the procedures specified in paragraphs (l)(1)(i) through (v) of this section.

(i) Initially, identify an MCPU that is created from nondedicated equipment that will operate on or after November 10, 2003 and identify all processing equipment that is part of this MCPU, based on descriptions in operating scenarios.

(ii) Add to the group any other nondedicated MCPU and other nondedicated process units expected to be operated in the 5 years after the date specified in paragraph (l)(1)(i) of this section, provided they satisfy the criteria specified in paragraphs (l)(1)(ii)(A) through (C) of this section. Also identify all of the processing equipment used for each process unit based on in-

formation from operating scenarios and other applicable documentation.

(A) Each process unit that is added to a group must have some processing equipment that is also part of one or more process units in the group.

(B) No process unit may be part of more than one PUG.

(C) The processing equipment used to satisfy the requirement of paragraph (l)(1)(ii)(A) of this section may not be a storage tank or control device.

(iii) The initial PUG consists of all of the processing equipment for the process units identified in paragraphs (l)(1)(i) and (ii) of this section. As an alternative to the procedures specified in paragraphs (l)(1)(i) and (ii) of this section, you may use a PUG that was developed in accordance with § 63.1360(h) as your initial PUG.

(iv) Add process units developed in the future in accordance with the conditions specified in paragraphs (l)(1)(ii)(A) and (B) of this section.

(v) Maintain records that describe the process units in the initial PUG, the procedure used to create the PUG, and subsequent changes to each PUG as specified in § 63.2525(i). Submit the records in reports as specified in § 63.2520(d)(2)(ix) and (e)(8).

(2) *Determine primary product.* You must determine the primary product of each PUG created in paragraph (l)(1) of this section according to the procedures specified in paragraphs (l)(2)(i) through (iv) of this section.

(i) The primary product is the type of product (*e.g.*, organic chemicals subject to § 63.2435(b)(1), pharmaceutical products subject to § 63.1250, or pesticide active ingredients subject to § 63.1360) expected to be produced for the greatest operating time in the 5-year period specified in paragraph (l)(1)(ii) of this section.

(ii) If the PUG produces multiple types of products equally based on operating time, then the primary product is the type of product with the greatest production on a mass basis over the 5-year period specified in paragraph (l)(1)(ii) of this section.

(iii) At a minimum, you must re-determine the primary product of the PUG following the procedure specified in paragraphs (l)(2)(i) and (ii) of this section every 5 years.

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(iv) You must record the calculation of the initial primary product determination as specified in § 63.2525(i)(3) and report the results in the notification of compliance status report as specified in § 63.2520(d)(8)(ix). You must record the calculation of each redetermination of the primary product as specified in § 63.2525(i)(5) and report the calculation in a compliance report submitted no later than the report covering the period for the end of the 5th year after cessation of production of the previous primary product, as specified in § 63.2520(e)(8).

(3) *Compliance requirements.* (i) If the primary product of the PUG is determined according to paragraph (1)(2) of this section to be material described in § 63.2435(b)(1), then you must comply with this subpart for each MCPU in the PUG. You may also elect to comply with this subpart for all other process units in the PUG, which constitutes compliance with other part 63 rules.

(ii) If the primary product of the PUG is determined according to paragraph (1)(2) of this section to be material not described in § 63.2435(b)(1), then you must comply with paragraph (1)(3)(ii)(A), (B), or (C) of this section, as applicable.

(A) If the primary product is subject to subpart GGG of this part 63, then comply with the requirements of subpart GGG for each MCPU in the PUG.

(B) If the primary product is subject to subpart MMM of this part 63, then comply with the requirements of subpart MMM for each MCPU in the PUG.

(C) If the primary product is subject to any subpart in this part 63 other than subpart GGG or subpart MMM, then comply with the requirements of this subpart for each MCPU in the PUG.

(iii) The requirements for new and reconstructed sources in the alternative subpart apply to all MCPU in the PUG if and only if the affected source under the alternative subpart meets the requirements for construction or reconstruction.

[68 FR 63888, Nov. 10, 2003, as amended at 71 FR 40337, July 14, 2006]

### § 63.2540 What parts of the General Provisions apply to me?

Table 12 to this subpart shows which parts of the General Provisions in §§ 63.1 through 63.15 apply to you.

### § 63.2545 Who implements and enforces this subpart?

(a) This subpart can be implemented and enforced by us, the U.S. Environmental Protection Agency (U.S. EPA), or a delegated authority such as your State, local, or tribal agency. If the U.S. EPA Administrator has delegated authority to your State, local, or tribal agency, then that agency also has the authority to implement and enforce this subpart. You should contact your U.S. EPA Regional Office to find out if this subpart is delegated to your State, local, or tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or tribal agency under 40 CFR part 63, subpart E, the authorities contained in paragraphs (b)(1) through (4) of this section are retained by the Administrator of U.S. EPA and are not delegated to the State, local, or tribal agency.

(1) Approval of alternatives to the non-opacity emission limits and work practice standards in § 63.2450(a) under § 63.6(g).

(2) Approval of major alternatives to test methods under § 63.7(e)(2)(ii) and (f) and as defined in § 63.90.

(3) Approval of major alternatives to monitoring under § 63.8(f) and as defined in § 63.90.

(4) Approval of major alternatives to recordkeeping and reporting under § 63.10(f) and as defined in § 63.90.

### § 63.2550 What definitions apply to this subpart?

(a) For an affected source complying with the requirements in subpart SS of this part 63, the terms used in this subpart and in subpart SS of this part 63 have the meaning given them in § 63.981, except as specified in §§ 63.2450(k)(2) and (m), 63.2470(c)(2), 63.2475(b), and paragraph (i) of this section.

(b) For an affected source complying with the requirements in 40 CFR part 65, subpart F, the terms used in this subpart and in 40 CFR part 65, subpart

F have the meaning given to them in § 65.2.

(c) For an affected source complying with the requirements in subpart UU of this part 63, the terms used in this subpart and in subpart UU of this part 63 have the meaning given them in § 63.1020.

(d) For an affected source complying with the requirements in subpart WW of this part 63, the terms used in this subpart and subpart WW of this part 63 have the meaning given them in § 63.1061, except as specified in §§ 63.2450(m), 63.2470(c)(2), and paragraph (i) of this section.

(e) For an affected source complying with the requirements in §§ 63.132 through 63.149, the terms used in this subpart and §§ 63.132 through 63.149 have the meaning given them in §§ 63.101 and 63.111, except as specified in § 63.2450(m) and paragraph (i) of this section.

(f) For an affected source complying with the requirements in §§ 63.104 and 63.105, the terms used in this subpart and in §§ 63.104 and 63.105 of this subpart have the meaning given them in § 63.101, except as specified in §§ 63.2450(m), 63.2490(b), and paragraph (i) of this section.

(g) For an affected source complying with requirements in §§ 63.1253, 63.1257, and 63.1258, the terms used in this subpart and in §§ 63.1253, 63.1257, and 63.1258 have the meaning given them in § 63.1251, except as specified in § 63.2450(m) and paragraph (i) of this section.

(h) For an affected source complying with the requirements in 40 CFR part 65, subpart F, the terms used in this subpart and in 40 CFR part 65, subpart F, have the meaning given them in 40 CFR 65.2.

(i) All other terms used in this subpart are defined in the Clean Air Act (CAA), in 40 CFR 63.2, and in this paragraph (i). If a term is defined in § 63.2, § 63.101, § 63.111, § 63.981, § 63.1020, § 63.1061, § 63.1251, or § 65.2 and in this paragraph (i), the definition in this paragraph (i) applies for the purposes of this subpart.

*Ancillary activities* means boilers and incinerators (not used to comply with the emission limits in Tables 1 through 7 to this subpart), chillers and refrigeration systems, and other equipment

and activities that are not directly involved (*i.e.*, they operate within a closed system and materials are not combined with process fluids) in the processing of raw materials or the manufacturing of a product or isolated intermediate.

*Batch operation* means a noncontinuous operation involving intermittent or discontinuous feed into equipment, and, in general, involves the emptying of the equipment after the operation ceases and prior to beginning a new operation. Addition of raw material and withdrawal of product do not occur simultaneously in a batch operation.

*Batch process vent* means a vent from a unit operation or vents from multiple unit operations within a process that are manifolded together into a common header, through which a HAP-containing gas stream is, or has the potential to be, released to the atmosphere. Examples of batch process vents include, but are not limited to, vents on condensers used for product recovery, reactors, filters, centrifuges, and process tanks. The following are not batch process vents for the purposes of this subpart:

- (1) Continuous process vents;
- (2) Bottoms receivers;
- (3) Surge control vessels;
- (4) Gaseous streams routed to a fuel gas system(s);
- (5) Vents on storage tanks, wastewater emission sources, or pieces of equipment subject to the emission limits and work practice standards in Tables 4, 6, and 7 to this subpart;
- (6) Drums, pails, and totes;
- (7) Flexible elephant trunk systems that draw ambient air (*i.e.*, the system is not ducted, piped, or otherwise connected to the unit operations) away from operators when vessels are opened; and
- (8) Emission streams from emission episodes that are undiluted and uncontrolled containing less than 50 ppmv HAP are not part of any batch process vent. A vent from a unit operation, or a vent from multiple unit operations that are manifolded together, from which total uncontrolled HAP emissions are less than 200 lb/yr is not a batch process vent; emissions for all emission episodes associated with the unit operation(s) must be included in

the determination of the total mass emitted. The HAP concentration or mass emission rate may be determined using any of the following: process knowledge that no HAP are present in the emission stream; an engineering assessment as discussed in § 63.1257(d)(2)(ii), except that you do not need to demonstrate that the equations in § 63.1257(d)(2)(i) do not apply, and the precompliance reporting requirements specified in § 63.1257(d)(2)(ii)(E) do not apply for the purposes of this demonstration; equations specified in § 63.1257(d)(2)(i), as applicable; test data using Method 18 of 40 CFR part 60, appendix A; or any other test method that has been validated according to the procedures in Method 301 of appendix A of this part.

*Biofilter* means an enclosed control system such as a tank or series of tanks with a fixed roof that contact emissions with a solid media (such as bark) and use microbiological activity to transform organic pollutants in a process vent stream to innocuous compounds such as carbon dioxide, water, and inorganic salts. Wastewater treatment processes such as aeration lagoons or activated sludge systems are not considered to be biofilters.

*Bottoms receiver* means a tank that collects bottoms from continuous distillation before the stream is sent for storage or for further downstream processing.

*Construction* means the onsite fabrication, erection, or installation of an affected source or MCPU. Addition of new equipment to an MCPU subject to existing source standards does not constitute construction, but it may constitute reconstruction of the affected source or MCPU if it satisfies the definition of reconstruction in § 63.2.

*Consumption* means the quantity of all HAP raw materials entering a process in excess of the theoretical amount used as reactant, assuming 100 percent stoichiometric conversion. The raw materials include reactants, solvents, and any other additives. If a HAP is generated in the process as well as added as a raw material, consumption includes the quantity generated in the process.

*Continuous operation* means any operation that is not a batch operation.

*Continuous process vent* means the point of discharge to the atmosphere (or the point of entry into a control device, if any) of a gas stream if the gas stream has the characteristics specified in § 63.107(b) through (h), or meets the criteria specified in § 63.107(i), except:

(1) The reference in § 63.107(e) to a chemical manufacturing process unit that meets the criteria of § 63.100(b) means an MCPU that meets the criteria of § 63.2435(b);

(2) The reference in § 63.107(h)(4) to § 63.113 means Table 1 to this subpart;

(3) The references in § 63.107(h)(7) to §§ 63.119 and 63.126 mean Tables 4 and 5 to this subpart; and

(4) For the purposes of § 63.2455, all references to the characteristics of a process vent (e.g., flowrate, total HAP concentration, or TRE index value) mean the characteristics of the gas stream.

(5) The reference to "total organic HAP" in § 63.107(d) means "total HAP" for the purposes of this subpart FFFF.

(6) The references to an "air oxidation reactor, distillation unit, or reactor" in § 63.107 mean any continuous operation for the purposes of this subpart.

(7) A separate determination is required for the emissions from each MCPU, even if emission streams from two or more MCPU are combined prior to discharge to the atmosphere or to a control device.

*Dedicated MCPU* means an MCPU that consists of equipment that is used exclusively for one process, except that storage tanks assigned to the process according to the procedures in § 63.2435(d) also may be shared by other processes.

*Deviation* means any instance in which an affected source subject to this subpart, or an owner or operator of such a source:

(1) Fails to meet any requirement or obligation established by this subpart including, but not limited to, any emission limit, operating limit, or work practice standard; or

(2) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating

permit for any affected source required to obtain such a permit; or

(3) Fails to meet any emission limit, operating limit, or work practice standard in this subpart during start-up, shutdown, or malfunction, regardless of whether or not such failure is permitted by this subpart.

*Emission point* means each continuous process vent, batch process vent, storage tank, transfer rack, and wastewater stream.

*Energetics* means propellants, explosives, and pyrotechnics and include materials listed at 49 CFR 172.101 as Hazard Class I Hazardous Materials, Divisions 1.1 through 1.6.

*Equipment* means each pump, compressor, agitator, pressure relief device, sampling connection system, open-ended valve or line, valve, connector, and instrumentation system in organic HAP service; and any control devices or systems used to comply with Table 6 to this subpart.

*Excess emissions* means emissions greater than those allowed by the emission limit.

*Family of materials* means a grouping of materials with the same basic composition or the same basic end use or functionality produced using the same basic feedstocks with essentially identical HAP emission profiles (primary constituent and relative magnitude on a pound per product basis) and manufacturing equipment configuration. Examples of families of materials include multiple grades of the same product or different variations of a product (e.g., blue, black, and red resins).

*Group 1 batch process vent* means each of the batch process vents in a process for which the collective uncontrolled organic HAP emissions from all of the batch process vents are greater than or equal to 10,000 lb/yr at an existing source or greater than or equal to 3,000 lb/yr at a new source.

*Group 2 batch process vent* means each batch process vent that does not meet the definition of Group 1 batch process vent.

*Group 1 continuous process vent* means a continuous process vent for which the flow rate is greater than or equal to 0.005 standard cubic meter per minute, and the total resource effectiveness index value, calculated ac-

ording to §63.2455(b), is less than or equal to 1.9 at an existing source and less than or equal to 5.0 at a new source.

*Group 2 continuous process vent* means a continuous process vent that does not meet the definition of a Group 1 continuous process vent.

*Group 1 storage tank* means a storage tank with a capacity greater than or equal to 10,000 gal storing material that has a maximum true vapor pressure of total HAP greater than or equal to 6.9 kilopascals at an existing source or greater than or equal to 0.69 kilopascals at a new source.

*Group 2 storage tank* means a storage tank that does not meet the definition of a Group 1 storage tank.

*Group 1 transfer rack* means a transfer rack that loads more than 0.65 million liters/year of liquids that contain organic HAP with a rack-weighted average partial pressure, as defined in §63.111, greater than or equal to 1.5 pound per square inch absolute.

*Group 2 transfer rack* means a transfer rack that does not meet the definition of a Group 1 transfer rack.

*Group 1 wastewater stream* means a wastewater stream consisting of process wastewater at an existing or new source that meets the criteria for Group 1 status in §63.2485(c) for compounds in Tables 8 and 9 to this subpart and/or a wastewater stream consisting of process wastewater at a new source that meets the criteria for Group 1 status in §63.132(d) for compounds in Table 8 to subpart G of this part 63.

*Group 2 wastewater stream* means any process wastewater stream that does not meet the definition of a Group 1 wastewater stream.

*Halogen atoms* mean chlorine and fluorine.

*Halogenated vent stream* means a vent stream determined to have a mass emission rate of halogen atoms contained in organic compounds of 0.45 kilograms per hour or greater determined by the procedures presented in §63.115(d)(2)(v).

*HAP metals* means the metal portion of antimony compounds, arsenic compounds, beryllium compounds, cadmium compounds, chromium compounds, cobalt compounds, lead compounds, manganese compounds, mercury compounds, nickel compounds, and selenium compounds.

*Hydrogen halide and halogen HAP* means hydrogen chloride, hydrogen fluoride, and chlorine.

*In organic HAP service* means that a piece of equipment either contains or contacts a fluid (liquid or gas) that is at least 5 percent by weight of total organic HAP as determined according to the provisions of § 63.180(d). The provisions of § 63.180(d) also specify how to determine that a piece of equipment is not in organic HAP service.

*Isolated intermediate* means a product of a process that is stored before subsequent processing. An isolated intermediate is usually a product of a chemical synthesis, fermentation, or biological extraction process. Storage of an isolated intermediate marks the end of a process. Storage occurs at any time the intermediate is placed in equipment used solely for storage. The storage equipment is part of the MCPU that produces the isolated intermediate and is not assigned as specified in § 63.2435(d).

*Large control device* means a control device that controls total HAP emissions of greater than or equal to 10 tpy, before control.

*Maintenance wastewater* means wastewater generated by the draining of process fluid from components in the MCPU into an individual drain system in preparation for or during maintenance activities. Maintenance wastewater can be generated during planned and unplanned shutdowns and during periods not associated with a shutdown. Examples of activities that can generate maintenance wastewater include descaling of heat exchanger tubing bundles, cleaning of distillation column traps, draining of pumps into an individual drain system, and draining of portions of the MCPU for repair. Wastewater from routine cleaning operations occurring as part of batch operations is not considered maintenance wastewater.

*Maximum true vapor pressure* has the meaning given in § 63.111, except that it applies to all HAP rather than only organic HAP.

*Miscellaneous organic chemical manufacturing process* means all equipment which collectively function to produce a product or isolated intermediate that are materials described in § 63.2435(b). For the purposes of this subpart, process includes any, all or a combination of reaction, recovery, separation, purification, or other activity, operation, manufacture, or treatment which are used to produce a product or isolated intermediate. A process is also defined by the following:

(1) Routine cleaning operations conducted as part of batch operations are considered part of the process;

(2) Each nondedicated solvent recovery operation is considered a single process;

(3) Each nondedicated formulation operation is considered a single process that is used to formulate numerous materials and/or products;

(4) Quality assurance/quality control laboratories are not considered part of any process; and

(5) Ancillary activities are not considered a process or part of any process.

(6) The end of a process that produces a solid material is either up to and including the dryer or extruder, or for a polymer production process without a dryer or extruder, it is up to and including the extruder, die plate, or solid-state reactor, except in two cases. If the dryer, extruder, die plate, or solid-state reactor is followed by an operation that is designed and operated to remove HAP solvent or residual HAP monomer from the solid, then the solvent removal operation is the last step in the process. If the dried solid is diluted or mixed with a HAP-based solvent, then the solvent removal operation is the last step in the process.

*Nondedicated solvent recovery operation* means a distillation unit or other purification equipment that receives used solvent from more than one MCPU.

*Nonstandard batch* means a batch process that is operated outside of the range of operating conditions that are documented in an existing operating



scenario but is still a reasonably anticipated event. For example, a non-standard batch occurs when additional processing or processing at different operating conditions must be conducted to produce a product that is normally produced under the conditions described by the standard batch. A nonstandard batch may be necessary as a result of a malfunction, but it is not itself a malfunction.

*On-site or on site* means, with respect to records required to be maintained by this subpart or required by another subpart referenced by this subpart, that records are stored at a location within a major source which encompasses the affected source. On-site includes, but is not limited to, storage at the affected source or MCPU to which the records pertain, or storage in central files elsewhere at the major source.

*Operating scenario* means, for the purposes of reporting and recordkeeping, any specific operation of an MCPU as described by records specified in § 63.2525(b).

*Organic group* means structures that contain primarily carbon, hydrogen, and oxygen atoms.

*Organic peroxides* means organic compounds containing the bivalent -o-o- structure which may be considered to be a structural derivative of hydrogen peroxide where one or both of the hydrogen atoms has been replaced by an organic radical.

*Point of determination* means each point where process wastewater exits the MCPU or control device.

Note to definition for point of determination: The regulation allows determination of the characteristics of a wastewater stream: At the point of determination; or downstream of the point of determination if corrections are made for changes in flow rate and annual average concentration of soluble HAP and partially soluble HAP compounds as determined according to procedures in § 63.144 of subpart G in this part 63. Such changes include losses by air emissions; reduction of annual average concentration or changes in flow rate by mixing with other water or wastewater streams; and reduction in flow rate or annual average concentration by treating or

otherwise handling the wastewater stream to remove or destroy HAP.

*Predominant HAP* means as used in calibrating an analyzer, the single organic HAP that constitutes the largest percentage of the total organic HAP in the analyzed gas stream, by volume.

*Process condenser* means a condenser whose primary purpose is to recover material as an integral part of an MCPU. All condensers recovering condensate from an MCPU at or above the boiling point or all condensers in line prior to a vacuum source are considered process condensers. Typically, a primary condenser or condensers in series are considered to be integral to the MCPU if they are capable of and normally used for the purpose of recovering chemicals for fuel value (i.e., net positive heating value), use, reuse or for sale for fuel value, use, or reuse. This definition does not apply to a condenser that is used to remove materials that would hinder performance of a downstream recovery device as follows:

(1) To remove water vapor that would cause icing in a downstream condenser, or

(2) To remove water vapor that would negatively affect the adsorption capacity of carbon in a downstream carbon adsorber, or

(3) To remove high molecular weight organic compounds or other organic compounds that would be difficult to remove during regeneration of a downstream carbon adsorber.

*Process tank* means a tank or vessel that is used within a process to collect material discharged from a feedstock storage tank or equipment within the process before the material is transferred to other equipment within the process or a product storage tank. A process tank has emissions that are related to the characteristics of the batch cycle, and it does not accumulate product over multiple batches. Surge control vessels and bottoms receivers are not process tanks.

*Production-indexed HAP consumption factor (HAP factor)* means the result of dividing the annual consumption of total HAP by the annual production rate, per process.

*Production-indexed VOC consumption factor (VOC factor)* means the result of dividing the annual consumption of

total VOC by the annual production rate, per process.

*Quaternary ammonium compounds* means a type of organic nitrogen compound in which the molecular structure includes a central nitrogen atom joined to four organic groups as well as an acid radical of some sort.

*Recovery device* means an individual unit of equipment used for the purpose of recovering chemicals from process vent streams and from wastewater streams for fuel value (i.e., net positive heating value), use, reuse, or for sale for fuel value, use, or reuse. For the purposes of meeting requirements in Table 2 to this subpart, the recovery device must not be a process condenser and must recover chemicals to be reused in a process on site. Examples of equipment that may be recovery devices include absorbers, carbon adsorbers, condensers, oil-water separators or organic-water separators, or organic removal devices such as decanters, strippers, or thin-film evaporation units. To be a recovery device for a wastewater stream, a decanter and any other equipment based on the operating principle of gravity separation must receive only multi-phase liquid streams.

*Responsible official* means responsible official as defined in 40 CFR 70.2.

*Safety device* means a closure device such as a pressure relief valve, frangible disc, fusible plug, or any other type of device which functions exclusively to prevent physical damage or permanent deformation to a unit or its air emission control equipment by venting gases or vapors directly to the atmosphere during unsafe conditions resulting from an unplanned, accidental, or emergency event. For the purposes of this subpart, a safety device is not used for routine venting of gases or vapors from the vapor headspace underneath a cover such as during filling of the unit or to adjust the pressure in response to normal daily diurnal ambient temperature fluctuations. A safety device is designed to remain in a closed position during normal operations and open only when the internal pressure, or another relevant parameter, exceeds the device threshold setting applicable to the air emission control equipment as

determined by the owner or operator based on manufacturer recommendations, applicable regulations, fire protection and prevention codes and practices, or other requirements for the safe handling of flammable, combustible, explosive, reactive, or hazardous materials.

*Shutdown* means the cessation of operation of a continuous operation for any purpose. Shutdown also means the cessation of a batch operation, or any related individual piece of equipment required or used to comply with this subpart, if the steps taken to cease operation differ from those described in a standard batch or nonstandard batch. Shutdown also applies to emptying and degassing storage vessels. Shutdown does not apply to cessation of batch operations at the end of a campaign or between batches within a campaign when the steps taken are routine operations.

*Small control device* means a control device that controls total HAP emissions of less than 10 tpy, before control.

*Standard batch* means a batch process operated within a range of operating conditions that are documented in an operating scenario. Emissions from a standard batch are based on the operating conditions that result in highest emissions. The standard batch defines the uncontrolled and controlled emissions for each emission episode defined under the operating scenario.

*Startup* means the setting in operation of a continuous operation for any purpose; the first time a new or reconstructed batch operation begins production; for new equipment added, including equipment required or used to comply with this subpart, the first time the equipment is put into operation; or for the introduction of a new product/process, the first time the product or process is run in equipment. For batch operations, startup applies to the first time the equipment is put into operation at the start of a campaign to produce a product that has been produced in the past if the steps taken to begin production differ from those specified in a standard batch or nonstandard batch. Startup does not apply when the equipment is put into operation as part of a batch within a

campaign when the steps taken are routine operations.

*Storage tank* means a tank or other vessel that is used to store liquids that contain organic HAP and/or hydrogen halide and halogen HAP and that has been assigned to an MCPU according to the procedures in §63.2435(d). The following are not considered storage tanks for the purposes of this subpart:

- (1) Vessels permanently attached to motor vehicles such as trucks, railcars, barges, or ships;
- (2) Pressure vessels designed to operate in excess of 204.9 kilopascals and without emissions to the atmosphere;
- (3) Vessels storing organic liquids that contain HAP only as impurities;
- (4) Wastewater storage tanks;
- (5) Bottoms receivers;
- (6) Surge control vessels; and
- (7) Process tanks.

*Supplemental gases* means the air that is added to a vent stream after the vent stream leaves the unit operation. Air that is part of the vent stream as a result of the nature of the unit operation is not considered supplemental gases. Air required to operate combustion device burner(s) is not considered supplemental gases.

*Surge control vessel* means feed drums, recycle drums, and intermediate vessels as part of any continuous operation. Surge control vessels are used within an MCPU when in-process storage, mixing, or management of flowrates or volumes is needed to introduce material into continuous operations.

*Total organic compounds or (TOC)* means the total gaseous organic compounds (minus methane and ethane) in a vent stream.

*Transfer rack* means the collection of loading arms and loading hoses, at a single loading rack, that are assigned to an MCPU according to the procedures specified in §63.2435(d) and are used to fill tank trucks and/or rail cars with organic liquids that contain one or more of the organic HAP listed in section 112(b) of the CAA of this subpart. Transfer rack includes the associated pumps, meters, shutoff valves, relief valves, and other piping and valves.

*Unit operation* means those processing steps that occur within distinct equipment that are used, among other

things, to prepare reactants, facilitate reactions, separate and purify products, and recycle materials. Equipment used for these purposes includes, but is not limited to, reactors, distillation columns, extraction columns, absorbers, decanters, dryers, condensers, and filtration equipment.

*Waste management unit* means the equipment, structure(s), and/or device(s) used to convey, store, treat, or dispose of wastewater streams or residuals. Examples of waste management units include wastewater tanks, air flotation units, surface impoundments, containers, oil-water or organic-water separators, individual drain systems, biological wastewater treatment units, waste incinerators, and organic removal devices such as steam and air stripper units, and thin film evaporation units. If such equipment is being operated as a recovery device, then it is part of a miscellaneous organic chemical manufacturing process and is not a waste management unit.

*Wastewater* means water that is discarded from an MCPU or control device through a POD and that contains either: an annual average concentration of compounds in Tables 8 and 9 to this subpart of at least 5 ppmw and has an annual average flowrate of 0.02 liters per minute or greater; or an annual average concentration of compounds in Tables 8 and 9 to this subpart of at least 10,000 ppmw at any flowrate. Wastewater means process wastewater or maintenance wastewater. The following are not considered wastewater for the purposes of this subpart:

- (1) Stormwater from segregated sewers;
- (2) Water from fire-fighting and deluge systems, including testing of such systems;
- (3) Spills;
- (4) Water from safety showers;
- (5) Samples of a size not greater than reasonably necessary for the method of analysis that is used;
- (6) Equipment leaks;
- (7) Wastewater drips from procedures such as disconnecting hoses after cleaning lines; and
- (8) Noncontact cooling water.

*Wastewater stream* means a stream that contains only wastewater as defined in this paragraph (i).

*Work practice standard* means any design, equipment, work practice, or operational standard, or combination

thereof, that is promulgated pursuant to section 112(h) of the CAA.

[68 FR 63888, Nov. 10, 2003, as amended at 70 FR 38560, July 1, 2005; 71 FR 40338, July 14, 2006]

TABLE 1 TO SUBPART FFFF OF PART 63—EMISSION LIMITS AND WORK PRACTICE STANDARDS FOR CONTINUOUS PROCESS VENTS

As required in §63.2455, you must meet each emission limit and work practice standard in the following table that applies to your continuous process vents:

For each . . .	For which . . .	Then you must
1. Group 1 continuous process vent.	a. Not applicable . . . . .	i. Reduce emissions of total organic HAP by ≥98 percent by weight or to an outlet process concentration ≤20 ppmv as organic HAP or TOC by venting emissions through a closed-vent system to any combination of control devices (except a flare); or ii. Reduce emissions of total organic HAP by venting emissions through a closed vent system to a flare; or iii. Use a recovery device to maintain the TRE above 1.9 for an existing source or above 5.0 for a new source.
2. Halogenated Group 1 continuous process vent stream.	a. You use a combustion control device to control organic HAP emissions.	i. Use a halogen reduction device after the combustion device to reduce emissions of hydrogen halide and halogen HAP by ≥99 percent by weight, or to ≤0.45 kg/hr, or to ≤20 ppmv; or ii. Use a halogen reduction device before the combustion device to reduce the halogen atom mass emission rate to ≤0.45 kg/hr or to a concentration ≤20 ppmv.
3. Group 2 continuous process vent at an existing source.	You use a recovery device to maintain the TRE level >1.9 but ≤5.0.	Comply with the requirements in §63.993 and the requirements referenced therein.
4. Group 2 continuous process vent at a new source.	You use a recovery device to maintain the TRE level >5.0 but ≤8.0.	Comply with the requirements in §63.993 and the requirements referenced therein.

TABLE 2 TO SUBPART FFFF OF PART 63—EMISSION LIMITS AND WORK PRACTICE STANDARDS FOR BATCH PROCESS VENTS

As required in §63.2460, you must meet each emission limit and work practice standard in the following table that applies to your batch process vents:

For each . . .	Then you must . . .	And you must . . .
1. Process with Group 1 batch process vents.	a. Reduce collective uncontrolled organic HAP emissions from the sum of all batch process vents within the process by ≥98 percent by weight by venting emissions from a sufficient number of the vents through one or more closed-vent systems to any combination of control devices (except a flare); or b. Reduce collective uncontrolled organic HAP emissions from the sum of all batch process vents within the process by ≥95 percent by weight by venting emissions from a sufficient number of the vents through one or more closed-vent systems to any combination of recovery devices or a biofilter, except you may elect to comply with the requirements of subpart WW of this part for any process tank; or c. Reduce uncontrolled organic HAP emissions from one or more batch process vents within the process by venting through a closed-vent system to a flare or by venting through one or more closed-vent systems to any combination of control devices (excluding a flare) that reduce organic HAP to an outlet concentration ≤20 ppmv as TOC or total organic HAP.	Not applicable.  Not applicable.  For all other batch process vents within the process, reduce collective organic HAP emissions as specified in item 1.a and/or item 1.b of this table.

For each . . .	Then you must . . .	And you must . . .
2. Halogenated Group 1 batch process vent for which you use a combustion device to control organic HAP emissions.	<p>a. Use a halogen reduction device after the combustion control device; or</p> <p>b. Use a halogen reduction device before the combustion control device.</p>	<p>i. Reduce overall emissions of hydrogen halide and halogen HAP by <math>\geq 99</math> percent; or</p> <p>ii. Reduce overall emissions of hydrogen halide and halogen HAP to <math>\leq 0.45</math> kg/hr; or</p> <p>iii. Reduce overall emissions of hydrogen halide and halogen HAP to a concentration <math>\leq 20</math> ppmv.</p> <p>Reduce the halogen atom mass emission rate to <math>\leq 0.45</math> kg/hr or to a concentration <math>\leq 20</math> ppmv.</p>

[68 FR 63888, Nov. 10, 2003, as amended at 71 FR 40339, July 14, 2006]

TABLE 3 TO SUBPART FFFF OF PART 63—EMISSION LIMITS FOR HYDROGEN HALIDE AND HALOGEN HAP EMISSIONS OR HAP METALS EMISSIONS FROM PROCESS VENTS

As required in § 63.2465, you must meet each emission limit in the following table that applies to your process vents that contain hydrogen halide and halogen HAP emissions or PM HAP emissions:

For each . . .	You must . . .
1. Process with uncontrolled hydrogen halide and halogen HAP emissions from process vents $\geq 1,000$ lb/yr.	<p>a. Reduce collective hydrogen halide and halogen HAP emissions by <math>\geq 99</math> percent by weight or to an outlet concentration <math>\leq 20</math> ppmv by venting through one or more closed-vent systems to any combination of control devices, or</p> <p>b. Reduce the halogen atom mass emission rate from the sum of all batch process vents and each individual continuous process vent to <math>\leq 0.45</math> kg/hr by venting through one or more closed-vent systems to a halogen reduction device.</p>
2. Process at a new source with uncontrolled emissions from process vents $\geq 150$ lb/yr of HAP metals.	<p>Reduce overall emissions of HAP metals by <math>\geq 97</math> percent by weight.</p>

[68 FR 63888, Nov. 10, 2003, as amended at 71 FR 40340, July 14, 2006]

TABLE 4 TO SUBPART FFFF OF PART 63—EMISSION LIMITS FOR STORAGE TANKS

As required in § 63.2470, you must meet each emission limit in the following table that applies to your storage tanks:

For each . . .	For which . . .	Then you must . . .
1. Group 1 storage tank . . .	<p>a. The maximum true vapor pressure of total HAP at the storage temperature is <math>\geq 76.6</math> kilopascals.</p> <p>b. The maximum true vapor pressure of total HAP at the storage temperature is <math>&lt; 76.6</math> kilopascals.</p>	<p>i. Reduce total HAP emissions by <math>\geq 95</math> percent by weight or to <math>\leq 20</math> ppmv of TOC or organic HAP and <math>\leq 20</math> ppmv of hydrogen halide and halogen HAP by venting emissions through a closed vent system to any combination of control devices (excluding a flare); or</p> <p>ii. Reduce total organic HAP emissions by venting emissions through a closed vent system to a flare; or</p> <p>iii. Reduce total HAP emissions by venting emissions to a fuel gas system or process in accordance with § 63.982(d) and the requirements referenced therein.</p> <p>i. Comply with the requirements of subpart WW of this part, except as specified in § 63.2470; or</p> <p>ii. Reduce total HAP emissions by <math>\geq 95</math> percent by weight or to <math>\leq 20</math> ppmv of TOC or organic HAP and <math>\leq 20</math> ppmv of hydrogen halide and halogen HAP by venting emissions through a closed vent system to any combination of control devices (excluding a flare); or</p> <p>iii. Reduce total organic HAP emissions by venting emissions through a closed vent system to a flare; or</p> <p>iv. Reduce total HAP emissions by venting emissions to a fuel gas system or process in accordance with § 63.982(d) and the requirements referenced therein.</p>

For each . . . .	For which . . . .	Then you must . . . .
2. Halogenated vent stream from a Group 1 storage tank.	You use a combustion control device to control organic HAP emissions.	Meet one of the emission limit options specified in Item 2.a.i or ii. in Table 1 to this subpart.

[68 FR 63888, Nov. 10, 2003, as amended at 71 FR 40340, July 14, 2006]

TABLE 5 TO SUBPART FFFF OF PART 63—EMISSION LIMITS AND WORK PRACTICE STANDARDS FOR TRANSFER RACKS

As required in §63.2475, you must meet each emission limit and work practice standard in the following table that applies to your transfer racks:

For each . . . .	You must . . . .
1. Group 1 transfer rack . . . . .	<ul style="list-style-type: none"> <li>a. Reduce emissions of total organic HAP by ≥98 percent by weight or to an outlet concentration ≤20 ppmv as organic HAP or TOC by venting emissions through a closed-vent system to any combination of control devices (except a flare); or</li> <li>b. Reduce emissions of total organic HAP by venting emissions through a closed-vent system to a flare; or</li> <li>c. Reduce emissions of total organic HAP by venting emissions to a fuel gas system or process in accordance with §63.982(d) and the requirements referenced therein; or</li> <li>d. Use a vapor balancing system designed and operated to collect organic HAP vapors displaced from tank trucks and railcars during loading and route the collected HAP vapors to the storage tank from which the liquid being loaded originated or to another storage tank connected by a common header.</li> </ul>
2. Halogenated Group 1 transfer rack vent stream for which you use a combustion device to control organic HAP emissions.	<ul style="list-style-type: none"> <li>a. Use a halogen reduction device after the combustion device to reduce emissions of hydrogen halide and halogen HAP by ≥99 percent by weight, to ≤0.45 kg/hr, or to ≤20 ppmv; or</li> <li>b. Use a halogen reduction device before the combustion device to reduce the halogen atom mass emission rate to ≤0.45 kg/hr or to a concentration ≤20 ppmv.</li> </ul>

[68 FR 63888, Nov. 10, 2003, as amended at 71 FR 40341, July 14, 2006]

TABLE 6 TO SUBPART FFFF OF PART 63—REQUIREMENTS FOR EQUIPMENT LEAKS

As required in §63.2480, you must meet each requirement in the following table that applies to your equipment leaks:

For all . . . .	And that is part of . . . .	You must . . . .
1. Equipment that is in organic HAP service.	<ul style="list-style-type: none"> <li>a. Comply with the requirements of subpart UU of this part 63 and the requirements referenced therein, except as specified in §63.2480(b) and (d); or</li> <li>b. Comply with the requirements of subpart H of this part 63 and the requirements referenced therein, except as specified in §63.2480(b) and (d); or</li> <li>c. Comply with the requirements of 40 CFR part 65, subpart F and the requirements referenced therein, except as specified in §63.2480(c) and (d)..</li> </ul>	
2. Equipment that is in organic HAP service at a new source.	a. Any MCPU . . . . .	<ul style="list-style-type: none"> <li>i. Comply with the requirements of subpart UU of this part 63 and the requirements referenced therein; or</li> <li>ii. Comply with the requirements of 40 CFR part 65, subpart F.</li> </ul>

[68 FR 63888, Nov. 10, 2003, as amended at 71 FR 40341, July 14, 2006]

TABLE 7 TO SUBPART FFFF OF PART 63—REQUIREMENTS FOR WASTEWATER STREAMS AND LIQUID STREAMS IN OPEN SYSTEMS WITHIN AN MCPU

As required in §63.2485, you must meet each requirement in the following table that applies to your wastewater streams and liquid streams in open systems within an MCPU:

For each . . .	You must . . .
1. Process wastewater stream . . . . .	Comply with the requirements in §§63.132 through 63.148 and the requirements referenced therein, except as specified in §63.2485.
2. Maintenance wastewater stream . . . . .	Comply with the requirements in §63.105 and the requirements referenced therein, except as specified in §63.2485.
3. Liquid streams in an open system within an MCPU.	Comply with the requirements in §63.149 and the requirements referenced therein, except as specified in §63.2485.

TABLE 8 TO SUBPART FFFF OF PART 63—PARTIALLY SOLUBLE HAZARDOUS AIR POLLUTANTS

As specified in §63.2485, the partially soluble HAP in wastewater that are subject to management and treatment requirements in this subpart FFFF are listed in the following table:

Chemical name . . . . .	CAS No.
1. 1,1,1-Trichloroethane (methyl chloroform) . . . . .	71556
2. 1,1,2,2-Tetrachloroethane . . . . .	79345
3. 1,1,2-Trichloroethane . . . . .	79005
4. 1,1-Dichloroethylene (vinylidene chloride) . . . . .	75354
5. 1,2-Dibromoethane . . . . .	106934
6. 1,2-Dichloroethane (ethylene dichloride) . . . . .	107062
7. 1,2-Dichloropropane . . . . .	78875
8. 1,3-Dichloropropene . . . . .	542756
9. 2,4,5-Trichlorophenol . . . . .	95954
10. 1,4-Dichlorobenzene . . . . .	106467
11. 2-Nitropropane . . . . .	79469
12. 4-Methyl-2-pentanone (MIBK) . . . . .	108101
13. Acetaldehyde . . . . .	75070
14. Acrolein . . . . .	107028
15. Acrylonitrile . . . . .	107131
16. Allyl chloride . . . . .	107051
17. Benzene . . . . .	71432
18. Benzyl chloride . . . . .	100447
19. Biphenyl . . . . .	92524
20. Bromoform (tribromomethane) . . . . .	75252
21. Bromomethane . . . . .	74839
22. Butadiene . . . . .	106990
23. Carbon disulfide . . . . .	75150
24. Chlorobenzene . . . . .	108907
25. Chloroethane (ethyl chloride) . . . . .	75003
26. Chloroform . . . . .	67663
27. Chloromethane . . . . .	74873
28. Chloroprene . . . . .	126998
29. Cumene . . . . .	98828
30. Dichloroethyl ether . . . . .	111444
31. Dinitrophenol . . . . .	51285
32. Epichlorohydrin . . . . .	106898
33. Ethyl acrylate . . . . .	140885
34. Ethylbenzene . . . . .	100414
35. Ethylene oxide . . . . .	75218
36. Ethylidene dichloride . . . . .	75343
37. Hexachlorobenzene . . . . .	118741
38. Hexachlorobutadiene . . . . .	87683
39. Hexachloroethane . . . . .	67721
40. Methyl methacrylate . . . . .	80626
41. Methyl-t-butyl ether . . . . .	1634044
42. Methylene chloride . . . . .	75092
43. N-hexane . . . . .	110543
44. N,N-dimethylaniline . . . . .	121697
45. Naphthalene . . . . .	91203
46. Phosgene . . . . .	75445
47. Propionaldehyde . . . . .	123386
48. Propylene oxide . . . . .	75569
49. Styrene . . . . .	100425
50. Tetrachloroethylene (perchloroethylene) . . . . .	127184
51. Tetrachloromethane (carbon tetrachloride) . . . . .	56235

Chemical name . . .	CAS No.
52. Toluene .....	108883
53. Trichlorobenzene (1,2,4-) .....	120821
54. Trichloroethylene .....	79016
55. Trimethylpentane .....	540841
56. Vinyl acetate .....	108054
57. Vinyl chloride .....	75014
58. Xylene (m) .....	108383
59. Xylene (o) .....	95476
60. Xylene (p) .....	106423

[68 FR 63888, Nov. 10, 2003, as amended at 70 FR 38560, July 1, 2005; 71 FR 40341, July 14, 2006]

TABLE 9 TO SUBPART FFFF OF PART 63—SOLUBLE HAZARDOUS AIR POLLUTANTS

As specified in §63.2485, the soluble HAP in wastewater that are subject to management and treatment requirements of this subpart FFFF are listed in the following table:

Chemical name . . .	CAS No.
1. Acetonitrile .....	75058
2. Acetophenone .....	98862
3. Diethyl sulfate .....	64675
4. Dimethyl hydrazine (1,1) .....	57147
5. Dimethyl sulfate .....	77781
6. Dinitrotoluene (2,4) .....	121142
7. Dioxane (1,4) .....	123911
8. Ethylene glycol dimethyl ether .....	110714
9. Ethylene glycol monobutyl ether acetate .....	112072
10. Ethylene glycol monomethyl ether acetate .....	110496
11. Isophorone .....	78591
12. Methanol .....	67561
13. Nitrobenzene .....	98953
14. Toluidine (o-) .....	95534
15. Triethylamine .....	121448

[68 FR 63888, Nov. 10, 2003, as amended at 70 FR 38561, July 1, 2005]

TABLE 10 TO SUBPART FFFF OF PART 63—WORK PRACTICE STANDARDS FOR HEAT EXCHANGE SYSTEMS

As required in §63.2490, you must meet each requirement in the following table that applies to your heat exchange systems:

For each . . .	You must . . .
Heat exchange system, as defined in § 63.101 .....	Comply with the requirements of §63.104 and the requirements referenced therein, except as specified in §63.2490.

TABLE 11 TO SUBPART FFFF OF PART 63—REQUIREMENTS FOR REPORTS

As required in §63.2520(a) and (b), you must submit each report that applies to you on the schedule shown in the following table:

You must submit a(n)	The report must contain . . .	You must submit the report . . .
1. Precompliance report .....	The information specified in §63.2520(c).	At least 6 months prior to the compliance date; or for new sources, with the application for approval of construction or reconstruction.
2. Notification of compliance status report .....	The information specified in §63.2520(d).	No later than 150 days after the compliance date specified in § 63.2445.
3. Compliance report .....	The information specified in §63.2520(e).	Semiannually according to the requirements in § 63.2520(b).

TABLE 12 TO SUBPART FFFF OF PART 63—APPLICABILITY OF GENERAL PROVISIONS TO SUBPART FFFF

As specified in §63.2540, the parts of the General Provisions that apply to you are shown in the following table:



Environmental Protection Agency

Pt. 63, Subpt. FFFF, Table 12

Citation	Subject	Explanation
§ 63.1	Applicability	Yes.
§ 63.2	Definitions	Yes.
§ 63.3	Units and Abbreviations	Yes.
§ 63.4	Prohibited Activities	Yes.
§ 63.5	Construction/Reconstruction	Yes.
§ 63.6(a)	Applicability	Yes.
§ 63.6(b)(1)-(4)	Compliance Dates for New and Reconstructed sources.	Yes.
§ 63.6(b)(5)	Notification	Yes.
§ 63.6(b)(6)	[Reserved].	
§ 63.6(b)(7)	Compliance Dates for New and Reconstructed Area Sources That Become Major.	Yes.
§ 63.6(c)(1)-(2)	Compliance Dates for Existing Sources	Yes.
§ 63.6(c)(3)-(4)	[Reserved]	
§ 63.6(c)(5)	Compliance Dates for Existing Area Sources That Become Major.	Yes.
§ 63.6(d)	[Reserved]	
§ 63.6(e)(1)-(2)	Operation & Maintenance	Yes.
§ 63.6(e)(3)(i), (ii), and (v) through (viii).	Startup, Shutdown, Malfunction Plan (SSMP)	Yes, except information regarding Group 2 emission points and equipment leaks is not required in the SSMP, as specified in § 63.2525(j).
§ 63.6(e)(3)(iii) and (iv)	Recordkeeping and Reporting During SSM	No. § 63.998(d)(3) and 63.998(c)(1)(ii)(D) through (G) specify the recordkeeping requirement for SSM events, and § 63.2520(e)(4) specifies reporting requirements.
§ 63.6(e)(3)(ix)	SSMP incorporation into title V permit	Yes.
§ 63.6(f)(1)	Compliance Except During SSM	Yes.
§ 63.6(f)(2)-(3)	Methods for Determining Compliance	Yes.
§ 63.6(g)(1)-(3)	Alternative Standard	Yes.
§ 63.6(h)	Opacity/Visible Emission (VE) Standards	Only for flares for which Method 22 observations are required as part of a flare compliance assessment.
§ 63.6(i)(1)-(14)	Compliance Extension	Yes.
§ 63.6(j)	Presidential Compliance Exemption	Yes.
§ 63.7(a)(1)-(2)	Performance Test Dates	Yes, except substitute 150 days for 180 days.
§ 63.7(a)(3)	Section 114 Authority	Yes, and this paragraph also applies to flare compliance assessments as specified under § 63.997(b)(2).
§ 63.7(b)(1)	Notification of Performance Test	Yes.
§ 63.7(b)(2)	Notification of Rescheduling	Yes.
§ 63.7(c)	Quality Assurance/Test Plan	Yes, except the test plan must be submitted with the notification of the performance test if the control device controls batch process vents.
§ 63.7(d)	Testing Facilities	Yes.
§ 63.7(e)(1)	Conditions for Conducting Performance Tests	Yes, except that performance tests for batch process vents must be conducted under worst-case conditions as specified in § 63.2460.
§ 63.7(e)(2)	Conditions for Conducting Performance Tests	Yes.
§ 63.7(e)(3)	Test Run Duration	Yes.
§ 63.7(f)	Alternative Test Method	Yes.
§ 63.7(g)	Performance Test Data Analysis	Yes.
§ 63.7(h)	Waiver of Tests	Yes.
§ 63.8(a)(1)	Applicability of Monitoring Requirements	Yes.
§ 63.8(a)(2)	Performance Specifications	Yes.
§ 63.8(a)(3)	[Reserved].	
§ 63.8(a)(4)	Monitoring with Flares	Yes.
§ 63.8(b)(1)	Monitoring	Yes.
§ 63.8(b)(2)-(3)	Multiple Effluents and Multiple Monitoring Systems.	Yes.
§ 63.8(c)(1)	Monitoring System Operation and Maintenance	Yes.
§ 63.8(c)(1)(i)	Routine and Predictable SSM	Yes.
§ 63.8(c)(1)(ii)	SSM not in SSMP	Yes.
§ 63.8(c)(1)(iii)	Compliance with Operation and Maintenance Requirements.	Yes.
§ 63.8(c)(2)-(3)	Monitoring System Installation	Yes.
§ 63.8(c)(4)	CMS Requirements	Only for CEMS. Requirements for CPMS are specified in referenced subparts G and SS of part 63. Requirements for COMS do not apply because subpart FFFF does not require continuous opacity monitoring systems (COMS).
§ 63.8(c)(4)(i)	COMS Measurement and Recording Frequency	No; subpart FFFF does not require COMS.
§ 63.8(c)(4)(ii)	CEMS Measurement and Recording Frequency	Yes.
§ 63.8(c)(5)	COMS Minimum Procedures	No. Subpart FFFF does not contain opacity or VE limits.

Citation	Subject	Explanation
§ 63.8(c)(6)	CMS Requirements	Only for CEMS; requirements for CPMS are specified in referenced subparts G and SS of this part 63. Requirements for COMS do not apply because subpart FFFF does not require COMS.
§ 63.8(c)(7)-(8)	CMS Requirements	Only for CEMS. Requirements for CPMS are specified in referenced subparts G and SS of part 63. Requirements for COMS do not apply because subpart FFFF does not require COMS.
§ 63.8(d)	CMS Quality Control	Only for CEMS.
§ 63.8(e)	CMS Performance Evaluation	Only for CEMS. Section 63.8(e)(5)(ii) does not apply because subpart FFFF does not require COMS.
§ 63.8(f)(1)-(5)	Alternative Monitoring Method	Yes, except you may also request approval using the precompliance report.
§ 63.8(f)(6)	Alternative to Relative Accuracy Test	Only applicable when using CEMS to demonstrate compliance, including the alternative standard in § 63.2505.
§ 63.8(g)(1)-(4)	Data Reduction	Only when using CEMS, including for the alternative standard in § 63.2505, except that the requirements for COMS do not apply because subpart FFFF has no opacity or VE limits, and § 63.8(g)(2) does not apply because data reduction requirements for CEMS are specified in § 63.2450(j).
§ 63.8(g)(5)	Data Reduction	No. Requirements for CEMS are specified in § 63.2450(j). Requirements for CPMS are specified in referenced subparts G and SS of this part 63.
§ 63.9(a)	Notification Requirements	Yes.
§ 63.9(b)(1)-(5)	Initial Notifications	Yes.
§ 63.9(c)	Request for Compliance Extension	Yes.
§ 63.9(d)	Notification of Special Compliance Requirements for New Source.	Yes.
§ 63.9(e)	Notification of Performance Test	Yes.
§ 63.9(f)	Notification of VE/Opacity Test	No. Subpart FFFF does not contain opacity or VE limits.
§ 63.9(g)	Additional Notifications When Using CMS	Only for CEMS. Section 63.9(g)(2) does not apply because subpart FFFF does not require COMS.
63.9(h)(1)-(6)	Notification of Compliance Status	Yes, except subpart FFFF has no opacity or VE limits, and 63.9(h)(2)(i)(A) through (G) and (ii) do not apply because 63.2520(d) specifies the required contents and due date of the notification of compliance status report.
§ 63.9(i)	Adjustment of Submittal Deadlines	Yes.
§ 63.9(j)	Change in Previous Information	No. § 63.2520(e) specifies reporting requirements for process changes.
§ 63.10(a)	Recordkeeping/Reporting	Yes.
§ 63.10(b)(1)	Recordkeeping/Reporting	Yes.
§ 63.10(b)(2)(i)-(ii), (iv), (v).	Records related to SSM	No. §§ 63.998(d)(3) and 63.998(c)(1)(ii)(D) through (G) specify recordkeeping requirements for periods of SSM.
§ 63.10(b)(2)(iii)	Records related to maintenance of air pollution control equipment.	Yes.
§ 63.10(b)(2)(vi), (x), and (xi).	CMS Records	Only for CEMS; requirements for CPMS are specified in referenced subparts G and SS of this part 63.
§ 63.10(b)(2)(vii)-(ix)	Records	Yes.
§ 63.10(b)(2)(xii)	Records	Yes.
§ 63.10(b)(2)(xiii)	Records	Only for CEMS.
§ 63.10(b)(2)(xiv)	Records	Yes.
§ 63.10(b)(3)	Records	Yes.
§ 63.10(c)(1)-(6),(9)-(15)	Records	Only for CEMS. Recordkeeping requirements for CPMS are specified in referenced subparts G and SS of this part 63.
§ 63.10(c)(7)-(8)	Records	No. Recordkeeping requirements are specified in § 63.2525.
§ 63.10(d)(1)	General Reporting Requirements	Yes.
§ 63.10(d)(2)	Report of Performance Test Results	Yes.
§ 63.10(d)(3)	Reporting Opacity or VE Observations	No. Subpart FFFF does not contain opacity or VE limits.
§ 63.10(d)(4)	Progress Reports	Yes.

Citation	Subject	Explanation
§ 63.10(d)(5)(i)	Periodic Startup, Shutdown, and Malfunction Reports.	No. § 63.2520(e)(4) and (5) specify the SSM reporting requirements.
§ 63.10(d)(5)(ii)	Immediate SSM Reports	No.
§ 63.10(e)(1)	Additional CEMS Reports	Yes.
§ 63.10(e)(2)(i)	Additional CEMS Reports	Only for CEMS.
§ 63.10(e)(2)(ii)	Additional COMS Reports	No. Subpart FFFF does not require COMS.
§ 63.10(e)(3)	Reports	No. Reporting requirements are specified in § 63.2520.
§ 63.10(e)(3)(i)-(iii)	Reports	No. Reporting requirements are specified in § 63.2520.
§ 63.10(e)(3)(iv)-(v)	Excess Emissions Reports	No. Reporting requirements are specified in § 63.2520.
§ 63.10(e)(3)(iv)-(v)	Excess Emissions Reports	No. Reporting requirements are specified in § 63.2520.
§ 63.10(e)(3)(vi)-(viii)	Excess Emissions Report and Summary Report	No. Reporting requirements are specified in § 63.2520.
§ 63.10(e)(4)	Reporting COMS data	No. Subpart FFFF does not contain opacity or VE limits.
§ 63.10(f)	Waiver for Recordkeeping/Reporting	Yes.
§ 63.11	Flares	Yes.
§ 63.12	Delegation	Yes.
§ 63.13	Addresses	Yes.
§ 63.14	Incorporation by Reference	Yes.
§ 63.15	Availability of Information	Yes.

[68 FR 63888, Nov. 10, 2003, as amended at 70 FR 38561, July 1, 2005; 71 FR 20463, Apr. 20, 2006; 71 FR 40341, July 14, 2006]

**Subpart GGGG—National Emission Standards for Hazardous Air Pollutants: Solvent Extraction for Vegetable Oil Production**

SOURCE: 66 FR 19011, Apr. 12, 2001, unless otherwise noted.

**WHAT THIS SUBPART COVERS**

**§ 63.2830 What is the purpose of this subpart?**

This subpart establishes national emission standards for hazardous air pollutants (NESHAP) for emissions during vegetable oil production. This subpart limits hazardous air pollutant (HAP) emissions from specified vegetable oil production processes. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission standards.

**§ 63.2831 Where can I find definitions of key words used in this subpart?**

You can find definitions of key words used in this subpart in § 63.2872.

**§ 63.2832 Am I subject to this subpart?**

(a) You are an affected source subject to this subpart if you meet all of the

criteria listed in paragraphs (a)(1) and (2) of this section:

(1) You own or operate a vegetable oil production process that is a major source of HAP emissions or is collocated within a plant site with other sources that are individually or collectively a major source of HAP emissions.

(i) A *vegetable oil production process* is defined in § 63.2872. In general, it is the collection of continuous process equipment and activities that produce crude vegetable oil and meal products by removing oil from oilseeds listed in Table 1 to § 63.2840 through direct contact with an organic solvent, such as a hexane isomer blend.

(ii) A major source of HAP emissions is a plant site that emits or has the potential to emit any single HAP at a rate of 10 tons (9.07 megagrams) or more per year or any combination of HAP at a rate of 25 tons (22.68 megagrams) or more per year.

(2) Your vegetable oil production process processes any combination of eight types of oilseeds listed in paragraphs (a)(2)(i) through (viii) of this section:

- (i) Corn germ;
- (ii) Cottonseed;
- (iii) Flax;
- (iv) Peanut;



**APPENDIX B**  
CONTINUOUS EMISSION MONITORING SYSTEMS CONDITIONS



# Arkansas Department of Environmental Quality



## CONTINUOUS EMISSION MONITORING SYSTEMS CONDITIONS

Revised August 2004

## PREAMBLE

These conditions are intended to outline the requirements for facilities required to operate Continuous Emission Monitoring Systems/Continuous Opacity Monitoring Systems (CEMS/COMS). Generally there are three types of sources required to operate CEMS/COMS:

1. CEMS/COMS required by 40 CFR Part 60 or 63,
2. CEMS required by 40 CFR Part 75,
3. CEMS/COMS required by ADEQ permit for reasons other than Part 60, 63 or 75.

These CEMS/COMS conditions are not intended to supercede Part 60, 63 or 75 requirements.

- Only CEMS/COMS in the third category (those required by ADEQ permit for reasons other than Part 60, 63, or 75) shall comply with SECTION II, MONITORING REQUIREMENTS and SECTION IV, QUALITY ASSURANCE/QUALITY CONTROL.
- All CEMS/COMS shall comply with Section III, NOTIFICATION AND RECORDKEEPING.



## SECTION I

### DEFINITIONS

**Continuous Emission Monitoring System (CEMS)** - The total equipment required for the determination of a gas concentration and/or emission rate so as to include sampling, analysis and recording of emission data.

**Continuous Opacity Monitoring System (COMS)** - The total equipment required for the determination of opacity as to include sampling, analysis and recording of emission data.

**Calibration Drift (CD)** - The difference in the CEMS output reading from the established reference value after a stated period of operation during which no unscheduled maintenance, repair, or adjustments took place.

**Back-up CEMS (Secondary CEMS)** - A CEMS with the ability to sample, analyze and record stack pollutant to determine gas concentration and/or emission rate. This CEMS is to serve as a back-up to the primary CEMS to minimize monitor downtime.

**Excess Emissions** - Any period in which the emissions exceed the permit limits.

**Monitor Downtime** - Any period during which the CEMS/COMS is unable to sample, analyze and record a minimum of four evenly spaced data points over an hour, except during one daily zero-span check during which two data points per hour are sufficient.

**Out-of-Control Period** - Begins with the time corresponding to the completion of the fifth, consecutive, daily CD check with a CD in excess of two times the allowable limit, or the time corresponding to the completion of the daily CD check preceding the daily CD check that results in a CD in excess of four times the allowable limit and the time corresponding to the completion of the sampling for the RATA, RAA, or CGA which exceeds the limits outlined in Section IV. Out-of-Control Period ends with the time corresponding to the completion of the CD check following corrective action with the results being within the allowable CD limit or the completion of the sampling of the subsequent successful RATA, RAA, or CGA.

**Primary CEMS** - The main reporting CEMS with the ability to sample, analyze, and record stack pollutant to determine gas concentration and/or emission rate.

**Relative Accuracy (RA)** - The absolute mean difference between the gas concentration or emission rate determined by the CEMS and the value determined by the reference method plus the 2.5 percent error confidence coefficient of a series of tests divided by the mean of the reference method tests of the applicable emission limit.

**Span Value** – The upper limit of a gas concentration measurement range.

## SECTION II

### MONITORING REQUIREMENTS

- A. For new sources, the installation date for the CEMS/COMS shall be no later than thirty (30) days from the date of start-up of the source.
- B. For existing sources, the installation date for the CEMS/COMS shall be no later than sixty (60) days from the issuance of the permit unless the permit requires a specific date.
- C. Within sixty (60) days of installation of a CEMS/COMS, a performance specification test (PST) must be completed. PST's are defined in 40 CFR, Part 60, Appendix B, PS 1-9. The Department may accept alternate PST's for pollutants not covered by Appendix B on a case-by-case basis. Alternate PST's shall be approved, in writing, by the ADEQ CEM Coordinator prior to testing.
- D. Each CEMS/COMS shall have, as a minimum, a daily zero-span check. The zero-span shall be adjusted whenever the 24-hour zero or 24-hour span drift exceeds two times the limits in the applicable performance specification in 40 CFR, Part 60, Appendix B. Before any adjustments are made to either the zero or span drifts measured at the 24-hour interval the excess zero and span drifts measured must be quantified and recorded.
- E. All CEMS/COMS shall be in continuous operation and shall meet minimum frequency of operation requirements of 95% up-time for each quarter for each pollutant measured. Percent of monitor down-time is calculated by dividing the total minutes the monitor is not in operation by the total time in the calendar quarter and multiplying by one hundred. Failure to maintain operation time shall constitute a violation of the CEMS conditions.
- F. Percent of excess emissions are calculated by dividing the total minutes of excess emissions by the total time the source operated and multiplying by one hundred. Failure to maintain compliance may constitute a violation of the CEMS conditions.
- G. All CEMS measuring emissions shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive fifteen minute period unless more cycles are required by the permit. For each CEMS, one-hour averages shall be computed from four or more data points equally spaced over each one hour period unless more data points are required by the permit.
- H. All COMS shall complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period.
- I. When the pollutant from a single affected facility is released through more than one point, a CEMS/COMS shall be installed on each point unless installation of fewer systems is approved, in writing, by the ADEQ CEM Coordinator. When more than one CEM/COM is used to monitor emissions from one affected facility the owner or operator shall report the results as required from each CEMS/COMS.

### SECTION III

#### NOTIFICATION AND RECORD KEEPING

- A. When requested to do so by an owner or operator, the ADEQ CEM Coordinator will review plans for installation or modification for the purpose of providing technical advice to the owner or operator.
- B. Each facility which operates a CEMS/COMS shall notify the ADEQ CEM Coordinator of the date for which the demonstration of the CEMS/COMS performance will commence (i.e. PST, RATA, RAA, CGA). Notification shall be received in writing no less than 15 days prior to testing. Performance test results shall be submitted to the Department within thirty days after completion of testing.
- C. Each facility which operates a CEMS/COMS shall maintain records of the occurrence and duration of start up/shut down, cleaning/soot blowing, process problems, fuel problems, or other malfunction in the operation of the affected facility which causes excess emissions. This includes any malfunction of the air pollution control equipment or any period during which a continuous monitoring device/system is inoperative.
- D. Except for Part 75 CEMs, each facility required to install a CEMS/COMS shall submit an excess emission and monitoring system performance report to the Department (Attention: Air Division, CEM Coordinator) at least quarterly, unless more frequent submittals are warranted to assess the compliance status of the facility. Quarterly reports shall be postmarked no later than the 30th day of the month following the end of each calendar quarter. Part 75 CEMs shall submit this information semi-annually and as part of Title V six (6) month reporting requirement if the facility is a Title V facility.
- E. All excess emissions shall be reported in terms of the applicable standard. Each report shall be submitted on ADEQ Quarterly Excess Emission Report Forms. Alternate forms may be used with prior written approval from the Department.
- F. Each facility which operates a CEMS/COMS must maintain on site a file of CEMS/COMS data including all raw data, corrected and adjusted, repair logs, calibration checks, adjustments, and test audits. This file must be retained for a period of at least five years, and is required to be maintained in such a condition that it can easily be audited by an inspector.
- G. Except for Part 75 CEMs, quarterly reports shall be used by the Department to determine compliance with the permit. For Part 75 CEMs, the semi-annual report shall be used.

## SECTION IV

### QUALITY ASSURANCE/QUALITY CONTROL

- A. For each CEMS/COMS a Quality Assurance/Quality Control (QA/QC) plan shall be submitted to the Department (Attn.: Air Division, CEM Coordinator). CEMS quality assurance procedures are defined in 40 CFR, Part 60, Appendix F. This plan shall be submitted within 180 days of the CEMS/COMS installation. A QA/QC plan shall consist of procedure and practices which assures acceptable level of monitor data accuracy, precision, representativeness, and availability.
- B. The submitted QA/QC plan for each CEMS/COMS shall not be considered as accepted until the facility receives a written notification of acceptance from the Department.
- C. Facilities responsible for one, or more, CEMS/COMS used for compliance monitoring shall meet these minimum requirements and are encouraged to develop and implement a more extensive QA/QC program, or to continue such programs where they already exist. Each QA/QC program must include written procedures which should describe in detail, complete, step-by-step procedures and operations for each of the following activities:
1. Calibration of CEMS/COMS
    - a. Daily calibrations (including the approximate time(s) that the daily zero and span drifts will be checked and the time required to perform these checks and return to stable operation)
  2. Calibration drift determination and adjustment of CEMS/COMS
    - a. Out-of-control period determination
    - b. Steps of corrective action
  3. Preventive maintenance of CEMS/COMS
    - a. CEMS/COMS information
      - 1) Manufacture
      - 2) Model number
      - 3) Serial number
    - b. Scheduled activities (check list)
    - c. Spare part inventory
  4. Data recording, calculations, and reporting
  5. Accuracy audit procedures including sampling and analysis methods
  6. Program of corrective action for malfunctioning CEMS/COMS
- D. A Relative Accuracy Test Audit (RATA), shall be conducted at least once every four calendar quarters. A Relative Accuracy Audit (RAA), or a Cylinder Gas Audit (CGA), may be conducted in the other three quarters but in no more than three quarters in succession. The RATA should be conducted in accordance with the applicable test procedure in 40 CFR Part 60 Appendix A and calculated in accordance with the applicable performance specification in 40 CFR Part 60 Appendix B. CGA's and RAA's should be conducted and the data calculated in accordance with the procedures outlined on 40 CFR Part 60 Appendix F.

If alternative testing procedures or methods of calculation are to be used in the RATA, RAA or CGA audits prior authorization must be obtained from the ADEQ CEM Coordinator.

E. Criteria for excessive audit inaccuracy.

**RATA**

All Pollutants except Carbon Monoxide	> 20% Relative Accuracy
Carbon Monoxide	> 10% Relative Accuracy
All Pollutants except Carbon Monoxide	> 10% of the Applicable Standard
Carbon Monoxide	> 5% of the Applicable Standard
Diluent (O <sub>2</sub> & CO <sub>2</sub> )	> 1.0 % O <sub>2</sub> or CO <sub>2</sub>
Flow	> 20% Relative Accuracy

**CGA**

Pollutant	> 15% of average audit value or 5 ppm difference
Diluent (O <sub>2</sub> & CO <sub>2</sub> )	> 15% of average audit value or 5 ppm difference

**RAA**

Pollutant	> 15% of the three run average or > 7.5 % of the applicable standard
Diluent (O <sub>2</sub> & CO <sub>2</sub> )	> 15% of the three run average or > 7.5 % of the applicable standard

- F. If either the zero or span drift results exceed two times the applicable drift specification in 40 CFR, Part 60, Appendix B for five consecutive, daily periods, the CEMS is out-of-control. If either the zero or span drift results exceed four times the applicable drift specification in Appendix B during a calibration drift check, the CEMS is out-of-control. If the CEMS exceeds the audit inaccuracies listed above, the CEMS is out-of-control. If a CEMS is out-of-control, the data from that out-of-control period is not counted towards meeting the minimum data availability as required and described in the applicable subpart. The end of the out-of-control period is the time corresponding to the completion of the successful daily zero or span drift or completion of the successful CGA, RAA or RATA.
- G. A back-up monitor may be placed on an emission source to minimize monitor downtime. This back-up CEMS is subject to the same QA/QC procedure and practices as the primary CEMS. The back-up CEMS shall be certified by a PST. Daily zero-span checks must be performed and recorded in accordance with standard practices. When the primary CEMS goes down, the back-up CEMS may then be engaged to sample, analyze and record the emission source pollutant until repairs are made and the primary unit is placed back in service. Records must be maintained on site when the back-up CEMS is placed in service, these records shall include at a minimum the reason the primary CEMS is out of service, the date and time the primary CEMS was out of service and the date and time the primary CEMS was placed back in service.

**CERTIFICATE OF SERVICE**

I, Pam Owen, hereby certify that a copy of this permit has been mailed by first class mail to FutureFuel Chemical Company, PO Box 2357, Batesville, AR, 72503, on this 20<sup>th</sup> day of June, 2008.

Pam Owen  
Pam Owen, AAI, Air Division

