

ADEQ

ARKANSAS
Department of Environmental Quality

OCT 17 2007

Jim Morse, Environmental Manager
Ciba Speciality Chemicals Corporation
100 Bridgeport Road Industrial Park
West Memphis, AR 72301

Dear Mr. Morse:

The enclosed Permit No. 0860-AOP-R12 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. 0860-AOP-R12 for the construction, operation and maintenance of an air pollution control system for Ciba Speciality Chemicals Corporation 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

1000 P. 100

RESPONSE TO COMMENTS
Ciba Specialty Chemicals
AFIN#: 18-00081, Permit #: 860-AOP-R12

On, August 6, 2007, 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: Methanol R12 changes

SC 31 & SC 50 list only methanol from the P3 unit with no mention of the P4 unit see line below. Although technically not an issue, we would still be allowed to burn Methanol isopropanol from P4. I am not sure if the State intended to drop the requirements for sampling the methanol and Isopropanol from P4. In addition the methanol from P3 & P4 does not contain toluene, and the methanol from P3 may have Methyl Methacrylate and Allyl Alcohol below the limits

*The Public notice does not mention Methanol from Production unit 3, instead mentions methanol from Production Unit 4 (P4)
"..... and to burn methanol/isopropanol from the P4 plant"*

Response #1: These conditions should consistently reference P4 unit methanol, which was previously permitted. Methanol from the P3 Building, according to the facility, is not a hazardous waste, and thus, does not require compliance with the Comparative Fuel Exemption contained within 40 CFR Subpart 261.38. Toluene has been removed from the testing conditions SC 31 and 50.

Comment #2: SC-32 & SC51 ISOPROPANOL Comments

In the R12 minor modification, SC 32 & SC 51 list only isopropanol from the P3 unit with no mention of the P4 unit. The P3 Production unit does not generate isopropanol.

No changes are being made as to the burning of Isopropanol in R12 thus no changes should be needed to SC 32 & 51, however

Response #2: References to either the P3 or P4 units have been removed from this condition.

Comment #3: Comments on SC-59 Fugitives

Since 860-AOP-R8 the VOC Ton/year criteria for FS-2 and FS-3A does not equal the lbs/hour times the maximum hours in a year.

Current FS-2 -- 22.8 lbs/Hr x 8760 = 199728 lbs or 99.86 tons and not the 99.7 tons listed in the permit

Current FS-3A-- 2.4 lbs/hr x 8760 = 21024 lbs or 10.5 tones and not the 10.4 listed in the Permit

Response #3: The calculated hourly emission limits for these sources, directly used to calculate annual limits, were slightly less than those contained within the permit and rounded up to the nearest tenth. Both hourly and annual emission estimates are rounded to the nearest tenth.

Comment #4: References to the Boiler MACT have been erroneously left in the permit. The facility, in a determination previously submitted, was not subject to this subpart. Furthermore, the MACT has since been vacated.

Response #4: Plantwide Condition 11 and references to this MACT in **Table 2 – References** have been removed from the permit.

ADEQ OPERATING AIR PERMIT

Pursuant to the Regulations of the Arkansas Operating Air Permit Program, Regulation No. 26:

Permit No. : 860-AOP-R12

Renewal #1

IS ISSUED TO:

Ciba Specialty Chemicals Corporation
West Memphis, AR 72301
Crittenden County

AFIN: 18-00081

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 4, 2006 AND January 3, 2011

IS SUBJECT TO ALL LIMITS AND CONDITIONS CONTAINED HEREIN.

Signed:



Mike Bates
Chief, Air Division

OCT 17 2007

Date Modified

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Table 1 - List of Acronyms

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

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Section I: FACILITY INFORMATION

PERMITTEE: Ciba Specialty Chemicals Corporation

AFIN: 18-00081

PERMIT NUMBER: 860-AOP-R12

FACILITY ADDRESS: 100 Bridgeport Road Industrial Park
West Memphis, AR 72301

MAILING ADDRESS Same as above

COUNTY: Crittenden

CONTACT POSITION: Jim Morse

TELEPHONE NUMBER: (870) 735-8750

REVIEWING ENGINEER: Paula Parker

UTM North - South (Y): 3891.17

UTM East - West (X): 764.46

Zone 15

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Section II: INTRODUCTION

Ciba Specialty Chemicals Corporation, located at 100 Bridgeport Road in West Memphis, AR, owns and operates a facility which manufactures intermediate synthetic organic chemicals used in water treatment applications. The intermediate chemicals produced at Ciba include crude glycidyl ethers and (meth)acrylic esters.

Summary of Permit Activity

The facility has submitted a modification for revisions to their Title V Air Permit. First, the facility is requesting to move production of a recently permitted product XPDL 649 from R-101 (SN-P2-1) to R-108 (SN-P2-4). The move is part of a production realignment to help the site attain minor source status in the future. Second, the facility is requesting to burn part of the P3 plant's methanol byproduct in both Boilers No. 3 and No. 4. The facility is currently permitted to burn methanol/isopropanol from the P4 plant and will not exceed current combined methanol/isopropanol limitations on the fuel. There is no emission increases associated with these modifications.

Regulations

The following table contains the regulations applicable to this permit.

Table 2 – Regulations

Source No.	Regulation
All Sources	Arkansas Air Pollution Code (Regulation 18) effective February 15, 1999
All Sources	Regulations of the Arkansas Plan of Implementation for Air Pollution Control (Regulation 19) effective July 15, 2007
All Sources	Regulations of Arkansas Air Permit Operating Program (Regulation 26) effective September 26, 2002
P1, P2, P3, P4 Processes and FS-3	NESHAP Subpart FFFF. requires Initial Notification (submitted March 8, 2004) and compliance with Subpart FFFF before May 10, 2008.
SN-P3-2 SN-P3-3 SN-P3-12 SN-P4-2	NSPS Subpart Kb

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Source No.	Regulation
SN-P3-4 SN-P3-6 SN-P4-5	NSPS Subpart Dc
SN-P4-1	NSPS Subpart NNN
	NSPS Subpart RRR

Ciba is also classified as a major stationary source for VOC under the regulations of 40 CFR Part 52.21, *Prevention of Significant Deterioration of Air Quality (PSD)*.

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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

EMISSION SUMMARY					
Source No.	Description	Pollutant	Emission Rates		Cross Reference Page
			lb/hr	tpy	
	Total Allowable Emissions	PM PM ₁₀ SO ₂ VOC CO NO _x	10.5 10.5 57.9 135.0 42.9 149.5	4.8 4.8 18.9 536.7 38.1 76.9	N/A
	HAPs	Acrylamide ^{HAP} Acrylic Acid ^{HAP} Allyl Chloride ^{HAP} Epichlorohydrin ^{HAP} Ethyl Acrylate ^{HAP} Methanol ^{HAP} Methyl Methacrylate ^{HAP} Methyl Chloride ^{HAP}	0.02 0.31 4.15 0.03 2.04 9.66 3.81 5.16	0.02 0.61 18.25 0.05 8.40 41.08 16.20 22.04	N/A
	Air Contaminants**	Acetone	0.6	1.7	N/A

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EMISSION SUMMARY					
Source No.	Description	Pollutant	Emission Rates		Cross Reference Page
			lb/hr	tpy	
P1-1	Reactor 104	VOC Acrylamide ^{HAP} Epichlorohydrin ^{HAP} Methanol ^{HAP} Allyl Chloride ^{HAP}	18.5	*	19
P1-2	Reactor 105				19
P1-3	Reactor 106				19
P1-4	Reactor 114				19
P1-5	Tank Farm 500				20
P1-6	Tank Farm 300 - Removed				20
P1-7	Reactor 107				19
P1-8	Tank Farm 200				20
P1-9	Reactors 104, 105, and 107 for mDMDAC				19
P2-1	Reactor 101	VOC Acrylamide ^{HAP} Acrylic Acid ^{HAP} Ethyl Acrylate ^{HAP} Methanol ^{HAP} Methyl Methacrylate ^{HAP} Methyl Chloride ^{HAP}	12.8	*	25
P2-2	Reactor 102				25
P2-3	Reactor 103				25
P2-4	Reactor 108				25
P2-5	Reactor 109				25
P2-6	Tank Farm 100				26

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EMISSION SUMMARY					
Source No.	Description	Pollutant	Emission Rates		Cross Reference Page
			lb/hr	tpy	
P3-1	Reactors 110, 112, 113, 115, 116	PM/PM ₁₀ SO ₂ VOC CO NO _x Acetone Acrylic Acid ^{HAP} Ethyl Acrylate ^{HAP} Methanol ^{HAP} Methyl Methacrylate ^{HAP}	1.1 32.7 14.0 7.5 21.6 0.5 0.01 0.50 2.30 1.43	*	30
P3-2	Tank Farm 600				30
P3-3	Tank Farm 400				31
P3-4	Boiler #1				31
P3-6	Boiler #3				31
P3-7	Fire Emergency Pump				32
P3-8	500 Gallon Gasoline Tank				32
P3-9	500 Gallon Diesel Tank				32
P3-10	Wash Tanks				31
P3-11	Methanol Recovery				31
P3-12	Tank Farm 700				32
P3-13	Inhibitor Vats				32
P3-14	10,000 Gallon Diesel Tank - Removed				N/A
P3-15	10,000 Gallon Diesel Tank - Removed				N/A

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EMISSION SUMMARY																	
Source No.	Description	Pollutant	Emission Rates		Cross Reference Page												
			lb/hr	tpy													
P4-1	P4 Cationic Monomer Reactors	PM/PM ₁₀ SO ₂ VOC CO NO _x Methanol ^{HAP} Methyl Chloride ^{HAP}	0.5	17.0	41												
P4-2	P4 Tank Farm					5.4	*	41									
P4-3	P4 Loading/Unloading								2.9	41							
P4-4	P4 Equipment Leaks										8.6	41					
P4-5	Boiler #4												0.52	41			
P4-6	25,000 Gallon Diesel Storage Tank														2.30	41	
P4-7	Quat Plant																43
P4-8	25,000 Gallon Diesel Storage Tank																

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EMISSION SUMMARY					
Source No.	Description	Pollutant	Emission Rates		Cross Reference Page
			lb/hr	tpy	
FS-1	Loading/Unloading (P1, P2, P3, P4)	VOC	2.3	10.0	55
		Acetone	0.1	0.2	
		Methanol ^{HAP}	0.80	3.60	
		Methyl Methacrylate ^{HAP}	0.22	1.00	
		Ethyl Acrylate ^{HAP}	0.34	1.50	
FS-2	Equipment Leaks (P1, P2, P3)	VOC	22.8	99.7	55
FS-3	Wastewater Fugitives	VOC	46.8	205.0	55
		Methyl Chloride ^{HAP}	0.26	1.14	
		Methanol ^{HAP}	2.74	12.00	
		Methyl Methacrylate ^{HAP}	1.30	5.68	
FS-3A	Wastewater Fugitives – New Treatment Plant	VOC	2.4	10.4	55
		Allyl Chloride ^{HAP}	0.12	0.53	
		Methanol ^{HAP}	0.48	2.11	
		Methyl Methacrylate ^{HAP}	0.16	0.71	
FS-4	Neutralization Tanks	VOC	0.1	0.1	55
Methanol ^{HAP}	0.01	0.01			

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EMISSION SUMMARY					
Source No.	Description	Pollutant	Emission Rates		Cross Reference Page
			lb/hr	tpy	
MI-1	Lab Emergency Electrical Generator, 180 hp	PM/PM ₁₀	0.4	0.1	58
		SO ₂	0.4	0.1	
		VOC	0.5	0.1	
		CO	1.3	0.2	
		NO _x	5.6	0.6	
MI-2	Emergency Electrical Generator (by P-2), 1500 hp	PM/PM ₁₀	3.3	0.2	58
		SO ₂	3.1	0.2	
		VOC	3.8	0.2	
		CO	10.1	0.6	
		NO _x	46.5	2.4	
MI-3	Fire Protection Generator (WWTP/Instrumentation), 1500 hp	PM/PM ₁₀	3.3	0.2	58
		SO ₂	3.1	0.2	
		VOC	3.8	0.2	
		CO	10.1	0.6	
		NO _x	46.5	2.4	
MI-4	Electrical Generator (400 kW/600 Hp-P4)	PM/PM ₁₀	1.4	0.1	58
		SO ₂	1.3	0.1	
		VOC	1.5	0.1	
		CO	4.1	0.3	
		NO _x	18.6	1.0	
MI-5	Electrical Generator, 108 hp	PM/PM ₁₀	0.5	0.1	58
		SO ₂	0.3	0.1	
		VOC	0.3	0.1	
		CO	2.1	0.2	
		NO _x	6.9	0.4	

^{HAP} Denotes a hazardous air pollutant included in VOC totals

*Ton per year emission limit compliance to be based upon plantwide values.

**Air Contaminants such as ammonia, acetone, and certain halogenated solvents are not VOCs or HAPs.

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Section III: PERMIT HISTORY

- 860-A Initial permit issued on 03/26/90 which consolidated air permit issued to CPS Chemical, encompassing all existing sources.
- 860-AR-1 Permit issued on 04/28/92. This permit acknowledged the applicability of NSPS Subpart Kb in relation to tanks T-400 and T-401. Also the tank farm emissions were bubbled into a single source designation.
- 860-AR-2 A new reactor, R-107, into building P-1 was permitted and sources were organized into three main process areas, P-1, P-2, and P-3. Permit was issued on 08/12/96.
- 860-AOP-R0 Initial Title V permit assigned to the facility on 07/10/00. Due to the installation of two unpermitted sources, the facility was required to submit a PSD application. After reviewing the PSD application, the Department accepted the facility's proposal for BACT. The Department incorporated the proposed controls as a requirement of Operating Air Permit 860-AOP-R0. In requiring the control as a federally enforceable limit, the issuance of a PSD air permit was not required.

The applicability of major source status under PSD first became clear in early 1997, when the facility and its consultant performed a comprehensive re-analysis of existing emissions generated by the facility. During this inventory, it was discovered that existing but newly quantified fugitive emissions brought the VOC emission total to a level beyond 100 tons per year, the major source threshold for the chemical plant category under PSD.

At the time of Title V permit application submittal in March of 1998, the facility (then CPS Chemical) reported to the Department that two wash tanks (V1212 and V1213, SN-P3-10a) had been installed in 1991 without authorization. In addition to violating the terms of Air Permit 860-A, the facility stated that the combined potential emissions from these tanks may have exceeded the significant increase threshold for VOC under the regulations of PSD. The Department responded by issuing Consent Administrative Order LIS: 98-073. One of the Order's conditions required the facility to submit a historical PSD permit application. In September of 1998, the facility submitted the PSD application, which included an applicability review, a Best Available Control Technology (BACT) analysis, and an air quality analysis. After reviewing the PSD application, the Department accepted the facility's proposal for BACT: the installation of chilled vent condensers as control equipment for the wash tanks. Additionally, the Department approved the facility's plan to implement a leak detection and repair (LDAR) program for the P-3 plant, which houses the tanks. The condenser

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efficiency was estimated at 90% for VOC reduction, and the LDAR program at 95% for fugitive VOC.

The application of the chilled vent condenser systems to the wash tanks reduced their potential to emit from 58 to 5.8 tons per year, below the PSD significant increase threshold. The Department has incorporated this proposed control as a requirement of Operating Air Permit 860-AOP-R0. In requiring the control as a federally enforceable limit, the issuance of a PSD air permit was not required for the tanks.

In addition to the previously installed wash tanks, VOC increases from new process modifications were also examined for PSD applicability during the application review. The units in the P3 process contributed 14.1 ton/yr in VOC emissions, while the P4 process line resulted in a total of 38.3 ton/yr of VOC. Since the P3 and P4 processes were not related (they share no common equipment or materials, and neither process depends upon the other), their combined emission increases did not constitute a PSD review for this permitting action.

860-AOP-R1 This minor modification, issued 04/18/01, was concerned with the usage of two reactors, 106 and 114, in the P1 manufacturing section. In addition to their current use, they were allowed to produce DMDAC polymers in a similar fashion as in the P2 section.

860-AOP-R2 Three modifications were incorporated in this permit. One entailed additional service to the T-600 tank farm (SN-P3-2), involving an allowance for cyclohexane/methyl methacrylate processing at tanks T-606, T-620, T-623, and T-627. Secondly, Boiler #3 (SN- P3-6) was allowed to utilize by-product methanol as a fuel source under the EPA's guidelines for alternative fuels. Third, an emission limit for Reactor 108 (R-108) in source P2-4 was corrected. Permit was issued 09/18/01.

860-AOP-R3 The minor modification allowed the manufacture of additional water treatment chemicals in its P-3 process unit. Reactors in the P3-1 process unit were permitted for additional service. Five tanks were installed, two in the 600 Tank Farm (SN-P3-2) and three tanks in the 400 Tank Farm (SN-P3-3). Permit issued on 4/26/02.

860-AOP-R4 The permit was issued on 10/29/02. The minor modification affected sources P2-4 (Reactor 108), P3-1 (the P3 reactors), and P3-10a & b (Wash Tanks). Changes were made to the permit limits for these sources to more accurately reflect calculations for the trans-esterification process. Changes were also made at these sources to reflect an increase in sparge rates due to safety considerations, the main

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focus being to prevent an explosive atmosphere. A typographical correction was also made to include fugitive HAP emissions previously quantified for SN-FS-3 in the emission summary table and in Plantwide Condition 7.

- 860-AOP-R5 The permit was issued on 5/11/2004. The facility made the following changes to the permit: added a new product, TAAC (tetraallylammonium chloride), for the R-104 reactor (SN-P1-1); added isopropanol as a recovered solvent under R-110, 112, 113, 115, and 116 (SN-P3-1); revised the testing requirements for methanol by-product fuel at Boiler #3 (SN-P3-6); allowed an annual 4-hour testing and maintenance event at the Emergency Electrical Generator, Fire Protection Generator, and Electrical Generator (SN-P4-9, SN-P4-10, and SN-P4-11); added methanol rinsing allowances to the Wash Tanks (SN-P3-10); revised emission calculations for the Inhibitor Vats (SN-P3-13); revised emission calculations for loading at FS-1; added a 180 hp diesel-fired electrical emergency generator (SN-MI-1); and allowed combustion of an isopropanol by-product in Boiler #3. Additionally, the process descriptions for the P1 and P2 buildings were corrected, as well as several other typographical errors.
- 860-AOP-R6 The permit was issued on 11/18/2004. This modification authorized the facility to perform the following: to manufacture a new product, a terpolymer compound, in the R-102 and R-103 (SN-P2-2 and SN-P2-3) reactors; to manufacture NNDMA (N,N-dimethylacrylamide), in the R-108 reactor (SN-P2-4); to install a 20,000 gallon tank in the P4 unit; to replace the existing open neutralization basin with two closed tanks of approximately 5,000 gallons each (SN-FS-4); and to add methanol loading at FS-1 (which was previously removed), along with loading of methyl methacrylate, cyclohexane, heptane, and NNMDA.
- 860-AOP-R7 Issued on 07/12/2005, the permit modification incorporated the following changes to their permit: to revise allyl chloride emissions at Reactors 104, 105, and 107 for mDMDAC (SN-P1-9) on the basis of testing; to allow sampling at the start and at the end of venting operations of the scrubbers at Reactors 101 and 109 (SN-P2-1 and SN-P2-5); to allow manufacture of FA-1 in the R-108 reactor (SN-P2-4) and P3 reactors (SN-P3-1) using ethyl acrylate; to revise NO_x emission estimates at Boiler #3 (SN-P3-6) for combustion of isopropanol or methanol fuels; to revise the sampling requirements of the P4 Cationic Monomer Reactors (SN-P4-1); to recalculate emission estimates of Tank Farm 100 (SN-P2-6), Tank Farm 600 (SN-P3-2) P4 Loading/Unloading (SN-P4-3), and Loading/Unloading P1, P2, P3 (SN-FS-1); and the addition of a new wastewater treatment plant (SN-FS-3A).
- 860-AOP-R8 Issued on 01/04/2006, this permit renewal encompassed the following changes: SN-P1-6 (Tank Farm 300) was removed; short term emissions from SN-P3-4 (Boiler #1), P3-6 (Boiler #3), and P4-5 (Boiler #4) were changed to reflect No. 2

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fuel oil use during natural gas curtailment situations; annual emissions from SN-P3-4 (Boiler #1), P3-6 (Boiler #3), and P4-5 (Boiler #4) were recalculated with current AP-42 factors; FS-2 (Equipment Leaks for the P1, P2, and P3 Processes) were recalculated; CAM requirements have added for several sources; SN-P3-14 and P3-15 (10,000 gallon diesel tanks) were removed; NSPS Kb and NNN requirements have been updated; and the Emergency Electrical Generator (by P-2), Fire Protection Generator (WWTP/Instrumentation) and Electrical Generator (SN-P4-9, 10, and 11) have been renamed to SN-MI-2, MI-3, and MI-4 in the Miscellaneous Sources section. A period of 30-days of fuel oil usage during natural gas curtailment situations was added to the permit along with a commensurate increase in criteria pollutants. This change affected SN-P3-4, SN-P3-6, and SN-P4-5.

- 860-AOP-R9 The permit revision, issued 3/29/06, increased the allowable allyl chloride at SN-P1-9 from 1.00 lb/hr to 4.03 lb/hr with a commensurate increase in annual emissions of allyl chloride due to the variability of hourly emissions. The facility has also requested a minor modification to their permit in order to allow for No. 2 fuel oil usage at any time for SNP3-1, SN-P3-6, and SN-P4-5. The permit had previously specified fuel oil usage only during periods of natural gas curtailment. Emissions for these sources take into account a 30-day period of fuel oil usage, and therefore, there are no permitted emission increases.
- 860-AOP-R10 The permit was issued on 07/27/2006. The facility requested a minor modification to their current permit in order to incorporate the following changes: To recalculate epichlorohydrin emissions from the P1 Building, involving Reactors 104, 105, 106, 114, and 107; To allow for the production of biodiesel at Reactor 104; To increase plantwide HAP from FS-3A so that emissions reflect total annual operation; and to correct a citation error of Specific Condition 56.
- 860-AOP-R11 The permit was issued on 02/20/2007. The facility requested several modifications to perform the following: to install a 108 hp, diesel fired generator, SN-MI-5, to provide emergency power; to burn byproduct methanol/isopropanol in Boiler #4, SN-P4-5; to produce XPDL 649, a pour point depressant, and to add two insignificant activities; and to add Wastewater Sludge Dewatering and Quat Scrubber Feed Tank Charge as A-13 insignificant activities

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Section IV: EMISSION UNIT INFORMATION

P-1 Process Building

Source Description

Crude mDMDAC Process

Reactors R-104, R-105, and R-107 for mDMDAC Service (SN-P1-9)

Crude dimethyl diallyl ammonium chloride (mDMDAC) is produced by reacting dimethylamine (DMA) with allyl chloride and sodium hydroxide. The initial charging step and subsequent reaction occur in a closed system. The reactors are not vented, and no emissions occur.

Following this reaction, the reactors contain the product mDMDAC in an aqueous phase, as well as a small organic phase consisting of unreacted allyl chloride and byproduct allyl alcohol. The units enter a vent down cycle, in which the unreacted contents of each reactor's vapor space are vented through the water/glycol condenser, and then through a new packed-column caustic (NaOH) scrubber to the atmosphere. Once the reactors are vented, a water strip and allyl alcohol strip are performed. Uncondensed organics from the strip processes are also routed through the condenser and caustic scrubber. When product specifications are achieved, the product is pumped to storage.

Polymer DMDAC Process

R-104 (SN-P1-1), R-105 (SN-P1-2), and R-107 (SN-P1-7)

DMDAC polymers are produced by reacting an aqueous solution of monomer dimethyl diallyl ammonium chloride (mDMDAC). The reactor is vented to the atmosphere during the entire process, which includes an initial charging step, reaction, and nitrogen sparge. Following sparging, the batch is diluted with water and adjusted to specification. Water vapors leave the unit and pass through a water-cooled condenser. Any volatile organics present are condensed in this unit and returned to the reaction vessel. Vapors that pass through this condenser vent to the atmosphere.

TAAC Process

R-104 (P1-1)

The crude TAAC is produced by reacting triallylamine (TAA) with allyl chloride. The unit is vented to a caustic scrubber during the vent down cycle following the reaction.

The crude aqueous product is cut to storage and fresh TAA is charged into the remaining unreacted raw materials, followed by feeding allyl chloride to complete the next batch. The process continues, charging on the remaining unreacted raw materials. After crude production is

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complete, the crude is charged back to the reactor where it is heated and stripped under vacuum with caustic addition. Once the product meets specifications, it is collected and transferred to storage.

DMDAC Polymer and Copolymer Process R-106 (P1-3) and R-114 (P1-4)

DMDAC copolymers are produced by reacting an aqueous solution of mDMDAC with aqueous acrylamide as a second monomer. Therefore, this reaction will produce the DMDAC-acrylamide copolymer.

DMDAC polymers are produced by reacting an aqueous solution of mDMDAC. This reaction produces a DMDAC homopolymer.

The reactor is vented to the atmosphere during the entire process, which includes an initial charging step, reaction, and nitrogen sparge. Following sparging, the batch is diluted with water and adjusted to specification.

Poly Epiamine Process R-105 (SN-P1-2), R-106 (SN-P1-3), R-107 (SN-P1-7), and R-114 (SN-P1-4)

This process reacts dimethylamine (DMA) with epichlorohydrin in the presence of water in a closed reactor. The system is closed during the charging and reaction. This process produces poly epiamines for use as a flocculent. The process is only vented to atmosphere at the end of the batch run.

Biodiesel Process R-104 (SN-P1-1)

Biodiesel is manufactured by reacting oil with methanol in the presence of a catalyst. After the reaction is complete, the catalyst is deactivated and excess methanol is stripped off for reuse. Stripping is followed by phase separation and filtration of the final product before recharging the reactor for the next batch.

Specific Conditions

1. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this condition will be demonstrated through fulfillment of the requirements of Specific Conditions 3-8, and 10. [Regulation No. 19 §19.501 et seq. effective July 15, 2007, and 40 CFR Part 52, Subpart E]

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Table 4 – Maximum Hourly Criteria Pollutant Emission Rates from the P1 Process Building

SN	Description	Pollutant	lb/hr*
P1-1	Reactor 104	VOC	18.5
P1-2	Reactor 105		
P1-3	Reactor 106		
P1-4	Reactor 114		
P1-5	Tank Farm 500		
P1-7	Reactor 107		
P1-8	Tank Farm 200		
P1-9	Reactors 104, 105, and 107 for mDMDAC		

*Based upon a 24-hour average.

- The permittee shall not exceed the emission rates set forth in the following table. Compliance with this condition will be demonstrated through fulfillment of the requirements of Specific Conditions 3-7 and 9. [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 5 – Maximum Hourly Non-Criteria Pollutant Emission Rates from the P1 Process Building

SN	Description	Pollutant	lb/hr*
P1-1	Reactor 104	Acrylamide ^{HAP} Epichlorohydrin ^{HAP} Methanol ^{HAP} Allyl Chloride ^{HAP}	0.01 0.03 1.52 4.03
P1-5	Tank Farm 500		
P1-7	Reactor 107		
P1-9	Reactors 104, 105, and 107 for mDMDAC		

*Based upon a 24-hour average.

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3. The permittee shall operate the packed column scrubber and vent condenser at SN-P1-9 in accordance with manufacturer's specification, or as indicated by stack testing compliance during the manufacture of mDMDAC. The permittee shall operate the packed column scrubber at SN-P1-1 during the manufacture of TAAC in accordance with manufacturer's specification, or as indicated by stack testing compliance at all times. A copy of the recommended scrubber parameters for SN-P1-1 shall be kept at each source and made available to Department personnel upon request. A summary sheet of current scrubber parameters is included in Appendix B of this permit. [§19.303 of Regulation 19 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
4. The permittee shall measure scrubbing fluid flow at SN-P1-1 once every three hours of operation. Flow rates shall be measured by a flow meter. In the event that the permittee must perform maintenance on the flow meter, scrubbing fluid flow may be derived and recorded from a pump curve performance chart.

The sampled values shall be kept in a log at the source in order to verify compliance. These records shall be made available to Department personnel upon request.

Confirmation sampling of the caustic strength of SN-P1-1 shall be performed on a weekly basis. Sampling and analysis of the scrubber fluid shall be conducted prior to discharge operations. Records shall be maintained of the date and time of measurements and the caustic strength of the fluid. A minimum of 10% caustic strength shall be maintained. [§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]

5. The SN-P1-1 and SN-P1-9 scrubbers shall be charged in accordance with the equipment Standard Operating Procedure (SOP) prior to initiation of a vent down sequence of operation. A record of the vent down operations to the scrubbers shall be maintained and shall include a) date and time of vent down operation and b) batch number(s) vented to the scrubber.

At the conclusion of a reactor vent down cycle, which shall not exceed two batches, the contents of the scrubber will be discharged and the scrubber recharged prior to resumption of reactor vent down operations. A record of the discharge and recharge of each scrubber shall be maintained and shall include a) date and time of recharge and b) batch number(s) vented to the scrubber. [§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]

6. SN-P1-9 (Reactors 104, 105, and 107 for mDMDAC) is subject to and shall comply with all applicable provisions §19.304 of Regulation 19, 40 CFR Part 52 Subpart E, and Part §64.6 for Compliance Assurance Monitoring:

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- A. The permittee shall maintain a caustic scrubber liquid flowrate of at least 20 gallons per minute. [40 CFR Part §64.6(c)(1)(i)]
 - B. The permittee shall maintain a minimum of 10% (weight percent) caustic strength at the scrubber. [40 CFR Part §64.6(c)(1)(i)]
 - C. The permittee shall not exceed 35°F at the condenser's chilled water inlet. [40 CFR Part §64.6(c)(1)(i)]
 - D. The permittee shall measure scrubbing fluid flow at SN-P1-9 once every three hours of operation using a flow meter. In the event that the permittee must perform maintenance on the flow meter, scrubbing fluid flow may be derived and recorded from a pump curve performance chart. [40 CFR Part §64.6(c)(1)(ii) and (c)(3)]
 - E. The permittee shall sample the caustic strength at SN-P1-9 on a weekly basis. Sampling and analysis of the scrubber fluid shall be conducted prior to discharge operations. Records shall be maintained of the date and time of sampling and the caustic strength of the fluid. [40 CFR Part §64.6(c)(1)(ii) and (c)(3)]
 - F. The permittee shall measure and record the inlet temperature at the condenser of SN-P1-9 every three operating hours. The inlet temperature may be measured at the recirculation loop located at the chilled water tank. [40 CFR Part §64.6(c)(1)(ii) and (c)(3)]
 - G. These sampled values shall be kept in a log at the source. These records shall be made available to Department personnel upon request. [40 CFR Part §64.9(b)]
7. SN-P1-9 (Reactors 104, 105, and 107 for mDMDAC) is subject to and shall comply with all applicable provisions §19.304 of Regulation 19, 40 CFR Part 52 Subpart E, and Part §64.9 for Compliance Assurance Monitoring. The following information pertaining to exceedances or excursions from permitted values shall be submitted in semi-annual reports in accordance with General Provision 7 as outlined in 40 CFR §70.6.
- A. The permittee shall maintain records for SN-P1-9 that summarizes the number, duration, and cause of excursions or exceedances of emission limits as well as corrective action taken. [40 CFR §64.9(a)(2)(i) and §64.9(b)]

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- B. The permittee shall maintain records for SN-P1-9 that summarizes the number, duration, and cause of monitoring equipment downtime incidents, other than routine downtime for calibration checks. [40 CFR §64.9(a)(2)(ii) and §64.9(b)]
 - C. The permittee shall maintain a quality improvement plan (QIP) threshold for each indicator of no more than 5% exceedances in a six-month period. [40 CFR §64.9(a)(2)(iii) and §64.9(b)]
 - D. The permittee shall develop and implement a new QIP if the threshold is exceeded during any six-month period. [40 CFR §64.9(a)(2)(iii) and §64.9(b)]
 - E. The permittee shall maintain records for SN-P1-9 that describes the actions taken to implement the QIP. Upon completion of the QIP, documentation shall be maintained to confirm that the plan was completed and reduced the likelihood of similar excursions or exceedances. [40 CFR §64.9(a)(2)(iii) and §64.9(b)]
8. The permittee shall maintain records of VOC lb/hr emissions within the P1 Process Building area and associated storage tanks on a monthly basis. The monthly VOC total divided by the monthly operating hours shall be compared to the value permitted in Specific Condition 1 for compliance purposes. The records and calculations shall be kept on site and made available to Department personnel upon request. [§19.705 of Regulation 19 and 40 CFR Part 52 Subpart E]
9. The permittee shall maintain records of hazardous air pollutant (HAP) lb/hr emissions within the P1 Process Building area and associated storage tanks on a monthly basis. The monthly HAP totals divided by the monthly operating hours shall be compared to the values permitted in Specific Condition 2 for compliance purposes. The records and calculations shall be kept on site and made available to Department personnel upon request. [§18.1004 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
10. The permittee shall test SN-P1-9 for VOC within 180 days of the initial permit issuance, and every 30 months thereafter. The testing shall be performed in accordance with EPA Reference Method 25A. Compliance shall be determined by conformity of the test results with a limit of 18.5 lb/hr. The most recent test was conducted January 14, 2003. [§19.702 of Regulation 19 and 40 CFR Part 52 Subpart E]

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P-2 Process Building

Source Description

DMDAC Polymer and Copolymer Process

R-101 (SN-P2-1), R-102 (SN-P2-2), and R-103 (SN-P2-3)

DMDAC copolymers are produced by reacting an aqueous solution of mDMDAC with aqueous acrylamide as a second monomer. Therefore, this reaction will produce the acrylamide copolymer.

DMDAC polymers are produced by reacting an aqueous solution of mDMDAC. This reaction produces a DMDAC homopolymer.

The reactor is vented to the atmosphere during the entire process, which includes an initial charging step and reaction. Some products require a nitrogen sparge before or after the reaction. The batch is diluted with water to fulfill customer specifications.

Reactors 102 and 103 yield three products, a DADMAC polymer, a DADMAC acrylamide copolymer, and a DADMAC terpolymer, that are made in a similar process.

Pour Point Depressant

R-101 (SN-P2-4)

XPDL 649, a pour point depressant, is produced in a batch reaction combining monomers and a carrier oil in the presence of a peroxide initiator. The final product is used as an additive in petroleum to help prevent freezing of oil at low temperatures.

Trans Esterification

R-108 (SN-P2-4)

Methyl (meth)acrylate reacts with alcohol in the presence of a catalyst. This reaction yields the (meth)acrylate ester and methanol. The reaction takes place in a solvent media of cyclohexane and/or heptane. R-108 also has the capability to react ethyl acrylate with an alcohol. This produces an acrylate ester and a side product of ethanol.

NNDMA (N,N-dimethylacrylamide) may also be produced in R-108. NNDMA is a multistep production process that uses an ester, an alcohol, and an amine to produce the final product and an alcohol coproduct.

Finished product is occasionally sparged for a period of 24-hours. During these events, no distillation or reactions occur.

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Quat Process
 R-109 (SN-P2-5)

The Quat Process involves an initial charging step, in which a heel of quat is charged and heated. Then, an initial quantity of methyl chloride is fed into a closed reactor vessel and a continuous flow of methyl chloride and (meth)acrylate ester is co-fed into the reactor to begin the reaction. There is no venting during the reaction, and the vessel pressure increases as unreacted methyl chloride and air accumulates in the vapor space. As the reaction proceeds, water is also fed into the reaction.

When the reaction is completed, the unreacted methyl chloride and air in the vapor space is vented to the scrubber. Remaining methyl chloride is stripped from the reactor contents under vacuum. With the exception of unreacted methyl chloride, the contents of the reactor during the time the unit is vented to the scrubber are non-volatile. In the scrubber, a single-stage venturi contacts the vented methyl chloride with a circulating stream of (meth)acrylate ester. A majority of the methyl chloride reacts with the (meth)acrylate ester to produce quat, which is recycled back to the reactor in a subsequent batch.

Specific Conditions

11. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this condition will be demonstrated through fulfillment of the requirements of Specific Conditions 13-16. [Regulation No. 19 §19.501 *et seq.* effective July 15, 2007, and 40 CFR Part 52, Subpart E]

Table 6 – Maximum Hourly Criteria Pollutant Emission Rates from the P2 Process Building

SN	Description	Pollutant	lb/hr*
P2-1	Reactor 101	VOC	12.8
P2-2	Reactor 102		
P2-3	Reactor 103		
P2-4	Reactor 108		
P2-5	Reactor 109		
P2-6	Tank Farm 100		

*Based upon a 24-hour average.

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12. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this condition will be demonstrated through fulfillment of the requirements of Specific Conditions 13, 15, and 18. [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 7 – Maximum Hourly Non-Criteria Pollutant Emission Rates from the P2 Process Building

SN	Description	Pollutant	lb/hr*
P2-1	Reactor 101	Acrylamide ^{HAP} Acrylic Acid ^{HAP} Ethyl Acrylate ^{HAP} Methanol ^{HAP} Methyl Methacrylate ^{HAP} Methyl Chloride ^{HAP}	0.01 0.30 1.20 1.30 0.70 2.60
P2-2	Reactor 102		
P2-3	Reactor 103		
P2-4	Reactor 108		
P2-5	Reactor 109		
P2-6	Tank Farm 100		

*Based upon a 24-hour average.

13. The permittee shall operate the single-stage venturi type scrubbers at SN-P2-1 and SN-P2-5 in accordance with manufacturer's specification, or as indicated by stack testing compliance, at all times. Current scrubber parameters are contained within Specific Condition #15 and Appendix B of this permit. [§19.303 of Regulation 19 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-31]
14. The SN-P2-1 and SN-P2-5 scrubbers shall be charged prior to initiation of each batch of product to be manufactured. A record of each charge shall be maintained and shall include: a) date and time of the charge, b) quantity of amine charged, and, c) quantity of water charged. Records to demonstrate amine concentration (wt%) shall be maintained and made available to Department personnel upon request.

At the conclusion of each batch cycle, the contents of the scrubber shall be discharged for use in the next batch of product to be manufactured. A record of the discharge of the scrubber shall be maintained and shall include: a) date and time of the discharge, and b) subsequent batch number manufactured.

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To perform maintenance or to shutdown one of the quat reactors, two reactor batches may be vented to one scrubber charge, as long as the permittee confirms that the amine concentration of the scrubber is a minimum of 95%.

The above records shall be kept in a log at the source. These records shall be made available to Department personnel upon request. [§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]

15. SN-P2-1 (Reactor 101) and SN-P2-5 (Reactor 109) shall comply with the following:

- A. The permittee shall maintain liquid flowrate of at least 15 gallons per minute.
- B. The permittee shall maintain a minimum of 95% (weight percent) amine at the scrubber. Amine concentration shall be verified by the water and amine charge weights as required by Specific Condition 14.
- C. The permittee shall measure scrubbing fluid flow, at the SN-P2-1 and SN-P2-5 scrubbers, at the start of vent down operations and at the end of strip operations for each batch using a flow meter. In the event that the permittee must perform maintenance on the flow meter, scrubbing fluid flow may be derived and recorded from a pump curve performance chart.
- D. These sampled values shall be kept in a log at the source. These records shall be made available to Department personnel upon request.

[§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]

16. [Reserved]

17. The permittee shall maintain records of VOC lb/hr emissions within the P2 Process Building area and associated storage tanks on a monthly basis. The monthly VOC total divided by the monthly operating hours shall be compared to the value permitted in Specific Condition 11 for compliance purposes. The records and calculations shall be kept on site and made available to Department personnel upon request. [§19.705 of Regulation 19 and 40 CFR Part 52 Subpart E]

18. The permittee shall maintain records of hazardous air pollutant (HAP) lb/hr emissions within the P2 Process Building area and associated storage tanks on a monthly basis. The monthly HAP totals divided by the monthly operating hours shall be compared to the values permitted in Specific Condition 12 for compliance purposes. The records and calculations shall be kept

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on site and made available to Department personnel upon request. [§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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P-3 Process Building

Source Description

There are five similar reactor units in P-3. Five types of operations are run in this equipment. The reactor emissions are controlled by a two-stage packed column caustic scrubber.

Trans Esterification

R-110, R-112, R-113, R-115, and R-116 (all under Source SN-P3-1)

Methyl (meth)acrylate reacts with alcohol in the presence of a catalyst. This reaction yields the (meth)acrylate ester and methanol. The reaction takes place in a solvent media of cyclohexane and/or heptane. P-3 also has the capability to react ethyl acrylate with an alcohol. This produces an acrylate ester and a side product of ethanol. (Meth)acrylate esters are produced in all P-3 reactors.

Direct Esterification

R-112, R-113 (SN-P3-1)

(Meth)acrylic acid reacts with alcohol in the presence of a catalyst. This reaction yields (meth)acrylate ester and water. The reaction takes place in a solvent media of cyclohexane and/or heptane. (Meth)acrylate esters may be produced by the direct esterification route in R-112 and R-113.

Epoxidation

R-112, R-113 (SN-P3-1) and Wash Tanks (SN-P3-10b)

Alcohol is reacted with epichlorohydrin in the presence of a catalyst to produce monochlorohydrin. This reaction can take place in R-112 or R-113. The monochlorohydrin is reacted with caustic in a wash tank before final distillation in a reactor.

Solvent Recovery

R-112, R-113, R-110, R-115, and R-116 (SN-P3-1)

Solvents from esterification are distilled in R-112, R-113, R-110, R-115, and R-116 to permit reuse in future reactions. The facility may recover methanol or isopropanol at this source.

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Tank Farm 600

(SN-P3-2)

The tank farm consists of several vessels of varying capacities which are used to store components or products of reactions. Tanks T-606, T-623, T-620, and T-627 are used for additional cyclo/MMA storage service. Also, tanks T-615 and T-612 are used for ester service (storage).

Tank Farms 600 and 400

(SN-P3-2 and SN-P3-3)

These tank farms consist of several vessels of varying capacities which are used to store components or products of reactions.

Methanol Recovery

SN-P3-11

The by-product methanol/water streams from the trans-esterification processes are mixed with caustic to saponify residual (meth)acrylate. A portion of the methanol/water solution is then distilled in R-112, R-110, R-113, R-115, R-116 (SN-P3-1) or the methanol recovery still for recovery. The remaining portion is shipped off-site for recovery. Emissions from the methanol recovery still are controlled by a chilled vent condenser.

Wash Tanks

SN-P3-10

The esters produced in the reactors are washed in the wash tanks with water, dilute caustic, and/or brine (sodium chloride) to remove excess acid, catalyst, and impurities. On occasion, the wash tanks can be used for a process rework. Emissions from the wash tanks are controlled by a chilled vent condenser. The tanks are, on occasion, rinsed with methanol.

Boilers

Boiler #1 (SN-P3-4), Boiler #3 (SN-P3-6)

Boiler #1 and Boiler #3 are used to supply steam for facility processes (Boiler #2 has been removed from service). Boiler #1 is natural gas-fired with a design heat input of 33.5 MMBTU/hr. Boiler #3 is allowed to use natural gas, by-product methanol, or byproduct isopropanol on a continuous basis. The methanol may be either from the P3 or P4 plants. The design heat input of Boiler #3 is 29.4 MMBTU/hr. Boiler emission estimates have been calculated at maximum capacity, assuming year-round operation at worst-case scenario.

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Boiler #1 and Boiler #3 are subject to the requirements of 40 CFR Part 60, Subpart Dc (Standards for Small Industrial-Commercial-Institutional Steam Generating Units). Both boilers in this process area are allowed to use No. 2 fuel oil.

Fire Emergency Pump
 SN-P3-7

Two 368-horsepower diesel-fired engines (one to act as a spare) power the fire water pumps, if necessary, to provide copious amounts of water in case of a plant fire or other emergency event. The fire pump is tested on a weekly basis to ensure operability. The short-term emissions have been calculated at maximum capacity, no more than one pump in operation at a time, but with a long-term limit of 200 hours of operation per year.

Inhibitor Vats
 SN-P3-13

Several vessels have the capability of being used as inhibitor vats during the transesterification P3 processes. During the charging of the process reactor, methanol and methyl (meth) acrylate or final product can be charged to an inhibitor vat and mixed with inhibitor to prevent polymerization in the reactor distillation columns. Emissions for this source are comprised of the 75-gallon unsealed vats. Sealed vats are part of the reactor systems and are vented through SN-P3-1, along with displaced gas from the reactors.

Specific Conditions

19. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this condition will be demonstrated through fulfillment of the requirements of Specific Conditions 21-27 and 29-37. [Regulation No. 19 §19.501 *et seq.* effective July 15, 2007, and 40 CFR Part 52, Subpart E]

Table 8 – Maximum Hourly Criteria Pollutant Emission Rates from the P3 Process Building

SN	Description	Pollutant	lb/hr*
P3-1	Reactors 110, 112, 113, 115, 116	PM ₁₀	1.1
P3-2	Tank Farm 600	SO ₂	32.7
P3-3	Tank Farm 400	VOC	14.0
		CO	7.5
P3-4	Boiler #1	NO _x	21.6

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SN	Description	Pollutant	lb/hr*
P3-6	Boiler #3		
P3-7	Fire Emergency Pump		
P3-8	500 Gallon Gasoline Tank		
P3-9	500 Gallon Diesel Tank		
P3-10	Wash Tanks		
P3-11	Methanol Recovery		
P3-12	Tank Farm 700		
P3-13	Inhibitor Vats		

*Based upon a 24-hour average.

20. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this condition will be demonstrated through fulfillment of the requirements of Specific Conditions 25-27, and 38. [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 9 – Maximum Hourly Non-Criteria Pollutant Emission Rates from the P3 Process Building

SN	Description	Pollutant	lb/hr*
P3-1	Reactors 110, 112, 113, 115, 116	PM	1.1
		Acetone	0.5
P3-2	Tank Farm 600	Acrylic Acid ^{HAP}	0.01
		Ethyl Acrylate ^{HAP}	0.50
P3-3	Tank Farm 400	Methanol ^{HAP}	2.30
		Methyl Methacrylate ^{HAP}	1.43
P3-4	Boiler #1		
P3-6	Boiler #3		
P3-7	Fire Emergency Pumps		
P3-10	Wash Tanks		

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SN	Description	Pollutant	lb/hr*
P3-11	Methanol Recovery		
P3-13	Inhibitor Vats		

*Based upon a 24-hour average.

21. The permittee shall not exceed 5% opacity at SN-P3-4 and SN-P3-6 during usage of natural gas. The permittee shall not exceed 20% opacity during periods of fuel oil usage. The permittee shall not exceed 5% opacity during usage of methanol/isopropanol byproduct at SN-P3-6. Compliance with this limit shall be satisfied through the requirements of Specific Conditions 23, 29, and 30. [§18.501 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
22. The permittee shall not exceed 20% opacity at SN-P3-7. Compliance with this limit shall be satisfied through the requirements of Specific Condition 23. [§19.503 of Regulation 19 and 40 CFR Part 52 Subpart E]
23. The permittee shall conduct weekly observations of opacity for SN-P3-4 and SN-P3-6. The weekly observations shall only be required during periods where fuel oil usage exceeds one week.

Daily observations shall be required for SN-P3-7. The daily observations shall only be required when fire pump use exceeds 24-hours per event. The visible emission observations shall be used as a method of compliance verification for the opacity limit at SN-P3-4, SN-P3-6, SN-P3-7. The observations shall be conducted by personnel familiar with the facility's visible emissions. If during the daily/weekly observations, visible emissions are detected which appear to be in excess of the permitted opacity limit, the permittee shall:

- a) Take immediate action to identify the cause of the visible emissions.
- b) Implement all necessary corrective action.
- c) Reassess the visible emissions after corrective action is taken.
 - i. If excessive visible emissions are still detected, an opacity reading shall be conducted in accordance with EPA Reference Method 9. This reading shall be conducted by personnel trained and certified in the reference method. If the opacity reading exceeds the permitted limit, further corrective measures shall be taken.

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- ii. If no excessive visible emissions are detected, the incident shall be noted in the records as described below.

[§19.705 of Regulation 19 and 40 CFR Part 52 Subpart E]

24. The permittee shall maintain records related to all visible emission observations and Method 9 Readings, to be updated on an as-performed basis. The records shall be kept on site and made available to Department personnel upon request. The records shall contain the following items:

- 2) the date and time of each observation/reading.
- 3) any observance of visible emissions appearing to be above permitted limits, or any Method 9 reading which indicates exceedance.
- 4) the cause of any observed exceedance of opacity limits, corrective action taken, and results of the reassessment.
- 5) The name of the person conducting the observation/reading.

[§19.705 of Regulation 19 and 40 CFR Part 52 Subpart E]

25. The permittee shall operate the packed column scrubber at SN-P3-1 and the chilled vent condensers at SN-P3-10 and SN-P3-11 in accordance with manufacturer's specification, or as indicated by stack testing compliance, at all times. Current scrubber /condenser parameters are contained within Specific Conditions 26, 27, and Appendix B of this permit. [§19.303 of Regulation 19 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

26. SN-P3-1 (Reactors 110, 112, 113, 115, 116) is subject to and shall comply with all applicable provisions §19.304 of Regulation 19, 40 CFR Part 52 Subpart E, and Part §64.6 for Compliance Assurance Monitoring:

- A. The permittee shall maintain a caustic scrubber liquid flowrate of at least 40 gallons per minute. [40 CFR §64.6(c)(1)(i)]
- B. The permittee shall measure scrubbing fluid flow at the educator and column of the SN-P3-1 scrubber once every four hours of operation using a flow meter. In the event that the permittee must perform maintenance on the flow meter, scrubbing fluid flow may be derived and recorded from a pump curve performance chart. [40 CFR §64.6(c)(1)(ii) and (c)(3)]

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- C. The caustic monitoring system shall charge fresh caustic to the scrubber whenever the pH for a given batch drops below 12. The pH readings shall be measured once every four hours of operation. [40 CFR §64.6(c)(i), (c)(ii), and (c)(3)]
 - D. The scrubbing fluid flow rates and pH values shall be kept in a log at the source. These records shall be made available to Department personnel upon request. [40 CFR §64.9(b)]
27. SN-P3-10 (Wash Tanks) and SN-P3-11 (Methanol Recovery) are subject to and shall comply with all applicable provisions §19.304 of Regulation 19, 40 CFR Part 52 Subpart E, and Part §64.6 for Compliance Assurance Monitoring:
- A. The permittee shall not exceed 35°F at the condenser's chilled water inlet. [40 CFR Part §64.6(c)(1)(i)]
 - B. The permittee shall measure the chilled vent condenser inlet temperatures at SN-P3-10 and SN-P3-11 once every three operating hours. The inlet temperature may be measured at the recirculation loop located at the chilled water tank. [40 CFR §64.6(c)(1)(ii) and (c)(3)]
 - C. The measured values shall be kept in a log at the source. These records shall be made available to Department personnel upon request. [40 CFR §64.9(b)]
28. SN-P3-1 (Reactors 110, 112, 113, 115, 116), SN-P3-10 (Wash Tanks), and SN-P3-11 (Methanol Recovery) are subject to and shall comply with all applicable provisions §19.304 of Regulation 19, 40 CFR Part 52 Subpart E, and Part §64.9 for Compliance Assurance Monitoring. The following information pertaining to exceedances or excursions from permitted values shall be submitted in semi-annual reports in accordance with General Provision 7 as outlined in 40 CFR §70.6.
- A. The permittee shall maintain records that summarize the number, duration, and cause of excursions or exceedances of emission limits as well as corrective action taken. [40 CFR §64.9(a)(2)(i) and §64.9(b)]
 - B. The permittee shall maintain records that summarize the number, duration, and cause of monitoring equipment downtime incidents, other than routine downtime for calibration checks. [40 CFR §64.9(a)(2)(ii) and §64.9(b)]
 - C. The permittee shall maintain a quality improvement plan (QIP) threshold for each indicator of no more than 5% exceedances in a six-month period. [40 CFR §64.9(a)(2)(iii) and §64.9(b)]

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- D. The permittee shall develop and implement a new QIP if the threshold is exceeded during any six-month period. [40 CFR §64.9(a)(2)(iii) and §64.9(b)]
- E. The permittee shall maintain records that describe the actions taken to implement the QIP. Upon completion of the QIP, documentation shall be maintained to confirm that the plan was completed and reduced the likelihood of similar excursions or exceedances. [40 CFR §64.9(a)(2)(iii) and §64.9(b)]

29. The Boiler #1 and Boiler #3 (SN-P3-4 and SN-P3-6) shall fully comply with all applicable requirements of the 40 CFR 60 Subpart Dc - *Standards for Small Industrial-Commercial-Institutional Steam Generating Units* (see Appendix A). These requirements include, but are not limited to, the following.

For natural gas combustion:

Recordkeeping [from 60.48c(g), (i)]. Amounts of each fuel combusted shall be recorded on a monthly basis. The records shall be maintained by the facility for a period of two years following the date of recording.

For by-product methanol and/or isopropanol combustion at Boiler #3 (SN-P3-6) only.

Recordkeeping [from 60.48c(g), (i)]. Amounts of each fuel combusted shall be recorded on a daily basis. The records shall be maintained by the facility for a period of two years following the date of recording.

For No. 2 fuel oil (see the regulation in Appendix A for details):

Sulfur Standards [60.42c(d)]. Sulfur content shall be limited to 0.5 or less weight percent.

Sulfur Limit Compliance [from 60.46(e)] Compliance with the sulfur content limits shall be demonstrated by certification from the fuel supplier as described under 60.48c(f).

Recordkeeping [from 60.48c(g), (i)]. Amounts of each fuel combusted shall be recorded on a monthly basis. The records shall be maintained by the facility for a period of two years following the date of recording.

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Quarterly Reporting [from 60.48c(d), (e), (e)(1), (e)(5)-(6), (e)(11), (f)] Submit quarterly reports of 30-day average SO₂ emission rate (ng/J or lb/million Btu) or 30-day average sulfur content, records of fuel supplier certification as described under paragraph (f), and a certified statement signed by the owner or operator that the records of fuel supplier certifications submitted represent all of the fuel combusted during the reporting period.

[§19.304 of the Regulation 19 and 40 CFR Part 60 Subpart Dc]

30. The permittee shall not use more than 4,600,000 gallons of by-product methanol and isopropanol, combined, as fuel at SN-P3-6 (Boiler #3) per rolling 12-month period. Compliance with this condition shall be verified by maintaining daily records of the amount of fuel used. These records shall be kept on site and made available to Department personnel 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 52, Subpart E]
31. The permittee will sample and analyze the methanol by-product from the P4 unit semi-annually in accordance with the methanol by-product analysis plan and the provisions of 40 CFR 261.38 to ensure the constituents listed in this subpart are not present over RCRA threshold amounts. These threshold values are listed below.

Table 10 – Limits for Methanol By-Product Sampling at SN-P3-6

Value	Limit
BTU	>5,000 BTU/lb
Total Nitrogen	≤ 4,900
Viscosity	≤ 50 centipoise

[§19.304 of Regulation 19 and 40 CFR Subpart 261.38]

32. The permittee will sample and analyze the isopropanol by-product semi-annually in accordance with the by-product analysis plan and the provisions of 40 CFR 261.38 to ensure the constituents listed in this subpart are not present over RCRA threshold amounts. These threshold values are listed below. This information shall be kept on site and made available to Department personnel upon request.

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Table 11 – Limits for Isopropanol By-Product Sampling at SN-P3-6

Value	Limit
BTU	> 5,000 BTU/lb
Total Nitrogen	≤ 4,900 mg/kg
Total Chloride	≤ 540 mg/kg
Acrolein	≤ 37 mg/kg
Viscosity	≤ 50 centipoise

[§19.304 of Regulation 19 and 40 CFR Subpart 261.38]

33. The permittee shall conduct an initial test for VOC at SN-P3-6 in accordance with EPA Reference Method 25A. The testing shall conform with the requirements of Plantwide Conditions 3 and 4. The initial test was completed July 2001 as a condition of 860-AOP-R2. [§19.702 of Regulation 19 and 40 CFR Part 52 Subpart E]
34. The permittee shall conduct an initial test for NO_x at SN-P3-6 in accordance with EPA Reference Method 7E. The testing shall be conducted within 180 days of permit issuance, and shall conform with the requirements of Plantwide Conditions 3 and 4. The testing shall be performed when the boiler is operating at a minimum 90% capacity of combined by-product usage, in which both isopropanol and methanol by-product fuel are represented. The ratio of isopropanol to methanol byproduct shall be recorded and submitted to the Department with test results for compliance determination. The initial test was completed May 2004 as a condition of 860-AOP-R5. The Department reserves the right to require additional testing at different ratios at a later date. [§19.702 of Regulation 19 and 40 CFR Part 52, Subpart E]
35. The following storage tanks shall fully comply with all applicable requirements of 40 CFR 60 Subpart Kb - *Standards of Performance for Volatile Organic Liquid Storage Vessels* (see Appendix A):

Table 12 - P3 Building Tanks Subject to NSPS Subpart Kb

Source	Tank #	Location	Capacity	Contents
SN-P3-2	605	Tank Farm 600	21,000 gallon	Methyl Methacrylate

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Source	Tank #	Location	Capacity	Contents
SN-P3-3	400, 401	Tank Farm 400	25,000 gallon	Allyl Chloride
SN-P3-12	700	Tank Farm 700	50,000 gallon	Dimethyl Amine

Applicable requirements include, but are not limited to, the items outlined in Plantwide Condition 9. [§19.304 of Regulation 19 and 40 CFR Part 60 Subpart Kb]

36. The permittee shall not operate the Fire Emergency Pumps (SN-P3-7) more than 200 hours combined per rolling 12-month period for testing and maintenance purposes. The permittee may not operate both pumps simultaneously. Records of testing/maintenance operation time shall be maintained on site, updated on a per-event basis, and made available to Department personnel upon request. Operation time required for actual emergency use is not restricted by this permit. [§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]
37. The permittee shall maintain records of VOC lb/hr emissions within the P3 Process Building area and associated storage tanks on a monthly basis. For the SN-P3-10 wash tanks, the facility shall assume a theoretical maximum of 64 lb VOC per batch processed. The monthly VOC total divided by the monthly operating hours shall be compared to the value permitted in Specific Condition 19 for compliance purposes. The records and calculations shall be kept on site and made available to Department personnel 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 52 Subpart E]
38. The permittee shall maintain records of hazardous air pollutant (HAP) lb/hr emissions within the P3 Process Building area and associated storage tanks on a monthly basis. For the SN-P3-10 wash tanks, the facility shall assume a theoretical maximum of 7.5 lb methyl methacrylate and 9.6 lb methanol per batch processed. The monthly HAP totals divided by the monthly operating hours shall be compared to the values permitted in Specific Condition 20 for compliance purposes. The records and calculations shall be kept on site and made available to Department personnel upon request. [§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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P-4 Process Building

Source Description

Cationic Monomer Plant

The Cationic Monomer Plant uses the semi-continuous process technology which has been developed through two generations at the site. The plant is dedicated to the production of dimethyl amino ethyl acrylate (FA-1), with provision for the production of the process catalyst. The expansion also includes a new dedicated tank farm.

The reaction section of the process consists of two (2) continuous stirred tank reactors. Methyl acrylate (MAC), catalyst, and other reactants are fed into the primary reactor, which will operate in series with the remaining reactor.

Noncondensables from the system are routed to the off-gas scrubbing units. The off-gases are scrubbed with sodium hydroxide solution followed by sulfuric acid solution before being passed through a carbon adsorber. The adsorber gases are vented to the atmosphere. The plant control system automatically shuts down the process plant unless a minimum circulation flow on one caustic and one acid scrubber is being measured.

All storage tanks (SN-P4-2) associated with the Cationic Monomer Plant (except the catalyst tank, which has no vapor pressure) are vented by conservation vents to the scrubber system.

Fugitive emissions (SN-P4-4) will arise from equipment leaks in P4. Fugitive emissions also arise from the loading and unloading of truck tanks and rail cars (SN-P4-3).

Boiler #4 (SN-P4-5) operates to generate steam, which is used in various chemical processing operations. The boiler is equipped to burn either natural gas, methanol/isopropanol byproduct or, No. 2 fuel oil (10,000 gallon oil tank, SN-P4-6). Boiler emission estimates have been calculated at maximum capacity, assuming year-round operation.

Boiler #4 is subject to the requirements of 40 CFR Part 60, Subpart Dc (*Standards for Small Industrial-Commercial-Institutional Steam Generating Units*).

Quaternization (SN-P4-7)

In a future planned addition to the P-4 Process Building, cationic monomer (DMAEA) from the previously mentioned process is reacted with methyl chloride to produce methyl chloride

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quaternized di methyl amino ethyl acrylate (quat monomer). DMAEA, methyl chloride, and water are fed to a reactor where the DMAEA is converted to quat monomer.

Quat monomer exiting the reactor is fed to the quat stripper. Air from the monomer scrubber is used to strip impurities from the quat monomer product. Air exiting the quat stripper enters the caustic scrubber. Here, methyl acrylate and the smaller quantities of impurities are absorbed. This is taken as a waste stream and sent to the existing effluent treatment plant.

The monomer feed to the first reactor is fed via the monomer scrubber. Air laden with methyl chloride exiting the caustic scrubber is fed to the monomer scrubber.

Some of the air exiting the monomer scrubber enters the water scrubber. In the water scrubber, any carry-over of DMAEA and other volatile impurities are absorbed by the water. The air from the water scrubber is then released to atmosphere (SN-P4-7). This is the only emission point from this additional process. The water exiting the scrubber is fed to the primary reactor under flow control.

A leak detection and repair program is maintained for the P-4 process area, to assist in the control of fugitive emissions.

Specific Conditions

39. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this condition will be demonstrated through fulfillment of the requirements of Specific Conditions 42-46, 48-57. [Regulation No. 19 §19.501 *et seq.* effective July 15, 2007, and 40 CFR Part 52, Subpart E]

Table 13 – Maximum Hourly Criteria Pollutant Emission Rates from the P4 Process Building

SN	Description	Pollutant	lb/hr*
P4-1	P4 Cationic Monomer Reactors	PM ₁₀	0.5
P4-2	P4 Tank Farm	SO ₂	17.0
		VOC	5.4
P4-3	P4 Loading/Unloading	CO	2.9
		NO _x	8.6
P4-4	P4 Equipment Leaks		
P4-5	Boiler #4		
P4-6	25,000 Gallon Diesel Storage Tank		

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SN	Description	Pollutant	lb/hr*
P4-7	Quat Plant		
P4-8	25,000 Gallon Diesel Storage Tank		

*Based upon a 24-hour average.

40. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this condition will be demonstrated through fulfillment of the requirements of Specific Conditions 42-44, 58. [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 14 – Maximum Hourly Non-Criteria Pollutant Emission Rates from the P4 Process Building

SN	Description	Pollutant	lb/hr*
P4-1	P4 Cationic Monomer Reactors	PM Methanol ^{HAP} Methyl Chloride ^{HAP}	0.5
P4-5	Boiler #4		0.52
P4-7	Quat Plant		2.30

*Based upon a 24-hour average.

41. The permittee shall not exceed 5% opacity at SN-P4-5 during usage of natural gas. The permittee shall not exceed 20% opacity during periods of fuel oil usage. Compliance with the 20% opacity limit shall be satisfied through the requirements of Specific Condition 42 and 43. [§18.501 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
42. The permittee shall conduct weekly observations of opacity for SN-P4-5. The weekly observations shall only be required during periods where fuel oil usage exceeds one week. The visible emission observations shall be used as a method of compliance verification for the opacity limit at SN-P4-5. The observations shall be conducted by personnel familiar with the facility's visible emissions. If during the weekly observations, visible emissions are detected which appear to be in excess of the permitted opacity limit, the permittee shall:
- a) Take immediate action to identify the cause of the visible emissions.
 - b) Implement all necessary corrective action.

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- c) Reassess the visible emissions after corrective action is taken.
 - i. If excessive visible emissions are still detected, an opacity reading shall be conducted in accordance with EPA Reference Method 9. This reading shall be conducted by personnel trained and certified in the reference method. If the opacity reading exceeds the permitted limit, further corrective measures shall be taken.
 - ii. If no excessive visible emissions are detected, the incident shall be noted in the records as described below.

[§19.705 of Regulation 19 and 40 CFR Part 52 Subpart E]

43. The permittee shall maintain daily/weekly records related to all visible emission observations and Method 9 Readings. The records shall be kept on site and made available to Department personnel upon request. The records shall contain the following items:

- 1) the date and time of each observation/reading.
- 2) any observance of visible emissions appearing to be above permitted limits, or any Method 9 reading which indicates exceedance.
- 3) the cause of any observed exceedance of opacity limits, corrective action taken, and results of the reassessment.
- 4) The name of the person conducting the observation/reading.

[§19.705 of Regulation 19 and 40 CFR Part 52 Subpart E]

44. The permittee shall operate at least one caustic scrubber, one acid scrubber, and one carbon absorber at SN-P4-1, as well as the caustic and water scrubbers at SN-P4-7 in accordance with manufacturer's specification, or as indicated by stack testing compliance, at all times. Current scrubber parameters are contained within Specific Condition 45 and Appendix B of this permit. [§19.303 of Regulation 19 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

45. SN-P4-1 (P4 Cationic Monomer Reactors) is subject to and shall comply with all applicable provisions §19.304 of Regulation 19, 40 CFR Part 52 Subpart E, and Part §64.6 for Compliance Assurance Monitoring:

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- A. The permittee shall maintain a caustic scrubber liquid flowrate of at least 40 gallons per minute. [40 CFR §64.6(c)(1)(i)]
 - B. The permittee shall maintain a concentration minimum of 3%, for both caustic and acid media. [40 CFR §64.6(c)(1)(i)]
 - C. The permittee shall measure scrubbing fluid flow at the SN-P4-1 scrubbers once every three hours of operation with a flow meter. In the event that the permittee must perform maintenance on the flow meter, scrubbing fluid flow may be derived and recorded from a pump curve performance chart. [40 CFR §64.6(c)(1)(ii) and (c)(3)]
 - D. The caustic and acid concentrations at the SN-P4-1 scrubbers shall be sampled once every seven days of operation. If sampling shows that an SN-P4-1 scrubber concentration has fallen below 3%, the scrubber shall be regenerated in order to maintain the scrubbing system at a minimum of 3%, for both caustic and acid media. [40 CFR §64.6(c)(ii), and (c)(3)]
 - E. The sampled flow values and the sampled caustic and acid concentrations shall be kept in a log at the source. These records shall be made available to Department personnel upon request. [40 CFR §64.9(b)]
46. SN-P4-7 (Quat Plant scrubber) is subject to and shall comply with all applicable provisions §19.304 of Regulation 19, 40 CFR Part 52 Subpart E, and Part §64.6 for Compliance Assurance Monitoring:
- A. The permittee shall maintain a caustic scrubber liquid flowrate of at least 3 gallons per minute. [40 CFR §64.6(c)(1)(i)]
 - B. The permittee shall maintain a concentration minimum of 2% caustic. [40 CFR §64.6(c)(1)(i)]
 - C. The permittee shall measure scrubbing fluid flow at the SN-P4-7 scrubbers once every three hours of operation using a flow meter. In the event that the permittee must perform maintenance on the flow meter, scrubbing fluid flow may be derived and recorded from a pump curve performance chart. [40 CFR §64.6(c)(1)(ii) and (c)(3)]

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- D. The caustic and acid concentrations at the SN-P4-7 caustic scrubber shall be sampled once every seven days of operation. If sampling shows that an SN-P4-7 caustic scrubber concentration has fallen below 2%, the scrubber shall be regenerated in order to maintain the scrubbing system at a minimum of 2% caustic. [40 CFR §64.6(c)(ii), and (c)(3)]
 - E. The sampled flow values and the sampled caustic and acid concentrations shall be kept in a log at the source. These records shall be made available to Department personnel upon request. [40 CFR §64.9(b)]
47. SN-P4-1 (P4 Cationic Monomer Reactors) and SN-P4-7 (Quat Plant scrubber) are subject to and shall comply with all applicable provisions §19.304 of Regulation 19, 40 CFR Part 52 Subpart E, and Part §64.9 for Compliance Assurance Monitoring. The following information pertaining to exceedances or excursions from permitted values shall be submitted in semi-annual reports in accordance with General Provision 7 as outlined in 40 CFR §70.6.
- A. The permittee shall maintain records that summarize the number, duration, and cause of excursions or exceedances of emission limits as well as corrective action taken. [40 CFR §64.9(a)(2)(i) and §64.9(b)]
 - B. The permittee shall maintain records that summarize the number, duration, and cause of monitoring equipment downtime incidents, other than routine downtime for calibration checks. [40 CFR §64.9(a)(2)(ii) and §64.9(b)]
 - C. The permittee shall maintain a quality improvement plan (QIP) threshold for each indicator of no more than 5% exceedances in a six-month period. [40 CFR §64.9(a)(2)(iii) and §64.9(b)]
 - D. The permittee shall develop and implement a new QIP if the threshold is exceeded during any six-month period. [40 CFR §64.9(a)(2)(iii) and §64.9(b)]
 - E. The permittee shall maintain records that describe the actions taken to implement the QIP. Upon completion of the QIP, documentation shall be maintained to confirm that the plan was completed and reduced the likelihood of similar excursions or exceedances. [40 CFR §64.9(a)(2)(iii) and §64.9(b)]
48. Boiler #4 (SN-P4-5) shall fully comply with all applicable requirements of the *Standards for Small Industrial-Commercial-Institutional Steam Generating Units* (see Appendix A). These requirements include, but are not limited to, the following.

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For natural gas combustion:

Recordkeeping [from 60.48c(g), (i)]. Amounts of each fuel combusted shall be recorded on a monthly basis. The records shall be maintained by the facility for a period of two years following the date of recording.

For by-product methanol and/or isopropanol combustion at Boiler #4 (SN-P4-5) only.

Recordkeeping [from 60.48c(g), (i)]. Amounts of each fuel combusted shall be recorded on a daily basis. The records shall be maintained by the facility for a period of two years following the date of recording.

For No. 2 fuel oil (see the regulation in Appendix A for details):

Sulfur Standards [60.42c(d)]. Sulfur content shall be limited to 0.5 or less weight percent.

Sulfur Limit Compliance [from 60.46(e)] Compliance with the sulfur content limits shall be demonstrated by certification from the fuel supplier as described under 60.48c(f).

Recordkeeping [from 60.48c(g), (i)]. Amounts of each fuel combusted shall be recorded on a monthly basis. The records shall be maintained by the facility for a period of two years following the date of recording.

Quarterly Reporting [from 60.48c(d), (e), (e)(1), (e)(5)-(6), (e)(11), (f)] Submit quarterly reports of 30-day average SO₂ emission rate (ng/J or lb/million Btu) or 30-day average sulfur content, records of fuel supplier certification as described under paragraph (f), and a certified statement signed by the owner or operator that the records of fuel supplier certifications submitted represent all of the fuel combusted during the reporting period.

[§19.304 of the Regulation 19 and 40 CFR Part 60 Subpart Dc]

49. The permittee shall not use more than 2,440,000 gallons of by-product methanol and isopropanol, combined, as fuel at SN-P4-5 (Boiler #4) per rolling 12-month period. Compliance with this condition shall be verified by maintaining daily records of the amount of fuel used. These records shall be kept on site and made available to Department personnel 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 52, Subpart E]
50. The permittee will sample and analyze the methanol by-product from the P4 unit semi-

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annually in accordance with the methanol by-product analysis plan and the provisions of 40 CFR 261.38 to ensure the constituents listed in this subpart are not present over RCRA threshold amounts. These threshold values are listed below.

Table 15 - Limits for Methanol By-Product Sampling at SN-P4-5

Value	Limit
BTU	>5,000 BTU/lb
Total Nitrogen	≤ 4,900
Viscosity	≤ 50 centipoise

[§19.304 of Regulation 19 and 40 CFR Subpart 261.38]

51. The permittee will sample and analyze the isopropanol by-product semi-annually in accordance with the by-product analysis plan and the provisions of 40 CFR 261.38 to ensure the constituents listed in this subpart are not present over RCRA threshold amounts. These threshold values are listed below. This information shall be kept on site and made available to Department personnel upon request.

Table 16 - Limits for Isopropanol By-Product Sampling at SN-P4-5

Value	Limit
BTU	> 5,000 BTU/lb
Total Nitrogen	≤ 4,900 mg/kg
Total Chloride	≤ 540 mg/kg
Acrolein	≤ 37 mg/kg
Viscosity	≤ 50 centipoise

[§19.304 of Regulation 19 and 40 CFR Subpart 261.38]

52. The permittee shall fully comply with all applicable requirements of the *Standards of Performance for Volatile Organic Liquid Storage Vessels* (see Appendix A) for the following tanks:

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Table 17 - P4 Building Tanks Subject to NSPS Subpart Kb

# Tanks	Capacity	Contents
4	32,000 gallon	Methyl Acrylate
4	32,000 gallon	Dimethylamino Ethanol
2	32,000 gallon	Byproduct Methanol or Byproduct Methanol/Isopropanol Blend
1	32,000 gallon	Tetra Isopropyl Titanate
1	32,000 gallons	Byproduct Isopropanol
6	32,000 gallons	Dimethyl Amino Ethyl Acrylate
1	20,000 gallons	FA-1 Highboilers

All the above listed tanks are in the P4 Tank Farm and are permitted under source number SN-P4-2. Applicable requirements include, but are not limited to, the items outlined in Plantwide Condition 9. [§19.304 of Regulation 19 and 40 CFR Part 60 Subpart Kb]

53. The Cationic Monomer Plant (SN-P4-1) shall fully comply with all applicable requirements of the Standards of Performance for Volatile Organic Compound (VOC) Emissions from Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations (see Appendix A). Applicable requirements include, but are not limited to, the items outlined below. Testing for this source was completed on March 20, 2001 and June 1, 2001 as a condition of Air Permit 860-AOP-R0. [§19.304 of Regulation 19 and 40 CFR Part 60 Subpart NNN]

Table 18 - NSPS Subpart NNN Requirements for VOC Emissions for SOCMI Distillation Operations

Subpart NNN: VOC Emissions for SOCMI Distillation Operations	
Emission Unit(s)	<ul style="list-style-type: none"> •Distillation units not discharging vent stream into recovery system. •Combinations of distillation unit(s) and recovery system into which its vent stream(s) is discharged.

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Subpart NNN: VOC Emissions for SOCOMI Distillation Operations	
Pollutant(s)	VOC
Emission Standard/Avg Time	<ul style="list-style-type: none"> •98% reduction efficiency or reduce concentration to 20 ppmv (dry basis) corrected to 3% O₂, whichever is less stringent/3-hr avg. •Note: If boiler or process heater used to comply, vent stream must be introduced into flame zone.
Monitoring	<p>Incinerator Units:</p> <ul style="list-style-type: none"> •Continuous monitoring and recording of temperature: <ul style="list-style-type: none"> -in firebox (thermal). -before and after bed (catalytic). •At least hourly measurement using flow indicator of vent stream flow to incinerator. <p>Boiler/Process Heater Units:</p> <ul style="list-style-type: none"> •Continuous monitoring and recording of temperature in firebox •Monitoring and recording of periods of operation (if boiler process heater ≥44 MW heat input capacity). •At least hourly measurement using flow indicator of vent stream flow to boiler/process heater.
PS/QA	<p>Monitor Accuracy:</p> <ul style="list-style-type: none"> •Temperature: Greater of ±1% or ±0.5°C. •Flow: Location specifications. <p>Monitor Accuracy:</p> <ul style="list-style-type: none"> •Temperature: Greater of ±1% or ±0.5°C. •Boiler/process heater records of operation readily available for inspection. •Flow indicator: Location specifications.
Exceedance Level	<ul style="list-style-type: none"> •Any 3-hr period in which temperature >28°C below baseline (thermal and pre-bed temperature monitor for catalytic). •Any period in which temperature difference across catalytic bed <80% of baseline. <ul style="list-style-type: none"> •Any 3-hr period in which temperature >28°C below baseline. •Boilers/Process Heaters: Change in location of where vent stream introduced into flame zone.
Performance Testing (PT)	
Test Method	<ul style="list-style-type: none"> •RM's 1, 2 (2A, 2C, 2D), 3 and 18, as applicable.
When Conducted	<ul style="list-style-type: none"> •Initial, except waived if boiler/process heater ≥44 MW heat input capacity.

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Subpart NNN: VOC Emissions for SOCM Distillation Operations		
Specific Reporting	<ul style="list-style-type: none"> • PT data and results. • Semiannual reports of exceedance, including periods when vent stream diverted from controls or when no flow rate, and any periods in which an applicable boiler or process heater not operating. 	
Specific Recordkeeping	<ul style="list-style-type: none"> • Detailed requirements similar to data required for reporting. 	
Emission Unit(s)	<ul style="list-style-type: none"> • Distillation units not discharging vent stream into recovery system. • Combinations of distillation unit(s) and recovery system into which its vent stream(s) is discharged. 	
Pollutant(s)	VOC	
Emission Standard/Avg Time	Combust emissions in a flare meeting §60.18/None.	
Monitoring	<ul style="list-style-type: none"> • Heat sensing device, such as a thermocouple or ultra-violet beam sensor at pilot light to indicate continuous presence of flame. • At least hourly measurement using flow indicator of vent stream flow to flare. 	
System/Procedure		
PS/QA		<ul style="list-style-type: none"> • Flow indicator: Location specifications.
Exceedance Level		<ul style="list-style-type: none"> • None.
Performance Testing (PT)	<ul style="list-style-type: none"> • §60.18 requirements apply: -RM 22 for VE. Procedures for determining net heating value (RM 18 and ASTM Methods). Exit velocity using RM 2 (or 2A, 2C, 2D). 	
Test Method		
When Conducted		<ul style="list-style-type: none"> • Initial.
Specific Reporting	<ul style="list-style-type: none"> • PT data and results • Semiannual report of periods when pilot flame absent and when vent stream diverted from flare or has no flow rate. 	
Specific Recordkeeping	<ul style="list-style-type: none"> • Detailed requirements similar to data required for reporting. • Includes all data records from pilot flame monitor. 	
Emission Unit(s)	<ul style="list-style-type: none"> • Distillation units not discharging vent stream into recovery system. • Combinations of distillation unit(s) and recovery system into which its vent control stream(s) is discharged. 	

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Subpart NNN: VOC Emissions for SOCOMI Distillation Operations				
Pollutant(s)	VOC			
Emission Standard/Avg Time	Maintain TRE index value greater than 1.0 without use of VOC emission control devices/Not specified.			
Monitoring	Absorber Units:	Condenser Units	Carbon Adsorber Units:	Alternative for any Recovery Device:
System/Procedure	<ul style="list-style-type: none"> •Continuous monitoring and recording of: <ul style="list-style-type: none"> -Scrubbing liquid temperature. -Specific gravity. 	<ul style="list-style-type: none"> •Continuous monitoring and recording of: <ul style="list-style-type: none"> -Temperature. 	<ul style="list-style-type: none"> •Continuous monitoring and recording of: <ul style="list-style-type: none"> -Steam flow. -Carbon bed temperature. 	<ul style="list-style-type: none"> •VOC CEMS at exit.
PS/QA	<ul style="list-style-type: none"> •Monitor accuracy: <ul style="list-style-type: none"> -Temperature: Greater of $\pm 1\%$ or $\pm 0.5^\circ\text{C}$. -Specific Gravity: ± 0.02 units. 	<ul style="list-style-type: none"> •Monitor accuracy: <ul style="list-style-type: none"> -Temperature: Greater of $\pm 1\%$ or $\pm 0.5^\circ\text{C}$. 	<ul style="list-style-type: none"> •Monitor accuracy: <ul style="list-style-type: none"> Steam flow: $\pm 10\%$. -Temperature: Greater of $\pm 1\%$ or $\pm 0.5^\circ\text{C}$. 	<ul style="list-style-type: none"> •None.
Exceedance Level	<ul style="list-style-type: none"> •Any 3-hr period in which temperature $>11^\circ\text{C}$ above baseline. •Any 3-hr period in which specific gravity $>\pm 0.1$ unit from baseline. 	<ul style="list-style-type: none"> •Any 3-hr period in which temperature $>6^\circ\text{C}$ below baseline. 	<ul style="list-style-type: none"> •Any period in which mass steam flow for regeneration cycle $>10\%$ below baseline. •Any 3-hr period in which temperature $>28^\circ\text{C}$ below baseline. 	<ul style="list-style-type: none"> •Any 3-hr period in which concentration level $>20\%$ above baseline.
Performance Testing (PT)				
Test Method	<ul style="list-style-type: none"> •Determine net heating value of gas combusted and calculate TRE using specified calculations and RM's 1 (1A), 2 (2A, 2C, 2D), 4 and 18 and other procedures, as applicable. 			
When Conducted	Initial and whenever process changes conducted.			

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Subpart NNN: VOC Emissions for SOCFI Distillation Operations	
Specific Reporting	<ul style="list-style-type: none"> • PT data and results • Semiannual report of exceedance and any recalculation of TRE index.
Specific Recordkeeping	<ul style="list-style-type: none"> • Detailed requirements similar to data required for semiannual reports.

54. The Cationic Monomer Plant (SN-P4-1) shall fully comply with all applicable requirements of the *Standards of Performance for Volatile Organic Compound (VOC) Emissions from Synthetic Organic Chemical Manufacturing Industry (SOCMI) Reactor Processes* (see Appendix A).

In keeping with the exemption provided by 60.700(c)(5), the facility is only required to comply with 60.705(r). The permittee must submit a process design description as part of the initial report which must be retained for the life of the process. [§19.304 of Regulation 19 and 40 CFR Part 60 Subpart RRR]

55. The permittee shall test the carbon bed exit stream at SN-P4-1 for VOC. The testing shall be conducted within 180 days of permit issuance, and shall conform with the requirements of Plantwide Conditions 3 and 4. Compliance shall be determined by conformity of the test results with a limit of 0.5 lb/hr. This requirement was completed in March 2001 as a condition of Air Permit 860-AOP-R0. [§19.702 of Regulation 19 and 40 CFR Part 52 Subpart E]

56. The permittee shall test the exit vent of the Quat Plant water scrubber (SN-P4-7) for VOC. The testing shall be conducted within 180 days of the source's initial startup and shall conform with the requirements of Plantwide Conditions 3 and 4. Compliance shall be determined by conformity of the test results with a limit of 2.2 lb/hr. This requirement will apply upon completion of the P4-7 unit. [§19.702 of Regulation 19 and 40 CFR Part 52 Subpart E]

57. The permittee shall maintain records of VOC lb/hr emissions within the P4 Process Building area and associated storage tanks on a monthly basis. The monthly VOC total divided by the monthly operating hours shall be compared to the value permitted in Specific Condition 39 for compliance purposes. The records and calculations shall be kept on site and made available to Department personnel upon request. [§19.705 of Regulation 19 and 40 CFR Part 52 Subpart E]

58. The permittee shall maintain records of hazardous air pollutant (HAP) lb/hr emissions within the P4 Process Building area and associated storage tanks on a monthly basis. The monthly HAP totals divided by the monthly operating hours shall be compared to the values permitted

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in Specific Condition 40 for compliance purposes. The records and calculations shall be kept on site and made available to Department personnel upon request. [§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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Fugitive Emissions

Source Description

Loading/Unloading for Plants P1, P2, and P3
SN-FS-1

Loading and unloading losses in P1, P2, and P3 occur through evaporation at drums, rail tank cars, and tank trucks. A loading loss equation from the US EPA AP-42 was used to estimate these emissions.

Equipment Leaks for Plants P1, P2, and P3
SN-FS-2

Fugitive emissions from processes and equipment at Ciba have been calculated using the SOCFI emission factors found in the EPA's guidance document, *Protocol for Equipment Leak Emissions Estimates*. The permittee submitted an equipment count with the fugitive calculations at the time of application submittal.

Wastewater Fugitives
SN-FS-3

Some fugitive emissions at Ciba are generated by its wastewater treatment operation. The estimated water flow at the plant is 230,000 gallons per day. An in-house wastewater analysis has been performed at the plant, where VOC constituents were measured from samples taken over a five-day operating period. This analysis is the basis for permitted emission limits for wastewater fugitives.

Wastewater Fugitives – New Treatment Plant
SN-FS-3A

The new plant is designed to process approximately 150 gallons per minute of raw effluent water. The plant design consists of five treatment sections. The raw process wastewater from the four site production units will be: 1) pH-adjusted; 2) equalized; 3) subjected to aerobic biological treatment; and 4) clarified by ultra-filtration. The fifth section, to be added at a later date, will thicken and mechanically dewater excess biological sludge before disposal.

Neutralization Tanks
SN-FS-4

The open neutralization basin of the Wastewater Treatment System has been replaced with two closed tanks of 5,000 gallons each.

Specific Conditions

59. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this condition will be demonstrated through fulfillment of the requirements of Specific Condition 58 and Plantwide Condition 7. [Regulation No. 19 §19.501 *et seq.* effective July 15, 2007, and 40 CFR Part 52, Subpart E]

Table 19 – Maximum Criteria Pollutant Emission Rates from Fugitives

SN	Description	Pollutant	lb/hr	ton/yr
FS-1	Loading/Unloading (P1, P2, P3)	VOC	2.3	10.0
FS-2	Equipment Leaks (P1, P2, P3)	VOC	22.8	99.7
FS-3	Wastewater Fugitives	VOC	46.8	205.0
FS-3A	Wastewater Fugitives – New Treatment Plant	VOC	2.4	10.4
FS-4	Neutralization Tanks	VOC	0.1	0.1

60. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this condition will be demonstrated through fulfillment of the requirements of Specific Condition 62 and Plantwide Condition 8. [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 20 – Maximum Non-Criteria Pollutant Emission Rates from Fugitives

SN	Description	Pollutant	lb/hr	ton/yr
FS-1	Loading/Unloading (P1, P2, P3)	Acetone	0.1	0.2
		Methanol ^{HAP}	0.80	3.60
		Methyl Methacrylate ^{HAP}	0.22	1.00
		Ethyl Acrylate ^{HAP}	0.34	1.50
FS-3	Wastewater Fugitives	Methyl Chloride ^{HAP}	0.26	1.14
		Methanol ^{HAP}	2.74	12.00
		Methyl Methacrylate ^{HAP}	1.30	5.68
FS-3A	Wastewater Fugitives – New Treatment Plant	Allyl Chloride ^{HAP}	0.12	0.53
		Methanol ^{HAP}	0.48	2.11
		Methyl Methacrylate ^{HAP}	0.16	0.71
FS-4	Neutralization Tanks	Methanol ^{HAP}	0.01	0.01

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61. The permittee shall maintain records of VOC emissions from SN-FS-1, SN-FS-2, SN-FS-3, SN-FS-3A, and SN-FS-4 on a monthly basis. The records and calculations shall be kept on site and made available to Department personnel upon request. [§19.705 of Regulation 19 and 40 CFR Part 52 Subpart E]
62. The permittee shall maintain records of hazardous air pollutant (HAP) emissions from SN-FS-1, SN-FS-2, SN-FS-3, SN-FS-3A, and SN-FS-4 on a monthly basis. The records and calculations shall be kept on site and made available to Department personnel upon request. [§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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Miscellaneous Sources

Source Description

Emergency Electrical Generator (for lab)
SN-MI-1

The 180 hp diesel-fired generator, SN-MI-1, will be used to generate emergency power for the lab and is limited to 200 hours of maintenance and testing operation, annually.

Emergency Electrical Generator (By P-2)
SN-MI-2

A 1500 hp diesel fired generator provides electrical generation in the event of a power outage or other emergency event. The generator is tested on a weekly basis to ensure operability.

Fire Protection Generator (WWTP/Instrumentation)
SN-MI-3

A 1500 hp diesel fired generator provides electrical generation in the event of a power outage or other emergency event to the water pumps and to the plant instrumentation. The generator is tested on a weekly basis to ensure operability.

Electrical Generator (400 kW/600 HP – P4)
SN-MI-4

A 600 hp diesel fired generator provides electrical generation in the event of a power outage or other emergency event to the water pumps and to the plant instrumentation. The generator is tested on a weekly basis to ensure operability.

Electrical Generator (80kW/108HP – Control Room)
SN-MI-5

108 hp, diesel fired generator to provide emergency power to a new, centralized control room for the P1, P2, and P3 areas. The source operates 100 hours per year.

Specific Conditions

63. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this condition will be demonstrated through fulfillment of Specific Conditions 66, 68, 69, 72, and Plantwide Condition 7. [Regulation No. 19 §19.501 *et seq.* effective December 19, 2004, and 40 CFR Part 52, Subpart E]

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Table 21 – Maximum Hourly Criteria Pollutant Emission Rates from Miscellaneous Sources

SN	Description	Pollutant	lb/hr	tpy
MI-1	Lab Emergency Electrical Generator, 180 hp	PM ₁₀	0.4	0.1
		SO ₂	0.4	0.1
		VOC	0.5	0.1
		CO	1.3	0.2
		NO _x	5.6	0.6
MI-2	Emergency Electrical Generator (by P-2), 1500 hp	PM ₁₀	3.3	0.2
		SO ₂	3.1	0.2
		VOC	3.8	0.2
		CO	10.1	0.6
		NO _x	46.5	2.4
MI-3	Fire Protection Generator (WWTP/Instrumentation), 1500 hp	PM ₁₀	3.3	0.2
		SO ₂	3.1	0.2
		VOC	3.8	0.2
		CO	10.1	0.6
		NO _x	46.5	2.4
MI-4	Electrical Generator (400 kW/600 Hp-P4)	PM ₁₀	1.4	0.1
		SO ₂	1.3	0.1
		VOC	1.5	0.1
		CO	4.1	0.3
		NO _x	18.6	1.0
MI-5	Electrical Generator (80kW/108HP – Control Room)	PM ₁₀	0.5	0.1
		SO ₂	0.3	0.1
		VOC	0.3	0.1
		CO	2.1	0.2
		NO _x	6.9	0.4

64. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this condition will be demonstrated through fulfillment of Specific Conditions 66 and 68. [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 Hourly Non-Criteria Pollutant Emission Rates from Miscellaneous Sources

SN	Description	Pollutant	lb/hr	tpy
MI-1	Lab Emergency Electrical Generator	PM	0.4	0.1
MI-2	Emergency Electrical Generator (by P-2)	PM	3.3	0.2
MI-3	Fire Protection Generator (WWTP/Instrumentation)	PM	3.3	0.2
MI-4	Electrical Generator (400 kW/600 Hp-P4)	PM	1.4	0.1
MI-5	Electrical Generator	PM	0.5	0.1

65. The permittee shall not exceed 20% opacity at SN-MI-1, SN-MI-2, SN-MI-3, SN-MI-4, and SN-MI-5. Compliance with this limit shall be satisfied through the requirements of Specific Condition 66. [§19.503 of Regulation 19 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
66. Daily observations shall only be required when diesel generator use exceeds 24-hours per event. The visible emission observations shall be used as a method of compliance verification for the opacity limit at SN-MI-1, SN-MI-2, SN-MI-3, SN-MI-4, and SN-MI-5. The observations shall be conducted by personnel familiar with the facility's visible emissions. If during the daily observations, visible emissions are detected which appear to be in excess of the permitted opacity limit, the permittee shall:
- a) Take immediate action to identify the cause of the visible emissions.
 - b) Implement all necessary corrective action.
 - c) Reassess the visible emissions after corrective action is taken.
 - i. If excessive visible emissions are still detected, an opacity reading shall be conducted in accordance with EPA Reference Method 9. This reading shall be conducted by personnel trained and certified in the reference method. If the opacity reading exceeds the permitted limit, further corrective measures shall be taken.
 - ii. If no excessive visible emissions are detected, the incident shall be noted in the records as described below.

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[§19.705 of Regulation 19 and 40 CFR Part 52 Subpart E]

67. The permittee shall maintain records related to all visible emission observations and Method 9 Readings. The records shall be kept on site and made available to Department personnel upon request. The records shall contain the following items:
- 1) the date and time of each observation/reading.
 - 2) any observance of visible emissions appearing to be above permitted limits, or any Method 9 reading which indicates exceedance.
 - 3) the cause of any observed exceedance of opacity limits, corrective action taken, and results of the reassessment.
 - 4) The name of the person conducting the observation/reading.

[§19.705 of Regulation 19 and 40 CFR Part 52 Subpart E]

68. The permittee shall not operate the Lab Emergency Electrical Generator (SN-MI-1) more than 200 hours per rolling 12-month period for testing and maintenance purposes. Records of testing/maintenance operation time shall be maintained on site, updated on a per-event basis, and made available to Department personnel upon request. Operation time required for actual emergency use is not restricted by this permit. [§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]
69. The permittee shall be limited to 2 hours per week and 100 hours per year of diesel generator testing and maintenance operating time, except that a 4-hour testing and maintenance event may be conducted once per year each for SN-MI-2, SN-MI-3, and SN-MI-4. Records of generator use for testing/maintenance shall be maintained on site, updated on a per-event basis, and made available to Department personnel upon request. Operation time required for actual emergency use is not restricted by this permit. [§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]
70. The permittee shall not operate the Electrical Generator (SN-MI-5) more than 100 hours per rolling 12-month period for testing and maintenance purposes. Records of testing/maintenance operation time shall be maintained on site, updated on a per-event basis, and made available to Department personnel upon request. Operation time required for actual emergency use is not restricted by this permit. [§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]
71. The permittee shall maintain a copy of the manufacturer's specification sheet for the Lab Emergency Electrical Generator (SN-MI-1), Emergency Electrical Generator (SN-MI-2), the Fire Protection Generator (SN-MI-3), the Electrical Generator (SN-MI-4), and Electrical Generator (SN-MI-5). This information shall be kept on site and made available to Department personnel upon request. [§19.705 of Regulation 19 and 40 CFR Part 52 Subpart E]

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72. The permittee shall calculate and maintain records of all criteria pollutant emissions from SN-MI-1, SN-MI-2, SN-MI-3, SN-MI-4, and SN-MI-5 on a monthly basis. The records and calculations shall be kept on site and made available to Department personnel upon request. [§19.705 of Regulation 19 and 40 CFR Part 52 Subpart E]

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Section V: COMPLIANCE PLAN AND SCHEDULE

Ciba Specialty Chemicals Corporation will 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.

Section VI: PLANT WIDE 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. [Regulation No.19 §19.410(B) 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 No.19 §19.702 and/or Regulation No. 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: [Regulation No.19 §19.702 and/or Regulation No.18 §18.1002 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; and
 - 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 No.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 No. 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 shall maintain records of plantwide criteria emissions on a monthly basis. These records must be kept on site and made available to Department personnel upon request. Compliance shall be based upon a 12-month rolling total to comply with the below table. Calculations shall be based on boiler fuel usage, diesel combustion, reactor kinetic equations, estimations from the TANKS program, and fugitive emissions caused by unloading, wastewater treatment, and equipment leaks. These records shall be included in the semiannual report outlined in General Provision 7. [§19.705 of Regulation 19 and 40 CFR Part 52 Subpart E]

Table 23 – Total Plantwide Emission Limits

Plantwide Emission Limit	
Pollutant	tpy
PM ₁₀	4.8
SO ₂	18.9
VOC	536.7
CO	38.1
NO _x	76.9

8. The permittee shall maintain records of plantwide HAP emissions on a monthly basis. These records must be kept on site and made available to Department personnel upon request. Compliance shall be based upon a 12-month rolling total to comply with the table below. Calculations shall be based on boiler fuel usage, reactor kinetic equations, estimations from the TANKS program, and fugitive emissions caused by unloading, wastewater treatment, and equipment leaks. These records shall be included in the semiannual report outlined in General Provision 7. [§18.1004 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Table 24 – Total Plantwide HAP Emission Limits

Plantwide Emission Limit	
Pollutant	tpy
Acetone	1.7
Acrylamide ^{HAP}	0.02
Acrylic Acid ^{HAP}	0.61
Allyl Chloride ^{HAP}	18.25
Epichlorohydrin ^{HAP}	0.05
Ethyl Acrylate ^{HAP}	8.40
Methanol ^{HAP}	41.08
Methyl Methacrylate ^{HAP}	16.20
Methyl Chloride ^{HAP}	22.04

9. The permittee shall be responsible for complying with all applicable requirements of NSPS-Kb at any tank at the facility if a volatile organic liquid meeting the vapor pressure and quantity thresholds outlined in NSPS-Kb is stored in the tank. These vapor pressure and quantity thresholds are presented in the following table for reference:

Standards of Performance for Volatile Organic Liquid Storage Vessels for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984.

Table 25 - NSPS Kb Summary of Requirements

Vessel Capacity (gallons)	VOL Pressure Limit	Required Control Device	Summary of Testing & Procedures	Recordkeeping & Reporting	Monitoring of Operations
≥19,813 but <39,889 60.116(b)(c)	≥2.18 psia but < 4.00 psia	None	None	None	Items A, B, C, & D
≥19,813 but <39,889	≥2.18 psia	None	None	None	Items A & B
≥19,813 but <39,890 60.112b(a)	≥ 4.00 psia but < 11.11 psia	IFR, EFR, or Closed Vent System, or EPA Alternative	See Below	See Below	Items A, B, & C

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Vessel Capacity (gallons)	VOL Pressure Limit	Required Control Device	Summary of Testing & Procedures	Recordkeeping & Reporting	Monitoring of Operations
$\geq 19,813$ 60.112(b)(b)	≥ 11.11 psia	Closed Vent System or EPA Alternative	See Below	See Below	Items A & B
$\geq 39,890$ 60.116(b)(c)	≥ 0.5 psia	None	None	None	Items A & B
$\geq 39,890$	≥ 0.5 psia but < 0.75 psia	None	None	None	Items A, B, C, & D
$\geq 39,890$ 60.112b(a)	≥ 0.75 psia but < 11.11 psia	IFR, EFR, or Closed Vent System, or EPA Alternative	See Below	See Below	Items A, B, & C

DESCRIPTION OF CONTROL DEVICE

IFR: Internal Floating Roof, in conjunction with a fixed roof. The IFR is equipped with a liquid-mounted or mechanical shoe primary seal, either flexible fabric sleeve seals on pipe columns or gasketed sliding covers on built-up or pipe columns, slit fabric membranes or sample wells, and gasketed covers on roof fittings.

EFR: External Floating Roof, equipped with mechanical shoe primary seals and a continuous rim-mounted secondary seal, with both seals meeting certain minimum gap requirements, and gasketed covers on roof fittings.

Closed Vent System and Control Device: 95% effective control device

Alternative means of emission limitation: May be approved by EPA after notice and an opportunity for public hearing.

SUMMARY OF TESTING AND PROCEDURES

Closed Vent System: Submit a design specification and operation and maintenance plan, which specifies maintenance, and operating practices.

Alternate Means Approved by EPA: Specified by EPA when approved.

External Floating Roof: Inspect seals prior to filling. Also, gap measurements between the seal and vessel wall are required to ensure equipment is properly maintained and operated. Gap measurement of primary and secondary seals are required within 60 days of introducing liquid to

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the vessel. Every 12 months, secondary gap measurements must be conducted. Every five years, primary seal gap measurements must be conducted. Measured gaps that exceed limitations must be repaired within 45 days, or the vessel must be emptied. Notify EPA 30 days prior to gap measurements being conducted and also prior to filling and refilling of vessel.

Fixed Roof with IFR: Required to inspect to ensure that equipment is maintained and properly operated. Floating roof and seals are to be inspected prior to filling the vessel to ensure there are no holes in the IFR and that there are no holes, tears, or other openings in the seal from the fixed roof. If there are holes in the IFR or if liquid has accumulated on the roof, then repairs can be made within 45 days or the vessel can be emptied within 45 days. Every ten years, the vessel must be emptied to inspect the IFR and primary and secondary seals. All defects must be repaired before the vessel is refilled. Notify EPA 30 days prior to filling and refilling the vessel.

SUMMARY OF MONITORING OPERATIONS

Item A: Requirement to keep copies of all records required by Items C and D for two years. The record required by Item B is to be kept for the life of the source.

Item B: Record showing the dimension of the storage vessel and an analysis showing the capacity of the vessel.

Item C: 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. Vessels with closed vent systems and control device are exempt.

Item D: Notify EPA within 30 days when the maximum true vapor pressure of the liquid exceeds the respective maximum true vapor pressure values for each volume range. Vessels with Closed Vent System and Control Device are EXEMPT.

AFFECTED FACILITY DEFINED

The affected facility to which this subpart applies is each storage vessel with a capacity greater than or equal to 19,813 gallons that is used to store volatile organic liquids (VOLs) for which construction, reconstruction, or modification is commenced after July 23, 1984.

EXCEPTIONS

1. Vessels at coke oven by-product plants.
2. Pressure vessels designed to operate in excess of 204.9 kPA (29.69 psia) and without emissions to the atmosphere.
3. Vessels permanently attached to mobile vehicles such as trucks, railcars, barges, or ships.

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4. Vessels with a design capacity less than or equal to 420,000 gal. 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.

[§19.304 of Regulation 19 and 40 CFR Part 60 Subpart Kb]

10. The permittee shall submit a permit modification application demonstrating how Ciba Specialty Chemicals Corporation will comply with 40 CFR Part 63, Subpart FFFF – *National Emission Standards for Hazardous Air Pollutants for Miscellaneous Organic Chemical Manufacturing* or the permittee will submit a notification citing how the current permit demonstrates compliance with the subpart. The application or notification must be submitted no later than six months before the compliance date. The compliance date for this subpart is May 10, 2008 (six months prior, November 10, 2007). [§19.304 of Regulation 19, 40 CFR Part 63, Subpart FFFF, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
11. The permittee may, in the event of a process shutdown, record vent condenser and scrubber logs as “down” once per shift. The Department understands that such shutdowns are temporary and once normal operations resumes, the current permitted conditions will apply. The facility agrees that the appropriate chilled water and scrubber systems will be brought back online before production operations resume. [§19.303 of Regulation #19 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
12. The permittee may maintain their compliance logs in a spreadsheet, database, or other well organized format. [§19.705 of Regulation 19 and 40 CFR Part 52 Subpart E]

Title VI Provisions

13. 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.

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- d. No person may modify, remove, or interfere with the required warning statement except as described in §82.112.
14. 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]
 - 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.
 15. 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.
 16. 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 "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 "MVAC" 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.
 17. 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".

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Section VII: 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 §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 January 26, 2007.

Table 26 - Insignificant Activities

Description	Category
Acetone Boilouts	A-13
Final Product Drumming and Shipping	A-13
Wastewater Sludge Dewatering	A-13
Quat Scrubber and Feed Tank Charge	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.

Section VIII: GENERAL PROVISIONS

1. Any terms or conditions included in this permit which specify and reference Arkansas Pollution Control & Ecology Commission Regulation No. 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.[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 No. 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 No. 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 No. 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;

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- 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 least five (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 No. 26 §26.701(C)(2)(b)]
7. The permittee must submit reports of all required monitoring every six (6) months. If permit establishes no other reporting period, the reporting period shall end on the last day of the anniversary month of the initial Title V permit. The report is due within thirty (30) days of the end of the reporting period. Although 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 No. 26 §26.2 must certify all required reports. The permittee will send the reports to the address below: [40 C.F.R. 70.6(a)(3)(iii)(A) and §26.701(C)(3)(a) of Regulation #26]

Arkansas Department of Environmental Quality
Air Division
ATTN: Compliance Inspector Supervisor
Post Office Box 8913
Little Rock, AR 72219

8. The permittee will report to the Department all deviations from permit requirements, including those attributable to upset conditions as defined in the permit. 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:
- a. The facility name and location,
 - i. The process unit or emission source deviating from the permit limit,
 - ii. The permit limit, including the identification of pollutants, from which deviation occurs,
 - iii. The date and time the deviation started,
 - iv. The duration of the deviation,
 - v. The average emissions during the deviation,

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- vi. The probable cause of such deviations,
- vii. Any corrective actions or preventive measures taken or being taken to prevent such deviations in the future, and
- viii. The name of the person submitting the report.

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), §26.701(E) of Regulation No. 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 No. 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 §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 Regulation No. 26 §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 No. 26 §26.701(F)(3)]

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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 No. 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 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 No. 26 §26.701(F)(5)]
15. The permittee must pay all permit fees in accordance with the procedures established in Regulation No. 9. [40 CFR 70.6(a)(7) and Regulation No. 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 No. 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 No. 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 No. 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 No. 26 §26.2. [40 CFR 70.6(c)(1) and Regulation No. 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 No. 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;

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- 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 must submit the compliance certification annually within 30 days following the last day of the anniversary month of the initial Title V permit. The permittee must also submit the compliance certification to the Administrator as well as to the Department. All compliance certifications required by this permit must include the following: [40 CFR 70.6(c)(5) and Regulation No. 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 No. 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]

APPENDIX A

NSPS Subparts

Dc, Kb, NNN, RRR

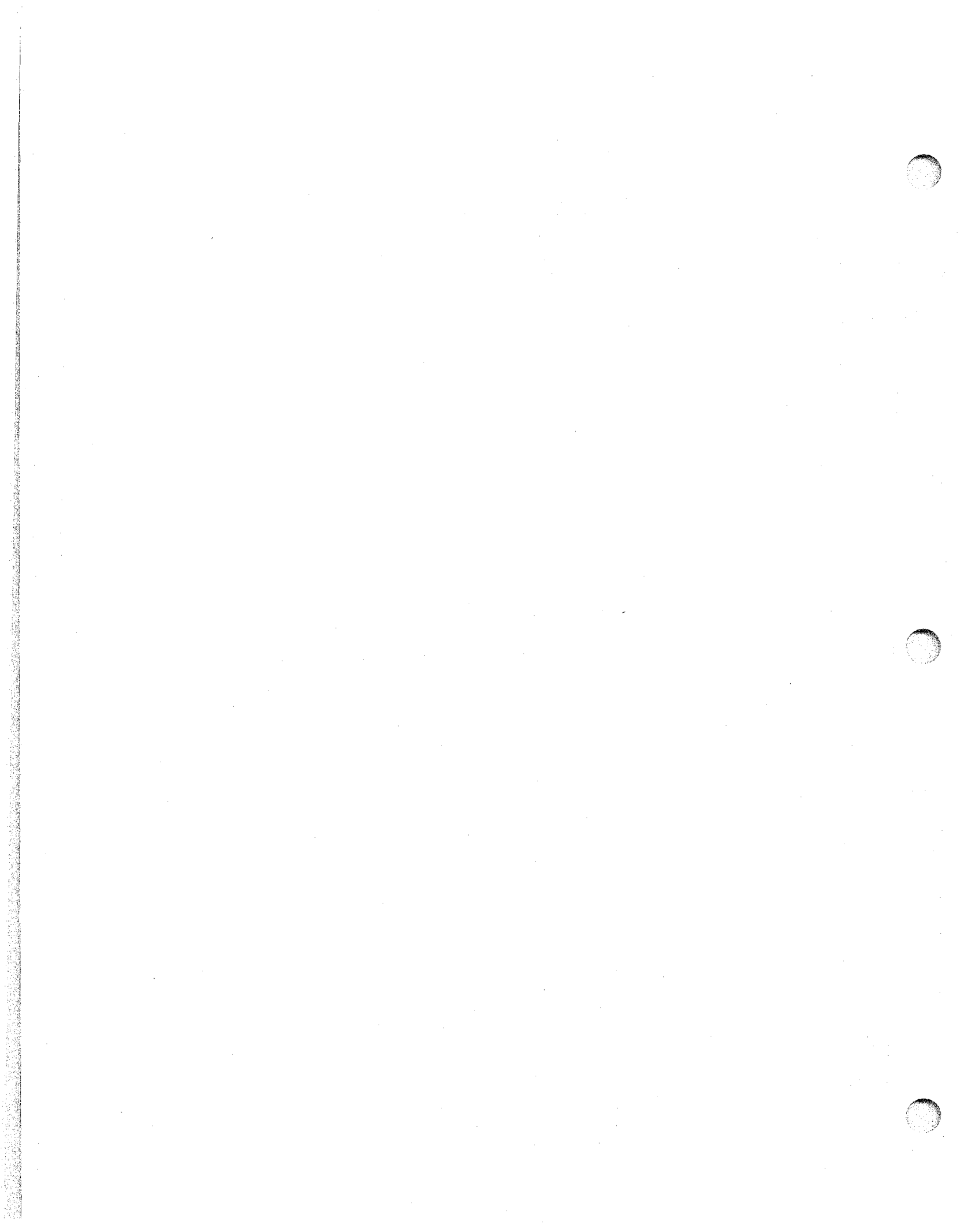
NESHAP Subparts

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APPENDIX B

Summary of Control Equipment Parameters



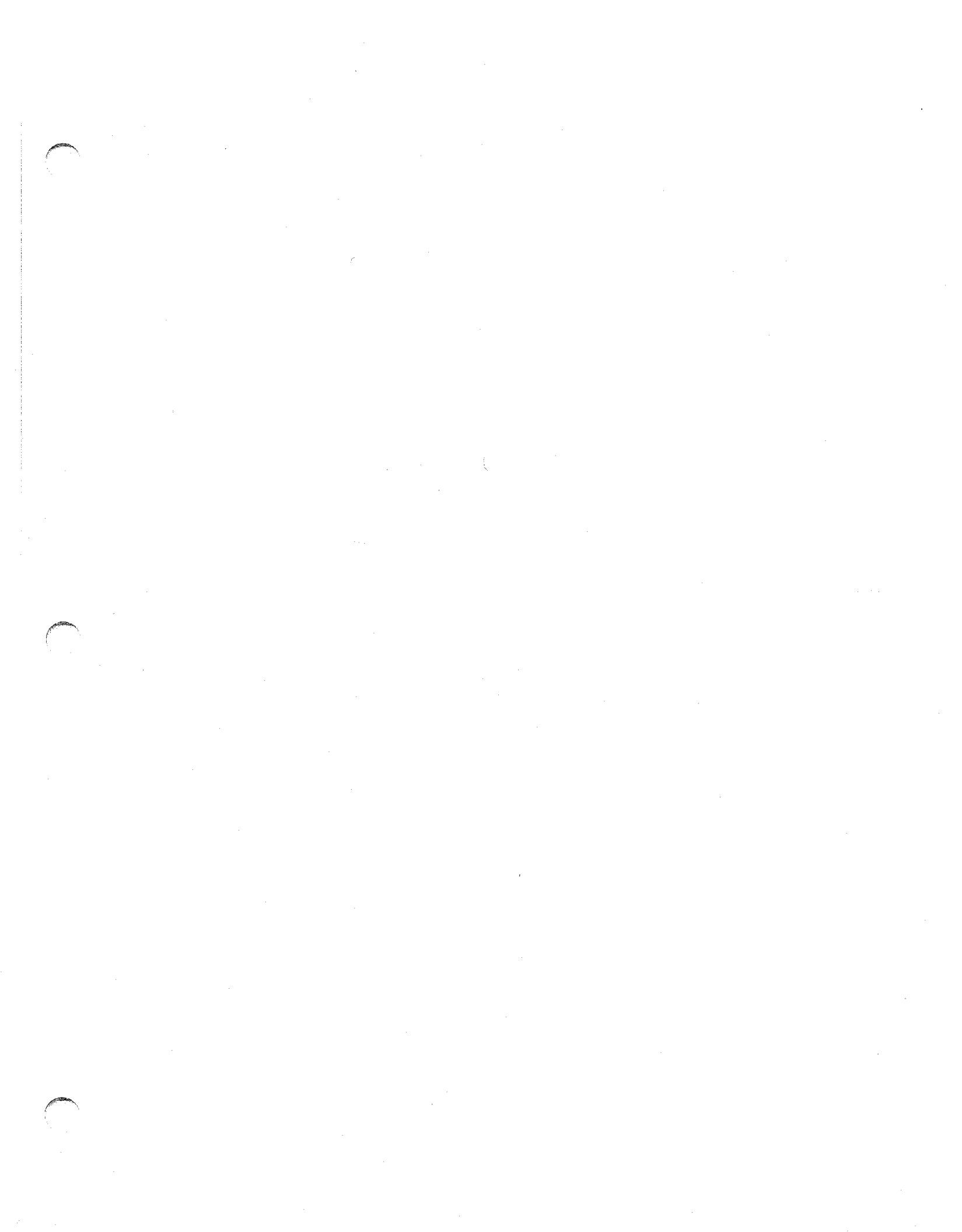
SUMMARY OF CONTROL EQUIPMENT PARAMETERS

Scrubbers				
Source Number	Unit Description	Scrubbing Fluid	Minimum Concentration or pH	Minimum Flow (gpm)
SN-P1-1	Reactor 104 for TAAC	Caustic (NaOH)	10 wt%	20
SN-P1-9	Reactors 104, 105, and 107 for mDMDAC	Caustic (NaOH)	10 wt%	20
SN-P2-1	R-101 Scrubber	(Meth) Acrylate Ester	95 wt%	15
SN-P2-5	R-109 Scrubber	(Meth) Acrylate Ester	95 wt%	15
SN-P3-1	R-110, R-112, R-113, R-115, and R-116 Scrubber	Caustic (NaOH)	pH 12	40
SN-P4-1	Cationic Monomer Plant Scrubber	Caustic (NaOH) followed by Acid (H ₂ SO ₄) Solution	3 wt% Caustic 3 wt% Acid	40 Caustic 40 Acid
SN-P4-7	Quat Plant Scrubber	Caustic	2% Caustic	3



Chilled Vent Condensers		
Source Number	Unit Description	Maximum Glycol/Water Outlet Temperature (°F)
SN-P1-9	Chilled Vent Condenser	35
SN-P3-10	V-1212 Chilled Vent Condenser	35
	V-1213 Chilled Vent Condenser	
	VE-643 Chilled Vent Condenser	
	VE-644 Chilled Vent Condenser	
	VE-645 Chilled Vent Condenser	
	VE-646 Chilled Vent Condenser	
SN-P3-11	MeOH Recovery Chilled Vent Condenser	35







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following the end of the reporting period.

(x) Facility-specific NO_x 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 NO_x emission limit for fossil fuel in § 60.44b(a) applies.

(ii) When fossil fuel and chemical by-product waste are simultaneously combusted, the NO_x emission limit is 215 ng/J (0.5 lb/MMBtu).

(2) *Emission monitoring for nitrogen oxides.* (i) The NO_x emissions shall be determined by the compliance and performance test methods and procedures for NO_x in § 60.46b.

(ii) The monitoring of the NO_x 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.

(y) Facility-specific NO_x standard for INEOS USA's AOGI located in Lima, Ohio:

(1) *Standard for NO_x.* (i) When fossil fuel alone is combusted, the NO_x emission limit for fossil fuel in § 60.44b(a) applies.

(ii) When fossil fuel and chemical by-product/waste are simultaneously combusted, the NO_x emission limit is 645 ng/J (1.5 lb/MMBtu).

(2) *Emission monitoring for NO_x.* (i) The NO_x emissions shall be determined by the compliance and performance test methods and procedures for NO_x in § 60.46b.

(ii) The monitoring of the NO_x emissions shall be performed in accordance with § 60.48b.

(3) *Reporting and recordkeeping requirements.* (i) The owner or operator of

the AOGI shall submit a report on any excursions from the limits required by paragraph (y)(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 AOGI shall keep records of the monitoring required by paragraph (y)(3) of this section for a period of 2 years following the date of such record.

(iii) The owner or operator of the AOGI shall perform all the applicable reporting and recordkeeping requirements of this section.

Subpart Dc—Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units

SOURCE: 72 FR 32759, June 13, 2007, 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 construction, modification, or reconstruction is commenced after June 9, 1989 and that has a maximum design heat input capacity of 29 megawatts (MW) (100 million British thermal units per hour (MMBtu/hr)) or less, but greater than or equal to 2.9 MW (10 MMBtu/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 that meet the applicability requirements in paragraph (a) of this section are not subject to the sulfur dioxide (SO₂) 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 GG or 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/hr) heat input of fossil fuel but less than or equal to 29 MW (100 MMBtu/hr) 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.

§60.41c Definitions.

As used in this subpart, all terms not defined herein shall have the meaning given them in the Clean Air 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 an individual fuel or combination of fuels during a period of 12 consecutive calendar months and the potential heat input to the steam generating unit from all fuels had the steam generating unit been operated for 8,760 hours during that 12-month period at the maximum 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 during a period of 12 consecutive calendar months.

Coal means all solid fuels classified as anthracite, bituminous, subbituminous, or lignite by the American Society of Testing and Materials in ASTM D388 (incorporated by reference, see §60.17), coal refuse, and petroleum coke. Coal-derived synthetic fuels derived from coal for the purposes of cre-

ating useful heat, 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 by-product 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 kilojoules per kilogram (kJ/kg) (6,000 Btu per pound (Btu/lb) on a dry basis.

Cogeneration steam generating unit means a steam generating unit that simultaneously produces both electrical (or mechanical) and thermal energy from the same primary energy source.

Combined cycle system means a system in which a separate source (such as a stationary gas turbine, internal combustion engine, or kiln) provides exhaust gas to a steam generating unit.

Combustion research means the experimental firing of any fuel or combination of fuels in a steam generating unit for the purpose of conducting research and development of more efficient combustion or more effective prevention or control of air pollutant emissions from combustion, provided that, during these periods of research and development, the heat generated is not used for any purpose other than preheating combustion air for use by that steam generating unit (*i.e.*, the heat generated is released to the atmosphere without being used for space heating, process heating, driving pumps, preheating combustion air for other units, generating electricity, or any other purpose).

Conventional technology means wet flue gas desulfurization technology, dry flue gas desulfurization technology, atmospheric fluidized bed combustion technology, and oil hydrodesulfurization technology.

Distillate oil means fuel oil that complies with the specifications for fuel oil numbers 1 or 2, as defined by the American Society for Testing and Materials in ASTM D396 (incorporated by reference, see §60.17).

Dry flue gas desulfurization technology means a SO₂ control system that is located between the steam generating unit and the exhaust vent or stack, and that removes sulfur oxides from the

combustion gases of the steam generating unit by contacting the combustion gases with an alkaline reagent and water, whether introduced separately or as a premixed 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 reagents used in dry flue gas desulfurization systems include, but are not limited to, lime and sodium compounds.

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 steam generating unit.

Emerging technology means any SO₂ control system that is not defined as a conventional technology under this section, and for which the owner or operator of the affected facility has received approval from the Administrator to operate as an emerging technology under § 60.48c(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 51.24.

Fluidized bed combustion technology means a device wherein fuel is distributed onto a bed (or series of beds) of limestone aggregate (or other sorbent materials) for combustion; and these materials are forced upward in the device by the flow of combustion air and the gaseous products of combustion. Fluidized bed combustion technology includes, but is not limited to, bubbling bed units and circulating bed units.

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.

Heat input means heat derived from combustion of fuel in a steam generating unit and does not include the heat derived from preheated combustion air, recirculated flue gases, or ex-

haust gases from other sources (such as stationary gas turbines, internal combustion engines, and kilns).

Heat transfer medium means any material that is used to transfer heat from one point to another point.

Maximum design heat input capacity means the ability of a steam generating unit to combust a stated maximum amount of fuel (or combination of fuels) on a steady state basis as determined by the physical design and characteristics of the steam generating unit.

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) liquefied petroleum (LP) gas, as defined by the American Society for Testing and Materials in ASTM D1835 (incorporated by reference, 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 oil and residual oil.

Potential sulfur dioxide emission rate means the theoretical SO₂ emissions (nanograms per joule (ng/J) or lb/MMBtu 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.

Residual oil means crude oil, fuel oil that does not comply with the specifications under the definition of distillate oil, and all fuel oil numbers 4, 5, and 6, as defined by the American Society for Testing and Materials in ASTM D396 (incorporated by reference, see § 60.17).

Steam generating unit means a device that combusts any fuel and produces steam or heats water or any other heat transfer medium. This term includes any duct burner that combusts fuel and is part of a combined cycle system.

This term does not include process heaters as 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.

Wet flue gas desulfurization technology means an SO₂ control system that is located between the steam generating unit and the exhaust vent or stack, and that 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 liquid material. This definition includes devices where the liquid material is subsequently converted to another form. Alkaline reagents used in wet flue gas desulfurization systems include, but are not limited to, lime, limestone, and sodium compounds.

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 PM or SO₂.

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.

§ 60.42c Standard for sulfur dioxide (SO₂).

(a) Except as provided in paragraphs (b), (c), and (e) of this section, on and after the date on which the performance test is completed or required to be completed under § 60.8, whichever date comes first, the owner or operator of an affected facility that combusts only coal shall neither: cause to be discharged into the atmosphere from the affected facility any gases that contain SO₂ in excess of 87 ng/J (0.20 lb/MMBtu) heat input or 10 percent (0.10) of the potential SO₂ emission rate (90 percent reduction), nor cause to be discharged into the atmosphere from the affected facility any gases that contain SO₂ in excess of 520 ng/J (1.2 lb/MMBtu) heat input. If coal is combusted with other

fuels, the affected facility shall neither: cause to be discharged into the atmosphere from the affected facility any gases that contain SO₂ in excess of 87 ng/J (0.20 lb/MMBtu) heat input or 10 percent (0.10) of the potential SO₂ emission rate (90 percent reduction), nor cause to be discharged into the atmosphere from the affected facility any gases that contain SO₂ in excess of the emission limit is determined pursuant to paragraph (e)(2) of this section.

(b) Except as provided in paragraphs (c) and (e) of this section, on and after the date on which the performance test is completed or required to be completed under § 60.8, whichever date comes first, the owner or operator of an affected facility that:

(1) Combusts only coal refuse alone in a fluidized bed combustion steam generating unit shall neither:

(i) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO₂ in excess of 87 ng/J (0.20 lb/MMBtu) heat input or 20 percent (0.20) of the potential SO₂ emission rate (80 percent reduction); nor

(ii) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO₂ in excess of SO₂ in excess of 520 ng/J (1.2 lb/MMBtu) heat input. If coal is fired with coal refuse, the affected facility subject to paragraph (a) of this section. If oil or any other fuel (except coal) is fired with coal refuse, the affected facility is subject to the 87 ng/J (0.20 lb/MMBtu) heat input SO₂ emissions limit or the 90 percent SO₂ reduction requirement specified in paragraph (a) of this section and the emission limit is determined pursuant to paragraph (e)(2) of this section.

(2) Combusts only coal and that uses an emerging technology for the control of SO₂ emissions shall neither:

(i) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO₂ in excess of 50 percent (0.50) of the potential SO₂ emission rate (50 percent reduction); nor

(ii) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO₂ in excess of 260 ng/J (0.60 lb/MMBtu) heat input. If coal is combusted with other fuels, the affected facility is subject to the 50

percent SO₂ reduction requirement specified in this paragraph and the emission limit determined pursuant to paragraph (e)(2) of this section.

(c) On and after the date on which the initial performance test is completed or required to be completed under § 60.8, whichever date comes first, no owner or operator of an affected facility that combusts coal, alone or in combination with any other fuel, and is listed in paragraphs (c)(1), (2), (3), or (4) of this section shall cause to be discharged into the atmosphere from that affected facility any gases that contain SO₂ in excess of the emission limit determined pursuant to paragraph (e)(2) of this section. Percent reduction requirements are not applicable to affected facilities under paragraphs (c)(1), (2), (3), or (4).

(1) Affected facilities that have a heat input capacity of 22 MW (75 MMBtu/hr) or less.

(2) Affected facilities that have an annual capacity for coal of 55 percent (0.55) or less and are subject to a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor for coal of 55 percent (0.55) or less.

(3) Affected facilities located in a noncontinental area.

(4) Affected facilities that combust coal in a duct burner as part of a combined cycle system where 30 percent (0.30) or less of the heat entering the steam generating unit is from combustion of coal in the duct burner and 70 percent (0.70) or more of the heat entering the steam generating unit is from exhaust gases entering the duct burner.

(d) On and after the date on which the initial performance test is completed or required to be completed under § 60.8, whichever date comes first, no owner or operator of an affected facility that combusts oil shall cause to be discharged into the atmosphere from that affected facility any gases that contain SO₂ in excess of 215 ng/J (0.50 lb/MMBtu) heat input; or, as an alternative, no owner or operator of an affected facility that combusts oil shall combust oil in the affected facility that contains greater than 0.5 weight percent sulfur. The percent reduction requirements are not applica-

ble to affected facilities under this paragraph.

(e) On and after the date on which the initial performance test is completed or required to be completed under § 60.8, whichever date comes first, no owner or operator of an affected facility that combusts coal, oil, or coal and oil with any other fuel shall cause to be discharged into the atmosphere from that affected facility any gases that contain SO₂ in excess of the following:

(1) The percent of potential SO₂ emission rate or numerical SO₂ emission rate required under paragraph (a) or (b)(2) of this section, as applicable, for any affected facility that

(i) Combusts coal in combination with any other fuel;

(ii) Has a heat input capacity greater than 22 MW (75 MMBtu/hr); and

(iii) Has an annual capacity factor for coal greater than 55 percent (0.55); and

(2) The emission limit determined according to the following formula for any affected facility that combusts coal, oil, or coal and oil with any other fuel:

$$E_s = \frac{(K_a H_a + K_b H_b + K_c H_c)}{(H_a + H_b + H_c)}$$

Where:

E_s = SO₂ emission limit, expressed in ng/J or lb/MMBtu heat input;

K_a = 520 ng/J (1.2 lb/MMBtu);

K_b = 260 ng/J (0.60 lb/MMBtu);

K_c = 215 ng/J (0.50 lb/MMBtu);

H_a = Heat input from the combustion of coal, except coal combusted in an affected facility subject to paragraph (b)(2) of this section, in Joules (J) [MMBtu];

H_b = Heat input from the combustion of coal in an affected facility subject to paragraph (b)(2) of this section, in J [MMBtu]; and

H_c = Heat input from the combustion of oil, in J (MMBtu).

(f) Reduction in the potential SO₂ emission rate through fuel pretreatment is not credited toward the percent reduction requirement under paragraph (b)(2) of this section unless:

(1) Fuel pretreatment results in a 50 percent (0.50) or greater reduction in the potential SO₂ emission rate; and

(2) Emissions from the pretreated fuel (without either combustion or post-combustion SO₂ control) are equal to or less than the emission limits specified under paragraph (b)(2) of this section.

(g) Except as provided in paragraph (h) of this section, compliance with the percent reduction requirements, fuel oil sulfur limits, and emission limits of this section shall be determined on a 30-day rolling average basis.

(h) For affected facilities listed under paragraphs (h)(1), (2), or (3) of this section, compliance with the emission limits or fuel oil sulfur limits under this section may be determined based on a certification from the fuel supplier, as described under § 60.48c(f), as applicable.

(1) Distillate oil-fired affected facilities with heat input capacities between 2.9 and 29 MW (10 and 100 MMBtu/hr).

(2) Residual oil-fired affected facilities with heat input capacities between 2.9 and 8.7 MW (10 and 30 MMBtu/hr).

(3) Coal-fired facilities with heat input capacities between 2.9 and 8.7 MW (10 and 30 MMBtu/hr).

(i) The SO₂ emission limits, fuel oil sulfur limits, and percent reduction requirements under this section apply at all times, including periods of startup, shutdown, and malfunction.

(j) 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 wood or other fuels or for heat derived from exhaust gases from other sources, such as stationary gas turbines, internal combustion engines, and kilns.

§ 60.43c Standard for particulate matter (PM).

(a) On and after the date on which the initial performance test is completed or required to be completed under § 60.8, 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 combusts mixtures of coal with other fuels and has a heat input capacity of 8.7 MW (30 MMBtu/hr) or greater, shall cause to be discharged into the

atmosphere from that affected facility any gases that contain PM in excess of the following emission limits:

(1) 22 ng/J (0.051 lb/MMBtu) heat input if the affected facility combusts only coal, or combusts coal with 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/MMBtu) heat input if the affected facility combusts coal with other fuels, 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.

(b) On and after the date on which the initial performance test is completed or required to be completed under § 60.8, 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 wood or combusts mixtures of wood with other fuels (except coal) and has a heat input capacity of 8.7 MW (30 MMBtu/hr) or greater, shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of the following emissions limits:

(1) 43 ng/J (0.10 lb/MMBtu) heat input if the affected facility has an annual capacity factor for wood greater than 30 percent (0.30); or

(2) 130 ng/J (0.30 lb/MMBtu) heat input if the affected facility has an annual capacity factor for wood of 30 percent (0.30) or less and is subject to a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor for wood of 30 percent (0.30) or less.

(c) On and after the date on which the initial performance test is completed or required to be completed under § 60.8, whichever date comes first, no owner or operator of an affected facility that combusts coal, wood, or oil and has a heat input capacity of 8.7 MW (30 MMBtu/hr) or greater shall cause to be discharged into the atmosphere from that affected facility 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.

(d) The PM and opacity standards under this section apply at all times, except during periods of startup, shutdown, or malfunction.

(e)(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 that commences construction, reconstruction, or modification after February 28, 2005, and that combusts coal, oil, wood, a mixture of these fuels, or a mixture of these fuels with any other fuels and has a heat input capacity of 8.7 MW (30 MMBtu/hr) or greater shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of 13 ng/J (0.030 lb/MMBtu) heat input, except as provided in paragraphs (e)(2), (e)(3), and (e)(4) of this section.

(2) As an alternative to meeting the requirements of paragraph (e)(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 initial performance test is completed or 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 shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of both:

(i) 22 ng/J (0.051 lb/MMBtu) heat input derived from the combustion of coal, oil, wood, a mixture of these fuels, 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, wood, a mixture of these fuels, or a mixture of these fuels with any other fuels.

(3) 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 that commences modification after February 28, 2005, and that combusts over 30 percent wood (by heat

input) on an annual basis and has a heat input capacity of 8.7 MW (30 MMBtu/hr) or greater shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of 43 ng/J (0.10 lb/MMBtu) heat input.

(4) 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, an 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 0.50 weight percent sulfur or a mixture of 0.50 weight percent sulfur oil with other fuels not subject to a PM standard under § 60.43c and not using a post-combustion technology (except a wet scrubber) to reduce PM or SO₂ emissions is not subject to the PM limit in this section.

§ 60.44c Compliance and performance test methods and procedures for sulfur dioxide.

(a) Except as provided in paragraphs (g) and (h) of this section and § 60.8(b), performance tests required under § 60.8 shall be conducted following the procedures specified in paragraphs (b), (c), (d), (e), and (f) of this section, as applicable. 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.

(b) The initial performance test required under § 60.8 shall be conducted over 30 consecutive operating days of the steam generating unit. Compliance with the percent reduction requirements and SO₂ emission limits under § 60.42c 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 the initial startup of the facility. The steam generating unit load during the 30-day period does not have to be the maximum design heat input capacity, but must be representative of future operating conditions.

(c) After the initial performance test required under paragraph (b) of this section and §60.8, compliance with the percent reduction requirements and SO₂ emission limits under §60.42c is based on the average percent reduction and the average SO₂ emission rates for 30 consecutive steam generating unit operating days. A separate performance test is completed at the end of each steam generating unit operating day, and a new 30-day average percent reduction and SO₂ emission rate are calculated to show compliance with the standard.

(d) If only coal, only oil, or a mixture of coal and oil is combusted in an affected facility, the procedures in Method 19 of appendix A of this part are used to determine the hourly SO₂ emission rate (E_{ho}) and the 30-day average SO₂ emission rate (E_{ao}). The hourly averages used to compute the 30-day averages are obtained from the CEMS. Method 19 of appendix A of this part shall be used to calculate E_{ao} when using daily fuel sampling or Method 6B of appendix A of this part.

(e) If coal, oil, or coal and oil are combusted with other fuels:

(1) An adjusted E_{ho} (E_{ho0}) is used in Equation 19-19 of Method 19 of appendix A of this part to compute the adjusted E_{ao} (E_{ao0}). The E_{ho0} is computed using the following formula:

$$E_{ho0} = \frac{E_{ho} - E_w (1 - X_k)}{X_k}$$

Where:

E_{ho0} = Adjusted E_{ho}, ng/J (lb/MMBtu);

E_{ho} = Hourly SO₂ emission rate, ng/J (lb/MMBtu);

E_w = SO₂ concentration in fuels other than coal and oil combusted in the affected facility, as determined by fuel sampling and analysis procedures in Method 9 of appendix A of this part, ng/J (lb/MMBtu). The value E_w for each fuel lot is used for each hourly average during the time that the lot is being combusted. The owner or operator does not have to measure E_w if the owner or operator elects to assume E_w = 0.

X_k = Fraction of the total heat input from fuel combustion derived from coal and oil, as determined by applicable procedures in Method 19 of appendix A of this part.

(2) The owner or operator of an affected facility that qualifies under the provisions of §60.42c(c) or (d) (where percent reduction is not required) does not have to measure the parameters E_w or X_k if the owner or operator of the affected facility elects to measure emission rates of the coal or oil using the fuel sampling and analysis procedures under Method 19 of appendix A of this part.

(f) Affected facilities subject to the percent reduction requirements under §60.42c(a) or (b) shall determine compliance with the SO₂ emission limits under §60.42c pursuant to paragraphs (d) or (e) of this section, and shall determine compliance with the percent reduction requirements using the following procedures:

(1) If only coal is combusted, the percent of potential SO₂ emission rate is computed using the following formula:

$$\%P_s = 100 \left(1 - \frac{\%R_g}{100} \right) \left(1 - \frac{\%R_f}{100} \right)$$

Where:

%P_s = Potential SO₂ emission rate, in percent;

%R_g = SO₂ removal efficiency of the control device as determined by Method 19 of appendix A of this part, in percent; and

%R_f = SO₂ removal efficiency of fuel pretreatment as determined by Method 19 of appendix A of this part, in percent.

(2) If coal, oil, or coal and oil are combusted with other fuels, the same procedures required in paragraph (f)(1) of this section are used, except as provided for in the following:

(i) To compute the %P_s, an adjusted %R_g (%R_{g0}) is computed from E_{ao0} from paragraph (e)(1) of this section and an adjusted average SO₂ inlet rate (E_{ai0}) using the following formula:

$$\%R_{g0} = 100 \left(1 - \frac{E_{ao}^0}{E_{ai}^0} \right)$$

Where:

%R_{g0} = Adjusted %R_g, in percent;

E_{ao0} = Adjusted E_{ao}, ng/J (lb/MMBtu); and

E_{ai0} = Adjusted average SO₂ inlet rate, ng/J (lb/MMBtu).

(ii) To compute E_{ai0}, an adjusted hourly SO₂ inlet rate (E_{hi0}) is used. The

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E_{hi0} is computed using the following formula:

$$E_{hi0} = \frac{E_{hi} - E_w(1 - X_k)}{X_k}$$

Where:

E_{hi0} = Adjusted E_{hi} , ng/J (lb/MMBtu);
 E_{hi} = Hourly SO_2 inlet rate, ng/J (lb/MMBtu);
 E_w = SO_2 concentration in fuels other than coal and oil combusted in the affected facility, as determined by fuel sampling and analysis procedures in Method 19 of appendix A of this part, ng/J (lb/MMBtu). The value E_w for each fuel lot is used for each hourly average during the time that the lot is being combusted. The owner or operator does not have to measure E_w if the owner or operator elects to assume $E_w = 0$; and

X_k = Fraction of the total heat input from fuel combustion derived from coal and oil, as determined by applicable procedures in Method 19 of appendix A of this part.

(g) For oil-fired affected facilities where the owner or operator seeks to demonstrate compliance with the fuel oil sulfur limits under § 60.42c based on shipment fuel sampling, the initial performance test shall consist of sampling and analyzing the oil in the initial tank of oil to be fired in the steam generating unit to demonstrate that the oil contains 0.5 weight percent sulfur or less. Thereafter, the owner or operator of the affected facility shall sample the oil in the fuel tank after each new shipment of oil is received, as described under § 60.46c(d)(2).

(h) For affected facilities subject to § 60.42c(h)(1), (2), or (3) where the owner or operator seeks to demonstrate compliance with the SO_2 standards based on fuel supplier certification, the performance test shall consist of the certification, the certification from the fuel supplier, as described under § 60.48c(f), as applicable.

(i) The owner or operator of an affected facility seeking to demonstrate compliance with the SO_2 standards under § 60.42c(c)(2) shall demonstrate the maximum design heat input capacity of the steam generating unit by operating the steam generating unit at this capacity for 24 hours. This demonstration shall be made during the initial performance test, and a subsequent demonstration may be requested

at any other time. If the demonstrated 24-hour average firing rate for the affected facility is less than the maximum design heat input capacity stated by the manufacturer of the affected facility, the demonstrated 24-hour average firing rate shall be used to determine the annual capacity factor for the affected facility; otherwise, the maximum design heat input capacity provided by the manufacturer shall be used.

(j) The owner or operator of an affected facility shall use all valid SO_2 emissions data in calculating $\%P_s$ and E_{ho} under paragraphs (d), (e), or (f) of this section, as applicable, whether or not the minimum emissions data requirements under § 60.46c(f) are achieved. All valid emissions data, including valid data collected during periods of startup, shutdown, and malfunction, shall be used in calculating $\%P_s$ or E_{ho} pursuant to paragraphs (d), (e), or (f) of this section, as applicable.

§ 60.45c Compliance and performance test methods and procedures for particulate matter.

(a) The owner or operator of an affected facility subject to the PM and/or opacity standards under § 60.43c shall conduct an initial performance test as required under § 60.8, and shall conduct subsequent performance tests as requested by the Administrator, to determine compliance with the standards using the following procedures and reference methods, except as specified in paragraph (c) of this section.

(1) Method 1 of appendix A of this part shall be used to select the sampling site and the number of traverse sampling points.

(2) Method 3 of appendix A of this part shall be used for gas analysis when applying Method 5, 5B, or 17 of appendix A of this part.

(3) Method 5, 5B, or 17 of appendix A of this part shall be used to measure the concentration of PM as follows:

(i) Method 5 of appendix A of this part may be used only at affected facilities without wet scrubber systems.

(ii) Method 17 of appendix A of this part may be used at affected 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 8.1 and 11.1 of Method 5B of appendix A of this part may be used in Method 17 of appendix A of this part only if Method 17 of appendix A of this part is used in conjunction with a wet scrubber system. Method 17 of appendix A of this part shall not be used in conjunction with a wet scrubber system if the effluent is saturated or laden with water droplets.

(iii) Method 5B of appendix A of this part may be used in conjunction with a wet scrubber system.

(4) The sampling time for each run shall be at least 120 minutes and the minimum sampling volume shall be 1.7 dry standard cubic meters (dscm) [60 dry standard cubic feet (dscf)] except that smaller sampling times or volumes may be approved by the Administrator when necessitated by process variables or other factors.

(5) For Method 5 or 5B of appendix A of this part, the temperature of the sample gas in the probe and filter holder shall be monitored and maintained at 160 ± 14 °C (320 ± 25 °F).

(6) For determination of PM emissions, an oxygen (O₂) or carbon dioxide (CO₂) measurement shall be obtained simultaneously with each run of Method 5, 5B, or 17 of appendix A of this part by traversing the duct at the same sampling location.

(7) For each run using Method 5, 5B, or 17 of appendix A of this part, the emission rates expressed in ng/J (lb/MMBtu) heat input shall be determined using:

(i) The O₂ or CO₂ measurements and PM measurements obtained under this section, (ii) The dry basis F factor, and

(iii) The dry basis emission rate calculation procedure contained in Method 19 of appendix A of this part.

(8) Method 9 of appendix A of this part (6-minute average of 24 observations) shall be used for determining the opacity of stack emissions.

(b) The owner or operator of an affected facility seeking to demonstrate compliance with the PM standards under § 60.43c(b)(2) shall demonstrate the maximum design heat input capacity of the steam generating unit by operating the steam generating unit at this capacity for 24 hours. This demonstration shall be made during the

initial performance test, and a subsequent demonstration may be requested at any other time. If the demonstrated 24-hour average firing rate for the affected facility is less than the maximum design heat input capacity stated by the manufacturer of the affected facility, the demonstrated 24-hour average firing rate shall be used to determine the annual capacity factor for the affected facility; otherwise, the maximum design heat input capacity provided by the manufacturer shall be used.

(c) In place of PM testing with EPA Reference Method 5, 5B, or 17 of appendix A of this part, an owner or operator may elect to install, calibrate, maintain, and operate a CEMS for monitoring PM 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 PM emissions instead of conducting performance testing using EPA Method 5, 5B, or 17 of appendix A of this part shall install, calibrate, maintain, and operate a CEMS and shall comply with the requirements specified in paragraphs (c)(1) through (c)(13) of this section.

(1) Notify the Administrator 1 month before starting use of the system.

(2) Notify the Administrator 1 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 startup 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 CEMS if the owner or operator was previously determining compliance by Method 5, 5B, or 17 of appendix A of this part performance tests, whichever is later.

(5) The owner or operator of an affected facility shall conduct an initial performance test for PM emissions as required under § 60.8 of subpart A of this part. Compliance with the PM emission limit shall be determined by using the CEMS specified in paragraph (d) of this section to measure PM and calculating a 24-hour block arithmetic average emission concentration using

EPA Reference Method 19 of appendix A of this part, section 4.1.

(6) Compliance with the PM emission limit shall be determined based on the 24-hour daily (block) average of the hourly arithmetic average emission concentrations using CEMS outlet data.

(7) At a minimum, valid CEMS hourly averages shall be obtained as specified in paragraph (d)(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.

(ii) [Reserved]

(8) The 1-hour arithmetic averages required under paragraph (d)(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 CEMS data shall be used in calculating average emission concentrations even if the minimum CEMS data requirements of paragraph (d)(7) of this section are not met.

(10) The CEMS shall be operated according to Performance Specification 11 in appendix B of this part.

(11) During the correlation testing runs of the CEMS required by Performance Specification 11 in appendix B of this part, PM and O₂ (or CO₂) 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 paragraph (d)(7)(i) of this section.

(i) For PM, EPA Reference Method 5, 5B, or 17 of appendix A of this part shall be used.

(ii) For O₂ (or CO₂), EPA reference Method 3, 3A, or 3B of appendix A of this part, 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 performed annually and Response Correlation Audits must be performed every 3 years.

(13) When PM emissions data are not obtained because of CEMS 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 of appendix A of this part to provide, as necessary, valid emissions data for a minimum of 75 percent of total operating hours on a 30-day rolling average.

(d) The owner or operator of an affected facility seeking to demonstrate compliance under §60.43c(e)(4) shall follow the applicable procedures under §60.48c(f). For residual oil-fired affected facilities, fuel supplier certifications are only allowed for facilities with heat input capacities between 2.9 and 8.7 MW (10 to 30 MMBtu/hr).

§ 60.46c Emission monitoring for sulfur dioxide.

(a) Except as provided in paragraphs (d) and (e) of this section, the owner or operator of an affected facility subject to the SO₂ emission limits under §60.42c shall install, calibrate, maintain, and operate a CEMS for measuring SO₂ concentrations and either O₂ or CO₂ concentrations at the outlet of the SO₂ control device (or the outlet of the steam generating unit if no SO₂ control device is used), and shall record the output of the system. The owner or operator of an affected facility subject to the percent reduction requirements under §60.42c shall measure SO₂ concentrations and either O₂ or CO₂ concentrations at both the inlet and outlet of the SO₂ control device.

(b) The 1-hour average SO₂ emission rates measured by a CEMS shall be expressed in ng/J or lb/MMBtu heat input and shall be used to calculate the average emission rates under §60.42c. Each 1-hour average SO₂ emission rate must be based on at least 30 minutes of operation, and shall be calculated using the data points required under §60.13(h)(2). Hourly SO₂ emission rates are not calculated if the affected facility is operated less than 30 minutes in a 1-hour period and are not counted toward determination of a steam generating unit operating day.

(c) 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 of appendix B of this part.

(2) Quarterly accuracy determinations and daily calibration drift tests shall be performed in accordance with Procedure 1 of appendix F of this part.

(3) For affected facilities subject to the percent reduction requirements under § 60.42c, the span value of the SO₂ CEMS at the inlet to the SO₂ control device shall be 125 percent of the maximum estimated hourly potential SO₂ emission rate of the fuel combusted, and the span value of the SO₂ CEMS at the outlet from the SO₂ control device shall be 50 percent of the maximum estimated hourly potential SO₂ emission rate of the fuel combusted.

(4) For affected facilities that are not subject to the percent reduction requirements of § 60.42c, the span value of the SO₂ CEMS at the outlet from the SO₂ control device (or outlet of the steam generating unit if no SO₂ control device is used) shall be 125 percent of the maximum estimated hourly potential SO₂ emission rate of the fuel combusted.

(d) As an alternative to operating a CEMS at the inlet to the SO₂ control device (or outlet of the steam generating unit if no SO₂ control device is used) as required under paragraph (a) of this section, an owner or operator may elect to determine the average SO₂ emission rate by sampling the fuel prior to combustion. As an alternative to operating a CEMS at the outlet from the SO₂ control device (or outlet of the steam generating unit if no SO₂ control device is used) as required under paragraph (a) of this section, an owner or operator may elect to determine the average SO₂ emission rate by using Method 6B of appendix A of this part. Fuel sampling shall be conducted pursuant to either paragraph (d)(1) or (d)(2) of this section. Method 6B of appendix A of this part shall be conducted pursuant to paragraph (d)(3) of this section.

(1) For affected facilities combusting coal or oil, coal or oil samples shall be collected daily in an as-fired condition at the inlet to the steam generating unit and analyzed for sulfur content

and heat content according to the Method 19 of appendix A of this part. Method 19 of appendix A of this part provides procedures for converting these measurements into the format to be used in calculating the average SO₂ input rate.

(2) As an alternative fuel sampling procedure for affected facilities combusting oil, oil samples may be collected from the fuel tank for each steam generating unit immediately after the fuel tank is filled and before any oil is combusted. The owner or operator of the affected facility shall analyze the oil sample to determine the sulfur content of the oil. If a partially empty fuel tank is refilled, a new sample and analysis of the fuel in the tank would be required upon filling. Results of the fuel analysis taken after each new shipment of oil is received shall be used as the daily value when calculating the 30-day rolling average until the next shipment is received. If the fuel analysis shows that the sulfur content in the fuel tank is greater than 0.5 weight percent sulfur, the owner or operator shall ensure that the sulfur content of subsequent oil shipments is low enough to cause the 30-day rolling average sulfur content to be 0.5 weight percent sulfur or less.

(3) Method 6B of appendix A of this part may be used in lieu of CEMS to measure SO₂ at the inlet or outlet of the SO₂ control system. An initial stratification test is required to verify the adequacy of the Method 6B of appendix A of this part sampling location. The stratification test shall consist of three paired runs of a suitable SO₂ and CO₂ measurement train operated at the candidate location and a second similar train operated according to the procedures in § 3.2 and the applicable procedures in section 7 of Performance Specification 2 of appendix B of this part. Method 6B of appendix A of this part, Method 6A of appendix A of this part, or a combination of Methods 6 and 3 of appendix A of this part or Methods 6C and 3A of appendix A of this part are suitable measurement techniques. If Method 6B of appendix A of this part 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 of appendix A of this part 24-hour tests, the mean of the absolute difference between the three paired runs must be less than 10 percent (0.10).

(e) The monitoring requirements of paragraphs (a) and (d) of this section shall not apply to affected facilities subject to § 60.42c(h) (1), (2), or (3) where the owner or operator of the affected facility seeks to demonstrate compliance with the SO₂ standards based on fuel supplier certification, as described under § 60.48c(f), as applicable.

(f) The owner or operator of an affected facility operating a CEMS pursuant to paragraph (a) of this section, or conducting as-fired fuel sampling pursuant to paragraph (d)(1) of this section, shall obtain emission data for at least 75 percent of the operating hours in at least 22 out of 30 successive steam generating unit 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.

§ 60.47c Emission monitoring for particulate matter.

(a) Except as provided in paragraphs (c), (d), (e), and (f) of this section, the owner or operator of an affected facility combusting coal, oil, or wood that is subject to the opacity standards under § 60.43c shall install, calibrate, maintain, and operate a COMS for measuring the opacity of the emissions discharged to the atmosphere and record the output of the system.

(b) All COMS for measuring opacity shall be operated in accordance with the applicable procedures under Performance Specification 1 of appendix B of this part. The span value of the opacity COMS shall be between 60 and 80 percent.

(c) Affected facilities that burn only distillate oil that contains no more than 0.5 weight percent sulfur and/or liquid or gaseous fuels with potential sulfur dioxide emission rates of 26 ng/J

(0.06 lb/MMBtu) heat input or less and that do not use a post-combustion technology to reduce SO₂ or PM emissions are not required to operate a CEMS for measuring opacity if they follow the applicable procedures under § 60.48c(f).

(d) 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 CEMS, and record the output of the system, for PM emissions discharged to the atmosphere as specified in § 60.45c(d). The CEMS specified in paragraph § 60.45c(d) shall be operated and data recorded during all periods of operation of the affected facility except for CEMS breakdowns and repairs. Data is recorded during calibration checks, and zero and span adjustments.

(e) An affected facility that does not use post-combustion technology (except a wet scrubber) for reducing PM, SO₂, or carbon monoxide (CO) emissions, burns only gaseous fuels or fuel oils that contain less than or equal to 0.5 weight percent sulfur, and is operated such that emissions of CO to the atmosphere from the affected facility are maintained at levels less than or equal to 0.15 lb/MMBtu on a boiler operating day average basis is not required to operate a COMS for measuring opacity. Owners and operators of affected facilities electing to comply with this paragraph must demonstrate compliance according to the procedures specified in paragraphs (e)(1) through (4) of this section.

(1) You must monitor CO emissions using a CEMS according to the procedures specified in paragraphs (e)(1)(i) through (iv) of this section.

(i) The CO CEMS must be installed, certified, maintained, and operated according to the provisions in § 60.58b(i)(3) of subpart Eb of this part.

(ii) Each 1-hour CO emissions average is calculated using the data points generated by the CO CEMS expressed in parts per million by volume corrected to 3 percent oxygen (dry basis).

(iii) At a minimum, valid 1-hour CO emissions averages must be obtained for at least 90 percent of the operating hours on a 30-day rolling average basis. At least two data points per hour must

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be used to calculate each 1-hour average.

(iv) Quarterly accuracy determinations and daily calibration drift tests for the CO CEMS must be performed in accordance with procedure 1 in appendix F of this part.

(2) You must calculate the 1-hour average CO emissions levels for each steam generating unit operating day by multiplying the average hourly CO output concentration measured by the CO CEMS times the corresponding average hourly flue gas flow rate and divided by the corresponding average hourly heat input to the affected source. The 24-hour average CO emission level is determined by calculating the arithmetic average of the hourly CO emission levels computed for each steam generating unit operating day.

(3) You must evaluate the preceding 24-hour average CO emission level each steam generating unit operating day excluding periods of affected source startup, shutdown, or malfunction. If the 24-hour average CO emission level is greater than 0.15 lb/MMBtu, you must initiate investigation of the relevant equipment and control systems within 24 hours of the first discovery of the high emission incident and, take the appropriate corrective action as soon as practicable to adjust control settings or repair equipment to reduce the 24-hour average CO emission level to 0.15 lb/MMBtu or less.

(4) You must record the CO measurements and calculations performed according to paragraph (e) of this section and any corrective actions taken. The record of corrective action taken must include the date and time during which the 24-hour average CO emission level was greater than 0.15 lb/MMBtu, and the date, time, and description of the corrective action.

(f) An affected facility that burns only gaseous fuels or fuel oils that contain less than or equal to 0.5 weight percent sulfur and operates according to a written site-specific monitoring plan approved by the appropriate delegated permitting authority is not required to operate a COMS for measuring opacity. This monitoring plan must include procedures and criteria for establishing and monitoring specific parameters for the affected facil-

ity indicative of compliance with the opacity standard.

§ 60.48c Reporting and recordkeeping requirements.

(a) The owner or operator of each affected facility shall submit notification of the date of construction or reconstruction and actual startup, as provided by § 60.7 of this part. This notification shall include:

(1) The design heat input capacity of the affected facility and identification of 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 § 60.42c, or § 60.43c.

(3) The annual capacity factor at which the owner or operator anticipates operating the affected facility based on all fuels fired and based on each individual fuel fired.

(4) Notification if an emerging technology will be used for controlling SO₂ emissions. The Administrator will examine the description of the control device 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 § 60.42c(a) or (b)(1), unless and until this determination is made by the Administrator.

(b) The owner or operator of each affected facility subject to the SO₂ emission limits of § 60.42c, or the PM or opacity limits of § 60.43c, shall submit to the Administrator the performance test data from the initial and any subsequent performance tests and, if applicable, the performance evaluation of the CEMS and/or COMS using the applicable performance specifications in appendix B of this part.

(c) The owner or operator of each coal-fired, oil-fired, or wood-fired affected facility subject to the opacity limits under § 60.43c(c) shall submit excess emission reports for any excess emissions from the affected facility that occur during the reporting period.

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(d) The owner or operator of each affected facility subject to the SO₂ emission limits, fuel oil sulfur limits, or percent reduction requirements under § 60.42c shall submit reports to the Administrator.

(e) The owner or operator of each affected facility subject to the SO₂ emission limits, fuel oil sulfur limits, or percent reduction requirements under § 60.42c shall keep records and submit reports as required under paragraph (d) of this section, including the following information, as applicable.

(1) Calendar dates covered in the reporting period.

(2) Each 30-day average SO₂ emission rate (ng/J or lb/MMBtu), or 30-day average sulfur content (weight percent), calculated during the reporting period, ending with the last 30-day period; reasons for any noncompliance with the emission standards; and a description of corrective actions taken.

(3) Each 30-day average percent of potential SO₂ emission rate calculated during the reporting period, ending with the last 30-day period; reasons for any noncompliance with the emission standards; and a description of the corrective actions taken.

(4) Identification of any steam generating unit operating days for which SO₂ or diluent (O₂ or CO₂) 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 a description of corrective actions taken.

(5) Identification of any times when emissions data have been excluded from the calculation of average emission rates; justification for excluding data; and a description of corrective actions 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 the F factor used in calculations, method of determination, and type of fuel combusted.

(7) Identification of whether averages have been obtained based on CEMS rather than manual sampling methods.

(8) If a CEMS is used, identification of any times when the pollutant concentration exceeded the full span of the CEMS.

(9) If a CEMS is used, description of any modifications to the CEMS that could affect the ability of the CEMS to comply with Performance Specifications 2 or 3 of appendix B of this part.

(10) If a CEMS is used, results of daily CEMS drift tests and quarterly accuracy assessments as required under appendix F, Procedure 1 of this part.

(11) If fuel supplier certification is used to demonstrate compliance, records of fuel supplier certification is used to demonstrate compliance, records of fuel supplier certification as described under paragraph (f)(1), (2), (3), or (4) of this section, as applicable. In addition to records of fuel supplier certifications, the report shall include a certified statement signed by the owner or operator of the affected facility that the records of fuel supplier certifications submitted represent all of the fuel combusted during the reporting period.

(f) Fuel supplier certification shall include the following information:

(1) For distillate oil:

(i) The name of the oil supplier;

(ii) A statement from the oil supplier that the oil complies with the specifications under the definition of distillate oil in § 60.41c; and

(iii) The sulfur content of the oil.

(2) For residual oil:

(i) The name of the oil supplier;

(ii) The location of the oil when the sample was drawn for analysis to determine the sulfur content of the oil, specifically including whether the oil was sampled as delivered to the affected facility, or whether the sample was drawn from oil in storage at the oil supplier's or oil refiner's facility, or other location;

(iii) The sulfur content of the oil from which the shipment came (or of the shipment itself); and

(iv) The method used to determine the sulfur content of the oil.

(3) For coal:

(i) The name of the coal supplier;

(ii) The location of the coal when the sample was collected for analysis to determine the properties of the coal, specifically including whether the coal was sampled as delivered to the affected facility or whether the sample was collected from coal in storage at

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the mine, at a coal preparation plant, at a coal supplier's facility, or at another location. The certification shall include the name of the coal mine (and coal seam), coal storage facility, or coal preparation plant (where the sample was collected);

(iii) The results of the analysis of the coal from which the shipment came (or of the shipment itself) including the sulfur content, moisture content, ash content, and heat content; and

(iv) The methods used to determine the properties of the coal.

(4) For other fuels:

(i) The name of the supplier of the fuel;

(ii) The potential sulfur emissions rate of the fuel in ng/J heat input; and

(iii) The method used to determine the potential sulfur emissions rate of the fuel.

(g)(1) Except as provided under paragraphs (g)(2) and (g)(3) of this section, the owner or operator of each affected facility shall record and maintain records of the amount of each fuel combusted during each operating day.

(2) As an alternative to meeting the requirements of paragraph (g)(1) of this section, the owner or operator of an affected facility that combusts only natural gas, wood, fuels using fuel certification in §60.48c(f) to demonstrate compliance with the SO₂ standard, fuels not subject to an emissions standard (excluding opacity), or a mixture of these fuels may elect to record and maintain records of the amount of each fuel combusted during each calendar month.

(3) As an alternative to meeting the requirements of paragraph (g)(1) of this section, the owner or operator of an affected facility or multiple affected facilities located on a contiguous property unit where the only fuels combusted in any steam generating unit (including steam generating units not subject to this subpart) at that property are natural gas, wood, distillate oil meeting the most current requirements in §60.42C to use fuel certification to demonstrate compliance with the SO₂ standard, and/or fuels, excluding coal and residual oil, not subject to an emissions standard (excluding opacity) may elect to record and maintain records of the total amount of each

steam generating unit fuel delivered to that property during each calendar month.

(h) The owner or operator of each affected facility subject to a federally enforceable requirement limiting the annual capacity factor for any fuel or mixture of fuels under §60.42c or §60.43c shall calculate the annual capacity factor individually for each fuel combusted. The annual capacity factor is determined on a 12-month rolling average basis with a new annual capacity factor calculated at the end of the calendar month.

(i) All records required under this section shall be maintained by the owner or operator of the affected facility for a period of two years following the date of such record.

(j) The reporting period for the reports required under this subpart is each six-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.

Subpart E—Standards of Performance for Incinerators

§ 60.50 Applicability and designation of affected facility.

(a) The provisions of this subpart are applicable to each incinerator of more than 45 metric tons per day charging rate (50 tons/day), which is the affected facility.

(b) Any facility under paragraph (a) of this section that commences construction or modification after August 17, 1971, is subject to the requirements of this subpart.

(c) Any facility covered by subpart Cb, Eb, AAAA, or BBBB of this part is not covered by this subpart.

(d) Any facility covered by an EPA approved State section 111(d)/129 plan implementing subpart Cb or BBBB of this part is not covered by this subpart.

(e) Any facility covered by subpart FFF or JJJ of part 62 of this title (Federal section 111(d)/129 plan implementing subpart Cb or BBBB of this part) is not covered by this subpart.

[42 FR 37936, July 25, 1977, as amended at 71 FR 27335, May 10, 2006]

§ 60.51 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.

(a) *Incinerator* means any furnace used in the process of burning solid waste for the purpose of reducing the volume of the waste by removing combustible matter.

(b) *Solid waste* means refuse, more than 50 percent of which is municipal type waste consisting of a mixture of paper, wood, yard wastes, food wastes, plastics, leather, rubber, and other combustibles, and noncombustible materials such as glass and rock.

(c) *Day* means 24 hours.

[36 FR 24877, Dec. 23, 1971, as amended at 39 FR 20792, June 14, 1974]

§ 60.52 Standard for particulate matter.

(a) On and after 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, no owner or operator subject to the provisions of this part shall cause to be discharged into the atmosphere from any affected facility any gases which contain particulate matter in excess of 0.18 g/dscm (0.08 gr/dscf) corrected to 12 percent CO₂.

[39 FR 20792, June 14, 1974, as amended at 65 FR 61753, Oct. 17, 2000]

§ 60.53 Monitoring of operations.

(a) The owner or operator of any incinerator subject to the provisions of this part shall record the daily charging rates and hours of operation.

§ 60.54 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 standard in § 60.52 as follows:

(1) The concentration (c_{12}) of particulate matter, corrected to 12 percent CO₂, shall be computed for each run using the following equation:

$$c_{12} = c_s (12/\%CO_2)$$

where:

c_{12} = concentration of particulate matter, corrected to 12 percent CO₂, g/dscm (gr/dscf).

c_s = concentration of particulate matter, g/dscm (gr/dscf).

$\%CO_2$ = CO₂ concentration, percent dry basis.

(2) Method 5 shall be used to determine the particulate matter concentration (c_s). The sampling time and sample volume for each run shall be at least 60 minutes and 0.85 dscm (30 dscf).

(3) The emission rate correction factor, integrated or grab sampling and analysis procedure of Method 3B shall be used to determine CO₂ concentration ($\%CO_2$).

(i) The CO₂ sample shall be obtained simultaneously with, and at the same traverse points as, the particulate run. If the particulate run has more than 12 traverse points, the CO₂ traverse points may be reduced to 12 if Method 1 is used to locate the 12 CO₂ traverse points. If individual CO₂ samples are taken at each traverse point, the CO₂ concentration ($\%CO_2$) used in the correction equation shall be the arithmetic mean of the sample CO₂ concentrations at all traverse points.

(ii) If sampling is conducted after a wet scrubber, an "adjusted" CO₂ concentration [$(\%CO_2)_{adj}$], which accounts for the effects of CO₂ absorption and dilution air, may be used instead of the CO₂ concentration determined in this paragraph. The adjusted CO₂ concentration shall be determined by either of the procedures in paragraph (c) of this section.

(c) The owner or operator may use either of the following procedures to determine the adjusted CO₂ concentration.

(1) The volumetric flow rates at the inlet and outlet of the wet scrubber and the inlet CO₂ concentration may be used to determine the adjusted CO₂ concentration [$(\%CO_2)_{adj}$] using the following equation:

$$(\%CO_2)_{adj} = (\%CO_2)_{di} (Q_{di}/Q_{do})$$

where:

$(\%CO_2)_{adj}$ = adjusted outlet CO₂ concentration, percent dry basis.

$(\%CO_2)_{di}$ = CO₂ concentration measured before the scrubber, percent dry basis.

Q_{di} = volumetric flow rate of effluent gas before the wet scrubber, dscm/min (dscf/min).

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Q_{do} = volumetric flow rate of effluent gas after the wet scrubber, dscm/min (dscf/min).

(i) At the outlet, Method 5 is used to determine the volumetric flow rate (Q_{do}) of the effluent gas.

(ii) At the inlet, Method 2 is used to determine the volumetric flow rate (Q_{di}) of the effluent gas as follows: Two full velocity traverses are conducted, one immediately before and one immediately after each particulate run conducted at the outlet, and the results are averaged.

(iii) At the inlet, the emission rate correction factor, integrated sampling and analysis procedure of Method 3B is used to determine the CO₂ concentration [(%CO₂)_{di}] as follows: At least nine sampling points are selected randomly from the velocity traverse points and are divided randomly into three sets, equal in number of points; the first set of three or more points is used for the first run, the second set for the second run, and the third set for the third run. The CO₂ sample is taken simultaneously with each particulate run being conducted at the outlet, by traversing the three sampling points (or more) and sampling at each point for equal increments of time.

(2) Excess air measurements may be used to determine the adjusted CO₂ concentration [(%CO₂)_{adj}] using the following equation:

$$(\%CO_2)_{adj} = (\%CO_2)_{di} \left[\frac{100 + \%EA_i}{100 + \%EA_o} \right]$$

where:

(%CO₂)_{adj} = adjusted outlet CO₂ concentration, percent dry basis.

(%CO₂)_{di} = CO₂ concentration at the inlet of the wet scrubber, percent dry basis.

%EA_i = excess air at the inlet of the scrubber, percent.

%EA_o = excess air at the outlet of the scrubber, percent.

(i) A gas sample is collected as in paragraph (c)(1)(iii) of this section and the gas samples at both the inlet and outlet locations are analyzed for CO₂, O₂, and N₂.

(ii) Equation 3B-3 of Method 3B is used to compute the percentages of excess air at the inlet and outlet of the wet scrubber.

[54 FR 6665, Feb. 14, 1989, as amended at 55 FR 5212, Feb. 14, 1990; 65 FR 61753, Oct. 17, 2000]

Subpart Ea—Standards of Performance for Municipal Waste Combustors for Which Construction is Commenced After December 20, 1989 and on or Before September 20, 1994

SOURCE: 56 FR 5507, Feb. 11, 1991, unless otherwise noted.

§ 60.50a Applicability and delegation of authority.

(a) The affected facility to which this subpart applies is each municipal waste combustor unit with a municipal waste combustor unit capacity greater than 225 megagrams per day (250 tons per day) of municipal solid waste for which construction, modification, or reconstruction is commenced as specified in paragraphs (a)(1) and (a)(2) of this section.

(1) Construction is commenced after December 20, 1989 and on or before September 20, 1994.

(2) Modification or reconstruction is commenced after December 20, 1989 and on or before June 19, 1996.

(b) [Reserved]

(c) Any unit combusting a single-item waste stream of tires is not subject to this subpart if the owner or operator of the unit:

(1) Notifies the Administrator of an exemption claim; and

(2) Provides data documenting that the unit qualifies for this exemption.

(d) Any cofired combustor, as defined under § 60.51a, located at a plant that meets the capacity specifications in paragraph (a) of this section is not subject to this subpart if the owner or operator of the cofired combustor:

(1) Notifies the Administrator of an exemption claim;

(2) Provides a copy of the federally enforceable permit (specified in the definition of cofired combustor in this section); and

(3) Keeps a record on a calendar quarter basis of the weight of municipal solid waste combusted at the cofired combustor and the weight of all other fuels combusted at the cofired combustor.

(e) Any cofired combustor that is subject to a federally enforceable permit limiting the operation of the combustor to no more than 225 megagrams per day (250 tons per day) of municipal solid waste is not subject to this subpart.

(f) Physical or operational changes made to an existing municipal waste combustor unit primarily for the purpose of complying with emission guidelines under subpart Cb are not considered a modification or reconstruction and do not result in an existing municipal waste combustor unit becoming subject to this subpart.

(g) A qualifying small power production facility, as defined in section 3(17)(C) of the Federal Power Act (16 U.S.C. 796(17)(C)), that burns homogeneous waste (such as automotive tires or used oil, but not including refuse-derived fuel) for the production of electric energy is not subject to this subpart if the owner or operator of the facility notifies the Administrator of an exemption claim and provides data documenting that the facility qualifies for this exemption.

(h) A qualifying cogeneration facility, as defined in section 3(18)(B) of the Federal Power Act (16 U.S.C. 796(18)(B)), that burns homogeneous waste (such as automotive tires or used oil, but not including refuse-derived fuel) for the production of electric energy and steam or forms of useful energy (such as heat) that are used for industrial, commercial, heating, or cooling purposes, is not subject to this subpart if the owner or operator of the facility notifies the Administrator of an exemption claim and provides data documenting that the facility qualifies for this exemption.

(i) Any unit required to have a permit under section 3005 of the Solid Waste Disposal Act is not subject to this subpart.

(j) Any materials recovery facility (including primary or secondary smelters) that combusts waste for the primary purpose of recovering metals is not subject to this subpart.

(k) Pyrolysis/combustion units that are an integrated part of a plastics/rubber recycling unit (as defined in §60.51a) are not subject to this subpart if the owner or operator of the plastics/

rubber recycling unit keeps records of: the weight of plastics, rubber, and/or rubber tires processed on a calendar quarter basis; the weight of chemical plant feedstocks and petroleum refinery feedstocks produced and marketed on a calendar quarter basis; and the name and address of the purchaser of the feedstocks. The combustion of gasoline, diesel fuel, jet fuel, fuel oils, residual oil, refinery gas, petroleum coke, liquified petroleum gas, propane, or butane produced by chemical plants or petroleum refineries that use feedstocks produced by plastics/rubber recycling units are not subject to this subpart.

(l) The following authorities shall be retained by the Administrator and not transferred to a State:

None.

(m) This subpart shall become effective on August 12, 1991.

[56 FR 5507, Feb. 11, 1991, as amended at 60 FR 65384, Dec. 19, 1995]

§ 60.51a Definitions.

ASME means the American Society of Mechanical Engineers.

Batch MWC means an MWC unit designed such that it cannot combust MSW continuously 24 hours per day because the design does not allow waste to be fed to the unit or ash to be removed while combustion is occurring.

Bubbling fluidized bed combustor means a fluidized bed combustor in which the majority of the bed material remains in a fluidized state in the primary combustion zone.

Calendar quarter means a consecutive 3-month period (nonoverlapping) beginning on January 1, April 1, July 1, and October 1.

Chief facility operator means the person in direct charge and control of the operation of an MWC and who is responsible for daily on-site supervision, technical direction, management, and overall performance of the facility.

Circulating fluidized bed combustor means a fluidized bed combustor in which the majority of the fluidized bed material is carried out of the primary combustion zone and is transported back to the primary zone through a recirculation loop.

Clean wood means untreated wood or untreated wood products including

clean untreated lumber, tree stumps (whole or chipped), and tree limbs (whole or chipped). Clean wood does not include yard waste, which is defined elsewhere in this section, or construction, renovation, and demolition wastes (which includes but is not limited to railroad ties and telephone poles), which are exempt from the definition of municipal solid waste in this section.

Cofired combustor means a unit combusting municipal solid waste with nonmunicipal solid waste fuel (e.g., coal, industrial process waste) and subject to a federally enforceable permit limiting the unit to combusting a fuel feed stream, 30 percent or less of the weight of which is comprised, in aggregate, of municipal solid waste as measured on a calendar quarter basis.

Continuous emission monitoring system or *CEMS* means a monitoring system for continuously measuring the emissions of a pollutant from an affected facility.

Continuous monitoring system means the total equipment used to sample and condition (if applicable), to analyze, and to provide a permanent record of emissions or process parameters.

Dioxin/furan means total tetra-through octachlorinated dibenzo-p-dioxins and dibenzofurans.

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.

Four-hour block average or *4-hour block average* means the average of all hourly emission rates when the affected facility is operating and combusting MSW measured over 4-hour periods of time from 12 midnight to 4 a.m., 4 a.m. to 8 a.m., 8 a.m. to 12 noon, 12 noon to 4 p.m., 4 p.m. to 8 p.m., and 8 p.m. to 12 midnight.

Large municipal waste combustor plant means a municipal waste combustor plant with a municipal waste combustor aggregate plant capacity for affected facilities that is greater than 225 megagrams per day (250 tons per day) of municipal solid waste.

Mass burn refractory municipal waste combustor means a field-erected combustor that combusts municipal solid waste in a refractory wall furnace. Unless otherwise specified, this includes combustors with a cylindrical rotary refractory wall furnace.

Mass burn rotary waterwall municipal waste combustor means a field-erected combustor that combusts municipal solid waste in a cylindrical rotary waterwall furnace.

Mass burn waterwall municipal waste combustor means a field-erected combustor that combusts municipal solid waste in a waterwall furnace.

Maximum demonstrated municipal waste combustor unit load means the highest 4-hour arithmetic average municipal waste combustor unit load achieved during four consecutive hours during the most recent dioxin/furan performance test demonstrating compliance with the applicable limit for municipal waste combustor organics specified under § 60.53a.

Maximum demonstrated particulate matter control device temperature means the highest 4-hour arithmetic average flue gas temperature measured at the particulate matter control device inlet during four consecutive hours during the most recent dioxin/furan performance test demonstrating compliance with the applicable limit for municipal waste combustor organics specified under § 60.53a.

Modification or *modified municipal waste combustor unit* means a municipal waste combustor unit to which changes have been made if the cumulative cost of the changes, over the life of the unit, exceed 50 percent of the original cost of construction and installation of the unit (not including the cost of any land purchased in connection with such construction or installation) updated to current costs; or any physical change in the municipal waste combustor unit or change in the method of operation of the municipal waste combustor unit increases the amount of any air pollutant emitted by the unit for which standards have been established under section 129 or section 111. Increases in the amount of any air pollutant emitted by the municipal waste combustor unit are determined at 100-percent

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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 (m³) 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 m³ 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 m³ but less than 151 m³ 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 m³ 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 CCCC 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 m³ 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 m³ but less than 151 m³ 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 m³ 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 m³ but less than 151 m³ 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 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.

(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 m³ 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 Cm² 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 cm² 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

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 § 60.112b(a)(1) or § 60.113b(a)(3) and list each repair made.

(b) After installing control equipment in accordance with § 60.112b(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 m³ 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 m³ but less than 151 m³ 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 m³ 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 m³ but less than 151 m³ storing a liquid with a maximum true vapor pressure that is normally less than 27.6 kPa shall notify the Administrator within

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]

(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 H₂S-free gas or air, is required.

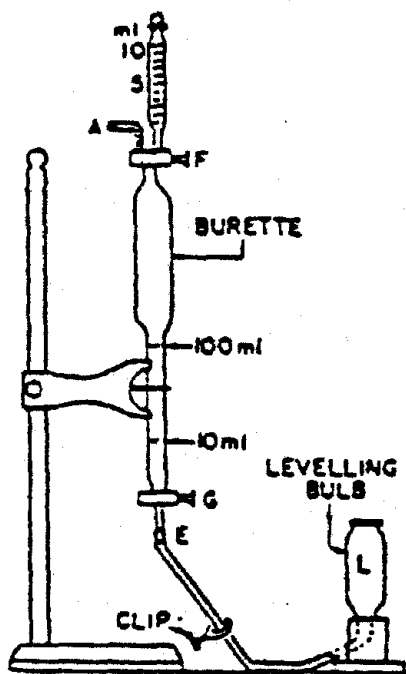


FIGURE 1. TUTWILER BURETTE (LETTERED ITEMS MENTIONED IN TEXT)

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

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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 ± 1 percent of the temperature being monitored expressed in degrees Celsius or ± 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 ± 1 percent of the temperature being measured expressed in degrees Celsius or ± 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 ± 1 percent of the temperature being monitored expressed in degrees Celsius or ± 0.5 °C, whichever is greater, and a specific gravity monitoring device having an accuracy of ± 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 ± 1 percent of the temperature being monitored expressed in degrees Celsius or ± 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 ±10 percent, and a carbon bed temperature monitoring device having an accuracy of ±1 percent of the temperature being monitored expressed in degrees Celsius or ±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_{2d}) 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 O₂ (C_c) shall be computed using the following equation:

$$C_c = C_{TOC} \frac{17.9}{20.9 - \%O_{2d}}$$

where:

C_c=Concentration of TOC corrected to 3 percent O₂, dry basis, ppm by volume.

C_{TOC}=Concentration of TOC (minus methane and ethane), dry basis, ppm by volume.

%O_{2d}=Concentration of O₂, 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_i=Mass rate of TOC entering the control device, kg/hr (lb/hr).

E_o=Mass rate of TOC discharged to the atmosphere, kg/hr (lb/hr).

(iii) The mass rates of TOC (E_i, E_o) 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).

$K_2 = 2.494 \times 10^{-6}$ (l/ppm)(g-mole/scm) (kg/g) (min/hr) (metric units), where standard temperature for (g-mole/scm) is 20 °C.
 $= 1.557 \times 10^{-7}$ (l/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(c)(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.

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(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:

$$E_{\text{TOC}} = K_2 \left[\sum_{j=1}^n C_j M_j \right] Q_s$$

where:

E_{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:

$$\text{TRE} = \frac{1}{E_{\text{TOC}}} \left[a + b(Q_s) + c(Q_s)^{0.88} + d(Q_s)(H_T) + e(Q_s)^{0.88}(H_T)^{0.88} + f(Y_s)^{0.5} \right]$$

(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.

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 $0 \leq$ 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
$14.2 \leq Q_s \leq 18.8$	18.84468	0.26742	-0.20044	0	0	0.01025
$(501 \leq Q_s \leq 664)$	(41.54494)	(0.016696)	(-0.019194)	(0)	(0)	(0.003803)
$18.8 < Q_s \leq 699$	19.66858	0.26742	-0.25332	0	0	0.01025
$(664 < Q_s \leq 24,700)$	(43.35694)	(0.016696)	(-0.024258)	(0)	(0)	(0.003803)
$699 < Q_s \leq 1400$	39.19213	0.29062	-0.25332	0	0	0.01449
$(24,700 < Q_s \leq 49,000)$	(86.40297)	(0.018145)	(-0.024258)	(0)	(0)	(0.005376)
$1400 < Q_s \leq 2100$	58.71768	0.30511	-0.25332	0	0	0.01775
$(49,000 < Q_s \leq 74,000)$	(129.4490)	(0.019050)	(-0.024258)	(0)	(0)	(0.006585)
$2100 < Q_s \leq 2800$	78.24323	0.31582	-0.25332	0	0	0.02049
$(74,000 < Q_s \leq 99,000)$	(172.4950)	(0.019718)	(-0.024258)	(0)	(0)	(0.007602)
$2800 < Q_s \leq 3500$	97.76879	0.32439	-0.25332	0	0	0.02291
$(99,000 < Q_s \leq 120,000)$	(215.5411)	(0.020253)	(-0.024258)	(0)	(0)	(0.008500)

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_g = Vent Stream Flow rate scm/min(scfd/min)	a	b	c	d	e	f
$14.2 \leq Q_g \leq 18.8$	18.84486	0.26742	-0.20044	0	0	0.01025
$(501 \leq Q_g \leq 664)$	(41.54494)	(0.016696)	(-0.019194)	(0)	(0)	(0.003803)
$18.8 < Q_g \leq 699$	19.66658	0.26742	-0.25332	0	0	0.01025
$(664 < Q_g \leq 24,700)$	(43.35694)	(0.016696)	(-0.024258)	(0)	(0)	(0.003803)
$699 < Q_g \leq 1400$	39.19213	0.29062	-0.25332	0	0	0.01449
$(24,700 < Q_g \leq 49,000)$	(86.40297)	(0.018145)	(-0.024258)	(0)	(0)	(0.005376)
$1400 < Q_g \leq 2100$	58.71768	0.30511	-0.25332	0	0	0.01775
$(49,000 < Q_g \leq 74,000)$	(129.4490)	(0.019050)	(-0.024258)	(0)	(0)	(0.006586)
$2100 < Q_g \leq 2800$	78.24323	0.31582	-0.25332	0	0	0.02049
$(74,000 < Q_g \leq 99,000)$	(172.4950)	(0.019718)	(-0.024258)	(0)	(0)	(0.007602)
$2800 < Q_g \leq 3500$	97.76879	0.32439	-0.25332	0	0	0.02291
$(99,000 < Q_g \leq 120,000)$	(215.5411)	(0.020253)	(-0.024258)	(0)	(0)	(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_g = Vent Stream Flow rate scm/min(scfd/min)	a	b	c	d	e	f
$14.2 \leq Q_g \leq 1340$	8.54245	0.10555	0.09030	-0.17109	0	0.01025
$(501 \leq Q_g \leq 47,300)$	(18.83268)	(0.0065901)	(0.008647)	(-0.00039762)	(0)	(0.003803)
$1340 < Q_g \leq 2690$	16.94386	0.11470	0.09030	-0.17109	0	0.01449
$(47,300 < Q_g \leq 95,000)$	(37.35443)	(0.0071614)	(0.008647)	(-0.00039762)	(0)	(0.005376)
$2690 < Q_g \leq 4040$	25.34528	0.12042	0.09030	-0.17109	0	0.01775
$(95,000 < Q_g \leq 143,000)$	(55.87820)	(0.0075185)	(0.008647)	(-0.00039762)	(0)	(0.006585)

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DESIGN CATEGORY C. FOR NONHALOGENATED PROCESS VENT STREAMS, IF $0.48 < \text{NET HEATING VALUE (MJ/scm)} \leq 1.9$
OR IF $13 < \text{NET HEATING VALUE (Btu/scf)} \leq 51$:

Q_s = Vent Stream Flow rate scm/min(scf/min)	a	b	c	d	e	f
$14.2 \leq Q_s < 1340$ ($501 \leq Q_s \leq 47,300$)	9.25233 (20.39766)	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 $1.9 < \text{NET HEATING VALUE (MJ/scm)} \leq 3.6$
OR IF $51 < \text{NET HEATING VALUE (Btu/scf)} \leq 97$:

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 NET HEATING VALUE $> 3.6 \text{ MJ/scm}$
OR IF 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 (-0.0009164)	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 (-0.0009164)	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 (-0.0009164)	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.

$Q_s = 14.2 \text{ scm/min (501 scf/min)}$.

$H_T = (\text{FLOW}) (\text{HVAL})/Q_s$.

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_{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:

$$TRE = \frac{1}{E_{TOC}} [a(Q_s) + b(Q_s)^{0.8} + c(Q_s)(H_T) + d(E_{TOC}) + e]$$

where:

TRE = TRE index value.

E_{TOC} = Hourly emissions of TOC, kg/hr (lb/hr).

Q_s = Vent stream flow rate, scm/min (scf/min), at a standard 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), but the standard temperature for determining the volume corresponding to one mole is 20 °C (68 °F) as in the definition of Q_s.

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 _T < 11.2 MJ/scm	2.25	0.288	-0.193	-0.0051	2.08
(H _T < 301 Btu/scf)	(0.140)	(0.0367)	(-0.000448)	(-0.0051)	(4.59)
H _T ≥ 11.2 MJ/scm	0.309	0.0619	-0.0043	-0.0034	2.08
(H _T ≥ 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 a 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

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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_{TOC} . 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_{TOC} . 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
Acetalddol	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 ₁₀₋₁₆ -alkyl derivatives, sodium salts	68081-81-2
Benzic 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	110-85-6
Butyraldehyde	123-72-8
Butyric anhydride	106-31-0
Caprolactam	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
Disononyl 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
Diocyl 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-tetrahydro anthracenedione	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

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
Ketene	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-Methylenediamine	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.

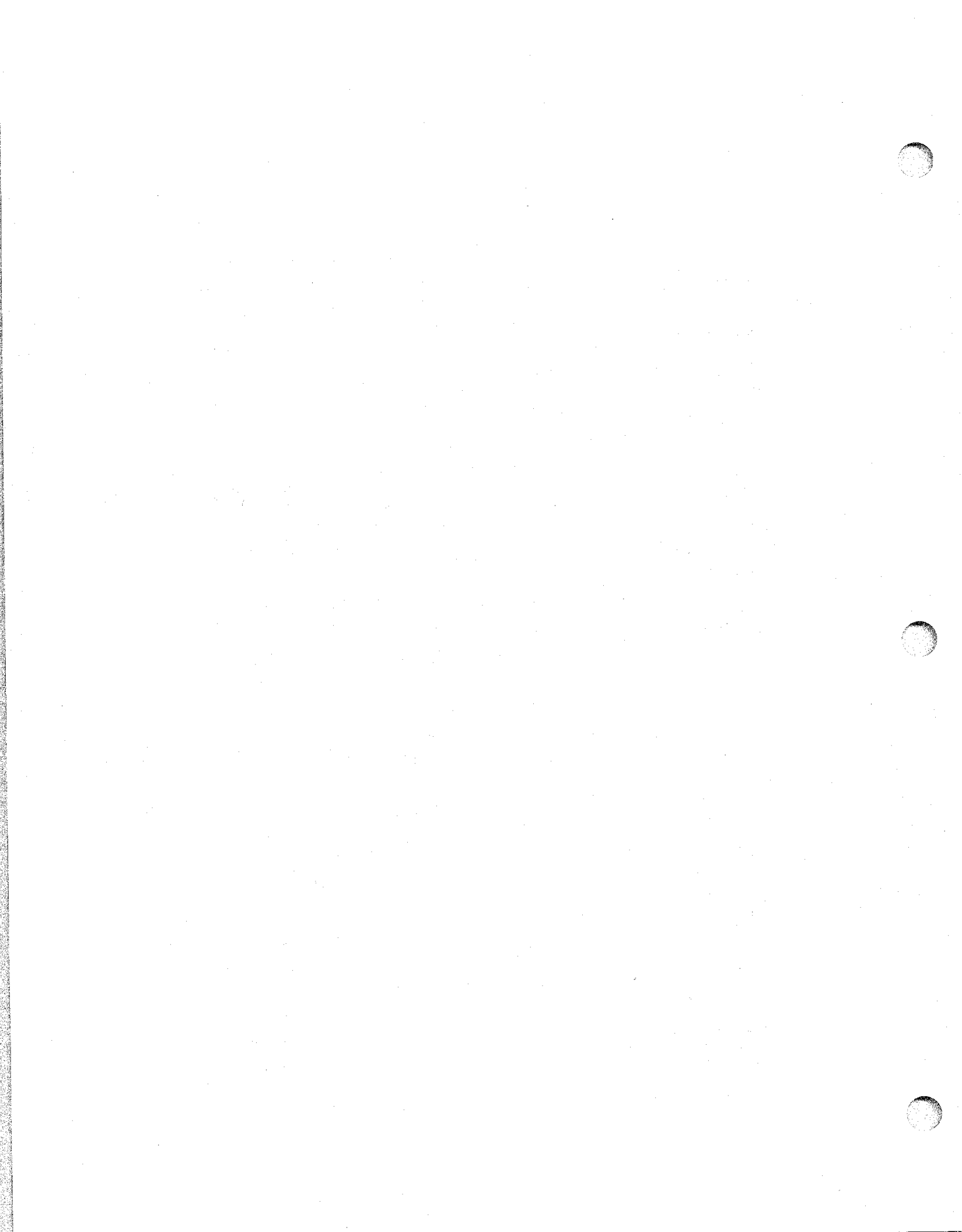
(b) Authorities which will not be delegated to States: §60.663(e).

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, 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.



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measured by the temperature monitoring device, is less than 80 percent of the design temperature difference, or,

(3) Each 3-hour period of operation during which the average VOC concentration level or reading of organics in the exhaust gases from a carbon adsorber is more than 20 percent greater than the design exhaust gas concentration level or reading.

(i) Each 3-hour period of operation during which the average volatile organic compound concentration level or reading of organics in the exhaust gases from a carbon adsorber which is regenerated directly onsite is more than 20 percent greater than the design exhaust gas concentration level or reading.

(ii) Each occurrence when the carbon in a carbon adsorber system that is not regenerated directly onsite in the control device is not replaced at the predetermined interval specified in § 60.695(a)(3)(ii).

(e) If compliance with the provisions of this subpart is delayed pursuant to § 60.692-7, the notification required under 40 CFR 60.7(a)(4) shall include the estimated date of the next scheduled refinery or process unit shutdown after the date of notification and the reason why compliance with the standards is technically impossible without a refinery or process unit shutdown.

[53 FR 47623, Nov. 23, 1985, as amended at 60 FR 43260, Aug. 18, 1995]

§ 60.699 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:

§ 60.694 Permission to use alternative means of emission limitations.

[53 FR 47623, Nov. 23, 1985]

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Subpart RRR—Standards of Performance for Volatile Organic Compound Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Reactor Processes

SOURCE: 58 FR 45962, Aug. 31, 1993, unless otherwise noted.

§ 60.700 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 § 60.707 as a product, co-product, by-product, or intermediate, except as provided in paragraph (c) of this section.

(b) The affected facility is any of the following for which construction, modification, or reconstruction commenced after June 29, 1990:

(1) Each reactor process not discharging its vent stream into a recovery system.

(2) Each combination of a reactor process and the recovery system into which its vent stream is discharged.

(3) Each combination of two or more reactor processes 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 reactor process that is designed and operated as a batch operation is not an affected facility.

(2) 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 §§ 60.702(c); 60.704 (d), (e), and (f); and 60.705 (g), (l)(1), (l)(6), and (t).

(3) Each affected facility in a process unit with a total design capacity for all chemicals produced within that unit of less than 1 gigagram per year (1,100 tons per year) is exempt from all provisions of this subpart except for the recordkeeping and reporting requirements in § 60.705 (i), (l)(5), and (n).

(4) Each affected facility operated with a vent stream flow rate less than

0.011 scm/min is exempt from all provisions of this subpart except for the test method and procedure and the record-keeping and reporting requirements in § 60.704(g) and § 70.705 (h), (l)(4), and (o).

(5) If the vent stream from an affected facility is routed to a distillation unit subject to subpart NNN and has no other releases to the air except for a pressure relief valve, the facility is exempt from all provisions of this subpart except for § 60.705(r).

(6) Any reactor process operating as part of a process unit which produces beverage alcohols, or which uses, contains, and produces no VOC is not an affected facility.

(7) Any reactor process that is subject to the provisions of subpart DDD is not an affected facility.

(8) Each affected facility operated with a concentration of total organic compounds (TOC) (less methane and ethane) in the vent stream less than 300 ppmv as measured by Method 18 or a concentration of TOC in the vent stream less than 150 ppmv as measured by Method 25A is exempt from all provisions of this subpart except for the test method and procedure and the reporting and recordkeeping requirements in § 60.704(h) and paragraphs (j), (l)(8), and (p) of § 60.705.

(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 §§ 60.702 through 60.705 and 60.708. The provisions of 40 CFR part 65 also satisfy the criteria of paragraphs (c)(2), (4), and (8) 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 emissions of VOC through the application of best demonstrated technology (BDT). The numerical emission limits in these standards are expressed in terms of TOC, measured as TOC less methane and ethane. This emission limit reflects the performance of BDT.)

[58 FR 45962, Aug. 31, 1993, as amended at 60 FR 58238, Nov. 27, 1995; 65 FR 78279, Dec. 14, 2000]

§ 60.701 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 operation means any non-continuous reactor process that is not characterized by steady-state conditions and in which reactants are not added and products are not removed simultaneously.

Boiler means any enclosed combustion device that extracts useful energy in the form of steam and is not an incinerator.

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By compound means by individual stream components, not carbon equivalents.

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.

Combustion device means an individual unit of equipment, such as an incinerator, flare, boiler, or process heater, used for combustion of a vent stream discharged from the process vent.

Continuous recorder means a data recording device recording an instantaneous data value at least once every 15 minutes.

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 line.

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 an enclosed combustion device that is used for destroying organic compounds. If there is energy recovery, the energy recovery section and the combustion chambers are not of integral design. That is, the energy recovery section and the combustion section are not physically formed into one manufactured or assembled unit but are joined by ducts or connections carrying flue gas.

Primary fuel means the fuel fired through a burner or a number of similar burners. The primary fuel provides the principal heat input to the device, and the amount of fuel is sufficient to sustain operation without the addition of other fuels.

Process heater means a device that transfers heat liberated by burning fuel directly to process streams or to heat transfer liquids other than water.

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 § 60.707. A process unit can operate independently if supplied with suffi-

cient feed or raw materials and sufficient product storage facilities.

Product means any compound or chemical listed in § 60.707 which 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.

Reactor processes are unit operations 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.

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.

Relief valve means a valve used only to release an unplanned, nonroutine discharge. A relief valve discharge results from an operator error, a malfunction such as a power failure or equipment failure, or other unexpected cause that requires immediate venting of gas from process equipment in order to avoid safety hazards or equipment damage.

Secondary fuel means a fuel fired through a burner other than a primary fuel burner. The secondary fuel may provide supplementary heat in addition to the heat provided by the primary fuel.

Total organic compounds or TOC means those compounds measured according to the procedures in § 60.704(b)(4). For the purposes of measuring molar composition as required in § 60.704(d)(2)(i) and § 60.704(d)(2)(ii), hourly emission rate as required in § 60.704(d)(5) and § 60.704(e), and TOC concentration as required in § 60.705(b)(4) and § 60.705(f)(4), those compounds which the Administrator has determined do not contribute appreciably to the formation of ozone are to be excluded.

Total resource effectiveness or TRE index value means a measure of the supplemental total resource requirement per unit reduction of TOC associated

with a vent stream from an affected reactor process facility, based on vent stream flow rate, emission rate of TOC, net heating value, and corrosion properties (whether or not the vent stream contains halogenated compounds), as quantified by the equation given under § 60.704(e).

Vent stream means any gas stream discharged directly from a reactor process to the atmosphere or indirectly to the atmosphere after diversion through other process equipment. The vent stream excludes relief valve discharges and equipment leaks.

§ 60.702 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 § 60.704 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 a VOC emission control device.

§ 60.703 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 § 60.702(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 ± 1 percent of the temperature being monitored expressed in degrees Celsius or ± 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 or in the ductwork immediately downstream of the firebox in a position before any substantial heat exchange is encountered.

(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 diverted from being routed to the incinerator at least once every 15 minutes for each affected facility, except as provided in paragraph (a)(2)(ii) of this section.

(i) The flow indicator shall be installed at the entrance to any bypass line that could divert the vent stream from being routed to the incinerator, resulting in its emission to the atmosphere.

(ii) 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. 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.

(b) The owner or operator of an affected facility that uses a flare to seek to comply with § 60.702(b) shall install, calibrate, maintain, and operate according to manufacturer's specifications the following equipment:

(1) A heat sensing device, such as an ultraviolet 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 diverted from being routed to the flare at least once every 15 minutes for each affected facility, except as provided in paragraph (b)(2)(i) of this section.

(i) The flow indicator shall be installed at the entrance to any bypass line that could divert the vent stream from being routed to the flare, resulting in its emission to the atmosphere.

(ii) 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. 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.

(c) The owner or operator of an affected facility that uses a boiler or process heater to seek to comply with § 60.702(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 diverted from being routed to the boiler or process heater at least once every 15 minutes for each affected facility, except as provided in paragraph (c)(1)(ii) of this section.

(i) The flow indicator shall be installed at the entrance to any bypass line that could divert the vent stream from being routed to the boiler or process heater, resulting in its emission to the atmosphere.

(ii) 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. 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.

(2) A temperature monitoring device in the firebox equipped with a continuous recorder and having an accuracy of ± 1 percent of the temperature being monitored expressed in degrees Celsius or ± 0.5 °C, whichever is greater, for boilers or process heaters of less than 44 MW (150 million Btu/hr) design heat input capacity. Any vent stream introduced with primary fuel into a boiler or process heater is exempt from this requirement.

(d) The owner or operator of an affected facility that seeks to demonstrate compliance with the TRE index value limit specified under § 60.702(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 ± 1 percent of the temperature being monitored expressed in degrees Celsius or ± 0.5 °C, whichever is greater, and a specific gravity monitoring device having an accuracy of ± 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 infra-red, 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 ± 1 percent of the temperature being monitored expressed in degrees Celsius or ± 0.5 °C, whichever is greater; 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.

(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 ± 10 percent, and a carbon bed temperature monitoring device having an accuracy of ± 1 percent of the temperature being monitored expressed in degrees Celsius or ± 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.

(e) An owner or operator of an affected facility seeking to demonstrate compliance with the standards specified under § 60.702 with a control device other than an incinerator, boiler, process heater, or flare; or a 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.

§ 60.704 Test methods and procedures.

(a) For the purpose of demonstrating compliance with § 60.702, 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 § 60.702(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 3B shall be used to determine the oxygen concentration (%O_{2d}) 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 O₂ (C_c) shall be computed using the following equation:

$$C_c = C_{\text{TOC}} \frac{17.9}{20.9 - \%O_{2d}}$$

where:

C_c=Concentration of TOC corrected to 3 percent O₂, dry basis, ppm by volume.

C_{TOC}=Concentration of TOC (minus methane and ethane), dry basis, ppm by volume.

%O_{2d}=Concentration of O₂, 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 minimum 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 approximately 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_i=Mass rate of TOC entering the control device, kg TOC/hr.

E_o=Mass rate of TOC discharged to the atmosphere, kg TOC/hr.

(iii) The mass rates of TOC (E_i, E_o) shall be computed using the following equations:

$$E_i = K_2 \sum_{j=1}^n C_{ij} M_{ij} Q_i$$

$$E_o = K_2 \sum_{j=1}^n C_{oj} M_{oj} Q_o$$

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).

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Q_i, Q_o = Flow rate of gas stream at the inlet and outlet of the control device, respectively, dscm/min (dscf/hr).

K_2 = Constant, 2.494×10^{-6} (l/ppm) (g-mole/scm) (kg/g) (min/hr), where standard temperature for (g-mole/scm) is 20 °C.

(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.

(5) The requirement for an initial performance test is waived, in accordance with § 60.8(b), for the following:

(i) 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 compliance with § 60.702(a).

(ii) When a vent stream is introduced into a boiler or process heater with the primary fuel.

(iii) 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.

(6) For purposes of complying with the 98 weight-percent reduction in § 60.702(a), if the vent stream entering a boiler or process heater with a design capacity less than 44 MW (150 million Btu/hour) is introduced with the combustion air or as secondary fuel, the weight-percent reduction of TOC (minus methane and ethane) across the combustion device shall be determined by comparing the TOC (minus methane and ethane) in all combusted vent streams, primary fuels, and secondary fuels with the TOC (minus methane and ethane) exiting the combustion device.

(c) When a flare is used to seek to comply with § 60.702(b), the flare shall comply with the requirements of § 60.18.

(d) 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 § 60.702(b) and for determining the process vent stream TRE index value to determine compliance under § 60.700(c)(2) and § 60.702(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 § 60.704 (d)(2) and (d)(3) shall be, except for the situations outlined in paragraph (d)(1)(ii) of this section, prior to the inlet of any control device, prior to any postreactor dilution of the stream with air, and prior to any postreactor introduction of halogenated compounds into the process vent stream. No traverse site selection method is needed for vents smaller than 4 inches in diameter.

(ii) If any gas stream other than the reactor vent stream 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 any nonreactor stream or stream from a nonaffected reactor process 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 vent stream and at the outlet of the final recovery device.

(C) This efficiency of the final recovery device shall be applied to the TOC concentration measured prior to the final recovery device and prior to the introduction of any nonreactor stream or stream from a nonaffected reactor process to determine the concentration of TOC in the reactor process vent stream from the final recovery device. This concentration of TOC is then used to perform the calculations outlined in § 60.704(d)(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.

(11) 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:

$$H_T = K_1 \sum_{j=1}^n C_j H_j \quad 1 - B_{ws}$$

where:

H_T =Net heating value of the sample, MJ/scm, where the net enthalpy per mole of vent stream is based on combustion at 25 °C and 760 mm Hg, but the standard temperature for determining the volume corresponding to one mole is 20 °C, as in the definition of Q_s (vent stream flow rate).

K_1 =Constant, 1.740×10^{-7} (l/ppm) (g-mole/scm) (MJ/kcal), where standard temperature for (g-mole/scm) is 20 °C.

C_j =Concentration on a dry 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 § 60.704(d)(2).

H_j =Net heat of combustion of compound j , kcal/g-mole, based on combustion at 25 °C and 760 mm Hg. The heats of combustion of vent stream components would be required to be determined using ASTM D2382-76 or 88 or D4809-95 (incorporation by reference as specified in § 60.17 of this part) if published values are not available or cannot be calculated.

B_{ws} =Water vapor content of the vent stream, proportion by volume.

(5) The emission rate of TOC in the vent stream shall be calculated using the following equation:

$$TRE = \frac{1}{E_{TOC}} \left[a + b(Q_s)^{0.88} + c(Q_s) + d(Q_s) (H_T) + e(Q_s)^{0.88} (H_T)^{0.88} + f(Y_s)^{0.5} \right]$$

(i) Where for a vent stream flow rate (scm/min) at a standard temperature of 20 °C that is greater than or equal to 14.2 scm/min:

TRE=TRE index value.

$$E_{TOC} = K_2 \sum_{j=1}^n C_j M_j Q_s$$

where:

E_{TOC} =Emission rate of TOC in the sample, kg/hr.

K_2 =Constant, 2.494×10^{-6} (l/ppm) (g-mole/scm) (kg/g) (min/hr), where standard temperature for (g-mole/scm) is 20 °C.

C_j =Concentration on a dry basis of compound j in ppm as measured by Method 18 as indicated in § 60.704(d)(2).

M_j =Molecular weight of sample j , g/g-mole.

Q_s =Vent stream flow rate (dscm/min) at a temperature of 20 °C.

(6) The total 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.

(e) For purposes of complying with § 60.700(c)(2) and § 60.702(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) of this section 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) at a standard temperature of 20 °C.

H_T =Vent stream net heating value (MJ/scm), where the net enthalpy per mole of vent stream is based on combustion at 25 °C and 760 mm Hg, but the standard temperature for determining the volume corresponding

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to one mole is 20 °C 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 reported in kg/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—TOTAL RESOURCE EFFECTIVENESS COEFFICIENTS FOR VENT STREAMS CONTROLLED BY AN INCINERATOR SUBJECT TO THE NEW SOURCE PERFORMANCE STANDARDS FOR REACTOR PROCESSES

	a	b	c	d	e	f
DESIGN CATEGORY A1. FOR HALOGENATED PROCESS VENT STREAMS, IF 0 ≤ NET HEATING VALUE (MJ/scm) ≤ 3.5: Q_s =Vent Stream Flow Rate (scm/min)						
14.2 < Q_s ≤ 18.8	19.18370	0.27580	0.75762	-0.13064	0	0.01025
18.8 < Q_s ≤ 699	20.00563	0.27580	0.30387	-0.13064	0	0.01025
699 < Q_s ≤ 1,400	39.87022	0.29973	0.30387	-0.13064	0	0.01449
1,400 < Q_s ≤ 2,100	59.73481	0.31467	0.30387	-0.13064	0	0.01775
2,100 < Q_s ≤ 2,800	79.59941	0.32572	0.30387	-0.13064	0	0.02049
2,800 < Q_s ≤ 3,500	99.46400	0.33456	0.30387	-0.13064	0	0.02291
DESIGN CATEGORY A2. FOR HALOGENATED PROCESS VENT STREAMS, IF NET HEATING VALUE (MJ/scm) > 3.5: Q_s =Vent Stream Flow Rate (scm/min)						
14.2 < Q_s ≤ 18.8	18.84486	0.26742	-0.20044	0	0	0.01025
18.8 < Q_s ≤ 699	19.66858	0.26742	-0.25332	0	0	0.01025
699 < Q_s ≤ 1,400	39.19213	0.29062	-0.25332	0	0	0.01449
1,400 < Q_s ≤ 2,100	58.71768	0.30511	-0.25332	0	0	0.01775
2,100 < Q_s ≤ 2,800	78.24323	0.31582	-0.25332	0	0	0.02049
2,800 < Q_s ≤ 3,500	97.76879	0.32439	-0.25332	0	0	0.02291
DESIGN CATEGORY B. FOR NONHALOGENATED PROCESS VENT STREAMS, IF 0 ≤ NET HEATING VALUE (MJ/scm) ≤ 0.48: Q_s =Vent Stream Flow Rate (scm/min)						
14.2 < Q_s ≤ 1,340	8.54245	0.10555	0.09030	-0.17109	0	0.01025
1,340 < Q_s ≤ 2,690	16.94386	0.11470	0.09030	-0.17109	0	0.01449
2,690 < Q_s ≤ 4,040	25.34528	0.12042	0.09030	-0.17109	0	0.01775
DESIGN CATEGORY C. FOR NONHALOGENATED PROCESS VENT STREAMS, IF 0.48 < NET HEATING VALUE (MJ/scm) ≤ 1.9: Q_s =Vent Stream Flow Rate (scm/min)						
14.2 < Q_s ≤ 1,340	9.25233	0.06105	0.31937	-0.16181	0	0.01025
1,340 < Q_s ≤ 2,690	18.36383	0.06635	0.31937	-0.16181	0	0.01449
2,690 < Q_s ≤ 4,040	27.47492	0.06985	0.31937	-0.16181	0	0.01775
DESIGN CATEGORY D. FOR NONHALOGENATED PROCESS VENT STREAMS, IF 1.9 < NET HEATING VALUE (MJ/scm) ≤ 3.6: Q_s =Vent Stream Flow Rate (scm/min)						
14.2 < Q_s ≤ 1,180	6.67868	0.06943	0.02582	0	0	0.01025
1,180 < Q_s ≤ 2,370	13.21633	0.07546	0.02582	0	0	0.01449
2,370 < Q_s ≤ 3,550	19.75398	0.07922	0.02582	0	0	0.01755
DESIGN CATEGORY E. FOR NONHALOGENATED PROCESS VENT STREAMS, IF NET HEATING VALUE (MJ/scm) > 3.6: Y_s =Dilution Flow Rate (scm/min)=(Q_s)(H_T)/3.6						
14.2 < Y_s ≤ 1,180	6.67868	0	0	-0.00707	0.02220	0.01025
1,180 < Y_s ≤ 2,370	13.21633	0	0	-0.00707	0.02412	0.01449
2,370 < Y_s ≤ 3,550	19.75398	0	0	-0.00707	0.02533	0.01755

(ii) For a vent stream flow rate (scm/min) at a standard temperature of 20 °C that is less than 14.2 scm/min:
 TRE=TRE index value.
 $Q_s=14.2$ scm/min.
 $H_T=(FLOW)(HVAL)/14.2$
 where the following inputs are used:
 FLOW=Vent stream flow rate (scm/min), at a standard temperature of 20 °C.

HVAL=Vent stream net heating value (MJ/scm), where the net enthalpy per mole of vent stream is based on combustion at 25 °C and 760 mm Hg, but the standard temperature for determining the volume corresponding to one mole is 20 °C as in definition of Q_s .
 $Y_s=14.2$ scm/min for all vent streams except for Category E vent streams, where $Y_s=(14.2)(H_T)/3.6$.

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E_{TOC} —Hourly emissions of TOC reported in kg/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.

(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_{TOC} —Hourly emission rate of TOC reported in kg/hr.

Q_s —Vent stream flow rate (scm/min) at a standard temperature of 20 °C.

H_T —Vent stream net heating value (MJ/scm) where the net enthalpy per mole of offgas

is based on combustion at 25 °C and 760 mm Hg, but the standard temperature for determining the volume corresponding to one mole is 20 °C as in the definition of Q_s .

a, b, c, d, and e are coefficients. The set of coefficients that apply to a vent stream can be obtained from Table 2.

TABLE 2—TOTAL RESOURCE EFFECTIVENESS COEFFICIENTS FOR VENT STREAMS CONTROLLED BY A FLARE SUBJECT TO THE NEW SOURCE PERFORMANCE STANDARDS FOR REACTOR PROCESSES

	a	b	c	d	e
$H_T < 11.2$ MJ/scm	2.25	0.288	-0.193	-0.0051	2.08
$H_T \geq 11.2$ MJ/scm	0.309	0.0619	-0.0043	-0.0034	2.08

(f) Each owner or operator of an affected facility seeking to comply with §60.700(c)(2) or §60.702(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 on 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 §60.704 in order to determine compliance with §60.702 (a) or (b). 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 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 §60.704 and shall comply with §60.703, §60.704 and §60.705. 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.

(g) Any owner or operator subject to the provisions of this subpart seeking to demonstrate compliance with §60.700(c)(4) shall use Method 2, 2A, 2C, or 2D of appendix A to 40 CFR part 60, as appropriate, for determination of volumetric flow rate.

(h) Each owner or operator seeking to demonstrate that a reactor process vent stream has a TOC concentration for compliance with the low concentration exemption in §60.700(c)(8) shall conduct an initial test to measure TOC concentration.

(1) The sampling site shall be selected as specified in paragraph (d)(1)(1) of this section.

(2) Method 18 or Method 25A of part 60, appendix A shall be used to measure concentration.

(3) Where Method 18 is used to qualify for the low concentration exclusion in § 60.700(c)(8), the procedures in § 60.704(b)(4) (i) and (iv) shall be used to measure TOC concentration, and the procedures of § 60.704(b)(3) shall be used to correct the TOC concentration to 3 percent oxygen. To qualify for the exclusion, the results must demonstrate that the concentration of TOC, corrected to 3 percent oxygen, is below 300 ppm by volume.

(4) Where Method 25A is used, the following procedures shall be used to calculate ppm by volume TOC concentration, corrected to 3 percent oxygen:

(i) Method 25A shall be used only if a single organic compound is greater than 50 percent of total TOC, by volume, in the reactor process vent stream. This compound shall be the principal organic compound.

(ii) The principal organic compound may be determined by either process knowledge or test data collected using an appropriate EPA Reference Method. Examples of information that could constitute process knowledge include calculations based on material balances, process stoichiometry, or previous test results provided the results are still relevant to the current reactor process vent stream conditions.

(iii) The principal organic compound shall be used as the calibration gas for Method 25A.

(iv) The span value for Method 25A shall be 300 ppmv.

(v) Use of Method 25A 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.

(vi) The owner or operator shall demonstrate that the concentration of TOC including methane and ethane measured by Method 25A, corrected to 3 percent oxygen, is below 150 ppm by volume to qualify for the low concentration exclusion in § 60.700(c)(8).

(vii) The concentration of TOC shall be corrected to 3 percent oxygen using the procedures and equation in paragraph (b)(3) of this section.

[58 FR 45962, Aug. 31, 1993, as amended at 60 FR 58238, Nov. 27, 1995; 65 FR 61778, Oct. 17, 2000]

§ 60.705 Reporting and recordkeeping requirements.

(a) Each owner or operator subject to § 60.702 shall notify the Administrator of the specific provisions of § 60.702 (§ 60.702 (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 § 60.702 with which he or she will comply, then the Administrator shall be notified by the owner or operator 90 days before implementing a change and, upon implementing the change, a performance test shall be performed as specified by § 60.704 no later than 180 days from initial start-up.

(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 or where the reactor process vent stream is introduced as the primary fuel to any size boiler or process heater to comply with § 60.702(a), a report containing performance test data need not be submitted, but a report containing the information in § 60.705(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 combustion 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 § 60.702(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

(1) The percent reduction of TOC determined as specified in § 60.704(b) achieved by the incinerator, or the concentration of TOC (ppmv, by compound) determined as specified in § 60.704(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 § 60.702(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 § 60.702(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 § 60.702(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 § 60.705(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 § 60.703 (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 § 60.702(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 § 60.702(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 § 60.702(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 bed during the most recent performance test at which compliance with § 60.702(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 § 60.702(a) was determined for boilers or process heaters with a design heat input capacity of less than 44 MW (150 million Btu/hr) where the vent stream is introduced with the combustion air or as a secondary fuel.

(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 § 60.702(a).

(d) Each owner or operator subject to the provisions of this subpart shall keep records of the following:

(1) Up-to-date, readily accessible continuous records of the flow indication specified under § 60.703(a)(2)(i), § 60.703(b)(2)(i) and § 60.703(c)(1)(i), as well as up-to-date, readily accessible records of all periods and the duration when the vent stream is diverted from the control device.

(2) Where a seal mechanism is used to comply with § 60.703(a)(2)(ii), § 60.703(b)(2)(ii), and § 60.703(c)(1)(ii), a record of continuous flow is not required. In such cases, the owner or operator shall keep up-to-date, readily accessible records of all monthly visual inspections of the seals as well as readily accessible records of all periods and the duration when the seal mechanism is broken, the bypass line valve position has changed, the serial number of the broken car-seal has changed, or when the key for a lock-and-key type configuration has been checked out.

(e) 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 § 60.703(b), as well as up-to-date, readily accessible records of all periods of operations in which the pilot flame is absent.

(f) 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 § 60.703(d), 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 § 60.702(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 or 5 °C greater, whichever is less stringent, 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.

(g) Each owner or operator of an affected facility subject to the provisions of this subpart and seeking to demonstrate compliance with § 60.702(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 reactors;

(2) Any recalculation of the TRE index value performed pursuant to § 60.704(f); and

(3) The results of any performance test performed pursuant to the methods and procedures required by § 60.704(d).

(h) 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 § 60.700(c)(4) shall keep up-to-date, readily accessible records to indicate that the vent stream flow rate is less than 0.011 scm/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.

(i) 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 § 60.700(c)(3) 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.

(j) Each owner or operator of an affected facility that seeks to comply with the requirements of this subpart by complying with the low concentration exemption in § 60.700(c)(8) shall keep up-to-date, readily accessible records of any change in equipment or process operation that increases the concentration of the vent stream of the affected facility.

(k) Each owner or operator subject to the provisions of this subpart is exempt from the quarterly reporting requirements contained in § 60.7(c) of the General Provisions.

(l) Each owner or operator that seeks to comply with the requirements of this subpart by complying with the requirements of § 60.700 (c)(2), (c)(3), or (c)(4) or § 60.702 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 § 60.705 (c), (f), and (g).

(2) All periods and duration recorded under § 60.705(d) when the vent stream is diverted from the control device to the atmosphere.

(3) All periods recorded under § 60.705(f) in which the pilot flame of the flare was absent.

(4) Any change in equipment or process operation that increases the operating vent stream flow rate above the low flow exemption level in § 60.700(c)(4), including a measurement of the new vent stream flow rate, as recorded under § 60.705(i). These must be reported as soon as possible after the change and no later than 180 days after

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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 within the same time period to verify the recalculated flow value and to obtain the vent stream characteristics of heating value and E_{TOC} . The performance test is subject to the requirements of § 60.8 of the General Provisions. Unless the facility qualifies for an exemption under any of the exemption provisions listed in § 60.700(c), except for the total resource effectiveness index greater than 8.0 exemption in § 60.700(c)(2), the facility must begin compliance with the requirements set forth in § 60.702.

(5) Any change in equipment or process operation, as recorded under paragraph (l) of this section, that increases the design production capacity above the low capacity exemption level in § 60.700(c)(3) and the new capacity resulting from the change for the reactor 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 submitted 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_{TOC} . The performance test is subject to the requirements of § 60.8. The facility must begin compliance with the requirements set forth in § 60.702 or § 60.700(d). If the facility chooses to comply with § 60.702, the facility may qualify for an exemption under § 60.700(c)(2), (4), or (8).

(6) Any recalculation of the TRE index value, as recorded under § 60.705(g).

(7) All periods recorded under § 60.705(d) in which the seal mechanism is broken or the by-pass line valve position has changed. A record of the serial number of the car-seal or a record to show that the key to unlock the bypass line valve was checked out must be maintained to demonstrate the period, the duration, and frequency in which the bypass line was operated.

(8) Any change in equipment or process operation that increases the vent stream concentration above the low

concentration exemption level in § 60.700(c)(8), including a measurement of the new vent stream concentration, as recorded under § 60.705(j). 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. If the vent stream concentration is above 300 ppmv as measured using Method 18 or above 150 ppmv as measured using Method 25A, a performance test must be completed within the same time period to obtain the vent stream flow rate, heating value, and E_{TOC} . The performance test is subject to the requirements of § 60.8 of the General Provisions. Unless the facility qualifies for an exemption under any of the exemption provisions listed in § 60.700(c), except for the TRE index greater than 8.0 exemption in § 60.700(c)(2), the facility must begin compliance with the requirements set forth in § 60.702.

(m) The requirements of § 60.705(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 § 60.705(l), provided that they comply with the requirements established by the State.

(n) Each owner or operator that seeks to demonstrate compliance with § 60.700(c)(3) 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 § 60.700(c)(4) must submit to the Administrator an initial report including a flow rate measurement using the test methods specified in § 60.704.

(p) Each owner or operator that seeks to demonstrate compliance with § 60.700(c)(8) must submit to the Administrator an initial report including a concentration measurement using the test method specified in § 60.704.

(q) The Administrator will specify appropriate reporting and record-keeping requirements where the owner

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or operator of an affected facility complies with the standards specified under § 60.702 other than as provided under § 60.703 (a), (b), (c), and (d).

(r) Each owner or operator whose reactor process vent stream is routed to a distillation unit subject to subpart NNN and who seeks to demonstrate compliance with § 60.700(c)(5) shall submit to the Administrator a process design description as part of the initial report. This process design description must be retained for the life of the process. No other records or reports would be required unless process changes are made.

(s) Each owner or operator who seeks to demonstrate compliance with § 60.702 (a) or (b) using a control device must maintain on file a schematic diagram of the affected vent streams, collection system(s), fuel systems, control devices, and bypass systems as part of the initial report. This schematic diagram must be retained for the life of the system.

(t) Each owner or operator that seeks to demonstrate compliance with § 60.700(c)(2) must maintain a record of the initial test for determining the total resource effectiveness index and the results of the initial total resource effectiveness index calculation.

[58 FR 45962, Aug. 31, 1993, as amended at 60 FR 58238, Nov. 27, 1995; 65 FR 78279, Dec. 14, 2000]

§ 60.706 Reconstruction.

(a) 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 to all continuous programs of component replacement which are commenced within any 2-year period following June 29, 1990. 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.

(b) [Reserved]

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Chemical	CAS No. ¹
Acetaldehyde	75-07-0
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.	
Alcohols, C-12 or higher, unmixed.	
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 ₁₀₋₁₆ -alkyl derivatives, sodium salts	68081-81-2
Benzyl chloride	100-44-7
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
tert-Butyl hydroperoxide	75-91-2
2-Butyne-1,4-diol	110-65-6
Butyraldehyde	123-72-8
Butyric anhydride	106-31-0
Caprolactam	105-60-2
Carbon disulfide	75-15-0
Carbon tetrachloride	56-23-5
Chloroacetic acid	79-11-8
Chlorobenzene	108-90-7
Chlorodifluoromethane	75-45-6
Chloroform	67-68-3
p-Chloronitrobenzene	100-00-5
Citric acid	77-92-9
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
Cyclopropane	75-19-4
Diacetone alcohol	123-42-2
1,4-Dichlorobutene	110-57-6
3,4-Dichloro-1-butene	64037-54-3
Dichlorodifluoromethane	75-71-8
Dichlorodimethylsilane	75-78-5
Dichlorofluoromethane	75-43-4
Diethanolamine	111-42-2
Diethylbenzene	25340-17-4
Diethylene glycol	111-46-6
Diisodecyl phthalate	26761-40-0

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Chemical	CAS No. ¹
Dimethyl terephthalate	120-61-6
2,4-(and 2,6)-dinitrotoluene	121-14-2
.....	606-20-2
Dioctyl phthalate	117-81-7
Dodecene	25378-22-7
Dodecylbenzene, nonlinear.	
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
Ethylene	74-85-1
Ethylene dibromide	106-93-4
Ethylene dichloride	107-06-2
Ethylene glycol	107-21-1
Ethylene glycol monobutyl ether	111-76-2
Ethylene glycol monoethyl ether acetate	111-15-9
Ethylene glycol monomethyl ether	109-86-4
Ethylene oxide	75-21-8
2-Ethylhexyl alcohol	104-76-7
(2-Ethylhexyl) amine	104-75-6
6-Ethyl-1,2,3,4-tetrahydro	9,10-
anthracenedione	15547-17-8
Formaldehyde	50-00-0
Glycerol	56-81-5
n-Heptane	142-82-5
Heptenes (mixed).	
Hexamethylene diamine	124-09-4
Hexamethylene diamine adipate	3323-53-3
Hexamethylenetetramine	100-97-0
Hexane	110-54-3
Isobutane	75-28-5
Isobutanol	78-83-1
Isobutylene	115-11-7
Isobutyraldehyde	78-84-2
Isopentane	78-78-4
Isoprene	78-79-5
Isopropanol	67-63-0
Ketene	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
Maleic anhydride	108-31-6
Mesityl oxide	141-79-7
Methanol	67-56-1
Methylamine	74-39-5
ar-Methylbenzenediamine	25376-45-8
Methyl chloride	74-87-3
Methylene chloride	75-09-2
Methyl ethyl ketone	78-93-3
Methyl isobutyl ketone	108-10-1
Methyl methacrylate	80-62-6
1-Methyl-2-pyrrolidone	872-50-4
Methyl tert-butyl ether.	
.....	91-20-3
Naphthalene	98-95-3
Nitrobenzene	27215-95-8
1-Nonene	143-08-8
Nonyl alcohol	25154-52-3
Nonylphenol	9016-45-9
Nonylphenol, ethoxylated	25377-83-7
Octene	115-77-5
Oil-soluble petroleum sulfonate, calcium salt.	
Pentaerythritol	4635-87-4
3-Pentenenitrile	109-67-1
Pentenes, mixed	127-18-4
Perchloroethylene	108-95-2
Phenol	3071-32-7
1-Phenylethyl hydroperoxide	

Chemical	CAS No. ¹
Phenylpropane	103-65-1
Phosgene	75-44-5
Phthalic anhydride	85-44-9
Propane	74-98-6
Propionaldehyde	123-38-6
Propyl alcohol	71-23-8
Propylene	115-07-1
Propylene glycol	57-55-6
Propylene oxide	75-56-9
Sorbitol	50-70-4
Styrene	100-42-5
Terephthalic acid	100-21-0
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 (60/20	
mixture)	26471-62-5
1,1,1-Trichloroethane	71-55-6
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

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.

[58 FR 45962, Aug. 31, 1993, as amended at 60 FR 58238, Nov. 27, 1995]

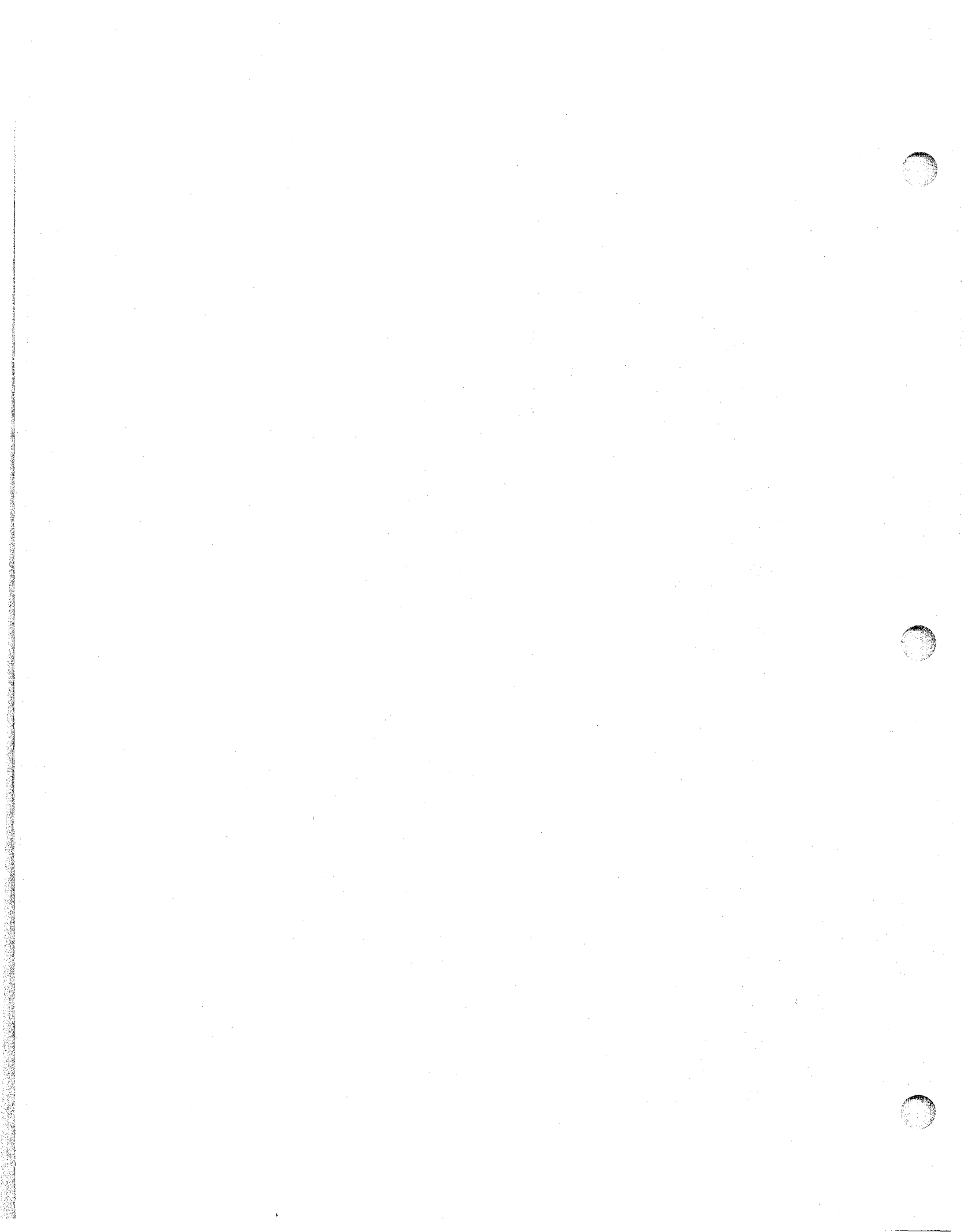
§ 60.708 Delegation of authority.

(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: § 60.703(e).

Subpart SSS—Standards of Performance for Magnetic Tape Coating Facilities

SOURCE: 53 FR 38914, Oct. 3, 1988, unless otherwise noted.



[69 FR 5063, Feb. 3, 2004, as amended at 71 FR 20463, Apr. 20, 2006]

**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 product 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 or chemicals 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 or chemicals 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 produces 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 (6) 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 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 a polymer into its end use.

(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.

(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 November 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(1).

§ 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, the CMPU meets the requirements for reconstruction in § 63.100(l)(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

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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 schedule in § 63.2515 and in 40 CFR part 63, subpart A. 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.

[68 FR 63888, Nov. 10, 2003, as amended at 71 FR 10442, Mar. 1, 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.

(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) 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.

(e) 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.

(f) 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).

(g) *Requirements for performance tests.* The requirements specified in paragraphs (g)(1) through (6) 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, 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.

(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 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 1 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 cali-

bration 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 (C₁), 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 C₁. Use Method 18, ASTM D6420-99, or any approved alternative as the reference method for the relative accuracy tests, and report the results as C₁.

(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 (4) 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)(i)(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 measuring pH as specified in § 63.994(c)(1)(i), you may elect to continuously monitor the caustic strength of the scrubber effluent.

(4) As an alternative to the inlet and outlet temperature monitoring requirements for catalytic incinerators as specified in § 63.988(c)(2), you may elect to comply with the requirements specified in paragraphs (k)(4)(i) through (iii) of this section.

(i) Monitor 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.

(1) *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 sub-

mitted 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 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]

§ 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 (4) of this section.

(1) To calculate emissions caused by the heating of a vessel 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, 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_{system} = absolute pressure of receiving vessel;

P_i = partial pressure of the HAP at the receiver temperature;

P_j = partial pressure of condensable (including HAP) at the receiver temperature;

MW_i = molecular weight of the individual HAP in the emission stream, with HAP partial pressures calculated at the temperature of the receiver.

(4) 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)(4)(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 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.

(c) Exceptions to the requirements in subpart SS of this part 63 are specified in paragraphs (c)(1) through (7) of this section.

(1) *Process condensers.* Process condensers, as defined in § 63.1251, are not considered to be control devices for batch process vents.

(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 for a condenser, you may determine controlled emissions using the procedures specified in § 63.1257(d)(3)(i)(B).

(iv) When § 63.1257(d)(3)(1)(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) You must demonstrate that each process condenser is properly operated according to the procedures specified in § 63.1257(d)(2)(i)(C)(4)(i) and (d)(3)(iii)(B). 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) *Periodic verification.* 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.

(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.

[68 FR 63888, Nov. 10, 2003, as amended at 70 FR 38559, July 1, 2005]

§ 63.2465 What requirements must I meet for process vents that emit hydrogen halide and halogen HAP or PM HAP?

(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 (ii).

(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 particulate matter (PM) HAP emission limit for new sources in Table 3 to this subpart, you must comply with paragraphs (d)(1) and (2) of this section.

(1) Use Method 5 of appendix A of 40 CFR part 60 to determine the concentration of PM HAP at the inlet and outlet of a control device.

(2) Comply with the monitoring requirements specified in § 63.1366(b)(1)(xi) for each fabric filter used to control PM HAP emissions.

§ 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

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specified in paragraphs (b) through (e) of this section.

(b) If you reduce organic HAP emissions by venting emissions to a fuel gas system or process, you must meet the requirements of § 63.982(d) and the requirements referenced therein.

(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 and reloading facility must comply with §§ 63.2445 through 63.2550 instead of complying with § 63.1253(f)(7)(ii).

(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]

§ 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.

(c) If you reduce organic HAP emissions by venting emissions to a fuel gas system or process, you must meet the requirements of § 63.982(d) and the requirements referenced therein.

§ 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) and (c) of this section.

(b) The requirements for pressure testing in § 63.1036(b) may be applied to all processes, not just batch processes.

(c) For the purposes of this subpart, pressure testing for leaks in accordance with § 63.1036(b) is not required after reconfiguration of an equipment train if flexible hose connections are the only disturbed equipment.

§ 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 (l) 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 50 ppmw, and the combined total annual average concentration of compounds in Tables 8 and 9 to this subpart is greater than or equal to 10,000 ppmw at any flowrate.

(2) The total annual average concentration of compounds Table 8 to this subpart is greater 50 ppmw, the combined total annual average concentration of compounds in Tables 8 and 9 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 total annual average concentration of compounds in Table 8 to this subpart is less than or equal to 50 ppmw, the total annual average concentration of compounds in Table 9 to this subpart is greater than or equal to 30,000 ppmw at an existing source or greater than or equal to 4,500 ppmw at a new source, and the total annual load of compounds in Table 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 PFFF.

(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 §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.

(1) 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 av-

erage 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).

(1) *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(1) (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.

[68 FR 63888, Nov. 10, 2003, as amended at 70 FR 38559, July 1, 2005]

§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 to this subpart for all HAP that are generated in the MCPU and

that are not included in consumption, as defined in § 63.2550. 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 demonstra-

tion 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.

§ 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

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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)

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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 report-

ing 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 semiannual 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).

(5) The pollution prevention demonstration plan required in

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§ 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 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(i)(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), and (iii) 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

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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 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 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.

(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(1)(4) and records of primary product redeterminations as specified in § 63.2525(1)(5).

(9) Applicable records and information for periodic reports as specified in referenced subparts F, G, SS, TT, UU, WW, and GGG of this part 63.

(10) *Notification of process change.* (1) Except as specified in paragraph (e)(10)(11) of this section, whenever you make a process change, or change any of the information submitted in the notification of compliance status 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. The notification must include all of the

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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.

(i) 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.

[68 FR 63888, Nov. 10, 2003, as amended at 70 FR 38560, July 1, 2005]

§ 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, TT, UU, WW, and GGG of this part 63.

(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 updated each time a different operating scenario is put into operation.

(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 paragraphs (e)(1) through (4) of this section 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 record is required if you documented in the notification of compliance status report that the MCPU does not process, use, or produce HAP.

(1) A record of the day each batch was completed.

(2) A record of whether each batch operated was considered a standard batch.

(3) The estimated uncontrolled and controlled emissions for each batch that is considered to be a nonstandard batch.

(4) 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 (1)(1) through (5) of this section.

(1) Descriptions of the MCPU and other process units in the initial PUG required by § 63.2535(1)(1)(v).

(2) Rationale for including each MCPU and other process unit in the initial PUG (*i.e.*, identify the overlapping equipment between process units) required by § 63.2535(1)(1)(v).

(3) Calculations used to determine the primary product for the initial PUG required by § 63.2535(1)(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(1)(1)(v).

(5) The calculation of each primary product redetermination required by § 63.2535(1)(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]

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 (1) 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.* 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 CMPU and associated equipment.

(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 waste-

water 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 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 (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 re-

quirements 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. Alternatively, if you have an affected source with no continuous process vents and 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 comply with 40 CFR part 60, subpart VV or 40 CFR part 61, subpart V, as applicable, for all such equipment.

(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 (1)(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 (1)(1)(1) 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 (1)(1)(i) of this section, provided they satisfy the criteria specified in paragraphs (1)(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 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 (1)(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 (1)(1)(i) and (ii) of this section. As an alternative to the procedures specified in paragraphs (1)(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 (1)(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 (1)(1) of this section according to the procedures specified in paragraphs (1)(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 (1)(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 (1)(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 (1)(2)(i) and (ii) of this section every 5 years.

(iv) You must record the calculation of the initial primary product deter-

mination 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.

§ 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.

Environmental Protection Agency

§ 63.2550

§ 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 subpart TT of this part 63, the terms used in this subpart and in subpart TT of this part 63 have the meaning given them in § 63.1001.

(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, § 63.1001, § 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 or less than 200 lb/yr. 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); equations specified in § 63.1257(d)(2)(i), as applicable; 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 63.

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 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.
- 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.

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 with a total resource effectiveness index value, calculated according to § 63.2455(b), that is less than 1.9 at an existing source and less than 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 § 63.2435(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.

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).

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.

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.

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 nonstandard 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.

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 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 for reuse in a process at the affected source and from wastewater streams 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 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 separa-

tion 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 immediately preceding continuous reactors, air-oxidation reactors, or distillation operations. 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 reactors, air-oxidation reactors, or distillation 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 through a single

POD and that contains either: an annual average concentration of compounds in Table 8 or 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 Table 8 or 9 to this subpart of at least 10,000 ppmw at any flowrate. 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]

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 a closed-vent system to any combination of control devices (except a flare); or	Not applicable.

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.	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 a closed-vent system to any combination of recovery devices; or	Not applicable.
	c. For all batch process vents within the process that are not controlled by venting through a closed-vent system to a flare or to any other combination of control devices that reduce total organic HAP to an outlet concentration ≤ 20 ppmv as TOC or total organic HAP, reduce organic HAP emissions by venting emissions from a sufficient number of the vents through a closed-vent system to any combination of recovery devices that reduce collective emissions by ≥ 95 percent by weight and/or any combination of control devices that reduce collective emissions by ≥ 98 percent by weight.	Not applicable.
	a. Use a halogen reduction device after the combustion control device; or	i. Reduce overall emissions of hydrogen halide and halogen HAP by ≥ 99 percent; or
	b. Use a halogen reduction device before the combustion control device.	ii. Reduce overall emissions of hydrogen halide and halogen HAP to ≤ 0.45 kg/hr; or
		iii. Reduce overall emissions of hydrogen halide and halogen HAP to a concentration ≤ 20 ppmv.
		Reduce the halogen atom mass emission rate to ≤ 0.45 kg/hr or to a concentration ≤ 20 ppmv.

TABLE 3 TO SUBPART FFFF OF PART 63—EMISSION LIMITS FOR HYDROGEN HALIDE AND HALOGEN HAP EMISSIONS OR PM HAP 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.	Reduce collective hydrogen halide and halogen HAP emissions by ≥ 99 percent by weight or to an outlet concentration < 20 ppmv by venting through a closed-vent system to any combination of control devices.
2. Process at a new source with uncontrolled PM HAP emissions from process vents ≥ 400 lb/yr.	Reduce overall PM HAP emissions by ≥ 97 percent by weight.

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 . . .	a. The maximum true vapor pressure of total HAP at the storage temperature is ≥ 76.6 kilopascals.	i. Reduce total HAP emissions by ≥ 95 percent by weight or to ≤ 20 ppmv of TOC or organic HAP and ≤ 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
	b. The maximum true vapor pressure of total HAP at the storage temperature is ≤ 76.6 kilopascals.	ii. Reduce total organic HAP emissions by venting emissions through a closed vent system to a flare; or
		iii. Reduce total HAP emissions by venting emissions to a fuel gas system or process.
		i. Comply with the requirements of subpart WW of this part, except as specified in §63.2470; or
		ii. Reduce total HAP emissions by ≥ 95 percent by weight or to < 20 ppmv of TOC or organic HAP and < 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

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.	iv. Reduce total HAP emissions by venting emissions to a fuel gas system or process. Meet one of the emission limit options specified in Item 2.a.i or ii. in Table 1 to this subpart.

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	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 b. Reduce emissions of total organic HAP by venting emissions through a closed-vent system to a flare; or c. Reduce emissions of total organic HAP by venting emissions to a fuel gas system or process; or 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.
2. Halogenated Group 1 transfer rack vent stream for which you use a combustion device to control organic HAP emissions.	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 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.

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 at an existing source.	a. An MCPU with no continuous process vents. b. An MCPU with at least one continuous process vent.	i. Comply with the requirements of subpart TT of this part 63 and the requirements referenced therein; or ii. Comply with the requirements of subpart UU of this part 63 and the requirements referenced therein; or iii. Comply with the requirements of 40 CFR part 65, subpart F.
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.

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. 2-Butanone (MEK)	78933
11. 1,4-Dichlorobenzene	106467
12. 2-Nitropropane	79469
13. 4-Methyl-2-pentanone (MIBK)	108101
14. Acetaldehyde	75070
15. Acrolein	107028
16. Acrylonitrile	107131
17. Allyl chloride	107051
18. Benzene	71432
19. Benzyl chloride	100447
20. Biphenyl	92524
21. Bromoform (tribromomethane)	75252
22. Bromomethane	74839
23. Butadiene	106990
24. Carbon disulfide	75150
25. Chlorobenzene	108907
26. Chloroethane (ethyl chloride)	75003
27. Chloroform	67663
28. Chloromethane	74873
29. Chloroprene	126998
30. Cumene	98828
31. Dichloroethyl ether	111444
32. Dinitrophenol	51285
33. Epichlorohydrin	106898
34. Ethyl acrylate	140885
35. Ethylbenzene	100414
36. Ethylene oxide	75218
37. Ethylidene dichloride	75343
38. Hexachlorobenzene	118741
39. Hexachlorobutadiene	87683
40. Hexachloroethane	67721
41. Methyl methacrylate	80626
42. Methyl-t-butyl ether	1634044
43. Methylene chloride	75092
44. N-hexane	110543
45. N,N-dimethylaniline	121697
46. Naphthalene	91203
47. Phosgene	75445
48. Propionaldehyde	123386
49. Propylene oxide	75569
50. Styrene	100425
51. Tetrachloroethylene (perchloroethylene)	127184
52. Tetrachloromethane (carbon tetrachloride)	56235
53. Toluene	108883
54. Trichlorobenzene (1,2,4-)	120821
55. Trichloroethylene	79016
56. Trimethylpentane	540841
57. Vinyl acetate	108054
58. Vinyl chloride	75014
59. Xylene (m)	108383
60. Xylene (o)	95476
61. Xylene (p)	106423

[68 FR 63888, Nov. 10, 2003, as amended at 70 FR 38560, July 1, 2005]

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. Tolidine (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:

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.

Citation	Subject	Explanation
§ 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(j)(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	No. CMS requirements are specified in referenced subparts G and SS of this part 63.
§ 63.8(c)(4)(i)-(ii)		Only for the alternative standard, but § 63.8(c)(4)(i) does not apply because the alternative standard does not require continuous opacity monitoring systems (COMS).
§ 63.8(c)(5)	COMS Minimum Procedures	No. Subpart FFFF does not contain opacity or VE limits.
§ 63.8(c)(6)	CMS Requirements	Only for the alternative standard in § 63.2505.
§ 63.8(c)(7)-(8)	CMS Requirements	Only for the alternative standard in § 63.2505. Requirements for CPMS are specified in referenced subparts G and SS of this part 63.
§ 63.8(d)	CMS Quality Control	Only for the alternative standard in § 63.2505.
§ 63.8(e)	CMS Performance Evaluation	Only for the alternative standard in § 63.2505, but § 63.8(e)(5)(ii) does not apply because the alternative standard 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.

Environmental Protection Agency

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Citation	Subject	Explanation
§ 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 the alternative standard in § 63.2505.
§ 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 the alternative standard in § 63.2505.
§ 63.10(b)(2)(xiv)	Records	Yes.
§ 63.10(b)(3)	Records	Yes.
§ 63.10(c)(1)-(6), (9)-(15)	Records	Only for the alternative standard in § 63.2505.
§ 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.
§ 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)-(2)	Additional CMS Reports	Only for the alternative standard, but § 63.10(e)(2)(ii) does not apply because the alternative standard 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.

Citation	Subject	Explanation
§ 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]

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;
- (v) Rapeseed (for example, canola);
- (vi) Safflower;
- (vii) Soybean; and
- (viii) Sunflower.

(b) You are not subject to this subpart if your vegetable oil production process meets any of the criteria listed in paragraphs (b)(1) through (4) of this section:

(1) It uses only mechanical extraction techniques that use no organic solvent to remove oil from a listed oilseed.

(2) It uses only batch solvent extraction and batch desolventizing equipment.

(3) It processes only agricultural products that are not listed oilseeds as defined in § 63.2872.

(4) It functions only as a research and development facility and is not a major source.

(c) As listed in § 63.1(c)(5) of the General Provisions, if your HAP emissions increase such that you become a major source, then you are subject to all of the requirements of this subpart.

§ 63.2833 Is my source categorized as existing or new?

(a) This subpart applies to each existing and new affected source. You must categorize your vegetable oil production process as either an existing or a new source in accordance with the criteria in Table 1 of this section, as follows:



CERTIFICATE OF SERVICE

I, Cynthia Hook, hereby certify that a copy of this permit has been mailed by first class mail to
Ciba Speciality Chemicals Corporation, 100 Bridgeport Road Industrial Park, West Memphis,
AR, 72301, on OCT 17 2007.

A handwritten signature in black ink, appearing to read 'C Hook', written over a horizontal line.

Cynthia Hook, AAIL, Air Division

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