RESPONSE TO COMMENTS

U.S. Army, Pine Bluff Arsenal
AFIN: 35-00116
Permit #: 1113-AOP-R4

On November 28, 2008 and December 4, 2008 the Director of the Arkansas Department of Environmental Quality gave notice of a draft permitting decision for the above referenced facility. During the comment period, one interested party submitted written comments, data, views, or arguments on the draft permitting decision. The Department's response to these issues is as follows:

<u>Comments on Arsenal Emissions Sources</u>

Comment 1:
Global Comment
Replace "Nonstockpile" with "Non-Stockpile" throughout this document.

Response 1:
The Department will make the change as requested.

Comment 2:
Pg 3, CBPS
Replace "(Motor Pool)" with "(ChemBio Defense)". This operation has been moved into another directorate at the PBA.

Response 2:
The Department will make the change as requested.

Comment 3:
Pg 3, CPDepmeds
Replace "(Motor Pool)" with "(ChemBio Defense)". This operation has been moved into another directorate at the PBA.

Response 3:
The Department will make the change as requested.

Comment 4:
Pg 4, M12A1
Replace "(Motor Pool)" with "(ChemBio Defense)". This operation has been moved into another directorate at the PBA.

Response 4:
The Department will make the change as requested.

Comment 5:
Pg 5, PBMAS
Delete "PBMAS Pine Bluff Munitions Assessment System (Nonstockpile)". This source has completed all operations and has been physically removed.

Response 5:
The Department will make the change as requested.

Comment 6:
Pg 5, POM
Delete "POM Polycyclic Organic Matter (QAT)". EPA approved data has been submitted to ADEQ documenting that none of the HAPs present in the emissions are POM.

Response 6:
The Department will remove POM from the List of Acronyms and Abbreviations as requested.

Comment 7:
Pg 8, Summary of Permit Actions
Add a statement indicating that this permit will reduce permitted HAP emissions below the major source threshold.

Response 7:
The Department will add the following statement to the Summary of Permit Activity as clarification.

> This permit modification will bring the facility's HAP emissions below the HAP major source threshold.

Comment 8:
Pg 15, Emission Summary Table
Please remove the entry for the CIC shredders from the emission summary table, as the shredders have been classified as insignificant activities.

Response 8:
The Department will make the correction as requested and add the following statement to the Central Incinerator Complex source description.

The shredders are listed as insignificant activities under group A-13.

Comment 9:
Pg 16, 32-630
Delete "POM" and associated emission limits. A copy of draft US EPA AP-42 section 15.5 is included with these comments. This AP-42 section provides detailed emission factors for the various grenades that are produced at the Pine Bluff Arsenal (PBA). Pollutant-specific emission factors are provided for a number of HAP and toxic compounds. None of the indicated compounds are classified as polycyclic organic matter (POM). Additional detail and supporting documentation can be found within the QAT section of the Title V Permit renewal application which was submitted to ADEQ in August of 2008.

Response 9:
The Department will remove the POM emission limits for Source Number 32-630 and replace them with a Single HAP limit of 2.30 lb/hr and 8.40 tpy for the PBA Arsenal Production HAP limit and Any Combination of HAPs limit of 5.43 lb/hr and 18.7 tpy for the PBA Arsenal Production limit.

Comment 10:
Pg 42, White Phosphorus Facility, 1st ¶, last line
Replace "production are;" with "production area;"

Response 10:
The Department will make the correction as requested.

Comment 11:
Pg 43, SC AOS-3
PBA respectfully requests that the opacity limit for the scrubber on the new lines at the WP plant be increased to 20%. The new White Phosphorous Facility is currently under construction; therefore, the associated scrubber (34-110) has yet to be placed into operation. The 5% opacity limit for this unit was overlooked by the reviewer during the comment period for 1113-AOP-R2. These lines and control equipment are new, but are substantially the same as the existing lines and should have comparable emissions / opacity. Please increase the opacity limit for the scrubber at 34-110 to 20%.

Response 11:
The Department will change the opacity to 20% with daily opacity observations.

Comment 12:
Pg 43, SC AOS-3
The diesel generator to be located at building 34-110 in the white phosphorus production area is permitted as part of SN-EMGEN with this permitting action. This unit should be removed from SC AOS-3.

Response 12:
The Department will remove the Emergency generator specific Condition AOS-3 since it is already accounted for as SN-EMGEN.

Comment 13:
Pg 43, SC AOS-4, 2nd ¶
Add the scrubber at Building 34-110 to the verbiage for the 20% opacity. (See discussion in comment #11.)

Response 13:
The Department will change the scrubber from weekly opacity observations to daily.

Comment 14:
Pg 45, SC AOS-5
Delete Silicon Dioxide and the associated daily and 12-month throughput limits. EPA approved data has been provided to ADEQ documenting that this material is not a HAP. The listed amount is requested to be added to the dry material value listed in this condition rather than a separate limit for this material.

Response 14:
Because the Silicon Dioxide contributes to the PM emissions not HAP, the Department will remove the separated Silicon Dioxide material usage limits and add the amounts to the Dry Materials usage limits as requested.

Comment 15:
Pg 45, SC AOS-5
This condition has been modified to remove daily and 12-month rolling limits for a number of compounds, as was requested in the application. Several limits were retained which are redundant with the HAP compliance requirements of Plantwide Conditions #9, #11 and #14. Please remove from SC AOS-5 the daily and 12-month rolling limits for the following: hexachloroethane, white phosphorus, and red phosphorus. Hexachloroethane and both varieties of phosphorus are HAPs and thus will demonstrate compliance with emission limitations through compliance with Plantwide Condition #11 and the dry material throughput limits in this table. It is requested to be added to the daily total dry material throughput limit found in this condition rather than listing as separate material-specific limitations.

Response 15:
Because the Hexachloroethane, white phosphorus and red phosphorus contribute to the PM emissions, the Department will remove the separate material usage limits and add the amounts to the Dry Materials usage limits as requested.

Comment 16:
Pg 45, SC AOS-5
Please remove the row for diesel fuel from the table found in this condition. Diesel is only utilized for emergency generators in the ammo operations area. All emergency generators for the arsenal operation areas are now permitted as part of SN-EMGEN.

Response 16:
The Department will remove the diesel fuel usage limit from the requested specific condition because the emergency generator is part of source SN-EMGEN.

Comment 17:
Pg 50, SC PEL-4
Please add a paragraph to this specific condition (similar to AOS-4) for the 20% opacity limit on the baghouse at building 32-720.

Response 17:
The Department will change the baghouse at building 32-720 from weekly opacity observations to daily.

Comment 18:
Pg 51, CIC Source Description
Please revise the second sentence under the heading "Car Bottom Furnace" as follows: "This system consists of a natural gas-fired furnace and a batch feed system." This system does not have a continuous feed system or an optional liquid feed system.

Response 18:
The Department will make the correction to the source description as requested.

Comment 19:
Pg 53, Shredder
Replace "shredder" with "shredders" throughout this process description. Add a statement that the shredders are listed as Insignificant Activities in section VII of this permit.

Response 19:
The Department will make the changes to the process description as requested.

Comment 20:
Pg 55, SC CIC-8
Delete "and diesel"

Response 20:
The Department will make the correction as requested.

Comment 21:
Pg 58, Source Description, 2nd ¶, line 3
Delete "and POM (polycyclic organic matter)". AP-42 data has been provided that demonstrates that emissions from QA Testing the munitions are not POM. Note: this source was originally proposed as an experimental operation due to the technology being unproven to obtain data on the munition function quality. Please add language to that effect to the process description. Language from our original application is provided below. "This chamber is being proposed as an experimental operation, as a possible method of performing batch and lot testing of munitions and pyrotechnic mixes that are currently testing in open air. We respectfully request permission to construct and operate this unit to determine whether the chamber will provide the data currently demonstrated through Open Air Testing. Upon completion of successful experimental testing, the open air testing activities in the latest revision of Title V Air Permit #1113-AOP will be modified to include the chamber as a permanent emissions unit."

Response 21:
The Department will delete POM from the process description and add the following clarifying statement.

> The Integrated Test Facility (SN-32-630) is an experimental operation, that may be a possible method of performing batch and lot testing of munitions and pyrotechnic mixes that are currently open air tested.

Comment 22:
Pg 59, SC QAT-2
Delete "POM" and associated emission limits. AP-42 data which has been provided to ADEQ demonstrates that no POM is emitted from this process. Please note: the grenades and associated emissions that will be tested in the Integrated Test Facility are identical to those tested at the other sites; however emissions from the Integrated Test Facility (when it begins operation) will be controlled by the scrubber. It would be more accurate to apply the single / combination HAP limits to this source.

Response 22:
See Response 9.

Comment 23:
Pg 59, SC QAT-4
Due to the nature of the munitions being functioned (designed as obscurant with the need for significantly dense coverage), the control technology (scrubber), and the unproven / experimental technology of the test chamber, PBA respectfully requests the opacity limit for the Integrated Test Facility be increased to 20%.

Response 23:
Due to the nature of the munitions, the Department will change the opacity limit to 20% and change the opacity observations to daily.

Comment 24:
Pg 60, SC QAT-6
Replace "Pyrotechnic Mix" with "Pyrotechnic / RP Mix" for all sources except the Bombing Mat in this table. The testing limits for RP are more stringent at the bombing mat due to air dispersion modeling results. The RP was included with pyrotechnic mix for all other sources. Please add this clarification.

Response 24:
The Department will make the correction as requested.

Comment 25:
Pg 73, Tanks, 1st ¶, line 3
Replace "tank of significant" with "tank in significant"

Response 25:
The Department will make the correction as requested.

Comment 26:
Pg 155, Compliance Plan & Schedule
Delete "individual gas meters are installed on Boilers 1 and 2 in Building 32-060 and (SN-32-060) and Boilers 1 and 2 in Building 34-125 (SN-34-125), " These meters have been installed and are operational. Notification that the "...individual meters for these NSPS boilers were installed on October 19, 2007 and were placed into operation on October 20, 2007, with records of fuel usage for each day since that time..." was made to Ms Heather Rhodes, ADEQ Air Division Enforcement Administrator, by letter on March 26, 2008.

Response 26:
The Department will make the correction as requested.

Comment 27:
Global Comment
This draft permit does not incorporate all minor modifications and administrative amendments which have been issued by ADEQ prior to the draft issuance date (Nov. 25). It is requested that ADEQ incorporate all outstanding minor modification and administrative amendment approvals which are issued prior to final issuance of this draft permit. If ADEQ does not elect to incorporate these additional minor modifications and administrative amendments into the final permit, then it is requested that a statement be added to the permit which reads as follows: "This permit incorporates all minor modifications and administrative amendments approved by ADEQ prior to (DATE). Any requirements and contained in such approvals granted by ADEQ but not incorporated into this permit modification remain in force and are not superseded by this permitting action. Where "DATE" is the date after which no further minor modifications or administrative amendments were incorporated into permit R4. It should be noted that the minor mod approval granted by ADEQ for the use of sulfur impregnated carbon (SIC) at the ton container decontamination facility contains a number of errors. The comments included with this submittal regarding the non-stockpile emission sources requests permit changes which will correct the errors made in the minor modification approval letter.

Response 27:
Approved minor modifications and administrative amendments are not rescinded because they are not incorporated into this permit modification. The minor modifications to add a 500 bph intermittent use diesel-fired air compressor to support the air instrumentation of PBCDF and to add a 6.5 hp gasoline-fired generator (3KW) for back-up power at the PBA medical clinic approved on November 17, 2008 and October 10, 2008 respectively will be included in the Title V permit renewal that is currently in house. The permit remains as written.

<u>Comments on Non-Stockpile Emission Sources</u>

Comment 28:
Emission Summary, pg. 21
TC-01/TC-02 - need to add Hg with 0.0001 lb/hr and 0.0001 tpy

Response 28:
See Response to Comment 30.

Comment 29:
Emission Summary, pg. 21
TC-06 – Hexachloroethane was not listed (0.01 lb/hr and 0.01 tpy) – previously had been listed and in application Table 2 Total Controlled Emissions Summary

Response 29:
Hexachloroethane emissions from the facility are below the reporting level so they had been removed from the permit. The permit remains as written.

Comment 30:
Emission Summary, pg. 21/22
TC-07 – delete source – not a source

Response 30:
The emissions from TC-07 are exhausted through TC-01/TC-02 so the Department will list all of the emissions from TC-07 as emissions from TC-01/TC-02 including the Hg mentioned in Comment 28.

Comment 31:
Emission Summary, pg. 22
PBEDS-04 – Emission rates incorrect for Lewisite – should be 2.53 E-10 lb/hr and 1.27 E-16 tpy

Response 31:
The Department will make the correction to the emissions as requested.

Comment 32:
Emission Summary, pg. 23
GTRSS-01- delete source – not a source per application

Response 32:
The GTRSS Mobile Chemical Lab has pollutant emissions that for the facility are above the reportable levels. The permit remains as written. The facility may submit a modification with calculations showing the pollutants are below reportable levels for the whole facility.

Comment 33:
NSCM Area Description, pg. 79

- . After Ton Container Decontamination Facility add (TCDF)
- . Put PBEDS in parenthesis and state Pine Bluff Explosive Destruction System
- . Put GTRSS in parenthesis and state German Traktor Rocket Separation System

Response 33:
The Department will make the additions requested.

Comment 34:
TCDF Source Description, pg 80

- In second paragraph, second sentence, in relation to the Environmentally Controlled Enclosure filtration system, delete "an activated charcoal" and replace with "sulfur impregnated carbon (SIC)"
- Second paragraph, second sentence, fourth line, in relation to the Environmentally Controlled Enclosure filtration system, delete "activated charcoal" and replace with "SIC" (note: this is in reference to the second filter section)

Response 34:
The Department will make the change as requested.

Comment 35:
TCDF Source Description, pg 80
Last paragraph, should be 750 kW diesel power generator, not 75 0kW

Response 35:
The Department will make the correction as requested.

Comment 36:
TCDF Specific Conditions, pg 81
TCD-1 - TC-07 – delete source

Response 36:
See Response to Comment 30.

Comment 37:
TCDF Specific Conditions, pg 81
TCD-2 - TC-01/TC-02 - need to add Hg with 0.0001 lb/hr and 0.0001 tpy

Response 37:
See Response to Comment 30.

Comment 38:
TCDF Specific Conditions, pg 82
TCD-2 - TC-07 – delete source

Response 38:
See Response to Comment 30.

Comment 39:
TCDF Specific Conditions, pg 83
TCD-8 – note: only when referring to the filtration systems for the Environmentally Controlled Enclosure charcoal is sulfur impregnated carbon (SIC) used

- First paragraph change "activated charcoal" to SIC
- Third paragraph change the first "charcoal" to SIC
- Fourth paragraph change "charcoal" to SIC

Response 39:
The Department will make the change as requested.

Comment 40:
TCDF Specific Conditions, pg 83
TCD-9 – second sentence, third line, change "activated charcoal" to SIC

Response 40:
The Department will make the change as requested.

Comment 41:
TCDF Specific Conditions, pg 84
TCD-15 – add "specifications" after "site specific" (should read – site specific specifications)

Response 41:
The Department will make the correction as requested.

Comment 42:
PBEDS Specific Conditions, pg.86
EDS-2 –

- For PBEDS-01, 02, 03: the pollutant Hydrogen Cyanide was omitted – with 3.2 E-5 lb/yr and 2.02 E-5 tpy – previously been listed
- For PBEDS-04: Lewisite should be 2.53 E-10 lb/hr and 1.27 E-16 tpy

Response 42:
Hydrogen cyanide was not included in the permit application submitted on January 5, 2006. Also the facility-wide hydrogen cyanide emissions were determined to be below reportable levels so they were removed from the permit. The Department will make the change to the Lewisite emissions at PBEDS-04 as requested.

Comment 43:
PBEDS Specific Conditions, pg.89
EDS-11 – second line of sentence should be "PBEDS" not "PBMAS EDS"

Response 43:
The Department will make the correction as requested.

Comment 44:
GTRSS Source Description, pg.90

- 2nd paragraph, last line – floor is misspelled
- 3rd paragraph, last line – add the word "treatment" after "further"

Response 44:
The Department will make the corrections as requested.

Comment 45:
GTRSS Specific Conditions, pg.90/91
GTRSS-1 and GTRSS-2 – Need to delete source number GTRSS-01 for GTRSS MCL. This information is not in the application

Response 45:
See Response to Comment 32.

Comment 46:
GTRSS Specific Conditions, pg.90/91
Renumber GTRSS-3 thru GTRSS-11 to GTRSS-1 thru GTRSS-9

Response 46:
Specific Conditions GTRSS-1 and GTRSS-2 will not be deleted so the other Specific Condition numbers will remain the same. The permit remains as written.

Comment 47:
GTRSS Specific Conditions, pg. 91
GTRSS-3 – change PBMAS EDS to GTRSS

Response 47:
The Department will make the correction as requested.

Comment 48:
GTRSS Specific Conditions, pg. 91
GTRSS-4 – second line, change GTRSS-3 to GTRSS-1 per comment #20

Response 48:
See Response to Comment 46.

Comment 49:
Section VII: Insignificant Activities, Non- Stockpile, pg.164

- Delete PBMAS in parenthesis
- TCDF has one fume hood
- Delete the propane fired water heater – removed
- For the 500 gal diesel storage tank, breathing air compressor, and compressed air tank – change Munitions Assessment System PBMAS to GTRSS
- There are 2 – 1600 cfm ventilator units in decon area

Response 49:
The Department will make the corrections as requested.

Comments on PBCDF Emission Sources

Comment 50:
Page 164 Section VII
The table lists "PBA 86 Landfill (150,000 cubic yards)" as a PBCDF insignificant activity.
The current revision (R3) places this activity under the purview of PBA.
This appears to be a transcription error.
Suggest this be corrected to place the Landfill in the PBA realm of responsibility.

Response 50:
The Department will make the correction as requested.

Comment 51:
Page 24 Emission Summary PBCDF-01
1,1,1- Dichloroethane is misspelled.
Suggest correcting spelling from "dichoroethane" to "dichloroethane."

Response 51:
The Department will make the correction as requested.

Comment 52:
Page 28 Emission Summary PBCDF-07
The PM10 emissions are incorrectly listed as 0.4 tons per year (tpy) whereas, they should be listed as 5.8 tpy. Suggest editorial correction to 5.8 tpy.

Response 52:
The Specific Condition lists PM_{10} tpy emissions as 5.8 tpy. The Department will correct the PM_{10} emissions in the Emission Summary Table.

Comment 53:
Page 31 Emission Summary PBCDF-21,22,23
The emission sources PBCDF-021, PBCDF-022, and PBCDF-023 are not listed in the emission summary.
Suggest their addition to the Emission Summary as an editorial change.

Response 53:
The Department will correct the emission summary table as requested.

Comment 54:
Page 122 CAD-2 Paragraph 2 Line 3
Reference is made to CAD 50. CAD-50 in Rev 4 addresses the emergency generators (Sources 21, 22, and 23). These emergency generators/pumps are diesel powered. The reference to pipeline natural gas is not applicable.
Suggest deletion of the reference to CAD-50.

Response 54:
The Department updated the specific condition to reference CAD-52 instead of CAD-50.

Comment 55:
CAD-2 General
In some cases, the pollutant is listed as PM and in other locations it is listed as PM10.
Suggest editorial change for consistency in usage of either PM or PM10.

Response 55:
All references in CAD-2 will be corrected to PM.

Comment 56:
Page 128 CAD-2 PBCDF-23I
A minor modification was approved by ADEQ on 17 November 2008 for the intermittent use of a diesel fire air compressor. This was given the source number PBCDF-23I (Intermittent).
Since there is already a Source Number (SN) PBCDF-23, suggest that this be changed to PBCDF-24.

Response 56:
This minor modification was not included in this permit modification. The minor modification will be addressed in the renewal which is currently in house.

Comment 57:
Page 138-154 CAD-52 h, I, j, l, m, q r, y, z, aa, kk, oo, vv, ccc, ddd, zzz
PBCDF is now regulated by the replacement standards in 40 CFR §63.1219. References to 40 CFR §63.1203 should be replaced by the appropriate replacement standard with citation of 40 CFR §63.1219. throughout the remainder of CAD-52.

Response 57:
The Department has made the corrections to the regulation references as requested.

ADEQ

ARKANSAS
Department of Environmental Quality

February 9, 2009

Elaine Wachowiak
Air Program Manager
U.S. Army, Pine Bluff Arsenal
Commander PBA, Attn: SJMPB-RR, 10020 Kabrich Circle
Pine Bluff, AR 71602-9500

Dear Ms. Wachowiak:

The enclosed Permit No. 1113-AOP-R4 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. 1113-AOP-R4 for the construction, operation and maintenance of an air pollution control system for U.S. Army, Pine Bluff Arsenal 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

Mike Bates
Chief, Air Division

ADEQ
OPERATING
AIR PERMIT

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

Permit No. : 1113-AOP-R4

IS ISSUED TO:

U.S. Army, Pine Bluff Arsenal
State Highway 365 South
Pine Bluff, AR 71602
Jefferson County
AFIN: 35-00116

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:

February 17, 2004 AND February 16, 2009

THE PERMITTEE IS SUBJECT TO ALL LIMITS AND CONDITIONS CONTAINED HEREIN.

Signed:

Mike Bates
Chief, Air Division

February 9, 2009
Date Modified

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List of Acronyms and Abbreviations

A.C.A.	Arkansas Code Annotated
AFIN	ADEQ Facility Identification Number
AOS	Ammo Ops Source (Ammo Ops)
BCX	Boiler Complex (Ammo Ops)
BDI	Bulk Dunnage Incinerator (CIC)
CAB	Central Afterburner (CIC)
CAPE	Capture Efficiency (Non-Stockpile)
CAO	Consent Administrative Order
CARC	Chemical Agent Resistant Compounds (ChemBio Defense)
CAS	Chemical Abstracts Service
CBD	ChemBio Defense, or Chemical and Biological Defense Operations (ChemBio Defense)
CBF	Car Bottom Furnace (CIC)
CBPS	Portable Medicine/Latrine Units (ChemBio Defense)
CFM	Cubic Feet per Minute
CFR	Code of Federal Regulations
CHEAF	Cleanable High Efficiency Air Filtration (CIC)
CIC	Central Incinerator Complex
CO	Carbon Monoxide
CONE	Control Efficiency (Non-Stockpile)
CPDepmeds	Military Van Units (ChemBio Defense)
CS	Colored Smoke (Ammo Ops)
CWT	Central Waste Treatment (CWT)
DAAMS	Depot Area Air Monitoring System (Non-Stockpile)
ECC	Explosive Containment Chamber (Non-Stockpile)
EDS	Explosive Destruction System (Non-Stockpile)
FOTW	Federally Owned Treatment Works (Depot Support)
GB	Sarin (Non-Stockpile)
GTR	German Traktor Rocket (Non-Stockpile)

GTRSS	German Traktor Rocket Separation System (Non-Stockpile)
HAP	Hazardous Air Pollutant
HC	Hexachloroethane (QAT)
HD	Mustard Agent (Non-Stockpile)
HEGA	High-Effieciency Gas Absorber (Non-Stockpile)
HEPA	High-Efficiency Particulate Air
HN-1	Nitrogen Mustard (Non-Stockpile)
HN-3	Nitrogen Mustard (Non-Stockpile)
HVLP	High Volume Low Pressure
IR	Infra Red
L	Lewisite (Non-Stockpile)
lb/hr	Pound Per Hour
LAP	Load and Packout (Ammo Ops)
LAP	Load Assembly and Pack (Ammo Ops)
LIS	Library Information Science (Non-Stockpile)
LVOSS	Light Vehicle Obscuration Smoke System (Ammo Ops)
M12A1	Chemical Decontamination Equipment (ChemBio Defense)
MACT	Maximum Achievable Control Technology
MCL	Mobile Chemical Lab (Non-Stockpile)
MEA	Monoethanolamine (Non-Stockpile)
MIGRAD	Mixer, Granulator, Dryer (Ammo Ops)
MSCF	1000 Standard Cubic Feet (Boiler Complex)
MVAC	Motor Vehicle Air Conditioner
No.	Number
NO_x	Nitrogen Oxide
NRT	Near Real Time
NSPS	New Source Performance Standards
PBA	Pine Bluff Arsenal
PBCDF	Pine Bluff Chemical Agent Disposal Facility
PBEDS	Pine Bluff Explosive Destruction System (Non-Stockpile)

PEL	Production Engineering Lab (PEL)
PM	Particulate Matter
PM_{10}	Particulate Matter Smaller Than Ten Microns
PQL	Practical Quantification Limit (Non-Stockpile)
PVA	Polyvinyl Alcohol (Ammo Ops)
PW	Parts Washer (Parts Washer)
QA	Quality Assurance
QAT	Quality Assurance Testing (QAT)
QC	Quality Control
RCRA	Resource Conservation and Recovery Act
RDF	Rotary Deactivation Furnace (CIC)
RP	Red Phosophorus (Ammo Ops)
SCC	Source Classification Codes
SIP	State Implementation Plan
SN	Source Number
SNAP	Significant New Alternatives Program (SNAP)
SO_2	Sulfur Dioxide
SSM	Startup, Shutdown, and Malfunction Plan
TC	Ton Container (Non-Stockpile)
TCDF	Ton Container Decontamination Facility (Non-Stockpile)
TLV	Threshold Limit Value
TNT	Trinitrotoluene (Non-Stockpile)
TOC	Total Organic Carbon (QAT)
Tpy	Tons Per Year
TSDF	Treatment Storage Disposal Facility
UTM	Universal Transverse Mercator
VCM	Vapor Confinement Module (Non-Stockpile)
VCS	Vapor Containment System (Non-Stockpile)
VOC	Volatile Organic Compound
VX	Nerve Agent (Non-Stockpile)

WP	White Phosphorus (Ammo Ops)
WVRU	Waste Volume Reduction Unit (CIC)

SECTION I: FACILITY INFORMATION

PERMITTEE:	U.S. Army, Pine Bluff Arsenal
AFIN:	35-00116
PERMIT NUMBER:	1113-AOP-R4
FACILITY ADDRESS:	State Highway 365 South Pine Bluff, AR 71602
MAILING ADDRESS:	Commander PBA Attn: SJMPB-RR 10020 Kabrich Circle Pine Bluff, AR 71602-9500
COUNTY:	Jefferson County
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UTM North South (Y):	Zone 15: 3796140.00 m
UTM East West (X):	Zone 15: 584021.62 m

SECTION II: INTRODUCTION

Summary of Permit Activity

The U.S. Army, Pine Bluff Arsenal (PBA) operates a military manufacturing and depot installation at State Highway 365 South, White Hall, AR 71602. This modification permit is being issued to allow the permittee to bubble VOC and HAP emissions for arsenal operations, to add four temporary diesel fired generators, decrease permitted HAP emissions for SN-PBCDF-01 based on stack test data, to install an integrated test facility, to clarify reporting language in the permit, to remove sources that are no longer in operation, to establish the calendar year reporting period, to correct typographical errors, to add one propane fired generator, to install two shredders, to add a ventilator unit in the Decon Area in the Ton Container Decontamination Facility, to remove all of the emergency generators from the insignificant activities list and permit them as a source, and to update the insignificant activities list. This permit modification will bring the facility's HAP emissions below the HAP major source threshold. The proposed changes result in permitted emissions increases of 5.7 tons per year (tpy) of SO_2, 21.9 tpy of VOC, 83.2 tpy of CO, and 73.3 tpy of NO_X.

Process Description

Pine Bluff Arsenal has a unique and varied mission as part of the U.S. Army Materiel Command (AMC). PBA is the Army's only chemical arsenal and the only installation with both manufacturing and depot functions. This diverse and complex mission requires PBA to operate facilities and perform support operations that emit air pollutants. These air pollution sources are the subject of this Title V air permit.

PBA' s mission operations can be grouped into the following seven categories:

(1) Ammunition Operations
(2) Chemical and Biological Defense Operations
(3) Product and Process Development
(4) Demilitarization, Waste Treatment, and Resource Recovery
(5) Base Operations
(6) Chemical Stockpile Disposal
(7) Non-Stockpile Disposal Operations

Ammunition operations consist of some combination of blending of pyrotechnic mixes, filling of these mixes into a munition item, assembling the munition components, open air quality testing, and packaging for shipment. PBA's ammunition operations include the manufacture of screening and signaling smokes (colored smoke, white phosphorus, and red phosphorus mixes), riot control agent (CS tear gas), incendiary mixtures (thermate), and the various mixes used to initiate and control the burning rate of the munitions.

Chemical and biological defense operations consist of protective mask maintenance, repair, and performance testing, fabrication and performance testing of various configurations of charcoal filters, and the production of chemical agent skin decontamination kits.

Product and process development is conducted in the Production Engineering Laboratory (PEL) Complex. It includes the development of new and/or improved pyrotechnic mixes, mixing processes, and munition configurations and also includes the identification and testing of processes for recovery of materials from munition components. Also included is the operational testing of chemical treatment processes.

Demilitarization, waste treatment, and resource recovery operations are performed at various locations and involve off-specification mixes, outdated munition components, and hazardous and non-hazardous solid wastes. Demilitarization and waste treatment are essentially the same operations except that demil refers to items used for military purposes that are considered wastes. The locations/units where demilitarization, waste treatment, and resource recovery activities occur are the Central Incinerator Complex (CIC), and the Waste Volume Reduction Unit.

Base operations consist of the functions which support all of the activities required to operate a military installation. This includes the operation of three boiler plants used to supply steam to the ammunition production area, operation of an industrial wastewater treatment plant, miscellaneous painting activities, and wood working operations performed at several locations.

The sixth category is Chemical Stockpile Disposal. The PBCDF has been constructed and operated to destroy PBA's stockpile of chemical agent materials. A Prevention of Significant Deterioration (PSD) air permit application was submitted to the Arkansas Department of Pollution Control and Ecology in June 1995 to initially address planned construction and operation of the PBCDF. A PSD permit was issued for the PBCDF on January 15, 1999. A new PSD application for the PBCDF was submitted on August 23, 2002 in order to update planned equipment changes and to incorporate higher emission estimates for particulate matter [including less than 10 microns (PM_{10})], carbon monoxide (CO), nitrogen oxides (NO_X), sulfur dioxide (SO_2), and volatile organic compounds (VOC). The increases for PM10, NO_X, and SO_2 required further review under the PSD regulations. Air Permit 1113-AOP-R0 incorporated the new PSD review for the PBCDF, as well as its applicability under 40 Code of Federal Regulations (CFR) Part 63, Subpart EEE, National Emission Standards for Hazardous Air Pollutants from Hazardous Waste Combustors.

The final category is Non-Stockpile Disposal Operations. Non-stockpile Chemical Material (NSCM) is material not in the current US inventory of chemical munitions. It includes buried and recovered material (munitions or other), components of binary chemical weapons, former production facilities, and miscellaneous material. The following Non-Stockpile Disposal Operations are currently ongoing at the Pine Bluff Arsenal: (1) Ton Container Decontamination Facility, (2) PBEDS, and (3) GTRSS.

Regulations

The following table contains the regulations applicable to this permit.

Regulations
Arkansas Air Pollution Control Code, Regulation 18, effective January 25, 2009
Regulations of the Arkansas Plan of Implementation for Air Pollution Control, Regulation 19, effective January 24, 2009
Regulations of the Arkansas Operating Air Permit Program, Regulation 26, effective January 25, 2009
40 CFR Part 60 Subpart Dc - Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units
40 CFR Part 60 Subpart DDDD - Emission Guidelines and Compliance Times for Commercial and Industrial Solid Waste Incineration Units that Commenced Construction On or Before November 30, 1999
40 CFR Part 63 Subpart EEE - National Emission Standards for Hazardous Air Pollutants from Hazardous Waste Combustors
40 CFR Part 52.21, Prevention of Significant Deterioration of Air Quality (PSD)

Emission Summary

The following table is a summary of emissions from the facility. This table, in itself, is not an enforceable condition of the permit.

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
Total Allowable Emissions		PM	80.70044	80.10028
		PM_{10}	80.70044	80.10028
		SO_2	64.4	93.0
		VOC	887.9008	250.624391
		CO	174.5019	313.7012
		NO_X	564.2	613.2
		Lead	0.614916	1.224391
HAPs		Acetylene	0.00015	0.000945
		Antimony*	0.001908	0.00332
		Arsenic Compounds*	0.086292	0.030929

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
		Benzene*	0.023348	0.01627
		Beryllium*	0.000572	0.001339
		Bis (2-ethylhexyl)-phthalate*	0.01	0.01
		Bromoform*	0.001097	0.001612
		Cadmium*	0.010902	0.01231
		Carbon Disulfide*	0.100678	0.02121
		Carbon Tetrachloride*	0.001082	0.002671
		Chlorobenzene*	0.00022	0.000442
		Chloroform*	0.001378	0.002587
		Chlorine	0.01	0.01
		Chloromethane (MeCl)*	0.02075	0.05615
		Chromium*	0.012007	0.016055
		Cobalt*	0.001864	0.005687
		Dichlorobenzene*	0.000015	0.0000655
		1,1-Dichloroethane*	0.001256	0.00043
		Dimethyl Phthalate*	0.008358	0.02088
		Di-n-butyl Phthalate*	0.001699	0.002687
		2-4-Dinitrotoluene*	0.000287	0.000366
		1,2 Dichloropropane*	0.007937	0.02153
		cis-1,3-Dichloropropene*	0.006872	0.01862
		trans-1,3-Dichloropropene*	0.00021	0.000429
		Diethylene Glycol*	1.1	0.0033
		Dioxins and Furans*	0.0000172	0.0000754

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
		Ethyl Benzene*	0.000375	0.000638
		Ethylchloride*	0.76	0.18
		Ethylene Glycol*	2.4	0.25
		Formaldehyde*	0.009869	0.0983
		Hexane*	0.0225	0.0983
		Hydrogen Chloride	0.4002	0.6687
		Hydrogen Fluoride	0.01	0.02
		Hydrogen Sulfide	0.08	0.02
		Lead Compounds*	0.614913	1.224391
		Manganese*	0.085649	0.164034
		Mercury Compounds*	0.00091	0.00198
		Methylene Chloride	0.2511	0.5416
		2-Methyl Phenol	0.02143	0.03131
		3-Methyl Phenol	0.006391	0.01529
		4-Methyl Phenol	0.003618	0.006839
		4-Methyl 2-Pentanone*	0.000282	0.000625
		Naphthalene*	0.001725	0.002739
		Nickel*	0.003324	0.00955
		PAH*	0.004666	0.001424
		Polychlorinated Biphenyl (PCBs)*	0.0000024	0.00000306
		Phosphorous*	0.03736	0.07702
		Selenium*	0.001371	0.002462
		Styrene*	0.003771	0.007967
		Tetrachlorodibenzo-p-dioxin*	5.5E-10	1.32E-8
		Tetrachloroethane*	0.000242	0.000517

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
		1,1,2,2-Tetrachloroethane*	0.000221	0.000459
		Toluene*	0.136442	0.298186
		1,1,1-Trichloroethane	0.001755	0.003207
		Vinyl Acetate*	0.000216	0.000445
		Vinyl Chloride*	4.7650815	1.041294
		Xylene*	0.00049	0.000945
		Any Single HAP***	606.16	8.4
		Any Combination of HAPs***	606.16	18.7
	Air Contaminants**	Acetone	517.4	283.80
		Ammonia	0.000088	0.0000554
		2-Butanone*	0.01216	0.02223
		Methane	0.23	1.01
		Nerve Agent VX	ND	ND
		Nerve Agent GB	ND	ND
		Mustard Agent HT	ND	ND
		Mustard Agent HD	2.04E-13	1.02E-16
		Mustard Agent HN 3	1.98E-13	9.92E-17
		Mustard Agent HN 1	1.75E-13	8.76E-17
		Lewisite	2.53E-10	1.27E-16
AMM-01	Ammunition Operations	PM	27.6	19.7
		PM_{10}	27.6	19.7
		SO_2	0.1	0.1
		VOC	340.5	249.4***
		CO	0.4	1.7

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
		NO_X	0.5	2.0
		Any Single HAP	500.00	8.4***
		Any Combination of HAPs	500.00	18.7***
		Acetone	467.40	283.30
M295-01	M295 Decontamination Kits	PM	0.1	0.1
		PM_{10}	0.1	0.1
		VOC	0.8	249.4***
		Any Single HAP	0.80	8.4***
		Any Combination of HAPs	0.80	18.7***
32-230	Large Filter Production	VOC	27.0	249.4***
		Any Single HAP	27.0	8.4***
		Any Combination of HAPs	27.0	18.7***
32-510 32-520 32-550 32-720	Production Engineering Lab	PM	0.1	0.1
		PM_{10}	0.1	0.1
		VOC	25.4	249.4***
		Acetone	50.0	0.50
		Any Single HAP	25.4	8.4***
		Any Combination of HAPs	25.4	18.7***
42-960(1)	CIC Combustion Units	PM	1.1	4.6
		PM_{10}	1.1	4.6
		SO_2	0.5	1.8
		VOC	17.5	249.4***
		CO	29.2	127.9
		NO_X	7.4	32.5

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
		Lead	0.23	0.99
		Dioxins and Furans	1.72 E-05	7.54 E-05
		Any Single HAP	0.35	8.4***
		Any Combination of HAPs	0.35	18.7***
42-960(4)	RDF Shroud	PM	0.1	0.1
		PM_{10}	0.1	0.1
42-960(10)	Tub Grinder	PM	1.7	1.7
		PM_{10}	1.7	1.7
		SO_2	0.3	0.3
		VOC	0.3	249.4***
		CO	0.8	0.8
		NO_X	3.7	3.7
32-690 33-760 44-212 77-950	Quality Assurance Testing Includes: Drop Tower Grenade Test Basin Dilly Farm Bombing Mat	PM	16.0	17.5
		PM_{10}	16.0	17.5
		SO_2	1.6	1.8
		VOC	1.6	249.4***
		CO	9.4	10.3
		NO_X	1.6	1.8
		Any Single HAP	5.36	8.4***
		Any Combination of HAPs	5.36	18.7***
32-630	Integrated Test Facility	PM	2.8	0.9
		PM_{10}	2.8	0.9
		SO_2	5.6	1.8
		VOC	5.6	249.4***

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
		CO	5.6	1.8
		NO_x	32.9	10.3
		Any Single HAP	2.30	8.4***
		Any Combination of HAPs	5.43	18.7***
32-060	Boiler 1 25.1 MM Btu/hr	PM	0.2	0.8
		PM_{10}	0.2	0.8
		SO_2	0.1	0.1
		VOC	0.2	249.4***
		CO	2.1	8.8
		NO_X	2.4	10.5
		Lead	1.2 E-05	5.3 E-05
		Any Single HAP	0.34	8.4***
		Any Combination of HAPs	0.34	18.7***
32-060	Boiler 2 25.1 MM Btu/hr	PM	0.2	0.8
		PM_{10}	0.2	0.8
		SO_2	0.1	0.1
		VOC	0.2	249.4***
		CO	2.1	8.8
		NO_X	2.4	10.5
		Lead	1.2 E-05	5.3 E-05
		Any Single HAP	0.34	8.4***
		Any Combination of HAPs	0.34	18.7***
33-060	Boiler 1 30 MM Btu/hr	PM	0.3	1.0
		PM_{10}	0.3	1.0

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
		SO_2	0.1	0.1
		VOC	0.2	249.4***
		CO	2.4	10.6
		NO_X	2.9	12.6
		Lead	1.4 E-05	6.3 E-05
		Any Single HAP	0.35	8.4***
		Any Combination of HAPs	0.35	18.7***
33-060	Boiler 2 30 MM Btu/hr	PM	0.3	1.0
		PM_{10}	0.3	1.0
		SO_2	0.1	0.1
		VOC	0.2	249.4***
		CO	2.4	10.6
		NO_X	2.9	12.6
		Lead	1.4 E-05	6.3 E-05
		Any Single HAP	0.35	8.4***
		Any Combination of HAPs	0.35	18.7***
34-125	Boiler 1 14.7 MM Btu/hr	PM	0.2	0.5
		PM_{10}	0.2	0.5
		SO_2	0.1	0.1
		VOC	0.1	249.4***
		CO	1.2	5.2
		NO_X	1.4	6.2
		Lead	7.0E-06	3.1E-05
		Any Single HAP	0.32	8.4***

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
		Any Combination of HAPs	0.32	18.7***
34-125	Boiler 2 14.7 MM Btu/hr	PM	0.2	0.5
		PM_{10}	0.2	0.5
		SO_2	0.1	0.1
		VOC	0.1	249.4***
		CO	1.2	5.2
		NO_X	1.4	6.2
		Lead	7.0E-06	3.1E-05
		Any Single HAP	0.32	8.4***
		Any Combination of HAPs	0.32	18.7***
42-960(8)	Boiler 1 2.4 MM Btu/hr	PM	0.1	0.2
		PM_{10}	0.1	0.2
		SO_2	0.1	0.1
		VOC	0.1	249.4***
		CO	0.5	1.8
		NO_X	0.5	2.2
		Lead	2.4E-06	1.1E-05
		Any Single HAP	0.29	8.4***
		Any Combination of HAPs	0.29	18.7***
42-960(8)	Boiler 2 2.4 MM Btu/hr	PM	0.1	0.2
		PM_{10}	0.1	0.2
		SO_2	0.1	0.1
		VOC	0.1	249.4***
		CO	0.5	1.8

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
		NO_X	0.5	2.2
		Lead	2.4E-06	1.1E-05
		Any Single HAP	0.29	8.4***
		Any Combination of HAPs	0.29	18.7***
42-930(1)	Bulk Carbon Storage/Feed System	PM	0.2	0.9
		PM_{10}	0.2	0.9
42-930(2)	Bulk Lime Storage/Feed System	PM	0.1	0.1
		PM_{10}	0.1	0.1
PW-01	Parts Washer	VOC	2.6	249.4***
		Any Single HAP	0.2	8.4***
		Any Combination of HAPs	0.2	18.7***
TANKS-01	Tanks	VOC	378.0	249.4***
32-035	Motor Pool Paint Booths	PM	0.4	0.1
		PM_{10}	0.4	0.1
		VOC	44.8	249.4***
		Lead and Lead Compounds	0.0780	0.0195
		Any Single HAP	39.6	8.4***
		Any Combination of HAPs	39.6	18.7***
60-070	Depot Support	VOC	3.4	249.4***
		Any Single HAP	2.4	8.4***
		Any Combination of HAPs	2.4	18.7***
74-100	Depot Support	VOC	3.4	249.4***
		Any Single HAP	2.4	8.4***

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
		Any Combination of HAPs	2.4	18.7***
PBCA-01	#1 Diesel Generator (100 kW)	PM	0.2	0.4
		PM_{10}	0.2	0.4
		SO_2	0.1	0.3
		VOC	0.2	249.4***
		CO	0.4	1.1
		NO_X	1.5	4.5
		Any Single HAP	0.01	8.4***
		Any Combination of HAPs	0.01	18.7***
PBCA-02	#2 Diesel Generator (100 kW)	PM	0.2	0.4
		PM_{10}	0.2	0.4
		SO_2	0.1	0.3
		VOC	0.2	249.4***
		CO	0.4	1.1
		NO_X	1.5	4.5
		Any Single HAP	0.01	8.4***
		Any Combination of HAPs	0.01	18.7***
PBCA-03	#3 Diesel Generator (45 kW)	PM	0.1	0.2
		PM_{10}	0.1	0.2
		SO_2	0.1	0.2
		VOC	0.1	249.4***
		CO	0.2	0.5
		NO_X	0.7	2.1
		Any Single HAP	0.01	8.4***

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
		Any Combination of HAPs	0.01	18.7***
PBCA-04	#4 Diesel Generator (45 kW)	PM	0.1	0.2
		PM_{10}	0.1	0.2
		SO_2	0.1	0.2
		VOC	0.1	249.4***
		CO	0.2	0.5
		NO_X	0.7	2.1
		Any Single HAP	0.01	8.4***
		Any Combination of HAPs	0.01	18.7***
EMGEN	33 Emergency Generators	PM	15.1	3.8
		PM_{10}	15.1	3.8
		SO_2	32.0	8.0
		VOC	16.8	249.4***
		CO	63.5	15.9
		NO_x	286.6	71.7
		Any Single HAP	0.01	8.4***
		Any Combination of HAPs	0.01	18.7***
TC-01 TC-02	Environmentally Controlled Enclosure Filtration Systems 1 and 2	PM	0.4	1.8
		PM_{10}	0.4	1.8
		VOC	7.8	1.7
		Arsenic Compounds	0.0739	0.0160
		Carbon Disulfide	0.05	0.01
		Ethylchloride	0.38	0.09
		Hydrogen Chloride	0.09	0.01

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
		Hydrogen Sulfide	0.08	0.02
		Mercury Compounds	0.0001	0.0001
		Vinyl Chloride	2.38	0.52
TC-03	Mobile Chemical Laboratory Filtration System One	PM	0.1	0.1
		PM_{10}	0.1	0.1
TC-04	Mobile Chemical Laboratory Filtration System Two	PM	0.1	0.1
		PM_{10}	0.1	0.1
TC-06	Ton Container Paint Removal	PM	1.1	0.7
		PM_{10}	1.1	0.7
		Lead	0.3	0.2
		Arsenic Compounds	0.01	0.01
		Cadmium	0.01	0.01
		Carbon Disulfide	0.05	0.01
		Chromium	0.01	0.01
		Ethylchloride	0.38	0.09
		Hydrogen Chloride	0.01	0.01
		Vinyl Chloride	2.38	0.52
PBEDS-01 PBEDS-02 PBEDS-03	Pine Bluff Explosive Destruction Systems (PBEDS) Stacks	PM	4.40 E-4	2.77 E-04
		PM_{10}	4.40 E-4	2.77 E-04
		VOC	1.03 E-08	4.5 E-08
		CO	1.94 E-03	1.22 E-03
		Acetylene	0.00015	0.000945
		Ammonia	0.000088	0.0000554
PBEDS-	Mobile Chemical Lab	VOC	8.69 E-10	4.34 E-13

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
04		Hexane	6.01 E-10	3.00 E-14
		Methanol	1.27 E-10	6.34 E-14
		Methylene Chloride	1.40 E-10	7.02 E-14
		Mustard Agent HD	2.04 E-13	1.02 E-16
		Nitrogen Mustard (HN 3)	1.98 E-13	9.92 E-17
		Nitrogen Mustard (HN 1)	1.75 E-13	8.76 E-17
		Lewisite	2.53 E-10	1.27 E-16
PBEDS-T1	100-gallon Diesel Fuel Storage Tank	VOC	2.80 E-04	7.00 E-05
PBEDS-T2	100-gallon Diesel Fuel Storage Tank	VOC	2.80 E-04	7.00 E-05
PBEDS-T3	100-gallon Diesel Fuel Storage Tank	VOC	2.80 E-04	7.00 E-05
GTRSS-01	GTRSS Mobile Chemical Lab	VOC	4.44E-10	2.22E-13
		Hexane	1.77E-10	8.84E-14
		Methylene Chloride	1.4E-10	7.02E-14
PBCDF-01	Incinerator Common Stack	PM	2.4	10.2
		PM_{10}	2.4	10.2
		SO_2	17.2	75.2
		VOC	2.8	4.2
		CO	12.7	55.6
		NO_X	81.6	357.4
		Lead	0.005486	0.008665
		Antimony	0.001812	0.002901
		Arsenic Compounds	0.002149	0.003867
		Benzene	0.005764	0.01025

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
		Beryllium	0.0004748	0.0009151
		Bromoform	0.001097	0.001612
		Cadmium	0.0006249	0.001097
		Carbon Disulfide	0.0006779	0.001210
		Carbon Tetrachloride	0.001082	0.002671
		Chlorine	0.01	0.01
		Chlorobenzene	0.0002199	0.0004417
		Chloroform	0.001378	0.002587
		Chromium	0.0009669	0.001515
		Cobalt	0.0009043	0.001497
		1,1-Dichloroethane	0.001256	0.0004301
		1,2-Dichloropropane	0.007937	0.02153
		cis-1,3-Dichloropropene	0.006872	0.01862
		trans-1,3-Dichloropropene	0.0002101	0.0004287
		Ethyl Benzene	0.0003748	0.0006381
		Hydrogen Chloride	0.2828	0.5726
		Hydrogen Fluoride	0.01	0.02
		Manganese	0.08523	0.1622
		Mercury Compounds	0.0006330	0.001109
		Methylene Chloride	0.2511	0.5416
		Nickel	0.002339	0.005250
		PCBs	0.000002398	0.000003063
		Phosphorus	0.03544	0.06864

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
		Selenium	0.001275	0.002042
		Styrene	0.003771	0.007967
		1,1,2,2-Tetrachloroethane	0.0002214	0.0004594
		Tetrachloroethane	0.0002423	0.0005165
		Toluene	0.1364	0.2980
		1,1,1-Trichloroethane	0.001755	0.003207
		Vinyl Acetate	0.0002161	0.0004452
		Vinyl Chloride	0.0008148	0.001294
		Xylene	0.0004901	0.0009453
		Dimethyl Phthalate	0.008358	0.02088
		Naphthalene	0.001717	0.002706
		2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	0.000000005499	0.00000001318
		2-Butanone	0.01216	0.02223
		Chloromethane	0.02075	0.05615
		4-Methyl-2-Pentanone	0.0002817	0.0006246
		Di-n-Butyl Phthalate	0.001699	0.002687
		bis(2-Ethylhexyl)-phthalate	0.01	0.01
		2,4-Dinitrotoluene	0.0002868	0.0003664
		2-Methylphenol	0.02143	0.03131
		3-Methylphenol	0.006391	0.01529
		4-Methylphenol	0.003618	0.006839
		Ethylene Glycol	2.400	0.2500

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
		Diethylene Glycol	1.100	0.0033
PBCDF 02	Not Installed			
PBCDF 03	Process Steam Boiler I	PM	0.3	1.0
		PM_{10}	0.3	1.0
		SO_2	0.1	0.1
		VOC	0.2	0.7
		CO	2.4	10.5
		NO_X	1.5	6.3
		Lead	0.0000142	0.0000623
		Arsenic Compounds	0.00000569	0.0000249
		Beryllium	0.000000341	0.00000149
		Cadmium	0.0000313	0.000137
		Manganese	0.0000108	0.0000473
		Mercury Compounds	0.00000739	0.0000324
		Methane	0.0700	0.310
		Formaldehyde	0.00213	0.00934
		PAH	0.00000250	0.0000110
		Benzene	0.0000597	0.000261
PBCDF 04	Process Steam Boiler II	PM	0.3	1.0
		PM_{10}	0.3	1.0
		SO_2	0.1	0.1
		VOC	0.2	0.7
		CO	2.4	10.5
		NO_X	1.5	6.3

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
		Lead	0.0000142	0.0000623
		Arsenic Compounds	0.00000569	0.0000249
		Beryllium	0.000000341	0.00000149
		Cadmium	0.0000313	0.000137
		Manganese	0.0000108	0.0000473
		Mercury Compounds	0.00000739	0.0000324
		Methane	0.0700	0.310
		Formaldehyde	0.00213	0.00934
		PAH	0.00000250	0.0000110
		Benzene	0.0000597	0.000261
PBCDF 05	Hot Water Boiler I	PM	0.1	0.4
		PM_{10}	0.1	0.4
		SO_2	0.1	0.1
		VOC	0.1	0.4
		CO	1.0	4.3
		NO_X	0.6	2.6
		Lead	0.00000585	0.0000256
		Arsenic Compounds	0.00000234	0.0000103
		Beryllium	0.000000140	0.000000615
		Cadmium	0.0000129	0.0000564
		Manganese	0.00000445	0.0000195
		Mercury Compounds	0.00000304	0.0000133
		Methane	0.0300	0.130
		Formaldehyde	0.000878	0.00385

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
		PAH	0.00000103	0.00000451
		Benzene	0.0000246	0.000108
PBCDF 06	Hot Water Boiler II	PM	0.1	0.4
		PM_{10}	0.1	0.4
		SO_2	0.1	0.1
		VOC	0.1	0.4
		CO	1.0	4.3
		NO_X	0.6	2.6
		Lead	0.00000585	0.0000256
		Arsenic Compounds	0.00000234	0.0000103
		Beryllium	0.000000140	0.000000615
		Cadmium	0.0000129	0.0000564
		Manganese	0.00000445	0.0000195
		Mercury Compounds	0.00000304	0.0000133
		Methane	0.0300	0.130
		Formaldehyde	0.000878	0.00385
		PAH	0.00000103	0.00000451
		Benzene	0.0000246	0.000108
PBCDF-07	Brine Reduction Area	PM	1.4	5.8
		PM_{10}	1.4	5.8
		SO_2	0.1	0.1
		VOC	0.1	0.3
		CO	1.1	4.6
		NO_X	0.7	2.8

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
		Lead	0.00139	0.00605
		Arsenic Compounds	0.000227	0.000992
		Beryllium	0.0000960	0.000420
		Cadmium	0.000189	0.000826
		Chromium	0.00104	0.00454
		Cobalt	0.000960	0.00419
		Manganese	0.000388	0.00170
		Mercury Compounds	0.000156	0.000680
		Nickel	0.000985	0.00430
		Selenium	0.0000962	0.000420
		Hydrogen Chloride	0.0174	0.0761
		Antimony	0.0000959	0.000419
		Phosphorus	0.00192	0.00838
		Methane	0.0300	0.130
		Hexane	0.0225	0.0983
		Formaldehyde	0.000935	0.00410
		PAH	0.00000110	0.00000482
		Dichlorobenzene	0.0000150	0.0000655
		Benzene	0.0000262	0.000115
		Toluene	0.0000424	0.000186
		Naphthalene	0.00000761	0.0000333
PBCDF-08	Demilitarization HVAC Exhaust Vent	Nerve Agent VX	ND	ND
		Nerve Agent GB	ND	ND
		Mustard Agent HD	ND	ND

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
		Mustard Agent HT	ND	ND
PBCDF-09	Emergency Electrical Generator I	PM	1.1	0.4
		PM_{10}	1.1	0.4
		SO_2	0.6	0.2
		VOC	1.0	0.3
		CO	9.0	2.7
		NO_X	33.9	10.2
		Formaldehyde	0.000834	0.000250
		PAH	0.00224	0.000672
		Benzene	0.00820	0.00246
PBCDF-10	Emergency Electrical Generator II	PM	1.1	0.4
		PM_{10}	1.1	0.4
		SO_2	0.6	0.2
		VOC	1.0	0.3
		CO	9.0	2.7
		NO_X	33.9	10.2
		Formaldehyde	0.000834	0.000250
		PAH	0.00224	0.000672
		Benzene	0.00820	0.00246
PBCDF-11	Diesel Tank (1,000 gallon)	Insignificant Activity		
PBCDF-12	Emergency Electrical Generator III	PM	0.4	0.1
		PM_{10}	0.4	0.1
		SO_2	0.4	0.1
		VOC	0.4	0.1

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
		CO	1.0	0.3
		NO_X	4.7	1.2
		Formaldehyde	0.00125	0.000312
		PAH	0.000178	0.0000444
		Benzene	0.000989	0.000247
PBCDF-13	Laboratory Building HVAC Exhaust Vent	Nerve Agent VX	ND	ND
		Nerve Agent GB	ND	ND
		Mustard Agent HD	ND	ND
		Mustard Agent HT	ND	ND
PBCDF-14	Diesel Tank (4,000 gallon)	Insignificant Activity		
PBCDF-15	RHA Baghouse	PM	0.1	0.1
		PM_{10}	0.1	0.1
PBCDF-16	Laboratory Boiler	PM	0.1	0.1
		PM_{10}	0.1	0.1
		SO_2	0.1	0.1
		VOC	0.1	0.1
		CO	0.2	0.6
		NO_X	0.2	0.7
PBCDF-17	PBCDF Fugitives	PM	0.2	0.6
		PM_{10}	0.2	0.6
		NO_X	0.3	1.3
PBCDF-20	Convault Dual Storage Tank	VOC	0.1	0.2
PBCDF-21	Emergency Electrical Generator Water Well 6 – 600 kW	PM	1.8	0.5
		PM_{10}	1.8	0.5

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
		SO_2	1.7	0.5
		VOC	2.1	0.6
		CO	5.7	1.5
		NO_x	25.0	6.3
PBCDF-22	Emergency Electrical Generator Water Well 11 – 600 kW	PM	1.8	0.5
		PM_{10}	1.8	0.5
		SO_2	1.7	0.5
		VOC	2.1	0.6
		CO	5.7	1.5
		NO_x	25.0	6.3
PBCDF-23	Emergency Electrical Generator Booster Pump Station – 75 kW	PM	0.3	0.1
		PM_{10}	0.3	0.1
		SO_2	0.3	0.1
		VOC	0.3	0.1
		CO	0.8	0.2
		NO_x	3.2	0.8

*HAPs included in the VOC totals. Other HAPs are not included in any other totals unless specifically stated.

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

***These limits only apply to source numbers SN-AMM-01, SN-32-230, SN-32-510, SN-32-520, SN-32-550, SN-32-720, SN-42-960(1), SN-42-960(4), SN-42-960(5), SN-42-960(6), SN-42-960(7), SN-42-960(8), SN-32-690, SN-33-760, SN-44-212, SN-77-950, SN-32-630, SN-PW-01, SN-32-035, SN-60-700, SN-74-100, SN-LVOSS-01, SN-LVOSS-02, and SN-LVOSS-03.

ND = Nondetectable. Emissions shall be below levels of detection using the monitoring protocols set forth in ADEQ Hazardous Waste Permit 29-H.

SECTION III: PERMIT HISTORY

Date Issued	Air Permit Number	Description
03/23/79	505-A	First air permit for PBA. Includes 12 emission points: 6 boilers, 3 sources of phosphorous pentoxide, and 3 sources of acetone.
07/27/79	505-AR-1	Modifies 505-A to include an emission source of methylene chloride at 5 lb/hr. No annual quantities listed.
08/24/83	719-A	Permits the DF (methyl phosphonic difluoride) portion of the Binary Facility
05/30/84	731-A	Permits the BZ (3-quinuclidynyl benzilate) Demilitarization Project. Request for discontinuance granted 12/19/90.
03/25/85	748-A	Permits Open Burning/Open Detonation.
12/07/88	924-A	Permits the transfer of FS Smoke Mix. Request for discontinuance granted 12/29/90.
12/16/88	445-I	Permits the Pit Incinerator.
08/24/89	505-AR-2	Modifies 505-AR-1to incorporate the L8A3 Red Phosphorous Facility. Includes 13 ton/yr of methylene chloride.
08/22/89	958-A	Permits the M819 Red Phosphorus Mix Facility.
07/06/90	1066-A	Permits the BIGEYE [ethyl (2-diisopropyl-aminoethyl) methylphosphonite] portion of the Binary Facility.
07/12/90	1058-A	Permits the DC (methyl phosphonic dichloride) portion of the facility.
12/03/90	958-AR-1	Modifies 958-A with the removal of the Turbo Dryer.
06/17/91	1113-A	Consolidates all previous air permits.
06/16/93	1464-A	Permits the L8A3 Red Phosphorous Mix Facility.
01/15/99	1789-A	Permits the Pine Bluff Arsenal Chemical Agent Disposal Facility. Permit issued under provisions of 40 CFR Part 52.21 (PSD).
02/17/04	1113-AOP-R0	Permit 1113-AOP-R0 was the facility's initial Title V air permit. This permit incorporated the requirements of 40 CFR Part 63, Subpart EEE, National Emission Standards for Hazardous Air Pollutants from Hazardous Waste Combustors, promulgated on September 30, 1999. Permit 1113-AOP-R0 was also issued in accordance with the provisions of 40 CFR 52.21, Prevention of Significant Deterioration (PSD) to address emission estimate revisions relative to the Pine Bluff Chemical Agent Disposal Facility (PBCDF). This permit also consolidated all active air permits (1113-A, 1464-A, 1789-A) for Pine Bluff Arsenal and the Pine Bluff Chemical Demilitarization Facility into one permit document.).

Date Issued	Air Permit Number	Description
		Finally, Permit 1113-AOP-R0 addressed the following changes: • the addition of a third Glatt mixer in the Glatt Process (Ammunition Operations). • the addition of a dry ingredient sifter in the Glatt Process (Ammunition Operations). • a new Ton Container Decontamination Facility. • a new Munitions Assessment System (PBMAS). • a new Load and Pack Line for the Light Vehicle Obscuration Smoke System (LVOSS M90 LAP Line). • a new M295 Decontamination Kit process. • a new binary destruction facility (BDF). • removal of the Dunnage Incinerator from the PBCDF design. • replacement of an Acid Wash System in each PBCDF PAS filter system (PFS) with a Water Wash System. • replacement of chillers, separators, and gas-to-gas reheaters in each PBCDF pollution abatement system's (PAS) filter system (PFS) with smaller reheaters to control the relative humidity of the flue gas. • the addition of a purge air vent for the Charge Airlock to vent vapors at the PBCDF Metal Parts Furnace (MPF). • the replacement of a valve between the cyclone and the afterburner at the PBCDF Deactivation Furnace System (DFS). • an increase in the size of the bypass air duct to the PBCDF DFS Afterburner on the fuel gas supply line of the PBCDF Liquid Incinerator Primary Combustion Chamber. • a redesign of the PBCDF Brine Reduction Area (BRA) in order to reduce brine capacity, due to improvements in the pollution control equipment. • an increase in horsepower for the PBCDF process steam boilers. • the addition of a small skid-mounted hot water heater at the PBCDF Laboratory Building. • the quantification of three emergency generators in the PBCDF section of the permit. • the addition of a Residue Handling Area for solid waste packaging at the PBCDF. • authorization to process special equipment testing hardware (SETH, containing ethylene glycol and water) at the PBCDF. • a revision in fugitive road dust estimates due to paving of traffic routes to the PBCDF. • recalculation of emission rates for the PBCDF, based upon test data and additional information from other

Date Issued	Air Permit Number	Description
		demilitarization sites, upon new mass and energy balances reflecting the latest operating data and conditions, and upon an assumption of continuous annual operation.
03/14/05	1113-AOP-R1	The following is a summary of changes addressed by this air permit modification: • a minor modification to the Pine Bluff Chemical Agent Disposal Facility (PBCDF) to operate a 2,000 gallon ConVault dual storage tank (SN-PBCDF-20) for gasoline and diesel fuel, and to combust an aqueous-based ethylene glycol mix hydraulic fluid in the Liquid Incinerator (LIC) Secondary Combustion Chamber (SCC)(SN-PBCDF-01); • a minor modification to operate a Rapid Response System (RRS)to treat chemical agent identification set (CAIS) items currently stored at PBA (SN-RRS-001 through SN-RRS-003); • a minor modification to operate the Pine Bluff Munitions Assessment System Explosive Destruction System (PBMAS EDS) to treat recovered munitions containing chemical agent or industrial chemicals (SN-EDS-001 and SN-EDS-002); • a minor modification to operate the Pine Bluff Explosive Destruction System (PBEDS) to treat recovered munitions containing chemical agent or industrial chemicals (SN-PBEDS-01 through SN-PBEDS-T3); • an administrative amendment to operate 5 Gas Tungsten Arc (TIG) Welders at Building 32-230 (insignificant activity); and • an administrative amendment to add Mustard HN-1 leak-detection monitoring at the existing Pine Bluff Munitions Assessment System facility (PBMAS). The changes in this permit modification will result in the following permitted emission increases: 1.2 ton/yr volatile organic compounds (VOC), 0.2 ton/yr carbon monoxide (CO), and less than 0.2 ton/yr combined hazardous air pollutants (HAPs). This modification will result in a decrease of 3.1 ton/yr particulate matter (PM/PM10).
08/24/05	1113-AOP-R2	In this modification, the facility modernized the White Phosphorous (WP) production to install a new white phosphorus (WP) facility (permitted within the Ammunition Operations bubble). The modernized WP facility used similar equipment, materials, and overall processes to the existing facility. Permitted emission increases for PM/PM10, SO2, NOx, CO and VOC are 2.2, 0.2, 10, 3.8 and 5.3 tons per year, respectively. Some cross references and an equation in specific conditions for the

Date Issued	Air Permit Number	Description
		Chemical Agent Demilitarization Facility were also corrected in this permit. In addition, wording was added in some of these specific conditions to account for miscellaneous and secondary wastes in the Metal Parts Furnace and Deactivation Furnace System. Several insignificant activities were added and an allowance to process up to 110 gallons of QL pot residue in the Binary Destruct Facility was added.
06/13/07	1113-AOP-R3	This minor modification permit was issued to allow the permittee to install a new electrical heating system to the existing Ton Container Clean-out operations and to install a new Mobile Chemical Lab in the PBEDS area. The proposed changes resulted in permitted emissions increases of 0.7 ton per year (tpy) of PM/PM10, 1.7 tpy of VOC, 0.2 tpy of lead, 0.67 tpy of HAPs, and 4.158 E-18 tpy of contaminants.

BACT SUMMARY FOR AIR PERMIT 1113-AOP-R0

The following is a brief summary of the PBCDF BACT determination for Air Permit 1113-AOP-R0, issued February 17, 2004. A more detailed report of the BACT analysis may be found in Permit 1113-AOP-R0.

BACT for NO_X

Hazardous waste incinerators. The accepted BACT for NO_X control on hazardous waste incinerators is combustion control. This will be accomplished by using high operating temperatures, high excess oxygen concentrations, and low residual carbon monoxide concentrations. These are the same techniques recognized by the previous air permit (1789-A). The BACT limit for NO_X at the hazardous waste incinerators (SN-PBCDF-01) is 81.6 lb/hr.

Boilers. BACT for the package boilers is low-NO_X burners without flue gas recirculation. Selective catalytic reduction is cost-prohibitive for the package boilers, primarily because of the relatively low uncontrolled NO_X emission rates produced by these small boilers. In addition, selective catalytic reduction will impose an additional risk of accidental release of toxic materials upon the surrounding community. The BACT limits for NO_X at the boilers (SN-PBCDF-03, 04, 05, 06, 16) are as follows:

Source	Description	BACT Limit for NO_X (lb/hr)
SN-PBCDF-03	Process Steam Boiler I	1.5
SN PBCDF 04	Process Steam Boiler II	1.5
SN PBCDF 05	Hot Water Boiler I	0.6
SN PBCDF 06	Hot Water Boiler II	0.6
SN PBCDF 16	Laboratory Boiler	0.3

Brine reduction area (BRA). Low-NO_X burners are the only NO_X control technology that is considered to be available under BACT analysis guidance. The cost effectiveness of low-NO_X

burners is $714 to $1,700 per ton NO_X removed. Consequently, BACT for the BRA duct preheater and BRA PAS burner is the use of low-NO_X burner technology. The BACT limit for NOX at the BRA preheater and PAS burner (SN-PBCDF-07) is 0.7 lb/hr.

Emergency generators. BACT for NO_X for the emergency generators is limitation of operating hours to less than 1,200 (combined) hours per year for the 2,500 kW generators (SN-09 and SN-10) and 500 hours per year for the 250 kW generator (SN-PBCDF-12). This also assumes that pollution preventive measures including minor engine design modification will be incorporated in the package generators to further reduce NO_X emissions below USEPA AP-42 emission estimates using uncontrolled factors. The BACT limits for NO_X at the emergency generators (SN-PBCDF-09, 10, and 12) are as follows:

Source	Description	BACT Limit for NO_X (lb/hr)
SN PBCDF 09	Emergency Electrical Generator I (2,500 kW)	33.9
SN PBCDF 10	Emergency Electrical Generator I (2,500 kW)	33.9
SN PBCDF 12	Emergency Electrical Generator I (250 kW)	4.7

BACT for SO_2

Hazardous waste incinerators. The combined series of technologies chosen for SO_2 removal represents BACT for this system based on the extremely high SO_2 removal rate as compared to any single technology available. Table 5.5 in the application provides details on current BACT determinations for industrial combustion processes.
The BACT limit for SO_2 at the incinerators (SN-PBCDF-01) is 17.2 lb/hr.

Boilers, BRA, associated duct pre-heater, and PFS reheaters. Since all of these systems will be fired with natural gas, which contains very low sulfur levels and is therefore considered BACT for SO_2 in boilers, no additional SO_2 pollution abatement is being proposed. The PFS is vented through the stack at SN-PBCDF-01. The BACT limit for SO_2 at the boilers and Brine Reduction Area (including the duct pre-heater) is as follows:

Source	Description	BACT Limit for SO_2 (lb/hr)
SN-PBCDF-03	Process Steam Boiler I	0.1
SN-PBCDF-04	Process Steam Boiler II	0.1
SN-PBCDF-05	Hot Water Boiler I	0.1
SN-PBCDF-06	Hot Water Boiler II	0.1
SN-PBCDF-07	Brine Reduction Area	0.1
SN-PBCDF-16	Laboratory Boiler	0.1

Emergency generators. The generators will be fired with a low sulfur diesel fuel (< or = 500 ppm) and are being requested to have limited hours of operation. The resulting SO_2 emissions are expected to be very low and are therefore considered BACT for SO_2 in the generators. No additional SO_2 PAS is proposed. The BACT limits for SO_2 at the emergency generators are as follows:

Source	Description	BACT Limit for SO_2 (lb/hr)
SN PBCDF 09	Emergency Electrical Generator I (2,500 kW)	33.9
SN PBCDF 10	Emergency Electrical Generator I (2,500 kW)	33.9
SN PBCDF 12	Emergency Electrical Generator I (250 kW)	4.7

BACT for PM

Hazardous waste incinerators. The selected option for the Common Stack operation of the LIC, MPF and DFS is a venturi scrubber, which serves a dual purpose. The venturi scrubber was selected to obtain maximum removal efficiency for $SO_2$and is equally efficient for PM removal. By allowing the use of the venturi scrubber in conjunction with a caustic scrubbing material, maximum removal efficiency of PM and SO_2 is achieved.
Given the nature of the components to be incinerated in the DFS, a decision was made to enter a "pre- cleaning" device into the process to minimize particulate loading via the vent gases from the DFS. A cyclone has been added between the primary and secondary chambers of the DFS to remove a designed capacity of 90 percent of the PM prior to it reaching the venturi scrubber. The BACT limit for PM at the incinerators is 2.4 lb/hr as PM_{10}.

Boilers. The Hot Water Heater, Process Steam Boilers, and Laboratory Boiler at the PBCDF will be controlled by the opacity standards for boiler operation. The boilers operate on natural gas fuel and as such, limited PM is expected from their operation. The BACT limits for PM at the boilers are as follows:

Source	Description	BACT Limit for PM as PM_{10} (lb/hr)
SN-PBCDF-03	Process Steam Boiler I	0.3
SN PBCDF 04	Process Steam Boiler II	0.3
SN PBCDF 05	Hot Water Boiler I	0.1
SN PBCDF 06	Hot Water Boiler II	0.1
SN PBCDF 16	Laboratory Boiler	0.1

Brine reduction area (BRA). For the BRA, the decision was made to install a filter fabric baghouse. Baghouses are preferred for several reasons, including the following:

- Baghouses have the potential for effective collection of submicron particles and a corresponding improvement in the capture of trace metals and organic compounds.
- Using improved bag materials provides for the potential flexibility to control collection to more stringent levels.
- EPA guidance suggests that final BACT determination should address how the primary control technique will minimize the emissions, including regulated pollutants. A control

technique that provides a higher removal capability for unregulated pollutants than other options may be the preferred option.

At current design, the removal efficiency for PM will be 99.9 percent.

The BACT limit for PM at the Brine Reduction Area is 1.4 lb/hr as PM_{10}.

Emergency generators. The electrical generators have limited hours of operation and limited PM is expected from their operation. The BACT limits for PM at the Emergency Electrical Generators are as follows:

Source	Description	BACT Limit for PM as PM_{10} (lb/hr)
SN PBCDF 09	Emergency Electrical Generator I (2,500 kW)	1.1
SN PBCDF 10	Emergency Electrical Generator I (2,500 kW)	1.1
SN PBCDF 12	Emergency Electrical Generator I (250 kW)	0.4

BACT for BERILLIUM

Hazardous waste incinerators, boilers, BRA. Beryllium is considered as a low volatile metal, and emissions are dependant on the amount of beryllium in the feeds to the combustion device. Beryllium is volatilized in the combustion chamber and condenses at lower air pollution control system temperature onto or into particles. As such, pollution control systems that control the particulate matter emissions also control beryllium emissions.

BACT for particulate matter will be considered as BACT for beryllium emissions.

SECTION IV: SPECIFIC CONDITIONS

SN-AMM-01
Ammunitions Operations

Source Description

Pyrotechnic Mixing

PBA' s ammunition operations involve the manufacture of screening and signaling smokes (colored smoke, white smoke, and red phosphorus mixes), riot control agent (CS tear gas), incendiary mixtures (thermate), and the various mixes usually referred to as "starter mixes" used to initiate and control the buffing rate of the munitions. Pyrotechnic mixing is a batch operation where some combination of chemicals is blended together to produce the mix. There are four (4) general mixing processes that can be used for blending of the majority of the pyrotechnic mixes, the acetone process, the Glatt process, the jet-air process, and the MIGRAD (Mixer, Granulator, Dryer) process, the latter three named for the type of mixing equipment used. Each of the processes involves the mixing of dry ingredients together to create the particular type of mix. There are two additional processes for blending of red phosphorus mixes, one uses acetone in a manner similar to that above while the other uses methylene chloride as the blending enhancer.

Acetone Process: The process utilizes acetone as a blending enhancer to thoroughly mix dry ingredients together, after which the acetone is evaporated off. First, the dry materials are weighed and sifted and added to large mixing bowls, similar to those used in a bakery, and mixed together. Next, a binder solution consisting of a nitrocellulose and acetone mixture and an additional quantity of acetone is added to the dry materials and the mix is blended together. When the blending step is complete, the resulting mixes are used as a slurry (without drying), dried, granulated, and either pressed into a slug or used in granular form. Particulate emissions result from the dust created during the blending of the dry materials and are usually controlled by dust collectors. Acetone is emitted during the blending and drying steps of the process; no control equipment captures these emissions. Particulates are also generated during the granulating and slugging steps; however, since the quantity of dust created during these steps is minimal, no control equipment is utilized. The finished products; mix slurry, granulated mix, or slugs are taken to storage for later use or are taken directly to the munitions assembly lines for filling into munition items.

Glatt Process: The Glatt is a type of mixing machine designed specifically for the manufacture of pyrotechnics. There are currently three (3) Glatt mixers at PBA. In this process, which does not require acetone as a blending agent, air is forced in from the bottom to blend the ingredients. Dry ingredients are weighed, sifted, and transferred to the mixer. Prior to mixing, some ingredients are sifted in a rotary sifter to obtain the desired particle size. Particulate in the effluent air from the fluidized air system is controlled by pre-filter banks followed by a HEPA filter. A binder solution is then formulated by adding dry polyvinyl alcohol (PVA) to water, the blend cycle is started, and the binder solution is metered to the mixer. Following the blending cycle, the mix is dried and ready for use in granular form or is compacted into slugs. Water is evaporated during the drying step and particulates are again emitted during the slugging operation. No control equipment is used to capture particulate emissions from this process. The finished products, dry mix or slugs, are taken to storage for later use or are taken directly to the munitions assembly lines for filling into munition items.

Jet-Air Process: The jet-air mixer is another type of mixing device that uses forced air to blend dry ingredients and does not require use of a blending enhancer. Dry ingredients are first sifted, weighed, and transferred to the mixer. The dry ingredients are then subjected to pulses of air until thoroughly blended. Particulates are emitted from the mixer and are controlled by a filter unit.
The finished product is then transferred to the munitions assembly operations or to storage for use at a later date.

MIGRAD Process: MIGRAD is an acronym for mixer/granulator/dryer. The MIGRAD mixer is a third type of pyrotechnic mixing device which uses an impeller instead of forced air. Dry ingredients are first added to the mixing bowl followed by the addition of a binder solution, then the ingredients are thoroughly blended. The design of the mixer allows the mix to be granulated simultaneously with the blending and then allows for the mix to be dried. The dried mix is ready for use in granular form or is compacted into slugs. Acetone and particulates are emitted during the blending process and are controlled by a vacuum system. This system pulls air directly from the mixer through an in-line particulate filter to a liquid ring vacuum pump which functions similar to a scrubber. The finished products, dry mix or slugs, are taken to storage for later use or are taken directly to the munitions assembly operations for filling into munition items.

Red Phosphorus Mix (Epoxy Binder): In this process, a two-part epoxy is used as a binder to hold red phosphorus (RP) mix. The first step involves mixing RP with a two-part epoxy, acetone, and sodium nitrate. When the mixing is complete, the material is transferred to a dryer where the acetone is evaporated from the mixture. This is followed by a screening step to remove any lumps found during drying and the addition of a flow enhancer (fumed silica). The mixture is then blended and transferred to a press where pellets are produced. The uncured pellets are then loaded into munition body tubes and transferred to a curing oven which sets the epoxy. The munition body tubes are then returned for final assembly in the munitions assembly operation. Acetone is emitted during the blending and drying steps and is controlled by a wet scrubber system. VOCs from the epoxy are emitted during the curing step and are also controlled by the scrubber system. No credit was taken for the control efficiency of this scrubbing system in the emission calculations.

Red Phosphorus Mix (Butyl Rubber Binder): For this type of mix, butyl rubber is used as a binder. The butyl rubber is granulated and mixed with a lubricant (silicon dioxide) and dissolved in methylene chloride. A gel is formed and mixed with RP and kneaded to the proper consistency. The mixture is then extruded into granules, placed in an oven for drying, screened for proper size, coated with silica, and pressed into pellets. The pellets can then be stored or sent to the munitions assembly operations for incorporation into the munition end item. Particulates are emitted from the mixing of the butyl rubber and silicon dioxide and are controlled by a dust collector. Methylene chloride, a hazardous air pollutant (HAP), is emitted from the blending, extruding, and drying steps and is controlled by a recovery system which allows the majority of the solvent to be reused. Particulates are also emitted from the coating of the granules prior to pelletizing and are controlled by a dust collector.

Munition Assembly

Another part of the ammunition operations is the assembly of components of the various munition items into a final or near final product. These operations are sometimes referred to as "Fill and Press" operations since, many of the pyrotechnic mixtures are "filled" into a munition body and "pressed" inside the body to compact the mix. These operations use an assembly-line production method with capabilities for production of end items ranging from 40 mm to 175 mm in size.

White Phosphorous Facility, Bldg 34-110

In addition to assembling munitions using the mixes included in the pyrotechnic mixing process descriptions, PBA operates the only white phosphorus filling plant in the western hemisphere. There are two production areas within the White Phosphorus facility. Each production area operates multiple lines, and each area utilizes a scrubber for emission control. The following description is specific to the new production area; the older production area is similar in operation.

A single dry process fill line with two storage tanks (22,460 gallons total capacity) and four fill nozzles (and two back-up nozzles) will provide production capacity at 2000 pounds of White Phosphorous (WP) fill per hour. The WP filling process will be located inside a sealed cabinet with glove box for operator access. A nitrogen blanket inhibits the WP from igniting during the filling process. After filling, a burster well is pressed into each munition body, sealing the WP inside. The fill lines vent to a 12,000 cfm variable throat venturi scrubber. The filled, sealed munitions then leave the sealed cabinet and are cleaned in a detergent-type degreaser and air-dried before transfer to the paint line.

Two paint booths, one primary and one touch-up, will be used to paint the filled munitions. The primary paint booth will be an automatic, high-volume, low-pressure (HVLP) electrostatic paint delivery system using a two-stage dry-filtration system to control particulate overspray. The touch-up booth will employ the same HVLP electrostatic paint system and dry-filtration system, but will be manually operated to allow the operator to paint only the damaged area of the munition.

Six natural gas fired ovens will be used to test the munitions for leaks. Rated capacity for these six ovens will be 750,000 Btu/hr each, 4.5 MM Btu/hr total. The ovens will be monitored for leaks and a deluge system will automatically activate in the event of fire. When open, these ovens will exhaust to the variable throat venture scrubber.

A diesel fired emergency generator, rated at 9.95 MMBtu/hr, will provide the facility with sufficient power for emergency shut down in the event of power loss. The generator is permitted under SN-EMGEN and will be operated no more than 500 hours per year, including normal testing and maintenance activities. A 500-gallon capacity above ground, horizontal tank will store diesel fuel for the emergency generator.

A brine tank (closed system) and bar-coding equipment will also be part of the WP line.

Quality Assurance Testing

Ammunition operations also include quality testing of the end items that are produced. These tests are performed in the open air or in the integrated test facility and consist of functioning of the particular item and measuring various performance parameters. The quality tests are performed on pyrotechnic mix batches, where sample munitions are assembled and tested to approve each batch of mix, and on end items where a statistical sample of items are pulled from each production lot and tested.

Munitions Packout

The final step in the overall ammunition operations process is the munitions packout. In this area markings and labels are placed on each individual end item, the end items are packed into the appropriate type of shipping container, and the containers are marked and labeled for shipment. This portion of the ammunition operations is usually referred to as Load and Packout, or LAP, and is performed on each type of munition previously described. There can be some variation from this general ammunition operations process and, due to PBA's product and process development activities, the facility frequently receives work on new items that may include only the assembling and packout processes. Other variations are that some of the marking and labeling of end items is done along with the assembly operations or some of the components are loaded into an end item at some of the packout operation locations.

Miscellaneous Operations

PBA also produces munitions for infrared screening and illuminating, and assembles a "less-than-lethal" munition that can be described as a "rubber bullet."

Specific Conditions

AOS-1. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by compliance with Specific Conditions AOS-5 and AOS-7 and Plantwide Condition 13. [Regulation 19, §19.501 et seq., and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
PM_{10}	27.6	19.7
SO_2	0.1	0.1
VOC	340.5	249.4*
CO	0.4	1.7

Pollutant	lb/hr	tpy
NO_x	0.5	2.0

* PBA Arsenal Production VOC limit.

AOS-2. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by compliance with Specific Conditions AOS-5 and AOS-7 and Plantwide Conditions 9 and 12. [Regulation 18, §18.801, and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
PM	27.6	19.7
Acetone	467.40	283.30
Any Single HAP	500.00	8.4*
Any Combination of HAPs	500.00	18.70*

* PBA Arsenal Production HAP limits.

AOS-3. Visible emissions may not exceed the limits specified in the following table of this permit as measured by EPA Reference Method 9.

Opacity Limits for Sources Within SN-AMM-01				
Process	Unit	Building	Opacity Limit	Regulatory Citation
Acetone	Baghouse	31-520	5%	§18.501
Jett-Air	6 HEPA Filters	34-640	5%	§18.501
Glatt	2 HEPA Filters	32-620	5%	§18.501
	Pleated Paper Filters for Sifter		5%	
MIGRAD	Baghouse	33-520	5%	§18.501
	Liquid Ring Vacuum Pump		5%	
Red Phosphorus Mix (Epoxy Binder)	Scrubber	31-530	5%	§18.501
Red Phosphorus Mix (Butyl Rubber Binder)	Baghouse	34-630	5%	§18.501
	Baghouse	34-650	5%	
Munition Assembly	Baghouse	31-630	5%	§18.501
	Baghouse	33-530	5%	§18.501

Opacity Limits for Sources Within SN-AMM-01				
Process	Unit	Building	Opacity Limit	Regulatory Citation
White Phosphorous	Baghouse	33-630	5%	§18.501
	Venturi Scrubber	34-196	20%	§19.503
	Venturi Scrubber	34-110	20%	§19.503
	Test Ovens (6)		5%	§18.501

AOS-4. Weekly observations of the above listed sources with 5% opacity limits shall be conducted by a person familiar with emissions from each source when the source is in operation. If any visible emissions are detected, the permittee shall take immediate action to identify and correct the cause of the visible emissions. After corrective action has been taken, another observation of the opacity from the affected source shall be conducted in order to confirm that visible emissions are no longer present. Records of all visible emissions observations and any corrective action taken shall be kept on site and made available to Department personnel upon request. If the source is not operating, a note shall be made in the records stating such. The Test Ovens do not require opacity observations.

Daily observations of the opacity at the Venturi Scrubbers (Building 34-196 and Building 34-110) shall be conducted by a person familiar with emissions from these sources when the sources are in operation. The facility shall maintain personnel trained in, but not necessarily certified in, EPA Reference Method 9, who shall train those observing the visible emissions at this source in order to ensure that a 20% maximum opacity limit is met. If visible emissions which appear to be in excess of the permitted opacity are detected, the permittee shall take immediate action to identify and correct the cause of the visible emissions. After corrective action has been taken, another observation of the opacity from the affected source shall be conducted in order to confirm that excess visible emissions are no longer present. Records of all visible emissions observations and any corrective action taken shall be kept on site and made available to Department personnel upon request. If the source is not operating, a note shall be made in the records stating such. [§18.1003 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

AOS-5. The permittee shall comply with the following daily and rolling 12-month material usage limits at SN-AMM-01. [§19.705 of Regulation 19, 40 CFR Part 70.6, §18.1004 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Material	Max. Daily Throughput Limit	Max. Rolling 12-Month Throughput Limit	Max. Total	Max. Content Limit(s)
Dry Material	352,992 lb/day	47,758,500 lb/yr	N/A	N/A

Material	Max. Daily Throughput Limit	Max. Rolling 12-Month Throughput Limit	Max. Total	Max. Content Limit(s)
Acetone	1440 gal/day	50,200 gal/yr	6.64 lb/gal	100% by weight
Acetone Binder	1800 lb/day	253,450 lb/yr	N/A	92% by weight
Natural Gas	N/A	39,500,000 scf/yr	N/A	N/A

AOS-6. The permittee shall maintain daily and monthly records of material throughput and supporting MSDS data to demonstrate compliance with the limits outlined in the table above. The daily records shall be updated by noon of the day following the recorded day. The monthly records shall be updated by the 15th day of the month following the last recorded month, and shall indicate a rolling 12-month total of each material type. The records shall be kept on site and made available to Department personnel upon request. The rolling 12-month records, including monthly totals, shall be submitted in accordance with the requirements of General Provision 7. [§19.705 of Regulation 19, 40 CFR Part 52, Subpart E, §18.1004 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

AOS-7. The permittee shall maintain the carbon bed filter system at the Red Phosphorous Mix (Butyl Rubber Binder) process in accordance with site specific standards. [§18.1104 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

AOS-8. The permittee shall maintain records of all carbon regeneration and change-out at the carbon bed filter system. The records shall be kept on site, made available to Department personnel upon request. [§18.1104 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SN-32-230
Chemical and Biological Defense Operations

Source Description

Chemical and biological defense operations presently include three (3) commodities: protective masks, structure and vehicle filters, and skin decontamination kits. Charcoal filter manufacturing is the only current process which generates air emissions. There are two types of charcoal filters; one type for use on structures, such as buildings, and the other used on tanks or other types of fighting vehicles. The manufacturing process consists of the fabrication of metal frames, filling the frames with charcoal as the filter medium, performance testing, and painting the filters. Particulate emissions from charcoal filling operations are controlled with a baghouse, which is vented inside the building. An additional baghouse has been constructed to further control charcoal filling operations. This baghouse will also vent inside the building. Particulate emissions are not included for this section as it is not released to the environment.

Performance testing with various HAP containing material meets the requirements of Group A (5) of the Insignificant Activities list found in Appendix A of Regulation 19, dated January 25, 2009.

The painting of the filters produces air emissions. The coatings to be used in this operation are Chemical Agent Resistant Compounds (CARC) which contain small quantities of VOC and HAPs. The other operations are the maintenance, repair and performance testing of various types of protective masks and the assembling of various components into kits used to decontaminate the skin that has been exposed to chemical agent.

SN-295-01
M-295 Decontamination Kits

Source Description

Decontamination Kits are manufactured on the M-291 Line (Bldg 63-110) and the M-295 Line (Bldg 63-220). The Decon Kit consists of a mitt with a sorbent-filled applicator on one side. The kit is used to neutralize chemical agents on exterior vehicle surfaces, rifle stocks, etc.

Sorbent powder, under a nitrogen blanket to prevent rapid decay upon exposure to air, is loaded into one of two hoppers. From the hoppers, the sorbent is fed into glove boxes, where the pad on each mitt is coated with approximately 25 grams of the sorbent powder. After filling, the mitts are sealed for distribution to soldiers.

A HEPA dust collection system, rated at 99.999% efficiency, is used to control particulate emissions from the process on the M-295 Line. Particulate emissions from the M-294 Line do not occur outside the building an therefore are not included in the permit.

Additionally, labeling of manufactured product shipping containers on the M-291 and M-295 Lines requires the use of paint and stencils. Emissions form this process are quantified.

Specific Conditions

CBD-1. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by compliance with Specific Conditions CBD-5 and CBD-6 and Plantwide Condition 13. [Regulation 19, §19.501 et seq. and 40 CFR Part 52, Subpart E]

SN	Description	Pollutant	lb/hr	tpy
M295-01	M295 Decontamination Kits	PM_{10}	0.1	0.1
		VOC	0.8	249.4*
32-230	Large Filter Production	VOC	27.0	249.4*

*PBA Arsenal Production VOC limit.

CBD-2. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by compliance with Specific Conditions CBD-5 and CBD-6 and Plantwide Condition 12. [Regulation 18, §18.801, and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

SN	Description	Pollutant	lb/hr	tpy
M295-01	M295 Decontamination Kits	PM	0.1	0.1
		Any Single HAP	0.80	8.4*
		Any Combination of HAPs	0.80	18.70*
32-230	Large Filter Production	Any Single HAP	27.00	8.4*
		Any Combination of HAPs	27.00	18.70*

* PBA Arsenal Production HAP limits.

CBD-3. The permittee shall not exceed 5% opacity at SN-M295-01. [§18.501 of the Arkansas Air Pollution Control Code (Regulation 18) and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

CBD-4. Weekly observations of the opacity at SN-M295-01 shall be conducted by a person familiar with emissions from the source when the source is in operation. If any visible emissions are detected, the permittee shall take immediate action to identify and correct the cause of the visible emissions. After corrective action has been taken, another observation of the opacity from this source shall be conducted in order to confirm that visible emissions are no longer present. Records of all visible emissions observations and any corrective action taken shall be kept on site and made available to Department personnel upon request. If the source is not operating, a note shall be made in the records stating such. [§18.1003 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

CBD-5. The permittee shall operate the HEPA dust collection system at all times during M295 production, and shall maintain the system in accordance with site specific standards specifications. A copy of the manufacturer's efficiency rating and recommended operating parameters shall be kept on site and made available to Department personnel upon request. [§19.303 of the Regulations of the Arkansas Plan of Implementation for Air Pollution Control (Regulation #19) and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

CBD-6. The permittee shall be limited to 78,000 pounds per year of sorbent material usage, based upon a 12-month rolling total. The monthly records shall be updated by the 15th day of the month following the last recorded month, and shall indicate a rolling 12-month total of each material type. 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 70.6]

CBD-7. The permittee shall keep an MSDS of the sorbent material listed in Specific Condition CBD-6 on site and available to Department personnel upon request. [§19.705 of the Regulations of the Arkansas Plan of Implementation for Air Pollution Control (Regulation #19) and 40 CFR Part 52, Subpart E]

SN-32-510, SN-32-520, SN-32-550, SN-32-720
Production Engineering Lab

Source Description

Product and process development is performed at the Production Engineering Lab (PEL) Complex and consists of experimentation with various mix "recipes" and mixing methods for new pyrotechnic mixes and new and improved mixing processes. Operations also include experimentation and/or testing of various munitions components and limited production activities and associated QA/QC procedures. Operations in this area are similar to those in the Ammunition Operations areas, but on a much smaller scale.

Specific Conditions

PEL-1. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by compliance with Specific Condition PEL-5 and Plantwide Condition 13. [Regulation 19, §19.501 et seq. and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
PM_{10}	0.1	0.1
VOC	25.4	249.4*

*PBA Arsenal Production VOC limit.

PEL-2. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by compliance with Specific Condition PEL-5 and Plantwide Condition 12. [Regulation 18, §18.801, and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
PM	0.1	0.1
Acetone	50.0	0.50
Any Single HAP	25.4	8.4*
Any Combination of HAPs	25.4	18.7*

*PBA Arsenal Production HAP limits.

PEL-3. The permittee shall not exceed the opacity limits set forth in the following table. [§18.501 of the Arkansas Air Pollution Control Code (Regulation 18) and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Opacity Limits for Production Engineering Lab			
Process	Unit	Building	Opacity Limit
Pilot Production Line	Baghouse	32-510	5%
	4 Dust Collectors	32-520	5%
	Bowl Mixer HEPA Filter	32-510	5%
Pilot Glatt Process	Baghouse	32-720	20%

PEL-4. Weekly observations of the above listed sources excluding the Baghouse at building 32-720 shall be conducted by a person familiar with emissions from each source when the source is in operation. If any visible emissions are detected, the permittee shall take immediate action to identify and correct the cause of the visible emissions. After corrective action has been taken, another observation of the opacity from the affected source shall be conducted in order to confirm that visible emissions are no longer present. Records of all visible emissions observations and any corrective action taken shall be kept on site and made available to Department personnel upon request. If the source is not operating, a note shall be made in the records stating such.

Daily observations of the opacity at the Baghouse at building 32-720 shall be conducted by a person familiar with emissions from this source when the source is in operation. The facility shall maintain personnel trained in, but not necessarily certified in, EPA Reference Method 9, who shall train those observing the visible emissions at this source in order to ensure that a 20% maximum opacity limit is met. If visible emissions which appear to be in excess of the permitted opacity are detected, the permittee shall take immediate action to identify and correct the cause of the visible emissions. After corrective action has been taken, another observation of the opacity from the affected source shall be conducted in order to confirm that excess visible emissions are no longer present. Records of all visible emissions observations and any corrective action taken shall be kept on site and made available to Department personnel upon request. If the source is not operating, a note shall be made in the records stating such. [§18.1003 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

PEL-5. The permittee shall comply with the following daily and rolling 12-month material usage limits at the Production Engineering Laboratory (Buildings 32-510, 32-520, 32-550, and 32-570). [§19.705 of Regulation 19, 40 CFR Part 70.6, §18.1004 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Material	Max. Daily Throughput Limit	Max. Rolling 12-Month Throughput Limit	Max. Total	Max. Content Limit(s)
Acetone	1000 lb/day	1000 lb/yr	6.64 lb/gal	100% by weight
Dry Materials	12,000 lb/day	25,000 lb/yr	N/A	N/A

PEL-6. The permittee shall maintain daily and monthly records of material throughput and supporting MSDS data to demonstrate compliance with the limits outlined in the table above. The daily records shall be updated by noon of the day following the recorded day. The monthly records shall be updated by the 15th day of the month following the last recorded month, and shall indicate a rolling 12-month total of each material type. The records shall be kept on site and made available to Department personnel upon request. The rolling 12-month records, including monthly totals, shall be submitted in accordance with the requirements of General Provision 7. [§19.705 of Regulation 19, 40 CFR Part 52, Subpart E, §18.1004 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §'8-4-311]

SN-42-960(1), SN-42-960(4), SN-43-960(6), SN-42-960(7), SN-42-960(8)
Central Incinerator Complex

Source Description

The Central Incinerator Complex (CIC) was originally constructed as a hazardous waste incinerator. The Arsenal has since decided to utilize the CIC for industrial and other non-hazardous waste. The CIC consists of the following process units:

Rotary Deactivation Furnace (RDF) (installed 1979);
Car Bottom Furnace (CBF) (installed 1988);
1850 hp Diesel Emergency Generator (installed 1993); and
Bulk Dunnage Incinerator (BDI) (installed 2002).

Emissions from the CBF, the RDF, and the BDI are routed to a common Central Afterburner (CAB), are water quenched, scrubbed in a variable throat wet venturi scrubber, sent through a cyclonic entrainment separator and baffle tower absorber, and then routed to a CHEAF aerosol collector and mist eliminator (SN-42-960(1)). The RDF is equipped with a single shroud that helps prevent heat loss into the building. Air which is circulated through the shroud is vented through a dust collection system consisting of a HEPA filter, carbon filter, and baghouse (SN-42-960(4)).

The WVRU Sludge Dryer and the WVRU Shredder were removed from the air permit in 2005. These units, along with associated equipment, were previously removed from service. The WVRU Crusher still remains in operation.

The Chain Grate Furnace and Munitions Test Chamber were removed from service in 1990. The Fluid Bed Incinerator was removed from service in 1999.

All combustion units at the CIC, except the Emergency Generator, are natural gas fired. Total rated heat input capacity for the CIC is 38.0 MMBTU/hr.

Rotary Deactivation Furnace

The RDF is a direct-fired, rotary kiln which is used to incinerate non-hazardous waste. The rotary kiln is designed with internal spiral flights which advance the feed through the furnace as the kiln rotates. Brass casings, lead, and other metals are recovered and sold as scrap metal. Munition casings which are contaminated or have no scrap metal value are shredded and the residues are collected in drums with any ash residue. Exhaust gases from the kiln are ducted to the Central Afterburner.

Car Bottom Furnace

The Car Bottom Furnace is a waste processing system designed to incinerate contaminated combustible material or to flash contaminated metal. This system consists of a natural gas fired furnace and a batch feed system. The furnace is a single chamber, self-moving, car bottom type.

Exhaust gases from the furnace are ducted to the Central Afterburner. Maximum operating temperature for the furnace is 1800 °F, with a normal operating range between 1050 °F and 1650 °F.

When the furnace is operated in batch mode, material is placed onto the car bottom which then moves into the furnace and the door is closed before the burner can be ignited. Once Dunnage has been incinerated (or combustible material is burned off the metal), the door is opened and the car bottom and any remaining non-combustible material (i.e. metal that had material flashed off) is removed.

Bulk Dunnage Incinerator

The Bulk Dunnage Incinerator (BDI) will be used to dispose of non-hazardous industrial waste at the rate of 1,000 pounds per hour. The primary chamber of the BDI is equipped with three (3) 1.5 MMBTU/hr burners.

The exhaust gases from the BDI will be routed through the existing afterburner and other control equipment associated with the CIC. The gas burners will remain in an "idling mode" when the BDI is not incinerating waste.

Waste Volume Reduction Unit Crusher

The WVRU Crusher works much like a trash compactor, crushing metal drums or munition bodies to reduce the volume. Spent munitions can be compacted at a maximum rate of 12 tons per hour. There are no permitted emissions from the WVRU Crusher.

Shredders

The shredders will process spent munitions and spent munition components such as canisters, smoke grenades, and smoke pots. The purpose of the shredders is to reduce the overall size of metal scraps and to suffieciently open the spent munitions to allow for separation of metal from ash residues. The shredders uses counter-rotating cutter blades and a high-torque, low speed electric motor to reduce the shredding intensity and to reduce the evolution of dust from the shredding process. The shredders are equipped with a 55 x 38 inch hopper to allow for continuous waste feed.

Wastes treated in the shredders either come from the incinerator of reject munitions or from QA testing of munitions. Casing and/or other contaminated metals from the CIC have been incinerated at temperatures above 1000 °F, therefore there will be no unburned pyrotechnic residue present. Although there are residues from QA tesing of munitions, these residues are not explosive; functioning munitions fully expends the pyrotechnic nature of the mix contained in the munitions.

The shredders are listed as insignificant activities under group A-13.

Tub Grinder

The Tub Grinder is diesel fired and has an output power of 475 horsepower. It will be used for mulching non-contaminated dunnage such as wood, cardboard, and nylon rope.

Specific Conditions

CIC-1. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by compliance with Specific Conditions CIC-7, CIC-8, CIC-10, CIC-12, CIC-13, and CIC-14 and Plantwide Condition 13. [Regulation 19, §19.501 et seq. and 40 CFR Part 52, Subpart E]

SN	Description	Pollutant	lb/hr	tpy
42-960(1)	CIC Combustion Units	PM_{10}	1.1	4.6
		SO_2	0.5	1.8
		VOC	17.5	249.4*
		CO	29.2	127.9
		NO_x	7.4	32.5
		Lead	0.23	0.99
		Dioxins and Furans	1.72 E-05	7.54 E-05
42-960(4)	RDF Shroud	PM_{10}	0.1	0.1
42-960(10)	Tub Grinder	PM_{10}	1.7	1.7
		SO_2	0.3	0.3
		VOC	0.3	249.4*
		CO	0.8	0.8
		NO_X	3.7	3.7

*PBA Arsenal Production VOC limit.

CIC-2. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by compliance with Specific Conditions CIC-7, CIC-8, CIC-10, CIC-12, CIC-13, and CIC-14 and Plantwide Condition 12. [Regulation 18, §18.801, and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

SN	Description	Pollutant	lb/hr	tpy
42-960(1)	CIC Combustion Units	PM	1.1	4.6
		Any Single HAP	0.35	8.4*
		Any Combination of HAPs	0.35	18.7*
42-960(4)	RDF Shroud	PM	0.1	0.1
42-960(10)	Tub Grinder	PM	1.7	1.7

*PBA Arsenal Production HAP limits.

CIC-3. The permittee shall not exceed the opacity limits set forth in the following table. [§18.501 of the Arkansas Air Pollution Control Code (Regulation 18) and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Opacity Limits for Central Incinerator Complex		
SN	Unit	Opacity Limit
42-960(1)	Common Stack	5%
42-960(4)	RDF Shroud Baghouse	5%
42-960(10)	Tub Grinder	20%

CIC-4. Weekly observations of the opacity at SN-42-960(1) and SN-42-960(4) shall be conducted by a person familiar with emissions from each source when the source is in operation. If any visible emissions are detected, the permittee shall take immediate action to identify and correct the cause of the visible emissions. After corrective action has been taken, another observation of the opacity from the affected source shall be conducted in order to confirm that visible emissions are no longer present. Records of all visible emissions observations and any corrective action taken shall be kept on site and made available to Department personnel upon request. If the source is not operating, a note shall be made in the records stating such. [§18.1003 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

CIC-5. The permittee shall only process non-hazardous industrial waste at the Central Incinerator Complex. [§19.705 of Regulation 19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR Part 70.6]

CIC-6. The permittee shall maintain daily records of each waste burned in each unit at the Central Incinerator Complex. The records shall specifically identify the content and origin of each waste. [§19.705 of the Arkansas State Implementation Plan for Air Pollution Control (Regulation 19) and 40 CFR Part 52 Subpart E]

CIC-7. The permittee shall only use pipeline natural gas as fuel for the combustion units at the Central Incinerator Complex. These units include the RDF, the CBF, the CAB, and the BDI. [§19.705 of Regulation 19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR Part 70.6]

CIC-8. The permittee shall maintain records of natural gas usage for the CIC combustion units. These records shall be updated monthly, kept on site, and made available to Department personnel upon request. [§19.705 of the Arkansas State Implementation Plan for Air Pollution Control (Regulation 19) and 40 CFR Part 52 Subpart E]

CIC-9. The permittee shall comply with the following daily and rolling 12-month material usage limits at the CIC. [§19.705 of Regulation 19, 40 CFR Part 70.6, §18.1004 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Unit	Material (All Non-Hazardous)	Max. Daily Throughput Limit	Max. Rolling 12-month Throughput Total
BDI	Industrial Waste	24,000 lb/day	6,552,000 lb/yr
RDF	Dry Material	36,000 lb/day	9,828,000 lb/yr
CBF	Waste Feed	14,400 lb/day	3,931,200 lb/yr

CIC-10. The permittee shall maintain daily and monthly records of material throughput and supporting characterization data as required by 40 CFR Part 60, Subparts CCCC and DDDD to demonstrate compliance with the limits outlined in the table above. The daily records shall be updated by noon of the day following the recorded day. The monthly records shall be updated by the 15th day of the month following the last recorded month, and shall indicate a rolling 12-month total of each material type. The records shall be kept on site and made available to Department personnel upon request. The rolling 12-month records, including monthly totals, shall be submitted in accordance with the requirements of General Provision 7. [§19.705 of Regulation 19, 40 CFR Part 52, Subpart E, §18.1004 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

CIC-11. The permittee shall maintain optimal combustion temperatures as determined by test results for each combustion unit of the CIC. These units include the RDF, CBF, and the BDI. Each unit's combustion zone temperature shall be measured at least once per operating hour and shall be recorded in a log. The combustion zone temperature records and temperature ranges determined by testing shall be kept on site and made available to Department personnel upon request. [§19.703 of the Arkansas State Implementation Plan for Air Pollution Control (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]

CIC-12. The permittee shall operate all control devices according to site specific standards at all times, or as indicated by compliant stack testing results.

For the BDI, CBF, and RDF, the control train includes the Central Afterburner (CAB), quench unit, variable throat wet venturi scrubber, cyclonic entrainment separator, the baffle tower absorber, and CHEAF aerosol collector and mist eliminator.

Control for the RDF also includes a HEPA filter, carbon filter, and baghouse.

All combustion zone temperatures shall be monitored and recorded at least once every hour of operation. Flow rates for scrubbers and absorbers shall be monitored and recorded at least once every hour of operation. All particulate control devices shall be inspected at least once per week during periods of operation. Records of parameter monitoring and inspection and maintenance of control devices shall be updated as performed, kept on site, and made available to Department personnel upon request.

[§19.303 of the Arkansas State Implementation Plan for Air Pollution Control (Regulation 19) and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

CIC-13. The permittee shall stack test the CIC units according to the following schedule. [§19.702 of Regulation 19 and 40 CFR Part 52, Subpart E]

Unit	Pollutant	Test Method	Frequency	First Test
RDF	Particulate Matter	5	Annual Tri-annual after 3 consecutive compliant events.	Within 180 days of initial start-up of the permitted source.
	Carbon Monoxide	10		
	Nitrogen Oxides	7E		
CBF	Particulate Matter	5	Annual Tri-annual after 3 consecutive compliant events.	Within 180 days of initial start-up of the permitted source.
	Carbon Monoxide	10		
	Nitrogen Oxides	7E		
BDI	Particulate Matter	5	Annual Tri-annual after 3 consecutive compliant events.	Within 180 days of initial start-up of the permitted source.
	Carbon Monoxide	10		
	Nitrogen Oxides	7E		

The test results for each pollutant at each unit shall be combined to determine compliance with the permitted emission rates at SN-42-960(1).

Alternatively, the permittee may perform one combined stack test annually for PM, CO and NO_X, provided that, at the time of each test, all three units are being operated simultaneously and at a minimum 90% throughput capacity.

Annual stack tests must be performed within 12 months of the initial stack test (or subsequent annual stack tests). When three consecutive annual stack tests have been conducted which demonstrate compliance with the permitted emission limit for a particular pollutant (i.e. PM, CO, or NO_X) for this source, no stack test will be required for that pollutant for the following two years. A stack test for each pollutant must be conducted the third year, no more than 36 months following the previous stack test. The permittee may continue the tri-annual stack tests for each pollutant provided the tests continue to demonstrate compliance with the permitted emission limit for the specific pollutant from this source. If a stack test identifies that the facility emissions for a particular pollutant are in excess of the permitted limit, that pollutant must be retested annually until three consecutive annual tests are passed, then tri-annual testing may be resumed for that pollutant.

CIC-14. The permittee shall maintain a record of operational parameters for each combustion unit and control device based upon each compliant stack testing event. These records of 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]

CIC-15. The RDF and CBF incinerators shall be subject to all applicable requirements of 40 CFR Part 60 Subpart DDDD, Emission Guidelines and Compliance Times for Commercial and Industrial Solid Waste Incineration Units that Commenced Construction On or Before November 30, 1999. The facility must be in compliance with the Arkansas State Plan required under this rule by the earlier of the following dates: December 1, 2005 or three years after the effective date of the State Plan approval. [§19.304 of Regulation 19 and 40 CFR §60.2500 through §60.2540]

CIC-16. The BDI incinerator shall be subject to and comply with all applicable requirements of 40 CFR Part 60 Subpart CCCC, Standards of Performance for Commercial and Industrial Solid Waste Incinerator Units for Which Construction is Commenced After November 30, 1999 or for Which Modification or Reconstrcution is Commenced on or After June 1, 2001. [§19.304 of Regulation 19 and 40 CFR §60.2000 through §60.2265]

CIC-17. The permittee shall maintain monthly waste feed throughput and diesel usage (as-received) records for the Tub Grinder (SN-42-960(10)). These records shall be kept on site, updated by the 15th of the month, and made available to Department personnel upon request. [§19.705 of Regulation 19 and 40 CFR Part 52, Subpart E]

SN-32-690, SN-33-760, SN-44-212, SN-77-950
Quality Assurance Testing

Source Description

As part of PBA's munition production mission, end items must be tested for quality assurance/quality control purposes. End items are tested at the Bombing Mat (SN-77-950), Dilly Farm Test Site (SN-44-212), Grenade Test Basin (SN-33-760), and the Drop Tower (SN-32-690). The testing of end items is accomplished by functioning the munition. When functioned, the Arsenal's munitions release smoke for screening or signaling purposes. Examples of munitions tested include smoke grenades, smoke pots, and red phosphorous rounds. Other activities include miscellaneous small scale testing of munitions or munition components. The emissions from these quality control activities are insignificant.

The Integrated Test Facility (SN-32-630) is an experimental operation, that may be a possible method of performing batch and lot testing of munitions and pyrotechnic mixes that are currently open air tested. The Integrated Test Facility will consist of a munition burn chamber, ductwork, a wet scrubber, and a fan unit. The purpose of the system is to perform quality assurance testing of munitions with a system that will capture particulate emissions. The wet scrubbing system will capture particulate coming out of the burn chamber. The smoke that is generated will be drawn out the top of the burn chamber through duct work that carries it through the scrubber and then out the fan exhaust. The system will be designed such that all smoke is routed through the wet scrubber.

Specific Conditions

QAT-1. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by compliance with Specific Conditions QAT-6, QAT-8, QAT-9, QAT-10, QAT-12 through QAT-15, QAT-17 and Plantwide Condition 13. [Regulation 19, §19.501 et seq. and 40 CFR Part 52, Subpart E]

SN	Description	Pollutant	lb/hr	tpy
32-690, 33-760, 44-212, 77-950	Drop Tower, Grenade Test Basin, Dilly Farm, Bombing Mat	PM_{10}	16.0	17.5
		SO_2	1.6	1.8
		VOC	1.6	249.4*
		CO	9.4	10.3
		NO_x	1.6	1.8
32-630	Integrated Test Facility	PM_{10}	2.8	0.9
		SO_2	5.6	1.8

SN	Description	Pollutant	lb/hr	tpy
		VOC	5.6	249.4*
		CO	5.6	1.8
		NO_x	32.9	10.3

*PBA Arsenal Production VOC limit.

QAT-2. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by compliance with Specific Conditions QAT-6, QAT-8, QAT-9, QAT-10, QAT-12 through QAT-15, QAT-17 and Plantwide Condition 12. [Regulation 18, §18.801, and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

SN	Description	Pollutant	lb/hr	tpy
32-690, 33-760, 44-212, 77-950	Drop Tower, Grenade Test Basin, Dilly Farm, Bombing Mat	PM	16.0	17.5
		Any Single HAP	5.36	8.4*
		Any Combination of HAPs	5.36	18.7*
32-630	Integrated Test Facility	PM	2.8	0.9
		Any Single HAP	2.30	8.4*
		Any Combination of HAPs	5.43	18.7*

*PBA Arsenal Production HAP limits.

QAT-3. An exemption from the opacity limitation of §19.503(B) of Regulation 19 has been granted by the ADEQ Director for SN-32-690, SN-33-760, SN-44-212, and SN-77-950. The operation of these sources shall be conducted in such a manner as to cause no nuisance to the surrounding community. The Department reserves the right to rescind this exemption if, at any time, the emissions from the operations become a nuisance to the surrounding community. A copy of the approval letter for this exemption is included as Appendix F of this permit. [§19.505(B) of Regulation 19 and 40 CFR Part 52 Subpart E]

QAT-4. The permittee shall not exceed the opacity limits set forth in the following table. [§18.501 of the Arkansas Air Pollution Control Code (Regulation 18) and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Opacity Limits for Integrated Test Facility			
SN	Unit	Building	Opacity Limit
32-630	Integrated Test Facility	32-630	20%

QAT-5. Daily observations of SN-32-630 shall be conducted by a person familiar with emissions from the source when the source is in operation. If any visible emissions are detected, the permittee shall take immediate action to identify and correct the cause of the visible emissions. After corrective action has been taken, another observation of the opacity from the affected source shall be conducted in order to confirm that visible emissions are no longer present. Records of all visible emissions observations and any corrective action taken shall be kept on site and made available to Department personnel upon request. If the source is not operating, a note shall be made in the records stating such. [§18.1003 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

QAT-6. The permittee shall comply with the following daily and rolling 12-month material usage limits at SN-32-690, SN-33-760, SN-44-212, and SN-77-950. [§19.705 of Regulation 19, 40 CFR Part 70.6, §18.1004 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SN	Material	Max. Daily Throughput Limit	Max. Rolling 12-month Throughput Total	Maximum Content Limit(s)
32-630 Integrated Test Facility	Pyrotechnic/RP Mix	1344 lb	70,000 lb	30 wt % Sugar
	Munitions	960 Munitions	50,000 Munitions	0.06534 lb Total Organic Compounds per Munition
32-690 Drop Tower	Pyrotechnic/RP Mix	384 lb	70,000 lb	30 wt % Sugar
	Colored Smoke Grenades	123 Grenades	44,895 Grenades	0.06534 lb Total Organic Compounds per Grenade
33-760 Grenade Test Basin	Pyrotechnic/RP Mix	384 lb	70,000 lb	30 wt % Sugar
	Colored Smoke Grenades	123 Grenades	44,895 Grenades	0.06534 lb Total Organic Compounds per Grenade
44-212	Pyrotechnic/RP Mix	384 lb	70,000 lb	30 wt % Sugar

SN	Material	Max. Daily Throughput Limit	Max. Rolling 12-month Throughput Total	Maximum Content Limit(s)
Dilly Farm	Colored Smoke Grenades	231 Grenades	84,315 Grenades	0.06534 lb Total Organic Compounds per Grenade
77-950 Bombing Mat	Pyrotechnic Mix	144 lb	52,560 lb	30 wt % Sugar
	Colored Smoke Grenades	36 Grenades	13,140 Grenades	0.06534 lb Total Organic Compounds per Grenade
	Red Phosphorous Mix	120 lb	43,800 lb	-

QAT-7. The permittee shall maintain daily and monthly records of material throughput and supporting MSDS data to demonstrate compliance with the limits outlined in the table above. The daily records shall be updated by noon of the day following the recorded day. The monthly records shall be updated by the 15th day of the month following the last recorded month, and shall indicate a rolling 12-month total of each material type. The records shall be kept on site and made available to Department personnel upon request. The rolling 12-month records, including monthly totals, shall be submitted in accordance with the requirements of General Provision 7. [§19.705 of Regulation 19, 40 CFR Part 52, Subpart E, §18.1004 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

QAT-8. The permittee shall only conduct open air testing or detonation at the sites identified as the Bombing Mat (SN-77-950), Dilly Farm Test Site (SN-44-212), Grenade Test Basin (SN-33-760), and the Drop Tower (SN-32-690). [§19.705 of Regulation 19, §18.1004 of Regulation 18, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR Part 70.6]

QAT-9. The permittee shall operate no more than one of the following sources per calendar day: SN-32-690, SN-33-760, SN-44-212, and SN-77-950. These sources shall only be operated between 6:00 a.m. and 6:00 p.m. [§19.705 of Regulation 19, 40 CFR Part 70.6, §18.1004 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

QAT-10. SN-32-630 shall only be operated between 6:00 a.m. and 6:00 p.m. [§19.705 of Regulation 19, 40 CFR Part 70.6, §18.1004 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

QAT-11. The permittee shall maintain daily records to demonstrate compliance with Specific Condition QAT-9 and QAT-10. The records shall be updated during each Quality Assurance Testing event. [§19.705 of Regulation 19, 40 CFR Part

52, Subpart E, §18.1004 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

QAT-12. The permittee shall be limited to the throughput rates outlined below for each test site.

SN	Test Site	Max. Hourly Limit	Max. Daily Limit
77-950	Bombing Mat	12 grenades/hour during three 15-minute episodes.	36 grenades/day
33-760	Grenade Test Basin	41 grenades/hour during three 15-minute episodes.	123 grenades/day
32-690	Drop Tower	41 grenades/hour during three 15-minute episodes.	123 grenades/day
44-212	Dilly Farm	77 grenades/hour during three 15-minute episodes.	231 grenades/day
32-630	Integrated Test Facility	80 munitions/hour	960 munitions/day

The permittee shall maintain hourly and daily records to demonstrate compliance with the requirements of this condition. The hourly records shall be updated with each testing event. The daily records shall be updated by noon of the following day. The records 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]

QAT-13. The permittee shall operate the scrubber at SN-32-630 within manufacturer's specifications at all times, unless otherwise approved by the Department. [§19.303 of Regulation 19 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

QAT-14. The permittee shall maintain a scrubber liquid flowrate at SN-32-630 of at least 30 gallons per minute. [§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]

QAT-15. The permittee shall maintain a gas pressure drop of at least 20 inches of water at the scrubber at SN-32-630. [§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]

QAT-16. The flow rate and pressure drop for the scrubber at SN-32-630 shall be monitored and recorded daily. The scrubber shall be inspected once per week. Records of monitoring, inspection, and maintenance shall be updated as performed, kept on site, and made available to Department personnel upon request. [[§19.705 of Regulation 19 and 40 CFR Part 52, Subpart E]

QAT-17. The permittee shall conduct compliance testing for the particulate matter emissions from the scrubber at SN-32-630 using EPA Reference Methods 5 and 202 for PM and EPA Reference Methods 201A and 202 or 5 and 202 for PM_{10}.

By using Methods 5 and 202 for PM_{10}, the permittee will assume all collected particulate is PM_{10}. These tests will be conducted in accordance with Plantwide Condition 3. During the tests, the scrubber must be operated in compliance with QAT-14 and QAT-15. [Regulation No. 19 §19.702 and 40 CFR Part 52 Subpart E]

SN-32-060, SN-33-060, SN-34-125, SN-42-960(8)
Boiler Complex

Source Description

The boiler complex consists of natural gas fired boilers which provide steam to power the various production area operations at PBA. These boilers are located in three (3) buildings, 32-060, 33-060, and 34-125 (originally 34-140).

Boiler 1 and Boiler 2 in Building 32-060 (SN-32-060) are rated at 25.1 MMBtu/hr each. They were both installed in 1996 and are both subject to 40 CFR Part 60 Subpart Dc. Boiler 1 and Boiler 2 in Building 33-060 (SN-33-060) are rated at 30.0 MM Btu/hr each. They were both installed in 1964, and are thus not subject to Subpart Dc. Boiler 1 and Boiler 2 in Building 34-125 (SN-34-125) are rated at 14.7 MMBtu/hr each. They were installed in 1997 and are both subject to Subpart Dc.

SN-42-960(8) consist of two (2) natural gas fired boilers each rated at 2.4 MMBtu/hr which are located at the Central Incinerator Complex.

Specific Conditions

BCX-1. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by compliance with Specific Condition BCX-4 and Plantwide Condition 13. [Regulation 19, §19.501 et seq. and 40 CFR Part 52, Subpart E]

SN	Description	Pollutant	lb/hr	tpy
32-060	Boiler 1 25.1 MMBtu/hr	PM_{10}	0.2	0.8
		SO_2	0.1	0.1
		VOC	0.2	249.4*
		CO	2.1	8.8
		NO_x	2.4	10.5
		Lead	1.2 E-05	5.3 E-05
32-060	Boiler 2 25.1 MM Btu/hr	PM_{10}	0.2	0.8
		SO_2	0.1	0.1
		VOC	0.2	249.4*
		CO	2.1	8.8
		NO_X	2.4	10.5

SN	Description	Pollutant	lb/hr	tpy
		Lead	1.2 E-05	5.3 E-05
33-060	Boiler 1 30 MM Btu/hr	PM_{10}	0.3	1.0
		SO_2	0.1	0.1
		VOC	0.2	249.4*
		CO	2.4	10.6
		NO_X	2.9	12.6
		Lead	1.4 E-05	6.3 E-05
33-060	Boiler 2 30 MM Btu/hr	PM_{10}	0.3	1.0
		SO_2	0.1	0.1
		VOC	0.2	249.4*
		CO	2.4	10.6
		NO_X	2.9	12.6
		Lead	1.4 E-05	6.3 E-05
34-125	Boiler 1 14.7 MM Btu/hr	PM_{10}	0.2	0.5
		SO_2	0.1	0.1
		VOC	0.1	249.4*
		CO	1.2	5.2
		NO_X	1.4	6.2
		Lead	7.0 E-06	3.1 E-05
34-125	Boiler 2 14.7 MM Btu/hr	PM_{10}	0.2	0.5
		SO_2	0.1	0.1
		VOC	0.1	249.4*
		CO	1.2	5.2
		NO_X	1.4	6.2
		Lead	7.0 E-06	3.1 E-05
42-960(8)	Boiler No. 1 2.4 MM Btu/hr	PM_{10}	0.1	0.2
		SO_2	0.1	0.1

SN	Description	Pollutant	lb/hr	tpy
		VOC	0.1	249.4*
		CO	0.5	1.8
		NO_X	0.5	2.2
		Lead	2.4 E-06	1.1 E-05
42-960(8)	Boiler No. 2 2.4 MM Btu/hr	PM_{10}	0.1	0.2
		SO_2	0.1	0.1
		VOC	0.1	249.4*
		CO	0.5	1.8
		NO_X	0.5	2.2
		Lead	2.4 E-06	1.1 E-05

*PBA Arsenal Production VOC limit.

BCX-2. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by compliance with Specific Condition BCX-4 and Plantwide Condition 12. [Regulation 18, §18.801, and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

SN	Description	Pollutant	lb/hr	tpy
32-060	Boiler 1 25.1 MM Btu/hr	PM	0.2	0.8
		Any Single HAP	0.34	8.4*
		Any Combination of HAPs	0.34	18.7*
32-060	Boiler 2 25.1 MM Btu/hr	PM	0.2	0.8
		Any Single HAP	0.34	8.4*
		Any Combination of HAPs	0.34	18.7*
33-060	Boiler 1 30 MM Btu/hr	PM	0.3	1.0
		Any Single HAP	0.35	8.4*
		Any Combination of HAPs	0.35	18.7*
33-060	Boiler 2 30 MM Btu/hr	PM	0.3	1.0

SN	Description	Pollutant	lb/hr	tpy
		Any Single HAP	0.35	8.4*
		Any Combination of HAPs	0.35	18.7*
34-125	Boiler 1 14.7 MM Btu/hr	PM	0.2	0.5
		Any Single HAP	0.32	8.4*
		Any Combination of HAPs	0.32	18.7*
34-125	Boiler 2 14.7 MM Btu/hr	PM	0.2	0.5
		Any Single HAP	0.32	8.4*
		Any Combination of HAPs	0.32	18.7*
42-960(8)	Boiler No. 1 2.4 MM Btu/hr	PM	0.1	0.2
		Any Single HAP	0.29	8.4*
		Any Combination of HAPs	0.29	18.7*
42-960(8)	Boiler No. 2 2.4 MM Btu/hr	PM	0.1	0.2
		Any Single HAP	0.29	8.4*
		Any Combination of HAPs	0.29	18.7*

BCX-3. The permittee shall not exceed 5% opacity at Buildings SN-32-060, SN-33-060, SN-34-125, and SN-42-960(8). Compliance with this condition shall be demonstrated by the fuel use limit outlined in the following condition. [§18.501 of the Arkansas Air Pollution Control Code (Regulation 18) and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

BCX-4. Pipeline natural gas shall be the only fuel used at the boilers housed at Buildings SN-32-060, SN-33-060, SN-34-125, and SN-42-960(8) except during periods of natural gas curtailment, when No. 2 fuel oil may be used. The fuel oil usage option may be exercised provided the Department is notified in advance, with sufficient justification of the curtailment condition, and provided the events are reported as upset conditions in accordance with General Provision 8 of 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 Part 70.6]

BCX-5. The permittee shall record and maintain the amounts of fuel combusted monthly for Boiler #1 and Boiler #2 at SN-32-060 and for Boiler #1 and Boiler #2 at SN-34-125. The monthly records shall be updated by the 15th day of the month following the last recorded month, and shall indicate a rolling 12-month total of each material type. The records shall be kept on site and made available to Department personnel upon request. [§19.304 of Regulation 19 and 40 CFR Part 60.48c(g)]

BCX-6. The fuel usage records for Boiler #1 and Boiler #2 at SN-32-060 and for Boiler #1 and Boiler #2 at SN-34-125 shall be maintained for a period of two years following the date of such records. [§19.304 of Regulation 19 and 40 CFR Part 60.48c(i)]

SN-42-930(1) and SN-42-930(2)
Central Waste Treatment (CWT) Feed/Storage System

Source Description

Lime and powdered activated carbon are received in bulk quantities. The dry materials are delivered by truck and are pneumatically transferred into the appropriate silo. The Bulk Carbon Feed/Storage silo is designated as SN-42-930 (1) and the Bulk Lime Feed/Storage silo is designated as SN-42-930 (2). The carbon is augered into a carbon slurry tank located in an enclosed area beneath the carbon storage silo as necessary. Likewise, the lime is augered into a lime slurry tank located in an enclosed area beneath the lime storage silo as needed. These slurries are delivered into the wastewater unit in the underground treatment tanks at the Central Waste Treatment (CWT) facility. A dust collector is located on each silo to control particulate emissions.

Specific Conditions

CWT-1. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by compliance with Specific Condition CWT-5. [Regulation 19, §19.501 et seq. and 40 CFR Part 52, Subpart E]

SN	Description	Pollutant	lb/hr	tpy
42-930(1)	Bulk Carbon Storage/Feed System	PM_{10}	0.2	0.9
42-930(2)	Bulk Lime Storage/Feed System	PM_{10}	0.1	0.1

CTW-2. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by compliance with Specific Condition CWT-5. [Regulation 18, §18.801, and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

SN	Description	Pollutant	lb/hr	tpy
42-930(1)	Bulk Carbon Storage/Feed System	PM	0.2	0.9
42-930(2)	Bulk Lime Storage/Feed System	PM	0.1	0.1

CWT-3. The permittee shall not exceed 5% opacity at SN-42-930(1) or SN-42-930(2). [§19.503 of Regulation 19 and 40 CFR Part 52, Subpart E]

CWT-4. Observations of the opacity at SN-42-930(1) and SN-42-930(2) shall be conducted when bulk materials are being transferred into the silos by a person familiar with emissions from each source. If any visible emissions are detected, the permittee shall take immediate action to identify and correct the cause of the visible emissions. After corrective action has been taken, another observation of the opacity from the affected source shall be conducted in order to confirm that visible emissions are no longer present. Records of all visible emissions observations and any corrective action taken shall be kept on site and made available to Department personnel upon request. [§18.1003 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

CWT-5. The permittee shall be limited to the following throughput limits. [§19.705 of Regulation 19, 40 CFR Part 70.6, §18.1004 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SN	Material	Max. Rolling 12-month Throughput Limit
42-930(1)	Carbon	16,312,000 lb/yr
42-930(2)	Lime	1,350,240 lb/yr

CWT-6. The permittee shall maintain monthly records of material throughput and supporting MSDS data to demonstrate compliance with the limits outlined in the table above. The monthly records shall be updated by the 15th day of the month following the last recorded month, and shall indicate a rolling 12-month total of each material type. The records shall be kept on site and made available to Department personnel upon request. The rolling 12-month records, including monthly totals, shall be submitted in accordance with the requirements of General Provision 7. [§19.705 of Regulation 19, 40 CFR Part 52, Subpart E, §18.1004 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SN-PW-01
Parts Washers

Source Description

Parts washers are located at various production and maintenance buildings located throughout the facility. Most parts washers contain solvent that is 100% VOC but contains no HAPs. However, some parts washers contain a solvent cleaner with naphthalene as a component.

Specific Conditions

PWS-1. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by compliance with Specific Condition PWS-3 and Plantwide Condition 13. [Regulation 19, §19.501 et seq. and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
VOC	2.6	249.4*

*PBA Arsenal Production VOC limit.

PWS-2. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by compliance with Specific Condition PWS-3 and Plantwide Condition 12. [Regulation 18, §18.801, and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
Any Single HAP	0.2	8.4*
Any Combination of HAPs	0.2	18.7*

*PBA Arsenal Production HAP limits.

PWS-3. Usage for emissions from the Parts Washer for Plantwide Conditions 11 and 14 shall be based upon the following equation:

Usage = Clean Solvent – Spent Solvent

The monthly records shall be updated by the 15th day of the month following the last recorded month, and shall indicate a rolling 12-month total of each material type. The records shall be kept on site and made available to Department personnel upon request. The rolling 12-month records, including monthly totals, shall be submitted in accordance with the requirements of General Provision 7. [§19.705 of Regulation 19 and 40 CFR Part 52, Subpart E]

SN-TANKS-01
Tanks

Source Description

PBA stores No. 2 fuel oil in significant quantities in tanks in various locations to be used in the event of natural gas curtailment. PBA also stores gasoline in two (2) tanks and diesel fuel in one (1) tank in significant quantities located at the maintenance area to be used to fuel government vehicles.

Specific Conditions

TKS-1. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by compliance with Specific Condition TKS-2 and Plantwide Condition 13. [Regulation 19, §19.501 et seq. and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
VOC	378.0	249.4*

*PBA Arsenal Production VOC limit.

TKS-2. The permittee shall be limited to the following throughput limits. [§19.705 of Regulation 19, A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, and 40 CFR Part 70.6]

SN	Material	Max. Rolling 12-month Throughput Limit
TANKS-01	Gasoline	360,000 gal/yr
	Diesel	120,000 gal/yr
	#2 Fuel Oil	399,910 gal/yr

TKS-3. The permittee shall maintain monthly records of material throughput. The monthly records shall be updated by the 15th day of the month following the last recorded month, and shall indicate a rolling 12-month total of each material type. The records shall be kept on site and made available to Department personnel upon request. The rolling 12-month records, including monthly totals, shall be submitted in accordance with the requirements of General Provision 7. [§19.705 of Regulation 19 and 40 CFR Part 52, Subpart E]

SN-32-035
Motor Pool Paint Booths

Source Description

Painting operations pertaining to automotive repair and maintenance are performed in Building 32-035. The building contains two stand-alone paint booths. This process is not subject to NSPS Subpart MM, which applies to facilities that paint vehicles during manufacture.

A Chemical Agent Resistant Coating (CARC) will be used to paint military vehicles and equipment in the spray booth at the Motor Pool. Other activities in the Motor Pool area include the repair/maintenance of chemical decontamination equipment (M12A1), portable medicine/latrine units (CBPS)., and military van units (CPDepMeds).

Specific Conditions

MPP-1. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by compliance with Plantwide Condition 13. [Regulation 19, §19.501 et seq. and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
PM_{10}	0.4	0.1
VOC	44.8	249.4*
Lead	0.078	0.0195

*PBA Arsenal Production VOC limit.

MPP-2. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by compliance with Plantwide Condition 12. [Regulation 18, §18.801, and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
PM	0.4	0.1
Any Single HAP	39.6	8.4*
Any Combination of HAPs	39.6	18.7*

*PBA Arsenal Production HAP limits.

MPP-3. The permittee shall not exceed 5% opacity at SN-32-035. [§18.501 of the Arkansas Air Pollution Control Code (Regulation 18) and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

MPP-4. Weekly observations of the opacity at SN-32-035 shall be conducted by a person familiar with emissions from the source when the source is in operation. If any visible emissions are detected, the permittee shall take immediate action to identify and correct the cause of the visible emissions. After corrective action has been taken, another observation of the opacity from this source shall be conducted in order to confirm that visible emissions are no longer present. Records of all visible emissions observations and any corrective action taken shall be kept on site and made available to Department personnel upon request. If the source is not operating, a note shall be made in the records stating such. [§18.1003 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SN-60-070, SN-74-100, PBCA-01 through PBCA-04
Depot Support

Source Description

Personal Protection Ensembles, also known as rubber goods, are used in the day-to-day operation of the Pine Bluff Arsenal. In the course of normal wear and tear, the rubber goods develop scrapes, cuts and tears. In order to preserve the protective qualities of the rubber goods, repairs must be made. The repair process is not automated and is done by hand. Emissions are ducted by hood to an emission point known as Building 60-070. A second rubber goods repair facility operates at Building 74-100 in support of the chemical agent demilitarization mission. There are no emission controls on these sources.

Rubber goods determined in need of repair are routed to Building 60-070 or 74-100 to the rubber goods repair area. The rubber goods are examined and then patched or repaired as necessary. Adhesives and glues are used in the repair process. Miscellaneous paints and solvents are also used at Depot Support for equipment upkeep and maintenance.

Once the rubber goods have been repaired they are returned to service.

Four (4) temporary diesel-fired generators (PBCA-01 through PBCA-04) perform liquid transfer of Pine Bluff Chemical Activity (PBCA) Ton Containers (TCs) inside the Bond Road Exclusion Area. PBCA-01 and PBCA-02 are 100 kW generators; PBCA-03 and PBCA-04 are 45 kW generators.

Specific Conditions

DSF-1. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by compliance with Specific Conditions DSF-3 and DSF-4 and Plantwide Condition 13. [Regulation 19, §19.501 et seq. and 40 CFR Part 52, Subpart E]

SN	Pollutant	lb/hr	tpy
60-070	VOC	3.4	249.4*
74-100	VOC	3.4	249.4*
PBCA-01	PM_{10}	0.2	0.4
	SO_2	0.1	0.3
	VOC	0.2	249.4*
	CO	0.4	1.1
	NO_X	1.5	4.5

SN	Pollutant	lb/hr	tpy
PBCA-02	PM_{10}	0.2	0.4
	SO_2	0.1	0.3
	VOC	0.2	249.4*
	CO	0.4	1.1
	NO_X	1.5	4.5
PBCA-03	PM_{10}	0.1	0.2
	SO_2	0.1	0.2
	VOC	0.1	249.4*
	CO	0.2	0.5
	NO_X	0.7	2.1
PBCA-04	PM_{10}	0.1	0.2
	SO_2	0.1	0.2
	VOC	0.1	249.4*
	CO	0.2	0.5
	NO_X	0.7	2.1

*PBA Arsenal Production VOC limit.

DSF-2. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by compliance with Specific Condition DSF-4 and Plantwide Condition 12. [Regulation 18, §18.801, and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

SN	Pollutant	lb/hr	tpy
60-070	Any Single HAP	2.4	8.4*
	Any Combination of HAPs	2.4	18.7*
74-100	Any Single HAP	2.4	8.4*
	Any Combination of HAPs	2.4	18.7*
PBCA-01	PM	0.2	0.4
	Any Single HAP	0.01	8.4*

SN	Pollutant	lb/hr	tpy
	Any Combination of HAPs	0.01	18.7*
PBCA-02	PM	0.2	0.4
	Any Single HAP	0.01	8.4*
	Any Combination of HAPs	0.01	18.7*
PBCA-03	PM	0.1	0.2
	Any Single HAP	0.01	8.4*
	Any Combination of HAPs	0.01	18.7*
PBCA-04	PM	0.1	0.2
	Any Single HAP	0.01	8.4*
	Any Combination of HAPs	0.01	18.7*

*PBA Arsenal Production HAP limits.

DSF-3. The sulfur content of the No. 2 fuel oil used shall not exceed 0.5% by weight. The sulfur content shall be verified by testing or by vendor's written guarantee for each shipment of fuel oil received at the site. [Regulation No. 19 §19.705 and A.C.A. §8-4-203 as referenced by §8 4 304 and §8 4 311]

DSF-4. The permittee shall not operate each engine (SN-PBCA-01through SN-PBCA-04) more than 6000 hours total at the facility per consecutive 12 month period. [Regulation No. 19 §19.705 and A.C.A. §8-4-203 as referenced by §8 4 304 and §8 4 311]

DSF-5. The permittee will maintain monthly records which demonstrate compliance with Specific Conditions DSF-4 and DSF-6. The permittee will maintain a twelve month rolling total and each individual month's data on-site and made available to Department personnel upon request. The permittee will update the records by the fifteenth day of the month following the month to which the records pertain. [Regulation No. 19 §19.705 and A.C.A. §8-4-203 as referenced by §8 4 304 and §8 4 311]

DSF-6. The permittee shall not operate SN-PBCA-01 through SN-PBCA-04 more than twelve (12) months. [Regulation No. 19 §19.304 and CFR 60 Subpart IIII]

SN-EMGEN
Arsenal Emergency Generators

Source Description

Emergency generators are located at various locations throughout the facility and will be moved as needed. These generators are used as back-up power for critical equipment or processes (including power supplied to portions of the facility) when electric power from the local supplier is interrupted or insufficient. The generators are also operated as required for readiness testing and maintenance.

There are numerous diesel fuel fired generators available to support the Arsenal portion of the facility. None of the generators are subject to NSPS 40 CFR 60, Subpart IIII because they are either portable or were ordered prior to July 11, 2005.

Specific Conditions

EMGEN-1. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by compliance with Specific Condition EMGEN-3 and Plantwide Condition 13. [Regulation 19, §19.501 et seq. and 40 CFR Part 52, Subpart E]

SN	Description	Pollutant	lb/hr	tpy
EMGEN	33 Emergency Generators	PM_{10}	15.1	3.8
		SO_2	32.0	8.0
		VOC	16.8	249.4*
		CO	63.5	15.9
		NO_x	286.6	71.7

*PBA Arsenal Production VOC limit.

EMGEN-2. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by compliance with Specific Condition EMGEN-3. [Regulation 18, §18.801, and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

SN	Description	Pollutant	lb/hr	tpy
EMGEN	33 Emergency Generators	PM	15.1	3.8
		Any Single HAP	0.01	8.4*
		Any Combination of HAPs	0.01	18.7*

EMGEN-3. The permittee shall not operate any emergency generator more than 500 hours each per consecutive 12 month period. [Regulation No. 19 §19.705 and A.C.A. §8-4-203 as referenced by §8 4 304 and §8 4 311]

EMGEN-4. The permittee will maintain monthly records which demonstrate compliance with Specific Conditions EMGEN-3. The permittee will maintain a twelve month rolling total and each individual month's data on-site and made available to Department personnel upon request. The permittee will update the records by the fifteenth day of the month following the month to which the records pertain. [Regulation No. 19 §19.705 and A.C.A. §8-4-203 as referenced by §8 4 304 and §8 4 311]

Non-Stockpile Disposal Operations

Area Description

Non-Stockpile Chemical Material (NSCM) is material not in the current US inventory of chemical munitions. It includes buried and recovered material (munitions or other), components of binary chemical weapons, former production facilities, and miscellaneous material. The following Non-Stockpile Disposal Operations are currently ongoing at the Pine Bluff Arsenal: (1) Ton Container Decontamination Facility (TCDF), (2) Pine Bluff Explosive Destruction Facility (PBEDS), and (3) German Traktor Rocket Separation System (GTRSS).

SN-TC-01, 02, 03, 04, 06, and 07
Ton Container Decontamination Facility

Source Description

Pine Bluff Arsenal is permitted to conduct a recycling operation for approximately 4,400 ton containers. These carbon steel containers have been manufactured since the 1930s for various industrial uses. Some of the containers were originally used for storage of various chemical warfare agents. The ton containers at PBA are not expected to contain any chemical agent, but the facility has committed to sampling and analyzing the interior contents of each container before processing. If any agent is found, the containers will be drained prior to transport.

Two parallel filtration units (Filtration Systems 1 and 2, TC-01 and TC-02) are used to treat and monitor the process air prior to exhaust from the Environmentally Controlled Enclosure through two separate stacks. Each of these units consists of a pre-filter, a HEPA filter, sulfur impregnated carbon (SIC) section, a monitoring section, a second SIC section, a second HEPA filter, and a second monitoring section.

Two laboratories, Mobile Chemical Laboratory (MCL) One and Mobile Chemical Laboratory (MCL) Two, will be used for analysis of ton container samples. MCL One and MCL Two will each be equipped with a filtration system (TC-03 and TC-04). Each MCL filtration system consists of a pre-filter, a HEPA filter, an activated charcoal filter, a monitoring section, and a second activated charcoal filter.

Empty ton containers (TCs) will be decontaminated to meet a U.S. Army 5-X decontamination level through the use of electrical heating that will raise the TC to 1000°F or higher for a minimum of fifteen minutes. The objective of the electrical heating decontamination technique is to raise the temperature of the TCs to a level where chemical agents and other compounds potentially present in the empty TCs as residue are evaporated, and/or undergo decomposition, and are captured in the pollution abatement system. Initially each TC will be blasted with an abrasive to remove all residual paint on the surface of the TC before heating. Prior to blasting equipment being available, up to twenty-five TC will be coated with a paint remover prior to heating. During TC heating operations, the Carbon Filter System associated with the electrical heating operation will be operated at all times. All emissions from the TC heating Carbon Filter System will be routed to the TC environmental enclosure Carbon Filter System.

A 750 kW diesel power generator is associated with this source. It is included in the Emergency Generator Section of the permit.

Specific Conditions

TCD-1. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by compliance with Specific Condition TCD-8, TCD-9, TCD-11, and TCD-13. [Regulation 19, §19.501 et seq. and 40 CFR Part 52, Subpart E]

SN	Description	Pollutant	lb/hr	tpy
TC-01 TC-02	Environmentally Controlled Enclosure Filtration Systems 1 and 2	PM_{10}	0.4	1.8
		VOC	7.8	1.7
TC-03	Mobile Chemical Laboratory Filtration System One	PM_{10}	0.1	0.1
TC-04	Mobile Chemical Laboratory Filtration System Two	PM_{10}	0.1	0.1
TC-06	Ton Container Paint Removal	PM_{10}	1.1	0.7
		Lead	0.3	0.2

TCD-2. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by compliance with Specific Condition TCD-8, TCD-9, TCD-11, and TCD-13. [Regulation 18, §18.801, and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

SN	Description	Pollutant	lb/hr	tpy
TC-01 TC-02	Environmentally Controlled Enclosure Filtration Systems 1 and 2	PM	0.4	1.8
		Arsenic Compounds	0.0739	0.0160
		Carbon Disulfide	0.05	0.01
		Ethyl chloride	0.38	0.09
		Hydrogen Chloride	0.09	0.01
		Hydrogen Sulfide	0.08	0.02
		Mercury Compounds	0.0001	0.0001
		Vinyl Chloride	2.38	0.52
TC-03	Mobile Chemical Laboratory Filtration System One	PM	0.1	0.1

SN	Description	Pollutant	lb/hr	tpy
TC-04	Mobile Chemical Laboratory Filtration System Two	PM	0.1	0.1
TC-06	Ton Container Paint Removal	PM	1.1	0.7
		Arsenic Compounds	0.01	0.01
		Cadmium	0.01	0.01
		Carbon Disulfide	0.05	0.01
		Chromium	0.01	0.01
		Ethyl chloride	0.38	0.09
		Hydrogen Chloride	0.01	0.01
		Vinyl Chloride	2.38	0.52

TCD-3. The permittee shall not exceed 5% opacity at SN-TC-01, SN-TC-02, SN-TC-03, SN-TC-04, or SN-TC-06. [§18.501 of the Arkansas Air Pollution Control Code (Regulation 18) and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

TCD-4. Weekly observations of the opacity at SN-TC-01, SN-TC-02, SN-TC-03, SN-TC-04, and SN-TC-06 shall be conducted by a person familiar with emissions from each source when the source is in operation. If any visible emissions are detected, the permittee shall take immediate action to identify and correct the cause of the visible emissions. After corrective action has been taken, another observation of the opacity from the affected source shall be conducted in order to confirm that visible emissions are no longer present. Records of all visible emissions observations and any corrective action taken shall be kept on site and made available to Department personnel upon request. If the source is not operating, a note shall be made in the records stating such. [§18.1003 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

TCD-5. The permittee shall sample and analyze the contents of each ton container to ensure that no liquid chemical warfare agent is present prior to processing. [§19.705 of the Regulations of the Arkansas Plan of Implementation for Air Pollution Control (Regulation #19), A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR Part 70.6]

TCD-6. The permittee shall maintain a written record of each container's sampling and the results of each content analysis. This record shall be kept on site and made available to Department personnel upon request. [§19.705 of the Regulations of the Arkansas Plan of Implementation for Air Pollution Control (Regulation #19)and 40 CFR Part 52, Subpart E]

TCD-7. The permittee shall notify the Department within 24 hours of discovery of liquid chemical warfare agent in any ton container. This notification shall include a complete description of material characteristics and a detailed protocol for handling and storage of the discovered agent. [§19.705 of the Regulations of the Arkansas Plan of Implementation for Air Pollution Control (Regulation #19) and 40 CFR Part 52, Subpart E]

TCD-8. The permittee shall route all emissions from sampling, opening, rinsing, and drying processes through the pre-filters, HEPA filters, and SIC as described in the permit application.

Near-real time monitors on the filtration systems shall be used to determine potential concentrations of the following chemical agents: Sarin (GB), nerve agent (VX), mustard (HD), and Lewisite (L).

A monitor shall be positioned at the following locations: at the mid-bed of the SIC filtration units at each of the Filtration Systems at the Environmentally Controlled Enclosure, and at the mid-bed of the charcoal Filtration System at each Mobile Chemical Laboratory (One and Two).

A second monitor shall be positioned at the following locations: at the exhaust of the second SIC filtration unit at each of the Filtration Systems at the Environmentally Controlled Enclosure.

If agent is confirmed as being present at the mid-bed of Filtration System 1 or 2, the operation shall be stopped and the first bed of filters in Filtration System 1 or 2 shall be replaced.

If agent is confirmed as being present at the mid-bed of either Mobile Chemical Laboratory Filtration System (One or Two), the operation shall be stopped and the activated charcoal in the Filtration System shall be replaced.

[§18.1003 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

TCD-9. The permittee shall maintain the emission control equipment as described in the application and according to site specific specification. The differential pressure of the pre-filters, HEPA filters, and SIC filters shall be monitored no less than once per week in order to ensure good operating condition. [§19.303 of the Regulations of the Arkansas Plan of Implementation for Air Pollution Control (Regulation #19) and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

TCD-10. The permittee shall maintain a written record of control equipment monitoring and subsequent maintenance. This record shall be kept on site and made available to Department personnel upon request. [§19.705 of the Regulations of the Arkansas Plan of Implementation for Air Pollution Control (Regulation #19) and 40 CFR Part 52, Subpart E]

TCD-11. The permittee shall process no more than 24 TCs through the Ton Container Paint Removal (SN-TCD-06) per day and no more than 2400 TCs in a consecutive 12-month period. [§19.705 of Regulation 19, §18.1004 of Regulation 18, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR Part 70.6]

TCD-12. The permittee will maintain daily and monthly records to demonstrate compliance with Specific Condition No. TCD-11. The daily records shall be updated by noon of the day following the recorded day. The monthly records shall be updated by the 15th day of the month following the last recorded month, and shall indicate a rolling 12-month total. The records shall be maintained on site and made available to Department personnel upon request. The rolling 12-month records, including monthly totals, shall be submitted in accordance with General Provision 7. [§19.705 of Regulation 19, 40 CFR Part 52, Subpart E, §18.1004 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

TCD-13. The permittee shall operate the Carbon Filter System associated with the electrical heating operation within site specific specification at all times during TC heating operations. [§19.303 of Regulation 19, §18.1104 of Regulation 18, and A.C.A. §'8-4-203 as referenced by §8-4-304 and §8-4-311]

TCD-14. The permittee shall maintain a record of all maintenance and change outs of each filter element in the TC heating Carbon Filter System. The records shall be maintained on site, made available to Department personnel upon request and submitted in accordance with General Provision 7. [§19.705 of Regulation 19, 40 CFR Part 52, Subpart E, §18.1004 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

TCD-15. All control equipment records and site specific specifications will be maintained on site and will be made available to Department personnel upon request. [§19.705 of Regulation 19, 40 CFR Part 52, Subpart E, §18.1004 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SN-PBEDS-T1 through SN-PBEDS-T3 and SN-PBEDS-01 through SN-PBEDS-04
Pine Bluff Explosive Destruction System (PBEDS)

Source Description

The Pine Bluff Explosive Destruction System (PBEDS) is designed to treat recovered munitions containing chemical agent or industrial chemicals. The chemical agents and industrial chemicals may include mustard, lewisite, phosgene, and mustard and arsenicals mixtures. The transportable treatment units will include two Phase 1 EDS units and one Phase 2 EDS unit or one Phase 1 EDS unit and two Phase 2 EDS units, or three Phase 1 EDS units. Each of the Phase 1 EDS unit(s) has an upper explosive limitation of 1.5 lb trinitrotoluene (TNT) equivalent and a processing capacity of one to three munitions per batch. The Phase 2 EDS unit has an upper explosive limitation of 4.8 lb of TNT equivalent and a processing capacity of one to six munitions per batch.

The PBEDS Mobile Chemical Lab (MCL) is used to analyze DAAMS tubes and liquid samples during PBEDS operations to determine if detectable levels of chemical agent are present. The MCL lab hoods are manifolded together and vent to a carbon adsorption filter prior to venting to the atmosphere.

Under the PBEDS, munitions treatment consists of the following steps:

1) Each EDS unit will be set up inside a separate Vapor Containment System (VCS), maintained under negative pressure.
2) The chemical munitions are placed in the VCS Containment Vessel and explosively accessed.
3) Reagent is transferred to the Containment Vessel, and if necessary, heat is applied. Monoethanolamine (MEA), sodium hydroxide, and possibly sodium permanganate will be used as reagents.
4) The Containment Vessel is rotated to ensure mixing.
5) Water rinses are applied as needed.
6) Liquid wastes are drained from the Containment Vessel into waste drums.
7) The Containment Vessel is rinsed with clean water, and the spent water is drained to a separate waste drum.
8) Containment Vessel headspace samples are taken prior to opening the vessel door to ensure that chemical agent concentrations are below acceptable levels.
9) Each VCS is exhausted to a Carbon Filter System. The Carbon Filter System consists of a Carbon Filter Unit, monitor, fan, and ductwork.
10) The Carbon Filter Unit contains a pre-filter, high-efficiency particulate air (HEPA) filter, two high efficiency gas adsorber (HEGA) carbon filter banks in series, and another HEPA filter.

Specific Conditions

EDS-1. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by compliance with Specific Condition EDS-4, EDS-6, and EDS-11 through EDS-13. [Regulation 19, §19.501 et seq. and 40 CFR Part 52, Subpart E]

SN	Description	Pollutant	lb/hr	tpy
PBEDS-01 PBEDS-02 PBEDS-03	Pine Bluff Explosive Destruction Systems (PBEDS) Stacks	PM_{10}	4.40 E-4	2.77 E-4
		VOC	1.03 E-8	4.50 E-8
		CO	1.94 E-3	1.22 E-3
PBEDS-04	Mobile Chemical Lab (MCL)	VOC	8.69 E-10	4.34 E-13
PBEDS-T1	100-gallon Diesel Fuel Storage Tank	VOC	2.80 E-4	7.00 E-5
PBEDS-T2	100-gallon Diesel Fuel Storage Tank	VOC	2.80 E-4	7.00 E-5
PBEDS-T3	100-gallon Diesel Fuel Storage Tank	VOC	2.80 E-4	7.00 E-5

EDS-2. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by compliance with Specific Condition EDS-4, EDS-6, and EDS-11 through EDS-13. [Regulation 18, §18.801, and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

SN	Description	Pollutant	lb/hr	tpy
PBEDS-01 PBEDS-02 PBEDS-03	Pine Bluff Explosive Destruction Systems (PBEDS) Stacks	PM	4.40 E-4	2.77 E-4
		Acetylene	1.50 E-4	9.45 E-4
		Ammonia	8.80 E-5	5.54 E-5
PBEDS-04	Mobile Chemical Lab (MCL)	Hexane	6.01 E-10	3.00 E-13
		Methanol	1.27 E-10	6.34 E-14
		Methylene Chloride	1.40 E-10	7.02 E-14
		Mustard Agent HD	2.04 E-13	1.02 E-16
		Nitrogen Mustard (HN 3)	1.98 E-13	9.92 E-17
		Nitrogen Mustard (HN 1)	1.75 E-13	8.76 E-17
		Lewisite	2.53 E-10	1.27 E-16

EDS-3. Visible emissions may not exceed the limits specified in the following table of this permit as measured by EPA Reference Method 9. [A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

SN	Limit	Regulatory Citation
PBEDS-01 PBEDS-02 PBEDS-03	5%	§18.501

EDS-4. The permittee shall not exceed the following throughput limits at the PBEDS process during any daily or consecutive 12-month period, as indicated below. Munition detonations conducted by the three PBEDS units shall not occur simultaneously. [§18.1004 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Throughput Material	Hourly Limit	Consecutive 12-month Limit
Munitions	1 Munition Detonation	1260 Munition Detonations
Explosives	4.8 lbs	6048 lbs
Diesel Fuel (No. 2 Fuel Oil)	-	17,400 Gallons
Monoethanolamine (MEA)	-	98,280 Gallons

EDS-5. The permittee shall maintain hourly and monthly throughput records sufficient to demonstrate compliance with Specific Condition EDS-4. The hourly records shall be updated by noon of the following day. The monthly records shall be updated by the 15th of each month. All records 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]

EDS-6. The permittee shall operate the Carbon Filter System at SN-PBEDS-01, SN-PBEDS-02, and SN-PBEDS-03 within site specific specifications at all times, unless otherwise approved by the Department. All vapors from the Vapor Containment System (VCS) and all potential vapors from each vessel opening step shall be routed to the Carbon Filter System.

The pressure drop across the Carbon Filter System shall be measured and recorded at least once every 24 hours of operation.

The permittee shall maintain a record of all maintenance and changeouts of each filter element in the Carbon Filter System.

All control equipment records and site specific specifications shall be maintained on site and made available to Department personnel upon request. [§18.1104 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

EDS-7. During operations when mustard is processed, the permittee shall use near real-time (NRT) monitors at SN-PBEDS-01, SN-PBEDS-02, and SN-PBEDS-03 to determine potential concentrations of mustard. The first NRT monitor shall be positioned between the two HEGA filters, and the second NRT monitor shall be positioned after the last HEGA filter (at the carbon filter stack exhaust). Upon confirmation of chemical agent (mustard) at the first NRT monitor (at the midpoint between the HEGA filters) resulting from a NRT monitoring alarm at or above the action level, the first carbon bed shall be removed, the second carbon bed shall be moved to replace the first bed, and a new carbon bed shall be installed to replace the second bed.

During operations when lewisite is processed, the permittee shall use NRT monitors at SN-PBEDS-01, SN-PBEDS-02, and SN-PBEDS-03 to determine potential concentrations of lewisite. The first NRT monitor shall be positioned between the two HEGA filters, and the second NRT monitor shall be positioned after the last HEGA filter (at the carbon filter stack exhaust). Upon confirmation of chemical agent (lewisite) at the first NRT monitor (at the midpoint between the HEGA filters) resulting from a NRT monitoring alarm at or above the action level, the first carbon bed shall be removed, the second carbon bed shall be moved to replace the first bed, and a new carbon bed shall be installed to replace the second bed.

During operations when phosgene is processed, the permittee shall use NRT monitors at SN-PBEDS-01, SN-PBEDS-02, and SN-PBEDS-03 to determine potential concentrations of phosgene. The first NRT monitor shall be positioned between the two HEGA filters, and the second NRT monitor shall be positioned after the last HEGA filter (at the carbon filter stack exhaust). Upon confirmation of chemical agent (phosgene) at the first NRT monitor (at the midpoint between the HEGA filters) resulting from a NRT monitoring alarm at or above the action level, the first carbon bed shall be removed, the second carbon bed shall be moved to replace the first bed, and a new carbon bed shall be installed to replace the second bed.

EDS-8. The allowable detection limit for mustard, lewisite, or phosgene at the second NRT monitor (at the second HEGA filter exhaust) shall be equal to the practical quantification limit (PQL) of the NRT monitor method/equipment. A monitoring result below the PQL of the chemical agent shall be considered to be zero for compliance demonstration purposes. [§18.1003 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

EDS-9. All monitoring data from the first and second NRT monitor locations shall be maintained on site and shall be made available to Department personnel upon request. The NRT monitoring data shall include a log of any midpoint agent confirmation, carbon exhaust monitor readings, corrective actions, and carbon bed replacement. [§18.1004 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

EDS-10. All liquid process wastes and spent rinse water shall be containerized and transported to a RCRA-permitted treatment, storage, and disposal facility (TSDF). [§18.1004 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

EDS-11. The permittee shall not exceed the following combined throughput limits at the PBEDS MCL process during any consecutive 12-month period, as indicated below. [§18.1004 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Throughput Material	Consecutive 12-month Limit
Dilute HD (0.0030% HD and 99.997% Hexane)	500 mL
Dilute HN-3 (0.0030% HN-3 and 99.997% Hexane)	500 mL
Dilute HN-1 (0.0030% HN-1 and 99.997% Hexane)	500 mL
Dilute L (0.0025% L and 99.9975% Methanol)	500 mL
Hexane	7000 mL
Methanol	1000 mL
Methylene Chloride	1000 mL

EDS-12. The permittee shall maintain monthly throughput records sufficient to demonstrate compliance with Specific Condition EDS-11. The permittee will maintain a twelve month rolling total and each individual month's data shall be maintained on site, made available to Department personnel upon request and submitted in accordance with General Provision 7. The records shall be updated by the 15th of each month. [§18.1004 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

EDS-13. The permittee shall operate the carbon adsorption filter at SN-PBEDS-04 within site specific specifications at all times, unless otherwise approved by the Department. The permittee shall maintain a record of all maintenance and changeouts of the filter element. All control equipment records and site specific specifications shall be maintained on site and made available to Department personnel upon request. [§18.1104 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SN-GTRSS-01
German Traktor Rocket Separation System (GTRSS)

Source Description

The German Traktor Rocket Separation System (GTRSS) Waterjet Cutter is used to Separate GTRs that cannot be separated manually. The GTRSS Waterjet Cutter will be used to separate warhead and rocket motor components of GTRs in preparation of treatment in the PBEDS.

The GTRSS Waterjet Cutter will operate inside the Explosive Containment Chamber (ECC) within the environmental enclosure. The GTRSS Waterjet Cutter is a hydro-abrasive cutting process consisting of high velocity water & silica-based garnet abrasive. During each operation of the waterjet cutter, the spent process water and abrasive will be pumped from the sump drain located on the floor of the ECC to waste drums.

Once separated, the GTR warhead and motor components will be placed in separate containers and monitored with MINICAMS for chemical agent.

The GTR warheads will be transferred to permitted storage at PBA pending treatment at PBEDS. The rocket motors will be transferred to a permitted treatment, storage, and disposal facility for further treatment and/or disposal.

PBA has the ability to monitor and store various non-stockpile munitions. To facilitate this for GTRSS, PBA utilizes previous Munitions Assessment System (PBMAS) equipment inside the existing building 50-720. A major component of the PBMAS is the Vapor Confinement Module (VCM). The VCM provides a safe and controlled atmosphere for personnel handling the munitions. The VCM is controlled by a series of filters.

The GTRSS Mobile Chemical Lab (MCL) is used during GTRSS operations to determine if detectable levels of chemical agent are present. The MCL hood vents to a carbon adsorption filter prior to venting to the atmosphere.

Specific Conditions

GTRSS-1. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by compliance with Specific Condition GTRSS-3, GTRSS-5, and GTRSS-9. [Regulation 19, §19.501 et seq. and 40 CFR Part 52, Subpart E]

SN	Description	Pollutant	lb/hr	tpy
GTRSS-01	GTRSS Mobile Chemical Lab	VOC	4.44E-10	2.22E-13

GTRSS-2. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by compliance with Specific Condition GTRSS-3, GTRSS-5, and GTRSS-9. [Regulation 18, §18.801, and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

SN	Description	Pollutant	lb/hr	tpy
GTRSS-01	GTRSS Mobile Chemical Lab	Hexane	1.77E-10	8.84E-14
		Methylene Chloride	1.4E-10	7.02E-14

GTRSS-3. The permittee shall not exceed the following throughput limits at the GTRSS process during any daily or consecutive 12-month period, as indicated below. [§18.1004 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Throughput Material	Daily Limit	Consecutive 12-month Limit
German Traktor Rockets (GTRs)	6	1,560*
Diesel Fuel (no. 2 Fuel Oil)	-	5800 Gallons

GTRSS-4. The permittee shall maintain daily and monthly throughput records sufficient to demonstrate compliance with Specific Condition GTRSS-3. The daily records shall be updated by noon of the following day. The monthly records shall be updated by the 15th of each month. All records 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]

GTRSS-5. The permittee shall operate the Carbon Filter System at SN-GTRSS-01 within site specific specifications at all times, unless otherwise approved by the Department. All vapors from the Vapor Containment System (VCS) and all potential vapors from the vessel opening step shall be routed to the Carbon Filter System. The pressure drop across the Carbon Filter System shall be measured and recorded at least once every 24 hours of operation.

The permittee shall maintain a record of all maintenance and changeouts of each filter element in the Carbon Filter System.

All control equipment records and site specific specifications shall be maintained on site and made available to Department personnel upon request. [§18.1104 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

GTRSS-6. During operations when mustard is processed, the permittee shall use near real-time (NRT) monitors at SN-GTRSS to determine potential concentrations of mustard. The first NRT monitor shall be positioned between the two HEGA filters, and the second NRT monitor shall be positioned after the last HEGA filter (at the carbon filter stack exhaust).

Upon confirmation of chemical agent (mustard) at the first NRT monitor (at the midpoint between the HEGA filters) resulting from a NRT monitoring alarm at or above the action level, the first carbon bed shall be removed, the second carbon bed shall be moved to replace the first bed, and a new carbon bed shall be installed to replace the second bed.

The allowable detection limit for mustard at the second NRT monitor (at the second HEGA filter exhaust) shall be equal to the practical quantification limit (PQL) of the NRT monitor method/equipment. A monitoring result below the PQL of the chemical agent shall be considered to be zero for compliance demonstration purposes. [§18.1003 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

GTRSS-7. All monitoring data from the first and second NRT monitor locations shall be maintained on site and shall be made available to Department personnel upon request. The NRT monitoring data shall include a log of any midpoint agent confirmation, carbon exhaust monitor readings, corrective actions, and carbon bed replacement. [§18.1004 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

GTRSS-8. The permittee shall operate the MINICAMS continuous monitors used to monitor the VCD unpack/repack area exhaust and the mid-bed of the carbon filter at all times during GTRSS operations. Upon confirmed MINICAMS detection at the mid-bed of the carbon filter, monitoring is switched to the exhaust of the filter system. [Regulation 19, §19.705, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR Part 70.6]

GTRSS-9. The permittee shall maintain the emission control equipment as described in the application and according to site specific specification. The pre-filter, HEPA filters, and two carbon filters shall be inspected no less than once per week in order to ensure good operating condition. [Regulation 19, §19.303, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

GTRSS-10. The permittee shall maintain a written record of control equipment inspections and subsequent maintenance. This record shall be kept on site and made available to Department personnel upon request. [Regulation 19, §19.705 and 40 CFR Part 52, Subpart E]

GTRSS-11. The shall maintain a written record of any alarm conditions associated with the GTRSS process. This record shall be kept on site and made available to Department personnel upon request. Any confirmed agent releases shall be reported in accordance with upset condition requirements as outlined in Regulation 19. [Regulation 19, §19.705 and 40 CFR Part 52, Subpart E]

SN-PBCF-01, PBCF-03 through PBCF-09 through PBCF-12, PBCF-14 through PBCF-17, and PBCF-20
Chemical Agent Demilitarization Facility

Facility Description

The PBCDF was constructed and is being operated by the Washington Demilitarization Company (WDC) under the authority of the Department of Defense (DOD) [U .S. Army] for the purpose of processing munitions containing the nerve agents VX and GB; ton containers containing mustard agents HD and HT; as well as propellants, dunnage (miscellaneous solids), explosives, and fuses. Chemical agents are contained in M55 rockets, M23 land mines, and ton containers and will be processed in three on-site incinerators.

The PBCDF will include the following buildings, systems, and facilities:
Container Handling Building (CHB);
Munitions Demilitarization Building (MDB);
 -Toxic Maintenance Area (TMA) within the MDB;
 -Three Process Incinerators within the MDB
  Deactivation Furnace System (DFS)
  Liquid Incinerator (LIC)
  Metal Parts Furnace (MPF);
Pollution Abatement System (PAS) Building;
PAS Filtration System (PFS);
Laboratory Building (LAB);
 -Laboratory Boiler
Process and Utility Building (PUB);
 -Residue Handling Area (RHA) within the PUB;
 -Brine Reduction Area (BRA) within the PUB;
Brine Reduction Area (BRA) Pollution Abatement System (PAS) area;
Medical Maintenance Building (MMB);
Entry Control Facility (ECF);
Personnel Support Complex (PSC);
Emergency Generators;
Fuel Storage Tanks; and
Other ancillary support facilities

Facility Description

Chemical demilitarization will begin with the processing of munitions and ton containers and continue with the incineration of chemical agent or secondary waste. The destruction will be accomplished by separating the chemical agent munitions and ton containers into their basic components (i.e., energetics, chemical agent, and the metal munition or ton container body). Each munition type, except for ton containers, will be disassembled, or cut into segments by automatic, remote-controlled machinery designed specifically for the munition type. The ton containers will only have holes punched into them. The chemical agent will be drained from the munition body or ton container.

There will be three incinerator systems present at the PBCDF: one Deactivation Furnace System (DFS), one Liquid Incinerator (LIC), and one Metal Parts Furnace (MPF). The LIC will destroy chemical agents and other liquid chemical agent-contaminated waste. The DFS will process drained rockets and mines, fuses, explosives and propellants from munitions. The MPF will thermally treat drained ton containers, mine drums, other metal parts, and dunnage. Dunnage is a general term for a combination of wooden pallets, spent laboratory solids, cleanup materials, spent filter media, spent carbon from the Pollution Abatement System Filtration System (PFS), and miscellaneous solid wastes that are potentially contaminated with agents.

A separate Pollution Abatement System (PAS) will be associated with each of the three incineration systems. The PAS for the LIC, the DFS, and the MPF are designed to provide collection efficiencies of greater than 97 weight percent for acid gases and greater than 99 weight percent for particulates found in the stack emissions. The PAS of each incinerator will produce a brine solution. The brine solution will be subsequently dried to a brine salt at the Brine Reduction Area (BRA) and packaged for off-site disposal. In the event the Brine Reduction Area does not process PAS brines, then the solution may be shipped to an off-site treatment, storage, and disposal facility (TSDF). A PAS Filter System (PFS) has also been incorporated into each incinerator's PAS as further protection against chemical agent and trace organic emissions to areas outside of engineering control. The PAS for the LIC, the DFS and the MPF vent through the Common Stack (SN-PBCDF-01).

There will be five natural gas-fired boilers at the PBCDF. There are two process boilers for producing steam for evaporating the brine at the Brine Reduction Area, two boilers to produce hot water for heating the buildings, and a small skid-mounted boiler at the Laboratory Building to support the heating systems. Process Steam Boilers I and II (SN-PBCDF-03 and SN-PBCDF-04) will serve the Brine Reduction Area equipment. Hot Water Boilers I and II (SN-PBCDF-05 and SN-PBCDF-06) will serve various buildings located at the PBCDF. The Laboratory Boiler (SN-PBCDF-16) will supply hot water to support the laboratory hot water system. The Process Steam Boilers and Hot Water Boilers are package systems equipped with low NO_X burners.

Brine solution will be concentrated and dried in the Brine Reduction Area. The resultant dried salt will be packaged in the Residue Handling Area (RHA).

The heart of the facility will be the Munitions Demilitarization Building, a two-story building that houses the three incinerator systems and mechanical process equipment to be used to disassemble and drain the munitions and ton containers prior to incineration. Plant ventilation is an integral component in the control of agent emissions during the processing of munitions in the Munitions Demilitarization Building. Air from the process areas will be routed through a series of filter systems containing activated carbon. The activated carbon filters will prevent agent emissions from being emitted to the ambient air. The Laboratory Building will also be equipped with a similar system to collect the air from areas where chemical agents are handled.

The PBCDF electrical power system has both primary and secondary electrical power supply distribution networks with two emergency power generators backing up the local utility power supply. A third emergency power generator will supply power to the PBCDF Entry Control Facility (ECF) in the case of a power failure.

The PBCDF will contain several tank systems, but only the diesel fuel storage tanks have the potential to impact air emissions. The LIC will be fed by several tanks in the Munitions Demilitarization Building. These tanks include two agent holding tanks and three spent decontamination solution holding tanks. These hazardous waste tank systems may contain volatile organic compounds. However, these tanks are located inside the Munitions Demilitarization Building and any air emissions are controlled within the building by the ventilation system. A pressurized liquified petroleum gas tank will be used to store supplemental fuel for the facility. Other tank systems include brine storage tanks, a laboratory chemical waste collection tank, brine reduction operation tanks, and chemical storage tanks.

The RHA provides the equipment required to properly contain the facility's waste for storage.

The Medical and Maintenance Building (MMB) will house the PBCDF's medical facility. The Personnel Support Complex (PSC) will house the showers, lockers, offices and other administrative facilities, as well as a support area for personnel wearing demilitarization protective ensembles. The plant's communication facilities will be housed in an area of the former chemical agent BZ demilitarization facility around which the new PBCDF is constructed.

Stack gas emissions from the incinerators will be monitored using continuous emission monitoring systems (CEMS), which are defined in the CEMS Quality Assurance/Quality Control (QA/QC) Plan for the Common Stack, originally approved by ADEQ on November 22, 2002.

MUNITIONS AND TON CONTAINER PROCESSING

The PBCDF will demilitarize chemical agents (GB, VX, HD, and HT) contained in various munitions (rockets and land mines) and ton containers. Demilitarization will be accomplished by disassembling the munitions and/or draining the chemical agent. Sheared rockets, land mines, energetics removed from munitions (i.e., bursters, propellants, booster charges and fuses), land mine drums, and ton containers will be processed at the PBCDF. Munitions and containers selected for demilitarization will be removed from the PBA Chemical Storage Area and transported to the Container Handling Building in enhanced on-site transport containers (EONCs). The enhanced on-site transport container interior air space will be sampled to detect leaking munitions and/or ton containers before transportation and after arrival at the Container Handling Building. Enhanced on-site transport containers with leaking munitions or ton containers will be unpacked separately in the Toxic Maintenance Area (TMA) of the Munitions Demilitarization Building by operators wearing demilitarization protective ensembles. Leaking munitions and/or ton containers will be surface-decontaminated before they are processed along with non-leaking munitions and ton containers. Munition and container processing steps will be specific to each type of munition and container. Automatic system control software will track process inputs and outputs, monitor system operation and store operating data. Once initiated, processing systems will operate automatically.

Chemical Agents

The chemical agent inventory at PBA consists of nerve agents (VX and GB) and mustard agents (HD and HT). Nerve agents are stored in various configurations in M55/M56 warheads and M23 land mines. Mustard agents are stored in ton containers. These chemical agents were manufactured prior to 1969 for the exclusive use of the Army under procedures issued for chemical agent manufacture.

Nerve agent GB (also known as Sarin) is a rapid-acting nerve agent. The proper chemical name for this compound is isopropylmethylphosphonofluoridate ($C_4H_{10}FO_2P$). The action within the body is the inactivation of cholinesterase that can cause death within 15 minutes after a fatal dose is absorbed. The hazard from nerve agent GB is that of vapor absorption through the respiratory tract, although it can be absorbed through any part of the skin, through the eyes, and through the gastrointestinal tract by ingestion. The nerve agent absorption rate is accelerated through cuts and abrasions in the skin. When dispersed as large droplets, nerve agent GB is moderately persistent; it is non-persistent when disseminated as a cloud of very fine particles.

VX is a quick acting military chemical nerve agent. The proper chemical name for VX is O-ethyl S- (2-diisopropylaminoethyl) methylphosphonothiolate and its molecular formula is $C_{11}H_{26}NO_2PS$. The action within the body is the inactivation of cholinesterase that can cause death within 15 minutes after a fatal dose is absorbed. The hazard from nerve agent VX is primarily that of liquid absorption through the skin, although it can be absorbed through the respiratory tract as a vapor or aerosol, and through the gastrointestinal tract by ingestion. Nerve agent VX is slow to evaporate and may persist as a liquid for several days.

Mustard HD [bis(2-chloroethyl) sulfide] and Mustard HT [bis(2-chloroethyl) sulfide with T Agent Bis[2(2-chloroethylthioethyl)] ether] are persistent and powerful blister agents. The chemical formula for Mustard H is $C_4H_8Cl_2S$. It acts principally by poisoning the cells in the surfaces contacted. Both liquid and vapor may cause intense inflammation of the skin, eyes, and mucous membranes of the respiratory tract, the onset of which is delayed from two to 24 hours following exposure. Mustard is only moderately volatile.

Mustard is designated H, HD, and HT. H is an abbreviation for mustard made by the Levinstein process. It contains up to 25 percent, by weight, of impurities, chiefly sulfur, organosulfur chlorides, and polysulfides. HD (distilled mustard) is mustard purified by washing and vacuum distillation, which reduces impurities to about five percent. The chemical characteristics of H and HD are very similar. HT is a 60:40 mixture by weight of HD and Bis[2(2-chloroethylthio)ethyl] ether (T). While both the HD and HT forms of mustard agent will be processed at PBCDF, HT is the primary form of mustard agent found in the PBCDF stockpile.

Agent Emissions at SN-PBCDF-01

Emission concentration limits, continuous near real-time monitoring, detection and verification methods, and other regulatory requirements concerning Nerve Agent VX, Nerve Agent GB, Mustard Agent HD, and Mustard Agent HT are governed by ADEQ Hazardous Waste Permit

29-H, which is based upon human health and ecological risk assessments performed for each agent destruction campaign. The Air Division reserves the right to independently evaluate agent emissions limits derived from site-specific risk assessments and to quantify in the air permit any revised emission limits deemed necessary to protect human health and the environment. Any violation of the provisions of Hazardous Waste Permit 29-H concerning chemical agent emissions is also considered a violation of this permit.

Explosives and Propellants

Various explosives, propellants, and other components are contained in the munitions to be demilitarized at PBCDF. All of the explosives and propellants in the demilitarization program are classified as Class A explosives. The explosives found in bursters (and supplementary charges) in M55 rockets and M23 land mines include tetryl (2,4,6-Trinitrophenyl-methylnitramine) and composition B. Composition B contains a mixture of RDX (Cyclotrimethylenetrinitramine) and TNT (2,4,6-Trinitrotoluene). Munitions contain other components, such as igniters, boosters, primers, bursters, fuses, and other energetic components, which contain small quantities of these explosives or their constituents. M28 is the primary propellant used in M55 Rockets and is a mixture of nitrocellulose (60.0%), nitroglycerine (23.8%), triacetin (9.9%), dimethylphthalate (2.6%), lead stearate (2.0%), and 2-nitrophenylamine (1.7%).

Rockets

The main rocket type to be demilitarized at PBCDF is the M55 rocket. An M55 rocket is an airborne military weapon used to disperse nerve agents GB or VX. Each rocket is 115 millimeters (mm) in diameter, 78 inches in length, and weighs approximately 58 pounds. The rocket contains approximately 10.7 pounds of agent that is dispersed upon impact with either an M34 or M36 Burster. Approximately 19 pounds of M28 propellant is used in M55 Rockets to achieve flight. Each rocket also contains a Model M417 fuse and an M62 primer. PBA also has a limited number of M56 rockets stored at the facility. The M56 warhead is very similar to the M55, but has a slightly different warhead configuration. The M56 warheads will be processed at the end of the M55 rocket campaign. Rockets are stored inside M441 shipping and firing containers. These containers are made of fiberglass and epoxy resin and will be processed through the DFS.

The rocket handling system is designed to prepare the GB and VX M55/M56 rockets for demilitarization. The rocket handling system will transport the rockets from the Munitions Demilitarization Building Unpack Area, through the Explosive Containment Vestibule, to the Explosive Containment Rooms. The outer shell of the rockets will be punched and the liquid agent will be drained. The chemical agent will be pumped to the Toxic Cubicle agent holding tanks. Drained rockets will then be sheared, and the pieces will be fed to the DFS. The drained chemical agent will be pumped from the agent holding tank to the LIC Primary Combustion Chamber for destruction.

Mines

An M23 land mine is a military weapon used to disperse nerve agent VX. It is an anti-personnel weapon that is usually buried to prevent detection. Each land mine is 13.5 inches in diameter, 5 inches in length, and weighs approximately 23 pounds. The land mine contains approximately 10.5 pounds of agent that is dispersed upon contact with an M38 Burster. Each land mine also contains a Model M603 fuse.

The mine handling system is designed to prepare the M23 mines for demilitarization. These mines, packed in steel drums, will be conveyed from the Unpack Area to an unpack glove box, where the mines will be removed from the drums. Mine bodies will be oriented and punched. The chemical agent will be drained to the agent holding tanks in the Toxic Cubicle. The mine arming plugs, mine fuses, and mine activators will be removed. The explosive components will be placed inside a fuse box, conveyed to the Explosive Containment Room, and inserted into the DFS chute. Drained mine bodies will also be inserted into the DFS chute for processing in the DFS. Mine drums (including the bottom piece of packing) and associated dunnage will be sent to the MPF. The drained chemical agent will be pumped from the agent holding tank to the Primary Combustion Chamber of the LIC for destruction.

Ton Containers

At PBCDF, all HD and HT chemical agents are stored in ton containers. Ton containers of chemical agent will be transported from the Unpack Area to the Bulk Drain Station Room. The ton container will be punched and the chemical agent will be drained and pumped to the agent holding tanks in the Toxic Cubicle. Empty ton containers will then be sent to the MPF for thermal decontamination. The drained chemical agent will be pumped from the agent holding tank to the Primary Combustion Chamber of the LIC for destruction.

Dunnage

Solid wastes will be treated in the MPF and the DFS. These wastes may include spent carbon, spent filter media, wood, clean up materials, spent laboratory solids, and miscellaneous metal wastes. Many of the dunnage wastes may be contaminated with a chemical agent; therefore, these wastes will be managed as hazardous wastes in accordance with all applicable standards.

Contaminated wood dunnage will be processed in the MPF. The primary source of contaminated wood dunnage is the rocket campaigns. Rockets are loaded on pallets and some of the rockets may have developed pin-hole leaks. Wooden pallets and materials used to construct munitions packaging and over-packs may also be incinerated in the MPF.

Spent carbon is retrieved from filters on the incinerator filter systems, the HVAC system associated with the Munitions Demilitarization Building and laboratory, ventilation system, and Agent Collection Tank Vent. Spent carbon from the HVAC and PFS filters is estimated to account for approximately 77 % of the total contaminated dunnage. PBCDF plans to replace the activated carbon whenever indicated by the automatic continuous air monitoring system (ACAMS) or by agent change over.

Demilitarization Protective Ensemble (DPE) suits are estimated to be the second largest source of dunnage for the MPF. A DPE suit must be worn by personnel during entry into a hazardous area. The suits are single use and go through a decontamination process with the person wearing them. DPE suits will be processed directly or stored in drums before processing in the MPF.

Halogenated Plastics and Rubber (HLG-Plastics) and Non-Halogenated Plastics (Plastics) are additional materials that will be processed in the MPF. The primary source of these materials will be from operations in the Munitions Demilitarization Building.

Personal protective equipment (PPE) such as n-butyl rubber gloves and aprons is known as Toxicological Agent Protective (TAP) Gear. This type of equipment is used by the laboratory and operations whenever working with low agent levels. TAP Gear will be packaged in drums prior to disposal.

PPE carbon filter canisters are another source of spent carbon that will be processed in the MPF. Safety policies require all mask canisters to be discarded following any exposure above the permissible exposure level (PEL). Operations such as HVAC filter vestibule maintenance and glove box maintenance will generate waste mask canisters. All PPE canisters will be packaged in drums and processed through the MPF.

Pre-filters are part of the PFS that are used to remove coarse particles before the gas stream enters the PFS carbon filters. PBCDF contends that pre-filters will plug throughout the campaign and the majority of spent pre-filters will be generated during the changeover of agent campaigns. The pre-filters will be packaged in drums for disposal in the MPF.

High efficiency particulate air (HEPA) filters are part of the PFS system that are used to remove fine particles before the gas stream enters the carbon filters. The majority of spent HEPA filters will be generated during the changeover of agent campaigns. The HEPA filters will be packaged in drums for disposal in the MPF.

Laboratory solid waste is another material that will be processed in the MPF. Any solid lab waste that is contaminated with a chemical agent will be treated in the MPF. Lab waste will be packaged in drums prior to disposal.

There is potential to generate combustible and non-combustible waste in the Munitions Demilitarization Building after chemical agent processing begins. Potential examples of combustible wastes are solids containing spent lubrication oils. Non-combustible waste generated in the Munitions Demilitarization Building includes sump residues and maintenance wastes. Any material from the Munitions Demilitarization Building will be presumed to be chemical-agent contaminated until demonstrated otherwise and will be managed accordingly. Munitions Demilitarization Building waste will be packaged in drums prior to disposal in the MPF or DFS.

The processing of metal parts in the MPF would include mine drums, ton containers, and associated metal parts that had the potential for exposure to agents. After thermal treatment in the MPF, all metal will be considered as decontaminated to a 5X level and then further processed as scrap metal or disposal as hazardous waste. The scrap metal will be stored for off-site recovery or disposal.

PBCDF will segregate and process dunnage separately to prevent mixing of non-compatible wastes. The processing rate through the MPF depends on the nature of the dunnage. Engineering estimates indicate that wood could be processed at the highest rate in the MPF. The maximum wood dunnage feed rate to the MPF would be 926 pounds per hour. DPE suits have a feed rate of approximately 440 pounds per hour. Drummed material such as TAP Gear, and plastics would be approximately 400 pounds per hour. The maximum feed rate to the MPF for spent carbon is 330 pounds per hour. The nominal feed rate of metal parts to the MPF is 430 pounds per hour. Non-carbon filter media and material contaminated with combustible materials can not be processed at a rate greater than 200 pounds per hour. PPE mask canisters have the slowest rate of processing in the MPF with a maximum rate of 52 pounds per hour. These are estimated maximum dunnage processing rates which will be confirmed during actual MPF operations.

Special Equipment Testing Hardware (SETH)

Special Equipment Testing Hardware (SETH) is inert and simulant filled replicas of actual chemical weapons. Cardboard rockets, fiberglass rockets, and cardboard land mines filled with 50% ethylene glycol/water will be used as SETH weapons. Current plans are to use SETH weapons in the testing and shakedown phases of incinerator startup. This will allow for safely testing the demilitarization equipment and training of operational personnel. SETHs will also be used to prove out equipment after repairs are made as required by the government.

Each SETH weapon will follow the same destruction path as the corresponding real weapon. SETH land mines and rockets will be processed through the DFS for the purpose of testing and training. It is assumed that a 5% simulant heel will remain in each SETH which corresponds to additional simulant to be processed through the DFS during testing and shakedown phases of startup. Each SETH will be drained of simulant and the simulant will be transferred to a holding tank before processing in the LIC. Additionally, a simulant mixture of ethylene glycol and water will be used to verify the integrity of level transmitters and switches. This material will also be processed through the LIC. SETH ton containers with a simulant heel will also be processed through the MPF for testing and training purposes.

COMMON STACK INCINERATION SYSTEMS [SN-PBCDF-01]

PBCDF will have three incineration systems (the DFS, the LIC, and the MPF) that vent to a Common Stack (SN-PBCDF-01). The DFS will process drained rockets and mines, fuses, explosives, and propellants from munitions. The LIC will destroy chemical agents and other liquid chemical agent-contaminated waste. The MPF will thermally treat drained ton containers, empty mine drums, other metal parts, and miscellaneous solid waste (dunnage).

Deactivation Furnace System (DFS) [SN-PBCDF-01]

The DFS incinerates sheared rocket parts or land mines with residual drained chemical agent (GB or VX) and miscellaneous waste material (Explosive Containment Room maintenance and cleanup waste) and deactivates energetics separated from demilitarized rockets and land mines. The DFS consists of a rotary kiln, a Heated Discharge Conveyor (HDC), a Blast Attenuation Duct, a cyclone, an afterburner, and associated subsystems.

Purpose and Function of the DFS

Components processed by the DFS include sheared rockets and land mines. The furnace feedstock also includes fiberglass and fiberglass resin from processed rockets that were packed in fiberglass tubes with aluminum end caps. At any given time, the DFS processes components from only a single munition type and single agent, such as drained M55 rockets containing residual GB or VX, an undrained M55 rocket containing gelled GB or VX, or whole, drained M23 land mines containing residual VX. The DFS may also process miscellaneous waste, specifically Explosive Containment Room maintenance waste (i.e. rags, filters, bags, cleanup material, etc.). The undrained M55 rockets are filled with a stabilizer that has the capability of forming a lumpy gel under hydrolysis causing the agent in the munitions to become difficult to drain.

The rotary kiln thermally deactivates and incinerates energetics while destroying residual agent and other organic materials. The kiln is a countercurrent furnace in which munitions travel in the opposite direction of the combustion gas stream. Since the rotary kiln processes energetics that could result in a detonation, the combustion gas duct leading from the kiln is equipped with a Blast Attenuation Duct to prevent a blast shock wave from reaching the DFS PAS. The exhaust flow from the Blast Attenuation Duct enters a cyclone, where large particulates are separated from the gas stream. Then, the gases flow to the DFS afterburner where they are re-heated to ensure complete combustion of any residual gaseous organic materials. Exhaust gases from the afterburner flow to the PAS for removal of acid gases and particulate matter. The exhaust gas then flows to the PFS before being discharged through the Common Stack (SN-PBCDF-01) to the atmosphere. An Induced Draft (ID) Fan supplies the negative draft for the DFS. Scrap metal and ash from the DFS are transferred to the Heated Discharge Conveyor. The Heated Discharge Conveyor provides additional residence time at elevated temperatures, ensuring complete destruction of any remaining organic materials. The solid waste products are discharged through a chute into a portable waste bin located in the Heated Discharge Conveyor blast enclosure outside the DFS room wall.

Operational Summary of the DFS

The DFS feed comes from two Explosive Containment Rooms (ECRs) in which various munition processing activities take place. Rocket pieces and land mines are gravity fed from each Explosive Containment Room through a feed chute. Each feed chute has a built-in system of two blast gates in series to meter the munition pieces to the DFS rotary kiln and isolate the kiln from the Explosive Containment Room. The automatic admission of process water or a mixture of process water and decontamination solution controls the feed chute temperature. The waste feed rate limits for the DFS are 40 rockets per hour and 70 land mines per hour.

The charge-end subassembly, housing the charge-end seal, accepts munition components from the blast gates and feeds the DFS rotary kiln. The rotary kiln thermally deactivates and incinerates energetics, and destroys residual organic chemicals. An internal spiral in the rotary retort forces pieces to move from the furnace charge chute to the discharge chute as thermal processing occurs. The kiln is fabricated of Rolled Alloy 253 MA, which can withstand a maximum shell temperature of 1,600 °F. The inside temperature of the kiln is controlled by a single natural gas burner. The temperature inside of the kiln (1,100 °F for rockets and 1,050 °F for mines) also is affected by the nature of the materials being processed.

The fuel gas/air mixture is fired through a conventional, natural gas burner located in the discharge-end subassembly of the rotary kiln. Material exiting the rotary kiln will be received by a Heated Discharge Conveyor, which will provide a minimum of 15 minutes holding time at a temperature of 1,000 °F. The flue gas exiting the rotary kiln will pass through a Blast Attenuation Duct followed by a cyclone where particulate from the gas stream will be separated and collected.

The DFS rotary kiln is driven by a five horsepower, variable-speed, reversible motor. The motor controller regulates the motor speed such that the kiln rotates between 0 and 2.25 revolutions per minute (rpm), and the controller can cycle the motor between forward and reverse. The normal operating speed of the kiln is between 1.7 and 1.8 rpm for rockets and one rpm for mines. The kiln speed only exceeds two rpm when testing the kiln high-speed alarm. The kiln drive gearbox has a bath-type lube oil system. Support for the kiln comes from two riding rings mounted on the outer circumference of the shell and floor-mounted trunnion bearings. A thrust bearing minimizes lateral movement. A separate lube oil system is provided to cool and lubricate the trunnion and thrust bearings. The DFS rotary kiln is equipped with an insulated shroud. Furnace room air is drawn into the shroud. Most of the shroud air volume flows toward the metal discharge end of the kiln. This cools the kiln metal shell to minimize heat loss to the room and provides heated combustion air. The remaining shroud air volume flows toward the feed end of the metal kiln. This also cools the kiln metal shell to help maintain the shell temperature below 1,600 °F. The shroud is insulated to further reduce furnace heat loss to the room.

The discharge-end subassembly directs scrap metal, ash, and residual glass fibers from the kiln to the Heated Discharge Conveyor. The discharge conveyor accepts the material from the DFS rotary kiln, conveys the material on a bucket conveyor, and provides a minimum residence time of 15 minutes at a minimum temperature of 1,000 °F, ensuring complete destruction of any residual agent to the 5X level of decontamination. The Heated Discharge Conveyor has an electrically heated steel enclosure containing a bucket-type chain conveyor. The conveyor buckets overlap to prevent molten material from jamming the conveyor. The Heated Discharge Conveyor discharges the scrap metal, ash, and residual glass fiber through a chute with dual blast gates to a portable residue bin that is enclosed in the Heated Discharge Conveyor blast enclosure. When full, the bin is transferred first to a cooling area and then to the Residue Handling Area.

The exhaust gases flow from the feed end of the kiln to the Blast Attenuation Duct. The metal duct and the Blast Attenuation Duct are designed to contain an explosive over pressure from 28.2 pounds of trinitrotoluene (TNT) equivalent. The Blast Attenuation Duct is designed to dissipate any pressure waves from the rotary kiln before reaching the PAS. Next, the gases enter a refractory-lined cyclone that causes them to spin, throwing the large particulates and fiberglass strands into the walls via centrifugal force. The inlet is on the side of the unit, and the outlet is directly on top of the cyclone.

A discharge from the cone-shaped cyclone bottom is provided to empty collected solids into a container at floor level. A slide gate is installed in the dropline just above the container for sealing purposes during container changes. The residue bin and the bottom section of the cyclone are enclosed in a ventilated enclosure to prevent emissions during bin change out.

The hot gases exiting the cyclone then flow into a vertical, refractory-lined cylindrical afterburner. The afterburner and associated ductwork provides a minimum overall gas residence time of 2.0 seconds at or above 2,000 °F. The afterburner has two natural gas-fired burners located at the top of the side wall. A combustion air blower supplies outside air that enters the chamber through these burners. The afterburner has internal refractory to minimize heat loss from the afterburner, the exhaust gases flow to the DFS wet PAS for removal of acid gases and particulate matter. The exhaust then flows to the PFS before being discharged to the atmosphere through the Common Stack (SN-PBCDF-01). The furnace draft is supplied by Induced Draft fans, which consists of two independent adjustable-speed drive blowers.

Design Basis for the DFS

The DFS is designed to burn drained and sheared rockets, drained land mines, and energetics. The DFS is designed to operate automatically. All conveyors, gates, and furnace operations can be operated remotely from the Control Room. The complete DFS treatment process (i.e., rotary kiln and Heated Discharge Conveyor) is designed to deactivate energetics separated from demilitarized munitions, and to heat the munition components to a minimum of 1,000 °F and maintain this temperature for at least 15 minutes to attain 5X level of decontamination. The afterburner is designed to provide a minimum overall gas residence time of 2.0 seconds at or above 2,000 °F.

Liquid Incinerator (LIC) [SN-PBCDF-01]

The LIC disposes of agent and spent decontamination solution through high-temperature incineration. Agents collected from the demilitarization of munitions and bulk storage containers are stored in the Toxic Cubicle until treatment conditions exist in the LIC.

Purpose and Function of the LIC

The LIC consists of a refractory-lined, two-chamber furnace and associated subsystems. The LIC Primary Combustion Chamber destroys liquid nerve (GB and VX) and mustard (HD and HT) agents through high temperature incineration. The LIC Secondary Combustion Chamber provides additional residence time for Primary Combustion Chamber exhaust flue gases. It also evaporates spent decontamination solution and destroys any organic material contained in it. The LIC furnace exhaust flows to a dedicated wet PAS for cleansing acid gases prior to additional treatment in the PAS filter System. An Induced Draft fan provides a negative pressure to produce the flow of air through the LIC furnace system.

LIC operations are supported by two subsystems consisting of the LIC fuel oil/air purge system and the LIC slag removal system. The LIC fuel oil/air purge system removes residual agent from the Primary Combustion Chamber agent feed line, which is downstream of the second safety shutoff valve. The line is flushed with compressed air from the plant air system (PLA) and then with fuel oil at the end of agent-burning operations. The flush is performed while the Primary Combustion Chamber is still at operating temperature to ensure that purged residual agent is burned.

The LIC slag removal system removes accumulated slag from the LIC. Slag is a mixture of liquid salts that results from the thermal destruction of spent decontamination solution. Slag produced in the LIC Secondary Combustion Chamber flows to the bottom of the chamber, where it collects in the slag extension. The Control Room (CON) operator removes the slag by using the LIC slag removal system. LIC slag removal system operation is supported by a dedicated air handling unit. The air handling unit cools sensors and provides cooling for barrels of slag removed in the slag removal system operation.

Operational Summary of the LIC

Liquid agent (i.e., GB, VX, HD, and HT) is pumped from the agent holding tanks in the Toxic Cubicle by an agent feed pump to the LIC Primary Combustion Chamber. Agent is pumped at an agent-specific, uniform, continuous rate to the Primary Combustion Chamber where the agent is dispersed into the burner with air-atomizing nozzles and mixed with combustion air. Natural gas is used to ensure a stable flame pattern within the primary burner and to control the chamber temperature. The operating temperature in the Primary Combustion Chamber is maintained at about 2,700 oF. Furnace draft for the LIC System is supplied by an Induced Draft Fan consisting of two independent, adjustable-speed drive blowers.

Exhaust gases from the LIC Primary Combustion Chamber are pulled by the Induced Draft fan through a refractory-lined crossover duct to the LIC Secondary Combustion Chamber. An excess of air is maintained in both LIC chambers to ensure complete agent destruction. A fuel oil/air purge system is provided to flush out any residual agent remaining in the LIC agent feed lines. Furnace operations are designed for remote operation from the Control Room. Spent decontamination solution is pumped from any of three spent decontamination solution holding tanks in the spent decontamination solution system and sprayed through an atomizing nozzle into the top of the LIC Secondary Combustion Chamber. If spent decontamination solution feed is not available, then water is sprayed into the Secondary Combustion Chamber to control the operating temperature. The operating temperature in the Secondary Combustion Chamber is maintained at a minimum of 2,000 °F by a natural-gas-fired burner. The atomized fluid stream mixes with exhaust gases that are flowing from the primary chamber to the Secondary Combustion Chamber. The water in the spent decontamination solution feed evaporates, any organic residue burns, and salts collect on the walls of the Secondary Combustion Chamber. The salts melt and flow to the bottom of the chamber as slag. Slag is removed periodically through an opening in the bottom of the Secondary Combustion Chamber, where it is collected by the LIC slag removal system. The exhaust gases flow to the LIC P AS for removal of acid gases and particulate matter. The exhaust gas then passes through the LIC PFS for final organic removal before being exhausted through the Common Stack (SN-PBCDF-01).

An aqueous-based ethylene glycol mix hydraulic fluid is also combusted in the Secondary Combustion Chamber of the LIC. The hydraulic fluid mix results from equipment leaks and routine maintenance activities. These emissions are routed through the Common Stack (SN-PBCDF-01).

Design Basis for the LIC

Liquid agent and spent decontamination solution feed rates for the LIC Primary and Secondary Combustion Chambers are based on the munitions being processed and the amount of liquid agents. Natural gas and combustion air feed rates are controlled based on the temperature of the respective outlet streams. The Primary Combustion Chamber, crossover duct, and Secondary Combustion Chamber, including downstream ducting, are refractory-lined and designed to provide a minimum overall gas residence time of two seconds. The LIC Primary Combustion Chamber is designed to incinerate one agent at a time. The design agent flow rates are 1,050 lb/hr for GB, 700 lb/hr for VX, 1,330 lb/hr for HD, and 1,210 lb/hr for HT. The LIC Secondary Combustion Chamber is designed to process 2,000 pounds per hour of spent decontamination solution.

Metal Parts Furnace (MPF) [SN-PBCDF-01]

The MPF system thermally decontaminates drained GB, VX, HD, and HT munitions and bulk items. The munitions are thermally treated after all explosive charges installed in the munitions have been removed and the agent has been drained. The MPF is designed to process ton containers, mine drums, and scrap metal resulting from maintenance or closure of the facility. The MPF will also be used to incinerate a combination of wooden pallets, solid laboratory waste, spent activated carbon, HVAC filter media, cleanup materials, and miscellaneous combustible solid wastes which may be contaminated with chemical agent.

Purpose and Function of the MPF

The MPF system consists of a primary furnace and an afterburner. The MPF primary furnace is heated by 10 burners, and the afterburner is heated by two burners. The purpose of the MPF primary chamber is to decontaminate drained munitions and bulk items by heating the material between 1,000 °F and 1,550 °F, with a minimum residence time of 15 minutes. The primary chamber will also be used to incinerate solid wastes. The primary chamber exhaust gases flow to the afterburner. The afterburner ensures the destruction of the agent heel that is volatilized or partially combusted in the primary chamber. This is accomplished by heating the gases to 2,000 °F for a minimum residence time of 0.5 seconds.

Exhaust gases from the afterburner flow to the MPF PAS and PFS for removal of acid gases, particulate matter, and trace organics prior to discharge through the Common Stack (SN-PBCDF-01) to the atmosphere. Negative pressure to produce air flow through the furnaces is provided by the Induced Draft Fan in the MPF PAS.

Decontaminated metal parts are transferred outside the Munitions Demilitarization Building through a discharge airlock to the discharge tray unloading conveyor. Then they are transported to the discharge cooling conveyor where they await shipment to a roll-off container for disposal. The processed munitions and bulk items go to the Residue Handling Area (RHA) for processing before disposal, and the Waste Incineration Containers (WIC) are returned to the Unpack Area (UPA).

Operational Summary of the MPF

The MPF system is designed to process ton containers, land mine drums, and bulk items that are not sent through the DFS. Solid wastes (dunnage) that have the potential to be contaminated with agent are also processed through the MPF.

The MPF three-zone roller hearth furnace and the afterburner must reach operating temperature before processing can commence. The MPF combustion air blower must be running to supply combustion air and dilution air for the MPF system. Based on the operational availability of the MPF, bulk items are placed on a Waste Incineration Container and then moved to a position where the tray can be conveyed into the MPF. The munition processing begins for the MPF system when a load is transferred into the MPF feed conveyor/airlock from the indexing hydraulic conveyor. When the load is in the proper position, both conveyors stop and the airlock inlet door lowers and clamps.

Zone 1 of the MPF burnout chamber is where the initial burn of residual agent occurs. Water is sprayed to Zone 1 to lower the temperature of the furnace as the agent volatilizes. While the load is in Zone 1, the conveyor oscillates to ensure even heating of the load and rollers. Heating of the load continues until a zone-specific cycle timer "times out". The timer is preset to a prescribed value for each munition campaign.

When the Zone 1 cycle timer times out, the Zone 1 and 2 conveyors start in the forward direction to transfer the load from Zone 1 to Zone 2. When the load is correctly positioned on the Zone 2 conveyor, the Zone 2 conveyor begins to oscillate and the Zone 2 cycle timer begins to count down. Heat is applied to Zone 2 to maintain the same operating temperature as Zone 1. Then, a new tray is transported to Zone 1, the Zone 1 conveyor begins to oscillate, and the Zone 1 cycle timer starts. The final burnout of agent in the ton containers and complete volatilization of agent occurs in Zone 2, which is equipped with four burners.

When the Zone 2 cycle timer times out, the Zones 2 and 3 conveyors start in the forward direction to transfer the load to Zone 3. When the load is in Zone 3, the Zone 3 conveyor begins to oscillate, and the Zone 3 cycle timer begins to count down. With Zone 2 empty, the tray in Zone 1 is transferred to Zone 2, as discussed above. A new tray is transferred to Zone 1 from the MPF feed conveyor/airlock, also as discussed above.

In Zone 3, two burners complete the decontamination process. The Zone 3 cycle timer starts timing out at a minimum of 1,000 °F for 15 minutes to ensure that the 5X requirements for the munition/bulk containers are met. At the completion of the Zone 3 "time out", the MPF discharge conveyor/airlock inlet door is raised. The Zone 3 conveyor and MPF discharge conveyor/airlock start in the forward direction and run until the load is positioned in the discharge airlock. The MPF discharge conveyor/airlock inlet door lowers and clamps to isolate the MPF discharge conveyor/airlock from the MPF.

After the MPF discharge conveyor/airlock inlet door is closed, the MPF discharge conveyor/airlock is purged with air from the MPF room. This air purge cools down the munition and tray in the airlock. The purged air goes to the MPF afterburner. Before the load can be transferred out of the MPF discharge conveyor/airlock, the load must be verified to be free of agent. The purged air is sampled for agent by an Automatic Continuous Air Monitoring System (ACAMS) to ensure that complete thermal decontamination has been achieved. Air flows from the MPF room through the MPF discharge conveyor/airlock to the ACAMS and is piped to the MPF afterburner. If the sample results are negative (i.e., no agent detected), the load is transferred out of the MPF discharge conveyor/airlock to the MPF discharge tray unloading conveyor. If agent contamination is detected, the tray must be transferred back into the MPF system for further processing. The load is then transferred to the MPF discharge cooling conveyor and moved toward the roll-off portion of the conveyor to clear the MPF discharge tray unloading conveyor. The cooling conveyor can hold numerous loads and acts as a buffer storage for decontaminated loads. The cooling conveyor also provides time for the loads to cool before they are either processed or discharged into roll-off containers that are transported by truck for disposal.

Combustion gases from the MPF burnout chamber exhaust through a refractory-lined crossover duct to the afterburner. The crossover duct taps into the top of Zone 1 in the MPF burnout chamber and the bottom of the horizontal cylindrical afterburner. The MPF afterburner, which has two natural gas burners, raises the temperature of the MPF exhaust gas to 2,000 °F, to ensure that any traces of agent carried over in the MPF flue gas are burned before reaching the MPF PAS. From the afterburner, the exhaust gases are drawn into the MPF PAS and PFS by the Induced Draft Fan before being exhausted through the Common Stack (SN-PBCDF-01).

Design Basis for the MPF

The MPF system is designed to thermally decontaminate drained ton containers and empty mine drums. The bulk item feed rates and processing times for the MPF are based on the bulk items being processed. The items that will be processed include VX M23 land mine drums at a maximum rate of 24 per hour and HD/HT ton containers at a rate of 1.72 per hour. Dunnage that will be processed in the MPF includes wood (926 lb/hr), spent activated carbon (330 lb/hr), DPE suits (440 lb/hr), HLG-plastics (400 lb/hr), plastics (400 lb/hr), TAP gear (400 lb/hr), PPE canisters (52 lb/hr), pre-filters (311 lb/hr), HEPA filters (235 lb/hr), lab waste (180 lb/hr), combustible waste (180 lb/hr), non-combustible waste (430 lb/hr), and metal parts (430 lb/hr). Only one type of dunnage will be processed at a time in the MPF. The dunnage rates shown above represent the maximum hourly limitations calculated from mass and energy balances.

The MPF system is designed to operate automatically. All powered roller conveyors, airlock doors, and furnace operations can be operated remotely from the Control Room (CON). The treatment process is designed to burn all residual agent and heat the metal components to a minimum of 1,000 °F for at least 15 minutes to attain the 5X level of decontamination. The MPF Afterburner is designed to provide a minimum overall gas residence time of 0.5 seconds at 2,000 °F.

The MPF design also provides for the incineration of contaminated combustible dunnage and decontamination to the 5X level, as may be required. The furnace can hold three tray assemblies at one time. Each zone of the furnace (three zones in all) has a capacity for centering one tray assembly of bulk container items or empty mine drums in each of the firing zones.

The airlocks are sized to accommodate one tray assembly containing one ton container. The airlock is designed to operate at a slight negative pressure when both doors are closed. The MPF discharge airlock is of steel construction and has thermal insulation to protect the metal shell from the heat given off by the tray assemblies. A tight-sealing door (i.e., maximum leakage rate of 2 standard cubic feet per minute at a differential pressure of 2.0 inches water column) between the burnout chamber and the exit airlock has internal refractory insulation to minimize heat losses to the airlock.

POLLUTION ABATEMENT SYSTEM (PAS) [SN-PBCDF-01]

The PAS is designed to meet environmental requirements for the control of gaseous emissions from the DFS, LIC, and MPF. The PFS has also been incorporated into each incinerator's PAS as further protection against chemical agent and trace organic emissions to areas outside of engineering control.

Purpose and Function of the PAS/PFS

Each of the furnace systems has a dedicated PAS/PFS which discharges to a Common Stack (SN-PBCDF-01). The PAS equipment includes a quench tower, venturi scrubber, packed-bed scrubber tower and mist eliminator vessel to cool and remove acid gases, particulates, and sulfur dioxide from the exhaust gas prior to being discharged to the atmosphere.

These PAS components are designed to:
Cool the exhaust gases to saturation temperature;
Remove criteria pollutants such as sulfur dioxide;
Neutralize acid gases such as hydrogen chloride (HCl); and
Remove particulates such as fiberglass, ash, and metal oxides.

The PFS components (gas reheater and carbon filter units) are inline between the mist eliminators and the furnace exhaust blowers. PFS equipment removes trace levels of organic compounds and particulates from the exhaust gas.

Operational Summary of the PAS/PFS

The PAS/PFS operates automatically in conjunction with the associated furnace to remove air pollutants from the exhaust gas emissions. High-temperature exhaust gas from the furnace and afterburner system enters the PAS. The first step in each PAS is treatment of furnace exhaust gases in a counter-flow quench tower. High temperature furnace exhaust gases enter near the bottom of the quench tower through a refractory-lined inlet nozzle. The exhaust gases flow up through the caustic mist created by the sprays and are cooled to their adiabatic saturation temperature (approximately 170 °F) as water is evaporated. Acids in the exhaust gases react with and are neutralized by the caustic spray inside the quench tower. Exhaust gases exit the top of the quench tower. Liquid brine falls to the bottom of the quench tower, where it is either recycled, sent to the Brine Reduction Area for processing, or transported to an off-site treatment, storage, and disposal facility.

The exhaust gases cooled in the quench tower flow down through the venturi scrubber where they encounter the radial and tangential sprays of caustic brine. The caustic brine droplets react to neutralize acid gases, and the moisture entraps fine solid particles. The exhaust gas and liquid streams combine and are accelerated to high velocity in the decreasing area of the throat of the venturi. The high velocity, combined with a 90-degree change in direction, causes the removal of particles from the gas stream. The venturi scrubber removes particulate matter and acid gases from the quenched furnace exhaust.

The exhaust gas then enters the bottom of the packed-bed scrubber and travels upward through the scrubber tower, where the exhaust gas again reacts with a caustic brine solution to further remove pollutant compounds. The exhaust gas is cooled and water is condensed in the packed bed section of the scrubber tower by using the clean liquor as a direct-contact, counterflow heat exchanger that lowers the scrubber tower exhaust gas to 125 °F. The clean liquor is cooled by pumping the clean liquor through air-cooled coolers and then returning the cooled clean liquor to the scrubber tower. Exhaust gases then flow from the scrubber tower through the mist eliminator vessel to remove additional "moisture droplets", metal oxides, solid particles and other compounds entrained in the moisture droplets of the exhaust gases.

Process water is supplied to the quench tower brine spray lines and to the scrubber tower clean liquor loop to make up for water that is lost by evaporation and brine purge. Minimal makeup to the clean liquor loop will be required during normal operation since significant water vapor condenses in the scrubber tower packed bed, which causes continuous overflow of the chimney trays. Salts produced from the reaction of the caustic brine with the exhaust gases are removed from the system by bleeding brine to the Brine Reduction Area.

The exhaust gases flow from the mist eliminator vessel to the PFS gas reheater, which reduces the relative humidity of the gases to 55% by increasing the gas temperature from 125 °F to approximately 160 °F. Exhaust gas from the reheater passes through the PFS carbon filter units before exiting the Common Stack (SN-PBCDF-01). The PFS carbon filter unit consists of several filter banks in series. The exhaust gas is drawn through a series of pre-filters, HEPA filters, and carbon filters. The exhaust gas is drawn through the PAS and PFS by two adjustable-speed-drive Induced Draft exhaust blowers and discharged to the atmosphere through the Common Stack.

Process Design Basis Summary

The quench tower, venturi scrubber, packed scrubber tower, and mist eliminator components are designed to cool and chemically treat the exhaust gas from the DFS, MPF, and LIC. The PFS gas reheater unit and carbon filter unit components are designed to condition and filter the exhaust gas to remove residual particulates and organic compounds.

STEAM GENERATING SYSTEM (SGS) [SN-PBCDF-03 AND SN-PBCDF-04]

The purpose of the steam generation system [Process Steam Boilers I (SN-PBCDF-03) and II (SN-PBCDF-04)] is to provide the Brine Reduction Area with high-pressure steam for use in the drum dryers, the evaporator, and brine heating coils on the brine surge tanks. The two natural gas fired steam boilers are served by a single deaerator and by two boiler feed water pumps. The system is equipped with three chemical feed packages and one condensate return unit package having a condensate receiver and two condensate pumps. The operation is totally automatic from locally mounted instrumentation and control panels.

Each of the two process steam boilers is a natural gas fired unit rated at 850 horsepower and a duty of 28.4 million (MM) Btu/hr. Each boiler is sized to produce approximately 17,250 lb/hr of steam at 135 psig and 358 °F. Natural gas is burned in the boiler to vaporize the water into steam, which is sent to the Brine Reduction Area. Low-pressure condensate from the drum dryers is returned by the condensate return unit package that includes a condensate receiver operating at atmospheric pressure and two condensate pumps, directly to the deaerator. Low-pressure condensate from the evaporator and drip traps flow back to the deaerator. The deaerated condensate is returned to the boiler via the boiler feedwater pumps. Chemical additives that are required to condition the boiler feedwater and protect the boilers are added to the system through three chemical feed packages. Makeup water from the process water (PRW) header is introduced to the system through the deaerator.

The steam generation system also provides the phosphate from the phosphate chemical feed package to the HVAC hot water boilers. The steam generation system boiler blowdown is collected in the recovered water tank (PAS-TANK-103) for consumption in the PAS quench towers.

HOT WATER HEATING SYSTEM [SN-PBCDF-05 and SN-PBCDF-06]

The primary components in the hot water heating system [Hot Water Boilers I (SN-PBCDF-05) and II (SN-PBCDF-06)] are the hot water boilers, hot water pumps, valves, piping, and associated temperature, pressure and flow instrumentation. Each hot water heater has a rated heat capacity of 11.7 MM Btu/hr that corresponds to 350 boiler horsepower (bhp). The maximum rated capacity is 1,172 gallons per minute (gpm). In the manual mode, the boiler and the pump are manually started locally by a hand switch from the Boiler Room located in the Process Utility Building (PUB). In the auto mode, when the outside air temperature drops below the temperature controller set point, one pump is started and one boiler control automatically initiates the burner-ignition sequence. The other pump remains on standby. As the heating load demand increases, the firing rate rises until it reaches approximately 80% of full rate. At this point, the second boiler starts. Both boiler firing rates reach an equilibrium and modulate in unison to satisfy the heating load. A temperature controller in the boiler master control maintains the hot water supply temperature at the set point through the boiler controls. When the load drops, the boiler output reduces to about 25% of full capacity. At a further load reduction, one boiler is turned off. At no load, the lead pump and second boiler are turned off. A pressure switch, installed in the pump' s supply header, activates the lag pump whenever the hot water supply pressure drops below the set point. The lead-lag operation configuration for the boilers and pumps is performed manually.

BRINE REDUCTION AREA (BRA) [SN-PBCDF-07]

The function of the Brine Reduction Area is to process brine from the PAS associated with the incinerators. The Brine Reduction Area also processes water softener regeneration waste (i.e., wastewater) from the water treatment system (WTS). The brine is stored in the brine surge tanks, where it is sampled and checked for the presence of chemical agent. From there, it proceeds to the brine flash evaporator, where the moisture content is reduced prior to being sent to two drum dryers.

Purpose and Function of the BRA

The drum dryers reduce the brine to a dried salt and deposit the salt into containers for storage and transportation to an approved off site treatment, storage and disposal facility. Exhaust vapors exiting the Brine Reduction Area drum dryers and evaporator are drawn through a baghouse to remove any particulate matter from the exhaust stream.

Operational Summary of the BRA

The Brine Reduction Area system processes PAS brine and wastewater treatment system wastewater into water and dried salts. The complete Brine Reduction Area system consists of brine surge tanks and feed pumps, a flash evaporator, two drum dryers, a gas fired duct heater and forced draft fan for each of the two dryers, and the Brine Reduction Area PAS. The surge tanks, located outside the Process Utility Building (PUB), serve as holding tanks. Each brine surge tank is sampled for corrosivity (pH), chemical agent, and specific gravity before the brine is allowed into the evaporator or drum dryer packages. The batch is treated, after verifying through sampling and analysis, that the brine is free of chemical agent. The batch can be pre-concentrated by circulating the brine through an evaporator package and returning it to the brine surge tank. Each brine surge tank is equipped with a pump recycle line through which brine can reenter the tank after exiting the feed pump. The batch can be fed through the evaporator package prior to being fed to the drum dryers to increase the solution's specific gravity. Each surge tank has a capacity of 40,000 gallons.

Brine is pumped from the brine surge tanks to the flash evaporator using a brine feed pump. The evaporator package consists of a circulation pump, a heat exchanger, a flash evaporator, and a desuperheater pump. The brine circulation pump sends the brine feed to the heat exchanger. The heat exchanger uses steam to heat the brine before it is sent to the flash evaporator. The desuperheater pump provides a constant source of condensate to the steam desuperheater spray nozzle. Upon entering the flash chamber, the hot brine partially flashes to steam, leaving the salts and metals behind in the liquid brine. This process removes water from the brine, increasing the density and reducing the volume. This process continues until the desired specific gravity is reached.

At this point, the concentrated brine either is sent to the drum dryers, or is returned to the brine surge tanks in order to control the evaporator feed rate. The drum dryer dries the concentrated brine solution to produce solid brine salts. The dryer package consists of two rotary drums, two salt product removal conveyors, and two salt collection containers, all encased in one housing. Concentrated brine from the evaporator package is fed onto the drums and collected in the nip between the two rotating drums. The drums rotate in opposite directions by electric motors.

Steam supplied to the interior of the drums heats the drum surfaces and dries the brine. Water from the concentrated brine evaporates on the drums, leaving salt cake behind on the rotating drums. As the drums rotate, knife blades remove the salt cake from the surface. The salts are collected on one of two conveyors and discharged into a collection container. Each collection container is supported on an aluminum pallet dolly and contains a disposable polypropylene sheet bag, inside a polypropylene fabric bag, that has a quick-opening bottom and lifting straps. Full collection containers are closed, moved to the Residue Handling Area (RHA), and replaced with an empty container. Full containers are staged in the Residue Handling Area to cool. After cooling, the fabric bag is lifted over a roll-off container and the quick-opening bottom is opened, allowing the sealed disposable interior bag to be released into the roll-off container.

Water vapor from the evaporator package and drum dryers is sent through the Brine Reduction Area PAS (baghouse system) before being discharged to the atmosphere through an exhaust stack (SN-PBCDF-07). The Brine Reduction Area PAS removes particulate from the vent exhausts. This system contains a knockout box, burner (10 MMBtu/hr), baghouses, exhaust blower, and elevated exhaust stack. Evaporated water from the drum dryers is combined with heated air at 120 °F from the drum dryer air heater package (2.47 MMBtu/hr) to maintain the drum dryer exhaust above its dew point. The heated exhaust exits the drum dryers and passes through the knockout box, where any heavy solids are knocked out by a stainless steel baffle. Then, the solids are discharged through a rotary valve into a salt container at the bottom of the knockout box. The exhaust passing through the knockout box is pulled through the system to the Brine Reduction Area PAS burner, where the temperature is elevated further to prevent condensation of liquid as the exhaust moves through the Brine Reduction Area PAS. After being heated by the Brine Reduction Area PAS gas burner, the exhaust flow from the drum dryers merges with the exhaust from the evaporator package. The combined flow is sent to the Brine Reduction Area PAS baghouses (three baghouses in parallel) where particulates are removed. An automatic, periodic blast of plant air flushes any accumulated material into a hopper at the bottom of each baghouse. An Induced Draft Fan provides the motive force to move the exhaust flow through the baghouses and out the elevated exhaust stack (SN-07).

Process Design Basis for the BRA

The brine surge tanks are designed to have a cumulative storage capacity sufficient for two days of facility operations. The steam generation system (SGS) supplies steam to the evaporator and the drum dryer packages. The steam generation system boilers generate saturated steam at approximately 135 pounds per square inch, gauge (psig). Steam to the evaporator package is regulated to 125 psig, and desuperheated to no more than five degrees. Steam to the drum dryers is superheated to approximately 100 psig by reduction of the supply steam pressure.

The incoming brine is maintained at a pH of 5.5 or greater. The combined brine recycle rate to each evaporator heat exchanger and back to the surge tank is 950 gallons per minute (gpm). Brine from the evaporator to the dryers has a 1.2 specific gravity limit in order to prevent salt precipitation. The dryers reduce the water content of the brine to approximately 5% moisture by weight in the mass and energy balances. The concentration of entrained particulates is assumed to be 0.036 grain per dry standard cubic foot (gr/dscf) for the evaporator exhaust, and 1.15 gr/dscf for the dryer exhausts. Particulate removal for the Brine Reduction Area PAS will be accomplished with baghouses. The designed particulate emissions for the Brine Reduction Area PAS will result in a particulate concentration of less than or equal to 0.01 gr/dscf.

HEATING, VENTILATION AND AIR CONDITIONING SYSTEM (HVAC) AND EXHAUST VENTS [SN-PBCDF-08 and SN-PBCDF-13]

The PBCDF will be equipped with building ventilation systems that will discharge to the atmosphere air from the Munitions Demilitarization Building (MDB) process area, the Laboratory Building, the Deactivation Furnace System Cyclone Enclosure, the Medical Maintenance Building, and the Personnel Support Complex. The Heating, Ventilation, and Air

Conditioning (HVAC) systems of the facility maintain containment of chemical agent in the toxic areas which providing space heating and air conditioning for toxic and non-toxic areas. During normal operation only the MDB and the Laboratory will contain chemical agent.

Building HVAC Exhaust Vent and the Laboratory Exhaust Vent have been designated with source numbers SN-PBCDF-08 and SN-PBCDF-13, respectively.

The Laboratory ventilation system (SN-PBCDF-13) will undergo only intermittent exposure to low concentrations of chemical agents. The Laboratory ventilation system provides a safe, contamination-free, comfortable atmosphere for the laboratory personnel. A positive pressure is maintained in the office area and the laboratory areas are maintained at a negative pressure by the fume hoods. All ventilation air cascades from the clean areas to the potentially contaminated areas through the fume hoods and is then treated by the exhaust filters and discharged to the atmosphere. The Munitions Demilitarization Building is the area of greatest potential exposure and the most extensive HVAC system. The Munitions Demilitarization Building HVAC is reviewed in detail below.

Purpose and Function of the HVAC System and Exhaust Vents

The primary means of preventing the release or spread of agent contamination in the Munitions Demilitarization Building is through the use of cascaded pressure control. Essential to the control of agent within the facility is the movement of air from the least toxic areas to the most toxic areas in the Munitions Demilitarization Building and through the exhaust air filtration units.

Operational Summary of the HVAC System and Exhaust Vents

The Munitions Demilitarization Building HVAC system runs continuously to provide the necessary air volume and flows through the Munitions Demilitarization Building. Each room in the Munitions Demilitarization Building has a designated category rating of A, A/B, B, C, D, or E based upon the potential for agent contamination. Toxic process areas with a Category A rating classification have a high probability of either agent liquid or vapor contamination. Toxic process areas with a Category B rating have a high probability of agent vapor contamination resulting from routine operations. Categories A and B define high hazard areas. Toxic process areas with a Category C rating are subject to inadvertent agent vapor contamination. Rooms with a Category D rating have a very low probability of ever being contaminated by agent. Rooms with a Category E rating are maintained to be free from any chance of agent contamination at all times barring the possibility of a catastrophic event.

The cascade HVAC system is configured to provide a flow of air from the least toxic to the most toxic areas in the Munitions Demilitarization Building and provide containment within the Munitions Demilitarization Building. The amount of air changed in each room is higher for areas likely to be contaminated with agent. This minimizes the spread of agent contamination, and maintains the toxic boundaries. The cascade HVAC system maintains the Munitions Demilitarization Building rooms at the desired negative pressures by supplying and exhausting a constant volume of air to and from the building, and by having manually-adjusted balancing dampers set to achieve the desired air flow through the rooms. Incinerator rooms do not receive supply air from the Munitions Demilitarization Building Supply Air Handling Units. However, all incinerator rooms exhaust to the Munitions Demilitarization Building common discharge header. Thus, in addition to drawing HVAC air through the process rooms in the Munitions Demilitarization Building, the exhaust air filtration units provide the motive force to ventilate and cool the incinerator rooms. DFS room air is supplied directly from the outside through an inlet filter unit. Supply air for the MPF room and the LIC room is drawn in directly from the outside through inlet filter units by the negative pressure maintained in the rooms.

EMERGENCY GENERATOR SYSTEM
[SN-PBCDF-09, SN-PBCDF-10, and SN-PBCDF-12]

PBCDF receives electrical power from an external power network (Entergy) through a 115-kilovolt (kV) substation (Substation C) that provides 13.2-kV to the plant switchyard (13.2 and 4.16-kV switch gears) located outside of the PBCDF double fence. The electrical distribution and emergency power system consists of the 4.16-kV switch gear, primary and secondary power distribution systems, an emergency generator, and an uninterruptible power supply (UPS) system.

The PBCDF uses a tiered electrical power system (EPS) with redundant distribution. The PBCDF electrical power system has both primary and secondary electrical power supply distribution networks with two 4.16-kV emergency power generators backing up the local utility power supply. The 4.16-kV emergency generator ties into the plant power system.

The emergency generator system consists of three diesel power generators to supply electricity in the event of a power failure. Two 2,500-kilowatt generators (one would always serve as backup for the other) will be used to supply enough power to allow for safely shutting down the facility in the event of a power failure. The third generator with a 250 kilowatt power capacity is designed to provide emergency power to the Entry Control Facility to operate security systems in the event of a power failure.

The system consists of three diesel-powered generators and associated support equipment, including a fuel oil day tank, lube oil coolers, starting battery and charger, and control and indication equipment. The two large emergency generators are located outside of the Munitions Demilitarization Building in the emergency generator enclosures. The emergency controls and indicators for these generators are on the generator control panel in the Munitions Demilitarization Building switch gear room. The emergency generator automatically provides 4,160-volt alternating current power to PPS-SWGR-101 and PPS-SWGR-102 (by closing breakers 52-103 or 52-104 in PPS-SWGR-101 and PPS-SWGR-102, respectively, and tie-breaker 52-105) in the event of a total failure of incoming power from the power supply and distribution network. The small generator and its controls are located inside the Entry Control Facility.

The large emergency generator fuel oil day tanks and pumps receive fuel oil from the 4,000-gallon underground fuel oil storage tank. The fuel oil tank provides fuel to both of the emergency generators and to the LIC fuel oil purge system. The tank is sized to support one 2,500-kW generator for 24 hours of operation and the operation of the LIC fuel oil purge system. A 3,200-gallon reserve of fuel oil is required for the generator. The fuel oil level in the tank is monitored locally. If the level in the tank reaches 3,200 gallons, the LIC purge fuel oil pump will shut down and a low-level alarm will indicate locally and in the Control Room. The small emergency generator is supplied by the 1,000 gallon fuel oil tank which is located to the south of the Entry Control Facility.

TANK SYSTEMS

The PBCDF will have three separate hazardous waste tank systems, as well as three "less than 90 day" storage tank systems. In addition to the hazardous waste tank systems, there will also be other tank systems at the facility. These tanks include underground diesel tanks, a liquefied petroleum gas storage tank, recovered water tanks, sodium hydroxide (caustic) storage tanks, process water storage tank, a sodium hypochlorite (bleach) storage tank, decontamination supply storage tanks, regeneration wastewater tanks, a potable water hydropneumatic tank, a cooling medium supply tank, and boiler water chemical feed tanks. A summary of the tanks that have potential air concerns are discussed in further detail below.

Agent Collection Tank System

The Agent Collection Tank System will extend from the agent collection points in the Explosive Containment Room in the Munitions Demilitarization Building to the inlet of the LIC, located in the same building. The system will include a 660-gallon agent holding tank, a 1,300-gallon agent surge tank, small agent quantification system verification tanks, sumps, pumps, and associated piping. While these tanks will be used for agent storage, which could be classified as volatile organic compounds, the tanks are a closed loop system and all potential emissions from equipments leaks will be controlled by the HVAC system.

Spent Decontamination Solution Holding Tank System

The Spent Decontamination Solution Holding Tank System will extend from the sump pumps, sumps, and trenches on the first and second floors of the Munitions Demilitarization Building to the inlets of the LIC Secondary Combustion Chamber. It will include three 2,300-gallon spent decontamination solution (SDS) holding tanks, sumps, pumps, and associated piping. The tanks are used to collect SDS. The SDS will be incinerated in the LIC Secondary Combustion Chamber. One of the three tanks is designated as a contingency spill tank and will normally remain empty. This is primarily a water stream and any potential fugitive emissions would be controlled by the HVAC system.

Laboratory Chemical Waste Storage Tank System

The Laboratory Chemical Waste Storage Tank System will extend from the laboratory drains in the Laboratory Building to the Laboratory chemical waste storage tank. This system will include a 1,600-gallon chemical waste storage tank, vault, pumps, and associated piping, and is used to hold liquid laboratory waste prior to transfer to the SDS holding tanks from where it will be fed to the LIC Secondary Combustion Chamber. This is a closed system that is primarily a water stream and any potential fugitive emissions are vented to the carbon filters by the HVAC system.

Fuel Oil Storage Tanks (SN-PBCDF-11 and SN-PBCDF-14)

Two underground (fiberglass-reinforced plastic) storage tanks (4,000 and 1,000-gallon capacity each) will be used to store diesel fuel for the emergency power generators (SN-PBCDF-09, SN-PBCDF-10, and SN-PBCDF-12) at PBCDF. Both tanks will vent to the atmosphere. The 1,000-gallon diesel tank has been assigned source number SN-PBCDF-11 and the 4,000-gallon diesel tank has been assigned the source number SN-PBCDF-14.

Liquefied Petroleum Gas Storage Tank

The PBCDF will include a 40,000-gallon liquefied petroleum gas storage tank. The liquefied petroleum gas will be used as backup fuel for the incinerators and boilers. This is a pressurized storage tank and was therefore not assigned a source number.

RESIDUE HANDLING AREA (RHA) [SN-PBCDF-15]

The Residue Handling Area (RHA) receives solid plant waste generated during process operations. The purpose of the Residue Handling Area is to provide the necessary equipment and controls required to properly contain the waste at the facility. The waste is transported to an off-site hazardous waste treatment, storage, and disposal facility designed to handle the types of process residues generated by the facility.

Residue from the DFS consists of char from sheared rocket casings with fiberglass residue, mine casings, and incinerated scrap from the miscellaneous explosive components removed from munitions during the demilitarization operations. Char is collected at the discharge end of the DFS in a waste bin and later containerized in the Residue Handling Area.

The DFS Cyclone Separator is used to remove fiberglass from the flue gas exiting the DFS. Fiberglass waste is contained in the reinforced rocket shipping containers that are incinerated in the DFS. Fiberglass waste is collected in a waste bin at the discharge of the DFS Cyclone Separator and transported to the MPF for incineration. After the residue is incinerated in the MPF, the waste is taken to the Residue Handling Area and containerized.

The MPF is used for the thermal decontamination of metal from the demilitarization processing and the processing of dunnage. The dunnage ash and metal char is discharged to conveyors at the discharge end of the MPF. The residual metal, ash, and char are allowed to cool before being placed in a roll-off container for shipment to a less-than-90-day storage area.

As the result of brine reduction operations, salts are discharged from the Brine Reduction Area System. Salts are temporarily contained in salt waste bins and containerized in the Residue Handling Area for eventual disposal. The Brine Reduction Area is the major source of solid waste at the facility.

The Residue Handling Area tilter provides a means of dumping full waste bins into roll-off containers. The waste bins are transferred from the collection points and loaded into the tilter by a forklift. The waste bins are then sealed and inverted by the tilter. The contents of the waste bins are transferred into roll-off containers. Particulate emissions that are generated during the dumping process are collected by a dust collection system, which is an integral part of the tilter system. The system vents through a baghouse that controls the particulate emissions. This collection system has been assigned a source number of SN-PBCDF-15. As the roll-off containers are filled, they are picked up by transport trucks and delivered to a less-than-90-day storage area.

LABORATORY BOILER [SN-PBCDF-16]

The PBCDF installed a skid-mounted Laboratory Boiler (SN-PBCDF-16) in December 2000. This combustion unit supplies hot water to the PBCDF Laboratory HVAC system to heat the Laboratory Building and keep employees comfortable during the winter months. The Laboratory Boiler is employed to support the central hot water system. The Laboratory HVAC was operational prior to the completion of the Process Utility Boilers [i.e., Natural Gas Fired Hot Water Boilers I and II, (SN-PBCDF-05 and SN-PBCDF-06)], which are the primary "central heating" arrangement.

The PBCDF Laboratory Boiler, which will only be fired with natural gas, has a maximum heat capacity of 1.4 MM Btu/hr.

FUGITIVE EMISSIONS [SN-PBCDF-17]

A primary source of fugitive emissions associated with operation of the proposed PBCDF is vehicular traffic. Vehicular traffic is expected to produce road dust and tailpipe exhaust emissions. Because the plant is designed with airtight processing areas, carbon filtration, and closed-loop storage systems, fugitive volatile organic compound emissions are not expected from actual PBCDF operations. Road dust is expected to be minimal, since all the munitions haul roads within PBA have been paved.

CONVAULT DUAL STORAGE TANK [SN-PBCDF-20]

The PBCDF maintains a 2000-gallon aboveground storage tank to provide fuel for plant vehicles and machinery. The tank may store either gasoline or diesel.

AGENT EMISSION PREVENTION

[SN-PBCDF-01, SN-PBCDF-07, SN-PBCDF-08, and SN-PBCDF-13]

Emission concentration limits, continuous near real-time monitoring, detection and verification methods, and other regulatory requirements concerning Nerve Agent VX, Nerve Agent GB, Mustard Agent HD, and Mustard Agent HT are governed by ADEQ Hazardous Waste Permit 29-H, which is based upon human health and ecological risk assessments performed for each agent destruction campaign. The Air Division reserves the right to independently evaluate agent emissions limits derived from site-specific risk assessments and to quantify in the air permit any revised emission limits deemed necessary to protect human health and the environment. Any violation of the provisions of Hazardous Waste Permit 29-H concerning chemical agent emissions is also considered a violation of this permit.

Specific Conditions

CAD-1. The permittee shall not exceed the emission rates set forth in the following table. [Regulation 19, §19.501 et seq. and 40 CFR Part 52, Subpart E]

SN	Description	Pollutant	lb/hr	tpy
PBCDF-01	Common Stack for DFS, LIC and MPF	PM_{10}	2.4	10.2
		SO_2	17.2	75.2
		VOC	2.8	4.2
		CO	12.7	55.6
		NO_x	81.6	357.4
		Lead	0.005486	0.008665
PBCDF-03	Process Steam Boiler I 28.4 MM Btu/hr	PM_{10}	0.3	1.0
		SO_2	0.1	0.1
		VOC	0.2	0.7
		CO	2.4	10.5
		NO_x	1.5	6.3
		Lead	0.0000142	0.0000623
PBCDF-04	Process Steam Boiler II 28.4 MM Btu/hr	PM_{10}	0.3	1.0

SN	Description	Pollutant	lb/hr	tpy
		SO_2	0.1	0.1
		VOC	0.2	0.7
		CO	2.4	10.5
		NO_x	1.5	6.3
		Lead	0.0000142	0.0000623
PBCDF-05	Hot Water Boiler I 11.71 MMBtu/hr	PM_{10}	0.1	0.4
		SO_2	0.1	0.1
		VOC	0.1	0.4
		CO	1.0	4.3
		NO_x	0.6	2.6
		Lead	0.00000585	0.0000256
PBCDF-06	Hot Water Boiler I 11.71 MMBtu/hr	PM_{10}	0.1	0.4
		SO_2	0.1	0.1
		VOC	0.1	0.4
		CO	1.0	4.3
		NO_x	0.6	2.6
		Lead	0.00000585	0.0000256
PBCDF-07	Brine Reduction Area 12.47 MM Btu/hr (total)	PM_{10}	1.4	5.8
		SO_2	0.1	0.1
		VOC	0.1	0.3
		CO	1.1	4.6
		NO_x	0.7	2.8
		Lead	0.00139	0.00605
PBCDF-09	Emergency Electrical Generator I 2,500 kW	PM_{10}	1.1	0.4
		SO_2	0.6	0.2
		VOC	1.0	0.3
		CO	9.0	2.7

SN	Description	Pollutant	lb/hr	tpy
		NO_x	33.9	10.2
PBCDF-10	Emergency Electrical Generator II 2,500 kW	PM_{10}	1.1	0.4
		SO_2	0.6	0.2
		VOC	1.0	0.3
		CO	9.0	2.7
		NO_x	33.9	10.2
PBCDF-11	Diesel Tank 1000 gallon	Insignificant Activity		
PBCDF-12	Emergency Electrical Generator III 250 kW	PM_{10}	0.4	0.1
		SO_2	0.4	0.1
		VOC	0.4	0.1
		CO	1.0	0.3
		NO_x	4.7	1.2
PBCDF-14	Diesel Tank 4000 gallon	Insignificant Activity		
PBCDF-15	Residue Handling Area	PM_{10}	0.1	0.1
PBCDF-16	Laboratory Boiler	PM_{10}	0.1	0.1
		SO_2	0.1	0.1
		VOC	0.1	0.1
		CO	0.2	0.6
		NO_x	0.2	0.7
PBCDF-17	PBCDF Fugitives	PM_{10}	0.2	0.6
		NO_x	0.3	1.3
PBCDF-20	ConVault Dual Storage Tank	VOC	0.1	0.2
PBCDF-21	Emergency Electrical Generator Water Well 6 – 600 kW	PM_{10}	1.8	0.5
		SO_2	1.7	0.5
		VOC	2.1	0.6
		CO	5.7	1.5

SN	Description	Pollutant	lb/hr	tpy
		NO_x	25.0	6.3
PBCDF-22	Emergency Electrical Generator Water Well 11 – 600 kW	PM_{10}	1.8	0.5
		SO_2	1.7	0.5
		VOC	2.1	0.6
		CO	5.7	1.5
		NO_x	25.0	6.3
PBCDF-23	Emergency Electrical Generator Booster Pump Station – 75 kW	PM_{10}	0.3	0.1
		SO_2	0.3	0.1
		VOC	0.3	0.1
		CO	0.8	0.2
		NO_x	3.2	0.8

CAD-2. The permittee shall not exceed the emissions set forth in the following table. Initial compliance for the Common Stack (SN-PBCDF-01) LIC, DFS, MPF, and the Brine Reduction Area (BRA) (SN-PBCDF-07) emissions shall be determined by agent trial burn testing for each furnace, compliance with applicable requirements of 40 CFR Part 63 Subpart EEE, and performance testing for the BRA. The BRA testing shall be performed in accordance with the terms and conditions of ADEQ Hazardous Waste Permit 29-H.

Ongoing compliance with emission rates shall be demonstrated by the use of pipeline quality natural gas, by meeting the process rate limits set forth in Specific Conditions CAD-11 and CAD-52, and by continued compliance with applicable requirements of MACT EEE.

Any emission rate exceeding the limits set forth in the following table shall be reviewed for acceptable risk by analysis through the RCRA Health Risk Assessment process. If the risk is deemed acceptable, the Department shall consider revising the appropriate emission limits, provided an air permit application to do so has been submitted within 30 days of submittal of an updated health risk assessment addenda. The provisions of this paragraph only apply to initial testing required for each unit or each agent campaign.

The remaining emission rates for Process Steam Boiler I and II, (SN-PBCDF-03 and SN-PBCDF-04 respectively), Hot Water Boilers I and II (SN-PBCDF-05 and SN-PBCDF-06 respectively) and Emergency Generator I, II, and III (SN-PBCDF-

09, SN-PBCDF-10, and SN-PBCDF-12 respectively) are based on typical AP-42 emission factors.

[§18.801 of the Arkansas Air Pollution Control Code (Regulation #18) effective January 25, 2009, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SN	Description	Pollutant	lb/hr	tpy
PBCDF-01	Common Stack for DFS, LIC and MPF	PM	2.4	10.2
		Arsenic Compounds	0.002149	0.003867
		Beryllium	0.0004748	0.0009151
		Cadmium	0.0006249	0.001097
		Chromium	0.0009669	0.001515
		Cobalt	0.0009043	0.001497
		Manganese	0.08523	0.1622
		Mercury Compounds	0.0006330	0.001109
		Nickel	0.002339	0.005250
		Selenium	0.001275	0.002042
		Hydrogen Chloride	0.2828	0.5726
		Hydrogen Fluoride	0.01	0.02
		Antimony	0.001812	0.002901
		Phosphorus	0.03544	0.06864
		Chlorine	0.01	0.01
		PCBs	0.000002398	0.000003063
		Benzene	0.005764	0.01025
		Bromoform	0.001097	0.001612
		Carbon Disulfide	0.0006779	0.001210
		Carbon Tetrachloride	0.001082	0.002671
		Chlorobenzene	0.0002199	0.0004417
		Chloroform	0.001378	0.002587

SN	Description	Pollutant	lb/hr	tpy
		1,1-Dichloroethane	0.001256	0.0004301
		1,2-Dichloropropane	0.007937	0.02153
		cis-1,3-Dichloropropene	0.006872	0.01862
		trans-1,3-Dichloropropene	0.0002101	0.0004287
		Ethyl Benzene	0.0003748	0.0006381
		Methylene Chloride	0.2511	0.5416
		Styrene	0.003771	0.007967
		1,1,2,2-Tetrachloroethane	0.0002214	0.0004594
		Tetrachloroethane	0.0002423	0.0005165
		Toluene	0.1364	0.2980
		1,1,1-Trichloroethane	0.001755	0.003207
		Vinyl Acetate	0.0002161	0.0004452
		Vinyl Chloride	0.0008148	0.001294
		Xylene	0.0004901	0.0009453
		Dimethyl Phthalate	0.008358	0.02088
		Naphthalene	0.001717	0.002706
		2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	5.99E-10	0.00000001318
		2-Butanone	0.01216	0.02223
		Chloromethane	0.02075	0.05615
		4-Methyl-2-Pentanone	0.0002817	0.0006246
		Di-n-Butyl Phthalate	0.001699	0.002687
		bis(2-Ethylhexyl)-phthalate	0.01	0.01
		2,4-Dinitrotoluene	0.0002868	0.0003664
		2-Methylphenol	0.02143	0.03131

SN	Description	Pollutant	lb/hr	tpy
		3-Methylphenol	0.006391	0.01529
		4-Methylphenol	0.003618	0.006839
		Ethylene Glycol	2.400	0.2500
		Diethylene Glycol	1.100	0.0033
PBCDF-03	Process Steam Boiler I 28.4 MM Btu/hr	PM	0.3	1.0
		Arsenic Compounds	0.00000569	0.0000249
		Beryllium	0.000000341	0.00000149
		Cadmium	0.0000313	0.000137
		Manganese	0.0000108	0.0000473
		Mercury Compounds	0.00000739	0.0000324
		Methane	0.0700	0.310
		Formaldehyde	0.00213	0.00934
		Polycyclic Aromatic Hydrocarbon	0.00000250	0.0000110
		Benzene	0.0000597	0.000261
PBCDF-04	Process Steam Boiler II 28.4 MM Btu/hr	PM	0.3	1.0
		Arsenic Compounds	0.00000569	0.0000249
		Beryllium	0.000000341	0.00000149
		Cadmium	0.0000313	0.000137
		Manganese	0.0000108	0.0000473
		Mercury Compounds	0.00000739	0.0000324
		Methane	0.0700	0.310
		Formaldehyde	0.00213	0.00934
		Polycyclic Aromatic Hydrocarbon	0.00000250	0.0000110
		Benzene	0.0000597	0.000261

SN	Description	Pollutant	lb/hr	tpy
PBCDF-05	Hot Water Boiler I 11.71 MMBtu/hr	PM	0.1	0.4
		Arsenic Compounds	0.00000234	0.0000103
		Beryllium	0.000000140	0.000000615
		Cadmium	0.0000129	0.0000564
		Manganese	0.00000445	0.0000195
		Mercury Compounds	0.00000304	0.0000133
		Methane	0.0300	0.130
		Formaldehyde	0.000878	0.00385
		Polycyclic Aromatic Hydrocarbon	0.00000103	0.00000451
		Benzene	0.0000246	0.000108
PBCDF-06	Hot Water Boiler II 11.71 MMBtu/hr	PM	0.1	0.4
		Arsenic Compounds	0.00000234	0.0000103
		Beryllium	0.000000140	0.000000615
		Cadmium	0.0000129	0.0000564
		Manganese	0.00000445	0.0000195
		Mercury Compounds	0.00000304	0.0000133
		Methane	0.0300	0.130
		Formaldehyde	0.000878	0.00385
		Polycyclic Aromatic Hydrocarbon	0.00000103	0.00000451
		Benzene	0.0000246	0.000108
PBCDF-07	Brine Reduction Area 12.47 MM Btu/hr (total)	PM	1.4	5.8
		Arsenic Compounds	0.000227	0.000992
		Beryllium	0.0000960	0.000420
		Cadmium	0.000189	0.000826

SN	Description	Pollutant	lb/hr	tpy
		Chromium	0.00104	0.00454
		Cobalt	0.000960	0.00419
		Manganese	0.000388	0.00170
		Mercury Compounds	0.000156	0.000680
		Nickel	0.000985	0.00430
		Selenium	0.0000962	0.000420
		Hydrogen Chloride	0.0174	0.0761
		Antimony	0.0000959	0.000419
		Phosphorus	0.00192	0.00838
		Methane	0.0300	0.130
		Hexane	0.0225	0.0983
		Formaldehyde	0.000935	0.00410
		Polycyclic Aromatic Hydrocarbon	0.00000110	0.00000482
		Dichlorobenzene	0.0000150	0.0000655
		Benzene	0.0000262	0.000115
		Toluene	0.0000424	0.000186
		Naphthalene	0.00000761	0.0000333
PBCDF-08	Demilitarization HVAC Exhaust Vent	Nerve Agent VX	ND	ND
		Nerve Agent GB	ND	ND
		Mustard Agent HD	ND	ND
		Mustard Agent HT	ND	ND
PBCDF-09	Emergency Electrical Generator I 2,500 kW	PM	1.1	0.4
		Formaldehyde	0.000834	0.000250
		Polycyclic Aromatic Hydrocarbon	0.00224	0.000672
		Benzene	0.00820	0.00246

SN	Description	Pollutant	lb/hr	tpy
PBCDF-10	Emergency Electrical Generator II 2,500 kW	PM	1.1	0.4
		Formaldehyde	0.000834	0.000250
		Polycyclic Aromatic Hydrocarbon	0.00224	0.000672
		Benzene	0.00820	0.00246
PBCDF-12	Emergency Electrical Generator III 250 kW	PM	0.4	0.1
		Formaldehyde	0.00125	0.000312
		Polycyclic Aromatic Hydrocarbon	0.000178	0.0000444
		Benzene	0.000989	0.000247
PBCDF-13	Laboratory Building HVAC Exhaust Vent	Nerve Agent VX	ND	ND
		Nerve Agent GB	ND	ND
		Mustard Agent HD	ND	ND
		Mustard Agent HT	ND	ND
PBCDF-15	Residue Handling Area	PM	0.1	0.1
PBCDF-16	Laboratory Boiler	PM	0.1	0.1
PBCDF-17	PBCDF Fugitives	PM	0.2	0.6
PBCDF-21	Emergency Electrical Generator Water Well 6 – 600 kW	PM	1.8	0.5
PBCDF-22	Emergency Electrical Generator Water Well 11 – 600 kW	PM	1.8	0.5
PBCDF-23	Emergency Electrical Generator Booster Pump Station – 75 kW	PM	0.3	0.1

ND = Nondetectable. Emissions shall be below levels of detection using the monitoring protocols set forth in ADEQ Hazardous Waste Permit 29-H.

CAD-3. The permittee shall not exceed 5% opacity as measured by Environmental Protection Agency (EPA) Reference Method 9 for the DFS, LIC, and MPF Common Stack (SN-PBCDF-01), the Brine Reduction Area (BRA) baghouse (SN-PBCDF-07), and the Residue Handling System (RHA) baghouse (SN-PBCDF-15). [§18.501 of the Arkansas Air Pollution Control Code (Regulation 18) and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

CAD-4. Weekly observations of opacity from the DFS, LIC, and MPF Common Stack (SN-PBCDF-01), the Brine Reduction Area (BRA) baghouse (SN-PBCDF-07), and the Residue Handling System (RHA) baghouse (SN-PBCDF-15) shall be conducted by a person familiar with emission at each source. If any visible emissions are detected, the permittee shall take immediate action to identify and correct the cause of the visible emissions. After corrective action has been taken, another observation of the opacity from the affected source shall be conducted in order to confirm that visible emissions are no longer present. In the event a source is shut down for seven consecutive days, no opacity observation shall be required for that period. Records of all visible emissions observations and any corrective action taken shall be kept on site and made available to Department personnel upon request. [§18.1003 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

CAD-5. The permittee shall not exceed 5% opacity as measured by Environmental Protection Agency (EPA) Reference Method 9 for the following sources: Process Steam Boiler I (SN-PBDCF-03), Process Steam Boiler II (SN-PBDCF-04), Hot Water Boiler I (SN-PBDCF-05), Hot Water Boiler II (SN-PBDCF-06), and the Laboratory Boiler (SN-PBDCF-16). Compliance with this condition shall be demonstrated by compliance with the fuel usage limitations prescribed by this permit. [§18.501 of the Arkansas Air Pollution Control Code (Regulation 18) and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

CAD-6. The permittee shall use only pipeline natural gas to fire the Process Steam Boiler I (SN-PBCDF-03), and II (SN-PBCDF-04), except during natural gas curtailment, when liquid petroleum gas (LPG) may be used to fire the steam boilers. [§19.705 of Regulation 19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR Part 70.6]

CAD-7. The permittee shall use only pipeline natural gas to fire the Hot Water Boiler I (SN-PBCDF-05) and II (SN-PBCDF-06), except during natural gas curtailments, when LPG may be used to fire the hot water boilers. [§19.705 of Regulation 19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR Part 70.6]

CAD-8. The permittee shall use only pipeline natural gas to fire the Laboratory Boiler (SN-PBCDF-16), except during natural gas curtailments, when LPG may be used to fire the Laboratory Boiler. [§19.705 of Regulation 19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR Part 70.6]

CAD-9. The permittee shall record and maintain the amounts of fuel combusted each day for Process Boiler I (SN-PBCDF-03), Process Boiler II (SN-PBCDF-04), Hot Water Heater I (SN-PBCDF-05), and Hot Water Heater II (SN-PBCDF-06). [§19.304 of Regulation 19 and 40 CFR Part 60.48c(g)]

CAD-10. The fuel usage records for SN-PBCDF-03, SN-PBCDF-04, SN-PBCDF-05, and SN-PBCDF-06 shall be maintained for a period of two years following the date of such records. [§19.304 of Regulation 19 and 40 CFR Part 60.48c(i)]

CAD-11. The permittee shall not process more than 102,209 rockets in the DFS (SN-PBCDF-01); 7,262,400 pounds of agent in the LIC (SN-PBCDF-01); 319,253 pounds of agent in the MPF (SN-PBCDF-01); 3,228,060 pounds of waste material in the MPF (SN-PBCDF-0l); and 137,405 tons of feed to the BRA (SN-PBCDF-07) during any consecutive 12 month period. [§19.705 of Regulation 19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR Part 70.6]

CAD-12. The permittee shall maintain records of the amount of the munitions, agent, and waste material processed through the units under SN-PBCDF-01, and of the BRA feed at SN-PBCDF-07. These records shall be used for compliance demonstration and may be used by the Department for enforcement purposes. These records shall be updated no later than the fifteenth day of the month following the month which the records represent, shall be kept on-site, and shall be made available to Department personnel upon request. An annual total and each month's individual data shall be submitted to the Department in accordance with General Provision 7. [§19.705 of the Arkansas State Implementation Plan for Air Pollution Control (Regulation 19) and 40 CFR Part 52 Subpart E]

CAD-13. The permittee shall not operate the Emergency Electrical Generator I (SN-PBCDF-09) and the Emergency Electrical Generator II (SN-PBCDF-10) more than 1,200 hours combined per any consecutive 12 month period, and the Emergency Electrical Generator III (SN-PBCDF-12) more than 500 hours in any consecutive 12 month period. [§19.705 of Regulation 19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR Part 70.6]

CAD-14. The permittee shall maintain the operating hours for each of the electrical generators (SN-PBCDF-09, SN-PBCDF-10, and SN-PBCDF-12). These records shall be used for compliance demonstration and may be used by the Department for enforcement purposes. These records shall be updated no later than the fifteenth day of the month following the month which the records represent, shall be kept on-site, and shall be made available to Department personnel upon request. An annual total and each month's individual data shall be submitted to the Department in accordance with General Provision 7. [§19.705 of the Arkansas State Implementation Plan for Air Pollution Control (Regulation 19) and 40 CFR Part 52 Subpart E]

CAD-15. The permittee shall only burn diesel fuel with a sulfur content of less than 0.05% by weight in the electrical generators (SN-PBCDF-09, SN-PBCDF-10, and SN-PBCDF-12). [§19.705 of Regulation 19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR Part 70.6]

CAD-16. The permittee shall maintain purchase records of the diesel fuel used at each of the electrical generators (SN-PBCDF-09, SN-PBCDF-10, and SN-PBCDF-12) and its sulfur content. These records shall be used for compliance demonstration and may be used by the Department for enforcement purposes. These records shall be updated no later than the fifteenth day of the month following the month which the records represent, shall be kept on-site, and shall be made available to Department personnel upon request. An annual total and each month's individual data shall be submitted to the Department in accordance with General Provision 7. [§19.705 of the Arkansas State Implementation Plan for Air Pollution Control (Regulation 19) and 40 CFR Part 52 Subpart E]

CAD-17. Each time that an agent trial burn test is conducted on an incinerator (LIC, DFS, or MPF), the permittee shall perform a test for PM_{10} using EPA Reference Method 5 on the incinerator subject to the agent trial burn testing. The testing events shall be conducted by a third party while the tested unit is within 90% of its maximum processing capacity. Sampling shall be conducted on the incinerator exhaust duct at a point prior to entry into the Common Stack. The results of these testing events shall be maintained and shall include, but shall not be limited to, the following: identification of the third party firm performing the testing event; the date(s) of the testing event; the EPA approved testing method used; the pollutant(s) being measured during the testing event; the rate measured during the test; and the processing rate during the testing event. [§19.702 of Regulation 19 and 40 CFR Part 52, Subpart E]

CAD-18. The permittee shall comply with the notification and reporting time periods as noted in Plantwide Condition 3 for the annual Common Stack (SN-PBCDF-01) PM_{10} testing required by Specific Condition CAD-17.

CAD-19. The permittee shall operate the DFS, LIC, and MPF (SN-PBCDF-01) in accordance with all required parameters as outlined in the specific conditions of this permit and in accordance with all regulatory requirements to ensure that the munitions, agents, and secondary waste are completely processed, treated, and destroyed by the incinerator process. [§19.705 of Regulation 19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR Part 70.6]

CAD-20. The permittee shall process only chemical agent munitions (rockets, land mines, and ton containers), laboratory solid waste, and wastes generated at the facility as a by-product of the chemical agent demilitarization process in the DFS, LIC, and

MPF. [§19.705 of Regulation 19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR Part 70.6]

CAD-21. The permittee shall only process one munition destruction campaign (GB rockets, VX rockets, VX mines, or HD/HT ton containers) at a time. [§19.705 of Regulation 19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR Part 70.6]

CAD-22. Munitions and miscellaneous wastes processed through the DFS shall have a minimum retention time of 15 minutes on the Heated Discharge Conveyor HDC (SN-PBCDF-01) at the temperature specified in the following conditions. The permittee shall continuously monitor and record the velocity of the HDC during its operation to demonstrate compliance with this condition. These records shall be kept on-site and made available to the Department upon request. Any retention time outside this range shall be reported in accordance with Chapter 6 of the Arkansas Plan of Implementation for Air Pollution Control (SIP). [§19.705 of Regulation 19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR Part 70.6]

CAD-23. The DFS HDC must be maintained at a minimum temperature of 1,000 °F while processing munitions or miscellaneous (maintenance and clean-up) wastes in the DFS. The permittee shall continuously monitor and record the HDC temperature during its operation. These records shall be kept on-site and made available to the Department upon request. Any temperature measurement outside this range shall be reported in accordance with Chapter 6 of the Arkansas Plan of Implementation for Air Pollution Control (SIP). [§19.705 of Regulation 19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR Part 70.6]

CAD-24. The DFS Rotary Kiln (SN-PBCDF-01) shall be maintained between 750 °F and 1,900 °F while processing munitions or miscellaneous (maintenance and clean-up) wastes in the DFS. The permittee shall continuously monitor and record the DFS combustion temperature during its operation. These records shall be retained on-site and made available to the Department upon request. Any temperature measurement outside this range shall be reported in accordance with Chapter 6 of the Arkansas Plan of Implementation for Air Pollution Control. [§19.705 of Regulation 19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR Part 70.6]

CAD-25. The DFS Afterburner (SN-PBCDF-01) temperature shall be maintained between 1,950 °F and 2,500 °F while processing rockets in the DFS. The permittee shall continuously monitor and record the combustion temperature of the DFS Afterburner during its operation. These records shall be retained on-site and made available to the Department upon request. Any temperature measurement outside this range shall be reported in accordance with Chapter 6 of the Arkansas Plan of Implementation for Air Pollution Control (SIP). [§19.705 of Regulation

19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR Part 70.6]

CAD-26. The DFS Afterburner (SN-PBCDF-01) temperature shall be maintained between 1,750 °F and 2,250 °F while processing munitions other than rockets or miscellaneous (maintenance and clean-up) wastes in the DFS. The permittee shall continuously monitor and record the combustion temperature of the DFS Afterburner during its operation. These records shall be retained on-site and made available to the Department upon request. Any temperature measurement outside this range shall be reported in accordance with Chapter 6 of the Arkansas Plan of Implementation for Air Pollution Control (SIP). [§19.705 of Regulation 19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR Part 70.6]

CAD-27. The LIC Primary Combustion Chamber (SN-PBCDF-01) shall be maintained between 2,300 °F and 3,000 °F while processing chemical agents in the LIC. The permittee shall continuously monitor and record the combustion temperature of the LIC during its operation. These records shall be retained on-site and made available to the Department upon request. Any temperature measurement outside this range shall be reported in accordance with Chapter 6 of the Arkansas Plan of Implementation for Air Pollution Control (SIP). [§19.705 of Regulation 19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR Part 70.6]

CAD-28. The LIC Secondary Combustion Chamber (SN-PBCDF-01) temperature shall be maintained between 1,800 °F and 2,200 °F while processing chemical agents in the LIC. The permittee shall continuously monitor and record the combustion temperature of the LIC Secondary Combustion Chamber during its operation. These records shall be retained on-site and made available to the Department upon request. Any temperature measurement outside this range shall be reported in accordance with Chapter 6 of the Arkansas Plan of Implementation for Air Pollution Control (SIP). [§19.705 of Regulation 19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR Part 70.6]

CAD-29. The MPF Primary (Burnout) Chamber (SN-PBCDF-01) shall be maintained between 1,000 °F and 2,150 °F while processing munitions or miscellaneous (secondary) wastes in the MPF. The permittee shall continuously monitor and record the combustion temperature of the MPF during its operation. These records shall be retained on-site and made available to the Department upon request. Any temperature measurement outside this range shall be reported in accordance with Chapter 6 of the Arkansas Plan of Implementation for Air Pollution Control (SIP). [§19.705 of Regulation 19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR Part 70.6]

CAD-30. The MPF Afterburner (SN-PBCDF-01) temperature shall be maintained between 1,800 °F and 2,200 °F while processing munitions or miscellaneous (secondary) wastes in the MPF. The permittee shall continuously monitor and record the combustion temperature of the MPF Afterburner during its operation. These records shall be retained on-site and made available to the Department upon request. Any temperature measurement outside this range shall be reported in accordance with Chapter 6 of the Arkansas Plan of Implementation for Air Pollution Control (SIP). [§19.705 of Regulation 19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR Part 70.6]

CAD-31. The permittee shall not process munitions or other materials through any of the incinerators if the operating temperatures specified in the preceding conditions are not met. [§19.705 of Regulation 19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR Part 70.6]

CAD-32. The permittee shall not emit more than 10.2 tons of particulate matter during any 12 consecutive month period from the processing of munitions through the DFS, LIC, and MPF (SN-PBCDF-01). Compliance with this condition shall be determined by compliance with the particulate matter standards required by 40 CFR Part 63 Subpart EEE and with other throughput and record keeping provisions set forth in this permit. The records shall include a 12-month rolling total of particulate matter emissions, to be updated on a monthly basis. [§19.901 et seq. of Regulation 19 and 40 CFR Part 52, Subpart E]

CAD-33. The permittee shall not emit more than 75.2 tons of sulfur dioxide during any 12 consecutive month period from the processing of munitions through the DFS, LIC, and MPF (SN-PBCDF-01). Compliance with this condition shall be determined by keeping records from the sulfur dioxide CEMS and flow monitor located in the Common Stack (SN-PBCDF-01) and with other throughput and record keeping provisions set forth in this permit. The records shall include a 12-month rolling total of sulfur dioxide emissions, to be updated on a monthly basis. [§19.901 et seq. of Regulation 19 and 40 CFR Part 52, Subpart E]

CAD-34. The permittee shall not emit more than 55.6 tons of carbon monoxide during any 12 consecutive month period from the processing of munitions through the DFS, LIC, and MPF (SN-PBCDF-01). Compliance with this condition shall be determined through record keeping of the carbon monoxide CEMS and flow monitor located in the Common Stack (SN-PBCDF-01) and with other throughput and record keeping provisions set forth in this permit. The records shall include a 12-month rolling total of carbon monoxide emissions, to be updated on a monthly basis. [§19.901 et seq. of Regulation 19 and 40 CFR Part 52, Subpart E]

CAD-35. The permittee shall not emit more than 357.4 tons of nitrogen oxides during any 12 consecutive month period from the processing of munitions through the DFS, LIC, and MPF (SN-PBCDF-01). Compliance with this condition shall be determined by keeping records from the nitrogen oxides CEMS and flow monitor located in the Common Stack (SN-PBCDF-01) and with other throughput and record keeping provisions set forth in this permit. The records shall include a 12-month rolling total of nitrogen oxide emissions, to be updated on a monthly basis. [§19.901 et seq. of Regulation 19 and 40 CFR Part 52, Subpart E]

CAD-36. A CEMS shall be installed, calibrated, maintained and operated to measure the emission levels of sulfur dioxide from the Common Stack (SN-PBCDF-01). The CEMS shall be installed, operated, maintained, and reports submitted per ADEQ CEMS Conditions. [§19.702 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]

CAD-37. A CEMS shall be installed, calibrated, maintained and operated to measure the emission levels of carbon monoxide from the Common Stack (SN-PBCDF-01). The CEMS shall be installed, operated, maintained, and reports submitted per ADEQ CEMS Conditions. [§19.702 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]

CAD-38. A CEMS shall be installed, calibrated, maintained and operated to measure the emission levels of nitrogen oxides from the Common Stack (SN-PBCDF-01). The CEMS shall be installed, operated, maintained, and reports submitted per ADEQ CEMS Conditions. [§19.702 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]

CAD-39. The permittee shall maintain all Common Stack CEMS data on-site for the duration of the chemical agent munitions destruction project. [§19.705 of the Arkansas State Implementation Plan for Air Pollution Control (Regulation 19) and 40 CFR Part 52 Subpart E]

CAD-40. Within 30 calendar days of commencing incineration of the first agent campaign (GB agent), the permittee shall re-certify each Common Stack (PBCDF-01) continuous emission monitoring systems (CEMS) associated with the PBCDF by performing a Relative Accuracy Test Audit (RATA) while agent is being processed at SN-PBCDF-01. The permittee must maintain the Common Stack CEMS in accordance with the ADEQ CEMS Conditions after the recertification of these monitors following the start of GB agent operations. [§19.702 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]

CAD-41. The permittee is authorized to use Special Equipment Testing Hardware (SETH) during testing and shakedown periods of the demilitarization equipment (SN-PBCDF-01). The SETHs are inert and simulant-filled replicas of actual chemical weapons, consisting of cardboard rockets and land mines filled with a mixture of 50% ethylene glycol and 50% water. [§19.705 of the Arkansas State Implementation Plan for Air Pollution Control (Regulation 19) and 40 CFR Part 52 Subpart E]

CAD-42. The permittee is authorized to incinerate dunnage material in the Metal Parts Furnace and Deactivation Furnace System (MPF and DFS, SN-PBCDF-01). [§19.705 of the Arkansas State Implementation Plan for Air Pollution Control (Regulation 19) and 40 CFR Part 52 Subpart E]

CAD-43. The permittee shall be limited to a maximum hydraulic fluid combustion rate of 200 gallons/hr and 1200 gallons/year at SN-PBCDF-01. The hourly rate may be averaged from a daily total divided by 24. [§19.705 of Regulation 19, 40 CFR 70.6, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

CAD-44. The permittee shall maintain daily and monthly records which demonstrate compliance with Specific Condition CAD-43. The daily records shall be updated by noon of the day following the recorded day. The monthly records shall be updated by the 15th day of the month following the last recorded month, and shall indicate a rolling 12-month total of hydraulic fluid gallons combusted. The records 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]

CAD-45. The combusted hydraulic fluid shall be limited to a maximum volatile organic content of 60 per cent by weight. [§19.705 of Regulation 19, 40 CFR 70.6, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

CAD-46. The permittee shall maintain MSDSs or other documentation on site to demonstrate compliance with Specific Condition CAD-45. This documentation 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]

CAD-47. The permittee may only store gasoline or diesel fuel in the ConVault Dual Storage Tank, SN-PBCDF-20. [§19.705 of Regulation 19, 40 CFR 70.6, and A.C.A. §-4-203 as referenced by §8-4-304 and §8-4-311]

CAD-48. The permittee shall be limited to a maximum of 65,000 gallons/year of gasoline and 65,000 gallons/year of diesel fuel at the ConVault Dual Storage Tank, SN-PBCDF-20. [§19.705 of Regulation 19, 40 CFR 70.6, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

CAD-49. The permittee shall maintain monthly records of gasoline and diesel fuel throughput at SN-PBCDF-20. A 12-month rolling total for each fuel shall be included in the monthly records to demonstrate compliance with Specific Condition CAD-48. The records 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]

CAD-50. The permittee shall not operate PBCDF-21, 22, or 23 more than 500 hours per generator per consecutive 12 month period. [Regulation No. 19 §19.705 and A.C.A. §8-4-203 as referenced by §8 4 304 and §8 4 311]

CAD-51. The permittee will maintain monthly records which demonstrate compliance with Specific Conditions CAD-50. The permittee will maintain a twelve month rolling total and each individual month's data on-site and made available to Department personnel upon request. The permittee will update the records by the fifteenth day of the month following the month to which the records pertain. [Regulation No. 19 §19.705 and A.C.A. §8-4-203 as referenced by §8 4 304 and §8 4 311]

CAD-52. This facility is subject to 40 CFR Part 63, Subpart EEE, National Emission Standards for Hazardous Air Pollutants from Hazardous Waste Combustors. Applicable requirements include, but are not limited to, the following conditions. [§19.304 of Regulation 19 and 40 CFR §63.1200]

Emission Limits

a. The permittee shall not discharge or cause combustion gases to be emitted to the atmosphere that contain dioxin and furans in excess of 0.2 ng TEQ/dscm, corrected to 7 percent oxygen. [§63.1219(a)(1)]

b. The permittee shall not discharge or cause combustion gases to be emitted to the atmosphere that contain mercury (referred to as a HWC MACT volatile metal) in excess of 130 μg/dscm, corrected to 7 percent oxygen. [§63.1219(a)(2)]

c. The permittee shall not discharge or cause combustion gases to be emitted to the atmosphere that contain lead and cadmium (referred to as HWC MACT semi-volatile metals) in excess of 230 μg/dscm, combined emissions, corrected to 7 percent oxygen. [§63.1219(a)(3)]

d. The permittee shall not discharge or cause combustion gases to be emitted to the atmosphere that contain arsenic, beryllium, and chromium (referred to as HWC MACT low-volatile metals) in excess of 92 μg/dscm, combined emissions, corrected to 7 percent oxygen. [§63.1219(a)(4)]

e. The permittee shall not discharge or cause combustion gases to be emitted to the atmosphere that contain carbon monoxide in excess of 100 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, and corrected to 7 percent oxygen and hydrocarbons in excess of 10 parts per million by volume over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, and corrected to 7 percent oxygen, and reported as propane, at any time during the destruction and removal efficiency (DRE) test runs or their equivalent as provided by §63.1206(b)(7). [§63.1219(a)(5)(i)]

f. The permittee shall not discharge or cause combustion gases to be emitted to the atmosphere that contain hydrochloric acid and chlorine gas in excess of 32 parts per million by volume, combined emissions, expressed as hydrochloric acid equivalents, dry basis and corrected to 7 percent oxygen. [§63.1219(a)(6)]

g. The permittee shall not discharge or cause combustion gases to be emitted to the atmosphere that contain particulate matter in excess of 0.013 gr/dscf corrected to 7 percent oxygen. [§63.1219(a)(7)]

Destruction and removal efficiency (DRE) standard.

h. The permittee shall maintain a 99.99% destruction and removal efficiency (DRE) for each principal organic hazardous constituent (POHC) designated under paragraph (c)(3) of this section. The DRE shall be calculated using the following equation. [§63.1219(c)]
$DRE = [1-(W_{out} / W_{in})] \times 100\%$
Where:
W_{in} = mass feedrate of one principal organic hazardous constituent (POHC) in a waste feed stream; and
W_{out} = mass emission rate of the same POHC present in exhaust emissions prior to release to the atmosphere.

i. The permittee must treat the POHCs in the waste feed that are specified under paragraph (c)(3)(ii) of this section to the extent required by paragraphs 63.1219(c)(1) and (c)(2) (a DRE greater than or equal to 99.99% as stated in Specific Condition 52h). [§63.1219(c)(3)(i)]

j. The permittee shall specify one or more POHCs from the list of hazardous air pollutants established by 42 U.S.C. 7412(b)(1), excluding caprolactum as provided by §63.60, for each waste to be burned. The permittee must base this specification on the degree of difficulty of incineration of the organic constituents in the waste and on their concentration or mass in the waste feed, considering the results of waste analyses or other data and information. [§63.1219(c)(3)(ii)]

Compliance Provisions

k. The permittee shall comply with the standards of 40 CFR Part 63, Subpart EEE on the date each affected source starts operation, which for purposes of this permit is considered the initiation of PBCDF agent trial burns. [§63.1206(a)(3)]

l. The permittee shall comply with the emission standards (see §63.1219(b) and Specific Conditions CAD-52a-j) and operating requirements (see §63.1206(c)) set forth in 40 CFR Part 63, Subpart EEE at all times when hazardous wastes are in the combustion chamber of the incinerator, except during periods of startup, shutdown, and malfunction. [§63.1206(b)(1)]

m. The permittee shall demonstrate compliance based on performance testing under operating conditions representative of the extreme range of normal conditions. The permittee must conduct a comprehensive performance test in accordance with 40 CFR §63.1207(b) consisting of a minimum of three successful test runs as required by 40 CFR §63.1206(b)(12) to demonstrate compliance with the HWC MACT emission standards (§63.1219(b), Specific Conditions CAD-52a-j), establish operating parameter limits as required by §63.1209, and demonstrate compliance with the continuous monitoring system performance standards. [§63.1206(b)(2)]

n. The permittee may petition the Administrator to grant an extension of compliance with the emission standards of this subpart as provided by §63.6(i) and §63.1213. [§63.1206(b)(4)]

o. The permittee shall comply with the requirements of notification, performance testing, and waste-burning restrictions as outlined in §63.1206(b)(5)(i)(A) through (C) if the facility plans to make a change in design, operation, or maintenance that could adversely affect compliance. [§63.1206(b)(5)(i)]

p. The permittee shall document any changes not affecting compliance with emission standards or operating requirements in the facility operating record. Revisions reflecting such changes shall also be made, as necessary, to the performance test plan, Documentation of Compliance, (required by §63.1211(d)), Notification of Compliance (required by §63.1210(d)), and the HWC MACT Start-up, Shutdown, and Malfunction Plan (required by §63.6(e)(3) and §63.1206(c)(2)). [§63.1206(b)(5)(ii)]

q. The permittee shall ensure and document compliance with the CO emission standard (refer to §63.1219(b)(5)(i) and Specific Condition CAD-52e) using a continuous emission monitoring system (CEMS). The permittee shall ensure and document compliance with the hydrocarbon emission standard by complying with the CO emission standard, and by demonstrating that the highest hourly rolling average hydrocarbon level emitted during the comprehensive performance test does not exceed the hydrocarbon emission limit. [§63.1206(b)(6)]

r. The permittee shall demonstrate destruction removal efficiency (DRE) of at least 99.99% (required by §63.1219(c) and Specific Condition CAD-52h) during the comprehensive performance test conducted in compliance with the conditions of §63.1207(b)(1) of this subpart. [§63.1206(b)(7)]

s. Any particulate matter and opacity standards or any permit or other emissions operating parameter limits or conditions, including any limitation on workplace practices, that are applicable to hazardous waste combustors to ensure compliance with any particulate matter or opacity standard of parts 60, 61, 63, 264, 265, and 266 of this chapter (i.e., any title 40 particulate or opacity standards) do not apply while the permittee conducts particulate matter continuous emissions monitoring system (CEMS) correlation tests. However, compliance with this condition is not required until such time that the Agency promulgates all performance specifications and operational requirements applicable to PM CEMS. [§63.1206(b)(8)(i) and (ii)]

t. For provisions of this section to apply, the permittee must develop a particulate matter CEMS correlation test plan that includes the following information. This test plan may be included as part of the comprehensive performance test plan required under §63.1207(e) and (f). [§63.1206(b)(8)(iii)(A) and (B)]

1. Number of test conditions and number of runs for each test condition;
2. Target particulate matter emission level for each test condition;
3. How you plan to modify operations to attain the desired particulate matter emission levels; and
4. Anticipated normal emission levels.

The permittee shall submit the particulate CEMS correlation test plan to the Administrator for approval at least 90 calendar days before the correlation test is scheduled to be conducted. However, compliance with this condition is not required until such time that the Agency promulgates all performance specifications and operational requirements applicable to PM CEMS.

u. If the Administrator fails to approve or disapprove the correlation test plan with the time period specified by §63.7(c)(3)(i), the plan is considered approved, unless the Administrator has requested additional information. However, compliance with this condition is not required until such time that the Agency promulgates all performance specifications and operational requirements applicable to particulate matter CEMS. [§63.1206(b)(8)(iv)]

v. The particulate matter and associated operating limits and conditions will not be waived for more than 96 hours, in the aggregate, for a correlation test, including all runs of all test conditions, unless more time is approved by the Administrator. However, compliance with this condition is not required until such time that the Agency promulgates all performance specifications and operational requirements applicable to particulate matter CEMS. [§63.1206(b)(8)(v)]

w. The permittee must return to operating conditions indicative of compliance with the applicable particulate matter and opacity standards as soon as possible after correlation testing is completed. However, compliance with this condition is not required until such time that the Agency promulgates all performance specifications and operational requirements applicable to particulate matter CEMS. [§63.1206(b)(8)(vii)]

x. The permittee must calculate the hazardous waste residence time for each incinerator unit and include the calculation in the Comprehensive Performance Test Plan under §63.1207(f)(1) and the facility operating record. The permittee must also provide the hazardous waste residence time in the Documentation of Compliance under §63.1211(c) and the Notification of Compliance under §63.1207(j) and §63.1210(b). [§63.1206(b)(11)]

y. The permittee must conduct a minimum of three runs of a comprehensive performance test required under §63.1207(b)(1) to document compliance with the HWC MACT emission standards (see §63.1219(b) and Specific Conditions CAD-52a-g). [§63.1206(b)(12)(i)]

z. The permittee must document compliance with the HWC MACT emission standards (see §63.1219(b) and Specific Conditions CAD-52a-g) based on the arithmetic average of the emission results of each run, except that the permittee must document compliance with the destruction and removal efficiency standard (required by §63.1219(c) and Specific Conditions CAD-52h-j) for each run of the comprehensive performance test individually. [§63.1206(b)(12)(ii)]

General Operating Requirements

aa. The permittee must operate only under the operating requirements specified in the Documentation of Compliance under §63.1211(c) or the Notification of Compliance under §63.1207(j) and §63.1210(b), except:

1. During performance tests under approved Comprehensive Performance Test Plans in accordance with §63.1207(e), (f), and (g) [§63.1206(c)(1)(i)(A)], and

2. Under the conditions of paragraph (b)(1)(i) or (ii) of this section [§63.1206(c)(1)(i)(B)]:

i. The Documentation of Compliance and the Notification of Compliance must contain operating requirements including, but not limited to, the operating requirements of §63.1206 and §63.1209. [§63.1206(c)(1)(ii)]

ii. Failure to comply with the operating requirements is failure to ensure compliance with the HWC MACT emissions standards (see §63.1219(b) and Specific Conditions CAD-52a-g). [§63.1206(c)(1)(iii)]

iii. Operating requirements in the Notification of Compliance are applicable requirements for purposes of 40 CFR Parts 70 and 71 of this chapter. [§63.1206(c)(1)(iv)]

iv. The operating requirements specified in the Notification of Compliance will be incorporated in this Title V permit. [§63.1206(c)(1)(v)]

[§63.1206(c)(1)(i)]

bb. The permittee is subject to the Startup, Shutdown, and Malfunction Plan requirements of §63.6(e)(3). [§63.1206(c)(2)(i)]

1. If the permittee elects to comply with §§270.235(a)(1)(iii), 270.235(a)(2)(iii), or 270.235(b)(1)(ii) of this chapter to address RCRA concerns that you minimize emissions of toxic compounds from startup, shutdown, and malfunction events (including releases from emergency safety vents), the permittee must comply with the provisions of §63.1206(c)(2)(ii)(A) through (C). [§63.1206(c)(2)(ii)]

2. The permittee must identify in the HWC MACT Startup, Shutdown, and Malfunction Plan the projected oxygen correction factor based on normal operations to use during periods of startup and shutdown. [§63.1206(c)(2)(iii)

3. The permittee must record the HWC MACT Startup, Shutdown, and Malfunction Plan in the facility operating record. [§63.1206(c)(2)(iv)]

cc. Upon the compliance date, the permittee must operate the combustor with a functioning system that immediately and automatically cuts off the hazardous waste feed, except as provided by §63.1206(c)(3)(viii) concerning the ramping down of pumpable hazardous waste feed over a period not to exceed one minute, when the following conditions apply. [§63.1206(c)(3)(i)]

1. When HWC MACT operating parameter limits specified under §63.1209; an emission standard monitored by CEMS; and the allowable combustion chamber pressure [§63.1206(c)(3)(i)(A)];

2. When the span value of any continuous monitoring systems (CMS) detector, except a CEMS, is met or exceeded [§63.1206(c)(3)(i)(B)];

3. Upon malfunction of a CMS monitoring a HWC MACT operating parameter limit specified under §63.1209 or a HWC MACT emission level [§63.1206(c)(3)(i)(C)]; or

4. When any component of the automatic waste feed cutoff system (AWFCO) fails [§63.1206(c)(3)(i)(D)].

dd. During an AWFCO the permittee must continue to duct combustion gases to the air pollution control system while hazardous waste remains in the furnace combustion chamber. [§63.1206(c)(3)(ii)]

ee. The permittee must continue to monitor during the cutoff the operating parameters for which limits are established under §63.1209 and the HWC MACT emissions monitored by a CEMS, and the permittee shall not restart the hazardous waste feed until the operating parameters and emission levels are within specified limits. [§63.1206(c)(3)(iii)]

ff. If the AWFCO system fails to automatically and immediately cutoff the flow of hazardous waste upon exceedance of a parameter required to be interlocked with the AWFCO system under §63.1206(c)(3)(i) (see Specific Condition CAD-52cc), the permittee has failed to comply with the AWFCO requirements of §63.1206(c)(3). [§63.1206(c)(3)(iv)]

gg. If, after any AWFCO, there is an exceedance of any HWC MACT emission standard or operating requirement, irrespective of whether the exceedance occurred while hazardous waste remained in the combustion chamber, the permittee shall investigate the cause of the AWFCO, take appropriate corrective measures to minimize future AWFCOs and record the findings and corrective measures in the facility operating record. [§63.1206(c)(3)(v)]

hh. For each set of 10 exceedances of an emissions standard or operating requirement while hazardous waste remains in the combustion chamber during a 60-day block period, the permittee must submit to the Administrator a written report within 5 calendar days of the 10th exceedance documenting the exceedances and the results of the investigation and corrective measures taken. [§63.1206(c)(3)(vi)(A)]

ii. On a case-by-case basis, the Administrator may require excessive exceedance reporting when fewer than 10 exceedances occur during a 60-day block period. [§63.1206(c)(3)(vi)(B)]

jj. The AWFCO system and associated alarms must be tested at least weekly to verify operability, unless the permittee documents in the facility operating record that weekly inspections will unduly restrict or upset operations and that less frequent inspection will be adequate. At a minimum, the permittee must conduct operability testing at least monthly. The permittee must document and record in the facility operating record AWFCO operability test procedures and results. [§63.1206(c)(3)(vii)] kk. The permittee is subject to the emergency safety vent (ESV) operating and reporting requirements, including:

1. The development of an ESV Operating Plan, which must be included in the facility operating record. This plan must include procedures for rapidly stopping the hazardous waste feed, shutting down the combustion unit, and maintaining the temperature and negative pressure of the combustion chamber.

2. If the permittee experiences an ESV opening that results in a failure to meet the HWC MACT emission standards (see §63.1219(b) and Specific Conditions CAD-52a-g), then the cause of the opening will be reviewed, appropriate corrective action(s) will be implemented, and the findings from the opening will be included as part of the facility operating record. In addition the permittee must submit a written report to the Administrator within five days of this ESV opening documenting the investigation results and the corrective measures implemented.

[§63.1206(c)(4)]

ll. The permittee must keep the combustion zone sealed to prevent hazardous air pollutant leaks and identify the method(s) used to control combustion system leaks in the facility operating record. The permittee may use, if approved by the Administrator, an alternative control means for combustion system leaks that is equivalent to maintenance of the combustion zone pressure being lower than the ambient pressure or other technique(s) that prevent fugitive emissions without use of instantaneous pressure limits. Pursuant to §63.1209(p), the permittee must also monitor the pressure instantaneously and the AWFCO system must be engaged when negative pressure is not maintained at any time. [§63.1206(c)(5)]

mm. The permittee is subject to the operator training and certification standards. [§63.1206(c)(6)]

nn. The permittee must prepare and at all times operate the combustor units (including associated pollution control equipment) in accordance with an Operation and Maintenance Plan which:

1. Identifies procedures for operation, inspection, maintenance, and corrective measures of these units that could affect hazardous air pollutant emissions.

2. Recognizes good air pollution control practices to minimize emissions to Comprehensive Performance Test levels.

3. Ensures compliance with operation and maintenance requirements of §63.6(e) and minimizes hazardous air pollutant emissions, AWFCOs, and malfunctions.

The Operation and Maintenance Plan must be included as part of the facility operating record.

['63.1206(c)(7)]

Performance Testing Requirements

oo. The permittee must conduct performance testing within the specified time periods to demonstrate compliance with HWC MACT emission standards (see §63.1219(b) and Specific Conditions CAD-52a-g), establish appropriate HWC MACT operating parameters pursuant to §63.1209, and demonstrate compliance with CMS performance standards. [§63.1207]

pp. The permittee must commence the initial comprehensive performance test not later than six months after the compliance date. [§63.1207(c)(1)]

qq. The PBCDF has notified the Administrator that it will perform all HWC MACT comprehensive performance testing (including the CMS performance evaluation testing) during RCRA agent trial burn tests required by Permit 29-H. As stated in the PBCDF RCRA agent trial burn plans and as provided by §63.1207(j)(4), the permittee has requested the Administrator to extend the time period from 90 days to 120 days from completion of the comprehensive performance test to provide a Notification of Compliance documenting compliance or noncompliance encountered during the testing event.

rr. The permittee must conduct testing periodically as described in paragraphs (d)(1) through (3) of this section. The date of commencement of the initial comprehensive performance test is the basis for establishing the deadline to commence the initial confirmatory performance test and the next comprehensive performance test. The permittee may conduct performance testing at any time prior to the required date. The deadline for commencing subsequent confirmatory and comprehensive performance testing is based on the date of commencement of the previous comprehensive performance test. [§63.1207(d)(1) through (3)]

1. The permittee must commence comprehensive performance testing no later than 61 months after the date of commencing the previous comprehensive performance test.

2. The permittee must commence confirmatory performance testing no later than 31 months after the date of commencing the previous comprehensive performance test. To ensure that the confirmatory performance test is conducted approximately midway between comprehensive performance

tests, the Administrator will not approve a confirmatory performance test plan that schedules testing within 18 months of commencing the previous comprehensive performance test.

3. The permittee must complete performance testing within 60 days after the date of commencement, unless the Administrator determines that a time extension is warranted based on documentation in writing of factors beyond the permittee's control that prevent testing from being completed within 60 days.

ss. The permittee must submit to the Administrator a notification of intent to conduct a comprehensive performance test and CMS performance evaluation and a site specific test plan and CMS performance evaluation plan at least one year before the performance test and CMS performance evaluation are scheduled to begin. [§63.1207(e)(i)]

tt. The permittee must submit to the Administrator a notification of intent to conduct the comprehensive performance test at least 60 calendar days before the test is scheduled to begin. [§63.1207(e)(i)(B)]

uu. The permittee must submit to the Administrator a notification of intent to conduct a confirmatory performance test and CMS performance evaluation and a test plan and CMS performance evaluation plan at least 60 calendar days before the performance test is scheduled to begin. [§63.1207(e)(ii)]

Test Methods

vv. The permittee shall use the test methods contained in this section or applicable test methods approved by the Administrator to demonstrate compliance with the HWC MACT emissions standards (see §63.1219(b) and Specific Conditions CAD-50a-g). [§63.1208]

Monitoring Requirements

ww. The permittee is subject to the applicable continuous monitoring requirements contained in these sections. [§63.1209]

xx. The permittee must either use a carbon monoxide or hydrocarbon CEMS to demonstrate compliance with either the carbon monoxide and hydrocarbon standards under this subpart. The permittee must also use an oxygen CEMS to continuously correct the carbon monoxide and hydrocarbon levels to 7 percent oxygen. The PBCDF has submitted notice that a carbon monoxide and oxygen CEMS will be used to fulfill these requirements. [§63.1209(a)(1)(i)] yy. The permittee must install, calibrate, maintain, and operate a particulate matter CEMS to demonstrate and monitor compliance with the particulate matter standards under this subpart. However, compliance with the requirements in this section to install, calibrate, maintain, and operate the particulate matter CEMS is not required until such time that the Agency promulgates all performance specifications and operational requirements applicable to particulate matter CEMS. [§63.1209(a)(1)(iii)]

zz. The permittee must install, calibrate, maintain, and continuously operate the carbon monoxide and oxygen CEMS in compliance with the quality assurance procedures provided in the appendix to this subpart and Performance Specifications 4B (carbon monoxide and oxygen) in Appendix B of 40 CFR Part 60. [§63.1209(a)(2)]

aaa. The permittee must comply with the recording requirements of §63.1209(a)(3) in the event the high level span of the carbon monoxide CEMS is exceeded. [§63.1209(a)(3)]

bbb. The permittee may petition the Administrator to use CEMS for compliance monitoring for other standards (particulate matter, mercury, semivolatile metals, low volatile metals, and hydrochloric acid/chlorine gas) under §63.8(f) in lieu of compliance with the corresponding operating parameter limits under this section. [§63.1209(a)(5)]

ccc. The permittee will begin recording one-minute and hourly rolling average values for the carbon monoxide CEMS as necessary to ensure that 60 one-minute values will be available for calculating the initial hourly rolling average before the HWC MACT compliance date. The permittee will continue to use the CEMS to monitor carbon monoxide when the hazardous waste feed is cutoff while the source is operational. The permittee will not resume hazardous waste feeding activities until the carbon monoxide emission level is below §63.1219(b)(5)(i) [Specific Condition CAD-52(e)]. [§63.1209(a)(6)]

ddd. The permittee will use the Comprehensive Performance Test to demonstrate that the total hydrocarbons standard is met to establish operating parameters for DRE required in §63.1219(b)(5)(i) [Specific Condition CAD-52e]. [§63.1209(a)(7)]

eee. The permittee will use Continuous Monitoring Systems (e.g., thermocouples, pressure transducers, flow meters) where necessary to ensure compliance with operating parameters established in the Documentation of Compliance or the Notification of Compliance. The calibration of thermocouples must be verified at a frequency and in a manner consistent with manufacturer specifications no less frequent than once per year. Unless alternative monitoring requirements are in place, the permittee must continue monitoring operating parameter limits with a CMS during the stoppage of hazardous waste feed if the source is operational.

The hazardous waste feed may not be resumed if the operating parameter exceeds its limit. [§63.1209(b)]

fff. Prior to feeding the material, the permittee must obtain an analysis of each feedstream that is sufficient to document compliance with applicable feedrate limits. [§63.1209(c)(1)]

ggg. The permittee must develop and implement a Feedstream Analysis Plan and record it in the operating record. The plan must specify at least the following information. [§63.1209(c)(2)]

1. Each feedstream parameter to be analyzed for compliance with HWC MACT operating limits.

2. Whether the stated parameters will be gathered by sampling and analysis of the feedstreams or through other methods (using analytical data from others or by using published or documented data or information).

3. How the analysis will be used to document compliance with the applicable feedrate limits.

4. Test methods to be used for the analyses.

5. The sampling method to obtain a representative sample of each feedstream. (6) The frequency for reviewing and repeating the initial feedstream analysis to ensure the analysis is accurate and up-to-date.

hhh. The permittee must submit the Feedstream Analysis Plan to the Administrator for review and approval, if requested. [§63.1209(c)(3)]

iii. To comply with the applicable feedrate limits of this section, the permittee must monitor and record the feedrates as follows. [§63.1209(c)(4)]

1. Determine and record the value of the parameter for each feedstream by sampling and analysis or other method;

2. Determine and record the mass or volume flowrate of each stream by a CMS. If the permittee determines flowrate of a feedstream by volume, the permittee must determine and record the density of the feedstream by sampling and analysis (unless the permittee reports the constituent concentration in units of weight per volume); and

3. Calculate and record the mass feedrate of the parameter per unit time.

jjj. The requirements of §63.8(d) (Quality control program) and (e) (Performance evaluation of continuous monitoring systems) apply, except that the permittee must conduct performance evaluations components of the CMS under the frequency and procedures (for example, submittal of performance evaluation test plan for review and approval) applicable to performance tests as provided by §63.1207. [§63.1209(d)(1)]

kkk. The permittee shall maintain and operate each CMS as specified in §63.8(c), except for §63.8(c)(3) and §63.8(c)(4)(ii). The permittee shall have the CMSs installed, calibrated, and operational on the compliance date. The permittee must also sample the regulated parameter without interruption, and evaluate the detector response at least once each 15 seconds, and compute and record the average values at least every 60 seconds. [§63.1209(f)]

lll. The permittee shall follow the requirements for the reduction of monitoring data as specified in 40 CFR §63.8(g). [§63.1209(h)]

mmm. When one HWC MACT operating parameter [see §63.1209(j)-(p) and Specific Conditions CAD-52nnn-cccc] is used to ensure compliance with one or more emission standards, the permittee must use the most stringent limit, determined during the comprehensive performance test, as the limit for that operating parameter. [§63.1209(i)]

nnn. To remain in compliance with the DRE standards, the permittee must establish operating limits during the comprehensive performance test (or during a previous DRE test under provisions of §63.1206(b)(7)) for the parameters listed in Specific Conditions CAD-52ooo-rrr, unless the limits are based on manufacturer specifications and comply with those limits at all times that hazardous waste remains in the combustion chamber (i.e., the hazardous waste residence time has not transpired since an AWFCO was activated). [§63.1209(j)]

ooo. The permittee must measure the temperature of each combustion chamber at a locations that best represents, as practicable, the bulk gas temperature in the combustion zone. The permittee must document the temperature measurement location in the performance test plan submitted under §63.1207(e), and establish a minimum hourly rolling average limit as the average of the test run averages. [§63.1209(j)(1)]

ppp. As an indicator of gas residence time in the control device, the permittee must establish and comply with a limit on the maximum flue gas flowrate, the maximum production rate, or another parameter that is documented in the site-specific performance test plan as an appropriate surrogate for gas residence time on an hourly rolling average basis. [§63.1209(j)(2)] qqq. The permittee must establish limits on the maximum pumpable and total (i.e., pumpable and nonpumpable) hazardous waste feedrate for each location where hazardous waste is fed. The established limits should be based on the average of the maximum hourly rolling averages for each performance test run. The feedrate limit(s) must be complied with on a hourly rolling average basis. [§63.1209(j)(3)]

rrr. The permittee must specify operating parameters and limits to ensure that good operation of each hazardous waste firing system is maintained. [§63.1209(j)(4)]

sss. The permittee must comply with the dioxin and furans emission standard by establishing and complying with the operating parameter limits listed in Specific Conditions CAD-52ttt-vvv. The permittee must base the limits on operations during the comprehensive performance test, unless the limits are based on manufacturer specifications. Also, the permittee must monitor the performance of each carbon bed system pursuant to §63.1209(k)(7) to be consistent with manufacturer's specifications and recommendations to ensure the carbon bed (or bed segment for sources with multiple segments) has not reached the end of its useful life to minimize dioxin/furans and mercury emissions at least to the levels of the HWC MACT emission standards. These carbon bed monitoring procedures should be documented in the HWC MACT Operation and Maintenance Plan [see §63.1206(c)(7) and Specific Condition CAD-52nn] while the performance monitoring results should be placed in the facility operating record. The bed or bed segment must be replaced before reaching the end of its useful life to minimize dioxin and mercury emissions to at a minimum the HWC MACT emission standards. [§63.1209(k)]

ttt. The permittee must measure the temperature of each combustion chamber at a location that best represents, as practicable, the bulk gas temperature in the combustion zone. The permittee must document the temperature measurement location in the performance test plan and establish a minimum hourly rolling average limit as the average of the performance test run averages. [§63.1209(k)(2)]

uuu. As an indicator of gas residence time in the control device, the permittee must establish and comply with a limit on the maximum flue gas flowrate, the maximum production rate, or another parameter which is an appropriate surrogate for residence time, as the average of the maximum hourly rolling averages for each run. Compliance with this limit is on an hourly rolling average basis. [§63.1209(k)(3)]

vvv. The permittee must establish limits on the maximum pumpable and total (pumpable and nonpumpable) waste feedrate for each location where waste is fed and establish limits as the average of the maximum hourly rolling averages for each performance test run. Compliance shall be based on an hourly rolling average basis. [§63.1209(k)(4)] www. The permittee shall ensure compliance with the mercury emission standard by establishing a 12-hour rolling average limit for the total feedrate of mercury in all feedstreams as the average of the performance test run averages, unless the extrapolation methodology of this section is employed, and maintaining the wet scrubber operating parameters for hydrochloric acid and chlorine gas as described under §63.1209(o) [see Specific Conditions CAD-52aaaa-cccc]. [§63.1209(l)]

xxx. The permittee must comply with the particulate matter emission standard by establishing and complying with the following operating parameter limits found in §63.1209(m)(1)-(3). [§63.1209(m)]

1. A minimum pressure drop should be established across the high energy (venturi) wet scrubbers as an hourly rolling average as the average of the performance test run averages [§63.1209(m)(1)(A)];
2. For all wet scrubbers (venturi, spray towers, pack bed) the solids content of the scrubber liquid should not exceed the levels demonstrated during performance testing by either [§63.1209(m)(1)(B)]:

    i. Establishing a solids content limit on the scrubber liquid using a CMS or by performing hourly manual sampling and analysis unless an alternate monitoring frequency is provided and approved in the performance test plan. A maximum solids content monitored by a CMS must be established as a limit on a 12-hour rolling average as the average of the performance test run averages. A maximum solids content established through manual sampling must be an hourly limit based on the average of the manual measurement averages for each performance test run.; or

    ii. Establish a minimum blowdown rate using a CMS and either a minimum scrubber tank volume or liquid level using a CMS as an hourly rolling average based on the average of the performance test run averages.

3. For high energy (venturi) scrubbers an hourly rolling average limit must be established for the minimum scrubber tank volume or liquid level using a CMS based on the average of the performance test run averages. [§63.1209(m)(1)(C)]

4. Establish a gas residence time limit (either the maximum flue gas flowrate, the maximum production rate, or another parameter that serves as a surrogate for gas residence time) for the control device as the average of the maximum hourly rolling averages for each performance test run. [§63.1209(m)(2)]

yyy. The permittee must establish a maximum ash feedrate limit as the average of the performance test run averages. [§63.1209(m)(3)]

zzz. The permittee must comply with the semivolatile metal (cadmium and lead) and low volatile metal (arsenic, beryllium, and chromium) emission standards [see §63.1219(b)(3) and (4) and Specific Conditions CAD-52c-d] by establishing and complying with the following operating parameter limits based on operations encountered during the comprehensive performance test, unless the limits are based on manufacturer specifications. [§63.1209(n)]

1. The permittee must establish feed rate limits for semivolatile (cadmium and lead) metals and low volatile metals (arsenic, beryllium, and chromium) in all feedstreams, with compliance based on 12-hour rolling average limits as the average of the average hourly rolling averages for each performance test run averages. The permittee is allowed to request as part of the performance test plan under §63.7(b) and §§63.1207(e) and (f) to use the semivolatile metal and low volatile metal feedrates and associated emission rates during the comprehensive performance test to extrapolate to higher allowable feedrate limits and emission rates. The extrapolation methodology must be reviewed and approved by the Administrator. [§63.1209(n)(2)]

2. The permittee must establish operating parameter limits on the particulate matter control device as specified by §63.1209(m)(1) and Specific Condition CAD-52xxx.1. [§63.1209(n)(3)]

3. The permittee must establish a 12-hour rolling average limit for the feedrate of total chlorine and chloride in all feedstreams as the average of the performance test run averages. [§63.1209(n)(4)]

4. The permittee must establish a gas residence time limit (either the maximum flue gas flowrate, the maximum production rate, or another parameter documented in the site-specific performance test plan as an appropriate surrogate for gas residence time)for the control device as the average of the maximum hourly rolling averages for each performance test run. [§63.1209(n)(5)]

aaaa. The permittee must establish a 12-hour rolling average limit for the total feedrate of chlorine (organic and inorganic) in all feedstreams as the average of the average hourly rolling averages for each performance test run. [§63.1209(o)(1)]

bbbb. As an indicator of gas residence time in the control device, the permittee must establish a limit on the maximum flue gas flowrate, the maximum production rate, or another parameter documented in the site-specific performance test plan as an appropriate surrogate for gas residence time, as the average of the maximum hourly rolling averages for each performance test run. This limit must be maintained on an hourly rolling average basis. [§63.1209(o)(2)]

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

1. Minimum pressure drop. The permittee must establish a limit on minimum pressure drop across the high energy (venturi) on an hourly rolling average as the average of the performance test run averages. For low energy (packed bed) wet scrubbers the minimum pressure drop is based on manufacturer's specifications and must be complied with on an hourly rolling average.

2. Minimum pH. The permittee must establish a limit on minimum pH on an hourly rolling average as the average of the test run averages.

3. Minimum liquid to gas ratio or the minimum scrubber water flow rate and maximum flue gas flowrate. The permittee must establish a minimum liquid to gas ratio or the minimum scrubber water flow rate and maximum flue gas flowrate on an hourly rolling average as the average of the performance test run averages. If the permittee establishes limits on the maximum flue gas flowrate under this paragraph, then the limit on maximum flue gas flowrate under §63.1209(o)(2) [Specific Condition CAD-52bbbb] does not need to be established.

Notification Requirements

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

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

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

Recordkeeping and Reporting Requirements

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

Procedure for Extending the Compliance Date hhhh. The permittee may request an extension of the compliance date to install pollution prevention or waste minimization controls provided that the conditions outlined in this section are met. [§63.1213]

CAD-53. In all instances where 40 CFR Part 63 Subpart EEE stipulates that notifications, records, or reports be submitted to the "Administrator", the permittee shall submit one copy to EPA Region VI and one copy to ADEQ. If portions of MACT EEE are subsequently delegated to ADEQ, the permittee may then submit one copy of the affected documentation to ADEQ only, unless a copy is requested by EPA Region VI. [§19.705 of Regulation 19, 40 CFR Part 52, Subpart E, §18.1004 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SECTION V: COMPLIANCE PLAN AND SCHEDULE

U.S. Army, Pine Bluff Arsenal will be in compliance with the applicable regulations cited in the permit application when the HCl emissions are increased for the CIC Combustions Units [SN-42-960(1)] based on stack testing data and the conditions expressed in the current CAO (LIS 05-122) are completed.

U.S. Army, Pine Bluff Arsenal 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: PLANTWIDE CONDITIONS

1. The permittee shall 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 19, §19.704, 40 CFR Part 52, Subpart E, and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

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 19, §19.410(B) and 40 CFR Part 52, Subpart E]

3. The permittee must test any equipment scheduled for testing, unless otherwise 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 shall submit the compliance test results to the Department within thirty (30) days after completing the testing. [Regulation 19, §19.702 and/or Regulation 18 §18.1002 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

4. The permittee must provide:

    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.

    [Regulation 19, §19.702 and/or Regulation 18, §18.1002 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

5. The permittee must operate the equipment, control apparatus and emission monitoring equipment within the design limitations. The permittee shall maintain the equipment in good condition at all times. [Regulation 19, §19.303 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

6. This permit subsumes and incorporates all previously issued air permits for this facility. [Regulation 26 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

7. The permittee must prepare and implement a Startup, Shutdown, and Malfunction Plan (SSM) for each MACT-affected source under SN-PBCDF-01. If the Department requests a review of the SSM, the permittee will make the SSM available for review. The

permittee must keep a copy of the SSM at the source's location and retain all previous versions of the SSM plan for five years. [Regulation 19, §19.304 and 40 CFR 63.6(e)(3)]

8. The permittee is authorized to use an apportionment method to estimate the amount of natural gas used for purposes of record keeping required by 40 CFR Part 60 Subpart Dc. The apportionment method shall conform with the guidelines specified in EPA Determination Detail Control Number 0300114 (see Appendix F). [Regulation No. 19 §19.304 , 40 CFR Part 52 Subpart E, 40 CFR Part 60 Subpart Dc, and EPA Determination Detail Control Number 0300114]

9. The permittee will not use any HAP-containing materials at SN-AMM-01, M295-01, SN-32-230, SN-32-510, SN-32-520, SN-32-550, SN-32-720, SN-42-960(1), SN-42-960(8), SN-32-690, SN-33-760, SN-44-212, SN-77-950, SN-32-060, SN-33-060, SN-34-125, SN-PW-01, SN-32-035, SN-60-700, SN-74-100, SN-PBCA-01, SN-PBCA-02, SN-PBCA-03, SN-PBCA-04, and EMGEN which do not meet the requirements of the following table. Compliance with this condition will be demonstrated by compliance with Plantwide Condition 10.

Minimum HAP TLV (mg/m3)	Maximum Allowable Content (Wt %)
74.91	100%
67.42	90%
59.93	80%
52.44	70%
44.95	60%
37.45	50%
29.96	40%
22.47	30%
14.98	20%
7.49	10%
3.75	5%
3.00	4%
2.25	3%
1.50	2%
0.75	1%
0.38	0.5%

10. The permittee will maintain records of the ACGIH TLV values as listed on current MSDS forms, or in the most recently published ACGIH handbook of Threshold Limit Values (TLVs) and Biological Exposure Indices (BEIs) for each HAP-containing material used at the facility. The permittee will once per year, on or before December 31, research and update, as necessary, TLV values for all HAPs in use. Additionally, the permittee will update specific TLV values on the subsequent monthly emissions record if notified in writing by the Department of such changed values. The concentration of each HAP in lb/gal and the corresponding TLV will be included in these records. These records will be maintained in a spreadsheet, database, or other well organized format.

These records will be kept on-site and be 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]

11. The permittee will maintain monthly records of HAP emissions. These records will indicate the amount of each HAP-containing material used during that month as well as the corresponding HAP content for each HAP in that material. All HAPs that are capable of being emitted as air emissions and are contained in materials issued for use at the facility will be considered to be emitted with the exception of HAP emission credits that meet Plantwide Condition 15. These records will be maintained in a spreadsheet, database, or other well organized format. A copy of the MSDS sheet for each product used will accompany these records. These records will include a twelve month rolling total, each individual month's data, and note whether the material in question is compliant with Plantwide Condition 9. The permittee will update the records by the 15th day of the month following the month to which the records pertain. The records will be kept on-site and be 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]

12. The permittee will limit all HAP emissions to 8.4 tpy of any single HAP and 18.70 tpy of any combination of HAPs. Compliance with this condition will be demonstrated through compliance with Plantwide Condition 11. [§18.1004 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

13. The permittee will not emit in excess of 249.4 tons of VOC from the Pine Bluff Arsenal Operations sources (AMM-01, M295-01, 32-230, 32-510, 32-520, 32-550, 32-720, 42-960(1), 42-960(7), 42-960(10), 32-690, 33-760, 44-212, 77-950, 32-630, 32-060, 33-060, 34-125, 42-960(8), PW-01, TANKS-01, 32-035, 60-070, 74-100, PBCA-01, PBCA-02, PBCA-03, POBCA-04, and EMGEN) per consecutive 12 month period. Compliance with this condition will be demonstrated by compliance with Plantwide Condition 14. [§19.501 of Regulation 19 and A.C.A. §8 4 203 as referenced by §8 4 304 and §8 4 311]

14. The permittee will maintain monthly records of the VOC emissions from all Pine Bluff Arsenal Operations sources (AMM-01, M295-01, 32-230, 32-510, 32-520, 32-550, 32-720, 42-960(1), 42-960(7), 42-960(10), 32-690, 33-760, 44-212, 77-950, 32-630, 32-060, 33-060, 34-125, 42-960(8), PW-01, TANKS-01, 32-035, 60-070, 74-100, PBCA-01, PBCA-02, PBCA-03, POBCA-04, and EMGEN) during each month. The permittee will update the records by the fifteenth day of the month following the month to which the records pertain. These records will be kept on-site and provided to Department personnel upon request, and may be used by the Department for enforcement purposes. [§19.705 of Regulation 19 and A.C.A. §8 4 203 as referenced by §8 4 304 and §8 4 311]

15. The permittee may use all scrap VOCs and HAPs that are drummed and shipped offsite to a proper disposal site as a credit towards the facility's VOC and HAP emissions. Only the VOC and HAP portion of the shipment may be taken as a credit. Before a credit can be give the following conditions must be met.

a. Testing will be preformed quarterly in order to establish representative concentrations of VOCs and HAPs for the waste streams. This testing will be performed by an independent laboratory. Representative samples will be taken from 10% of the drums containing VOCs and HAPs. The samples will be tested for percentage of VOC and HAP content by weight and reported as such. The average of the samples will be applied to all the VOC and HAP containing drums disposed of for the next 3 month period.
b. The ADEQ Air Division District Field Inspector will be notified no later than seven days prior to the date the samples are taken. The Air Division inspector will have the option of attending the sampling and selecting the drums to be sampled.
c. The sampling reports will be maintained on site with the VOC and HAP emissions records required by this permit. These records will be made available to Department personnel upon request.
d. The permittee will maintain a spreadsheet which will reflect the waste streams and the respective weight fractions of VOC and HAP shipped on a monthly basis. This spreadsheet will also contain monthly calculations for VOC and HAP emissions reductions. A copy of this spreadsheet will be made available to Department personnel upon request.

16. The VOC and HAP portions of unused materials that have either exceeded their shelf life or cannot be used for any reason may also be taken as an emission credit provided that these materials were first issued for use at the facility. These credits will be calculated based on the VOC and HAP concentrations reported on the MSDS sheet for each particular material. Monthly records will be maintained to demonstrate any credits claimed under this condition. [§19.705 of Regulation 19 and/or A.C.A. §8 4 203 as referenced by §8 4 304 and §8 4 311]

17. The permittee shall submit semi-annual monitoring reports in compliance with General Provision 7 no later than February 1st and August 1st. The first report must be submitted no later than 6 months after the issuance of Permit 1113-AOP-R4. [§18.102(C) of Regulation 18]

18. The permittee shall submit an annual compliance certification in compliance with General Provision 21 by February 1, 2008. Subsequent certifications will be submitted annually on February 1st. [§18.102(C) of Regulation 18]

Title VI Provisions

15. The permittee must comply with the standards for labeling of products using ozone-depleting substances. [40 CFR Part 82, Subpart E]

a. All containers containing a class I or class II substance stored or transported, all products containing a class I substance, and all products directly manufactured with a class I substance must bear the required warning statement if it is being introduced to interstate commerce pursuant to §82.106.
b. The placement of the required warning statement must comply with the requirements pursuant to §82.108.
c. The form of the label bearing the required warning must comply with the requirements pursuant to §82.110.
d. No person may modify, remove, or interfere with the required warning statement except as described in §82.112.

16. 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.

17. 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.

18. 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.

19. 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.

Permit Shield

20. Compliance with the conditions of this permit shall be deemed compliance with all applicable requirements, as of the date of permit issuance, included in and specifically identified in the following table of this condition. The permit specifically identifies the following as applicable requirements based upon the information submitted by the permittee in an application dated June 1, 1999 and August 22, 2002.

Applicable Regulations

Source No.	Regulation	Description
CIC Incinerators SN-42-960	40 CFR Part 60 Subpart DDDD	Emission Guidelines and Compliance Times for Commercial and Industrial Solid Waste Incineration Units that Commenced Construction On or Before November 30, 1999
Boilers 1 and 2 SN-32-060 25.1 MM Btu/hr each	40 CFR Part 60 Subpart Dc	Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units
Boilers 1 and 2 SN-34-125 14.7 MM Btu/hr each	40 CFR Part 60 Subpart Dc	Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units
PBCDF Incinerators SN-PBCDF-01	40 CFR Part 63 Subpart EEE	National Emission Standards for Hazardous Air Pollutants from Hazardous Waste Combustors
Process Steam Boilers I and II SN-PBCDF-03 and SN-PBCDF-04 28.4 MM Btu/hr	40 CFR Part 60 Subpart Dc	Standards of Performance for Small Industrial- Commercial-Institutional Steam Generating Units
Hot Water Boilers I and II SN-PBCDF-05 and SN-PBCDF-06 11.7 MM Btu/hr	40 CFR Part 60 Subpart Dc	Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units

Source No.	Regulation	Description
Facility	Arkansas Regulation 19	Regulations of the Arkansas Plan of Implementation for Air Pollution Control
Facility	Arkansas Regulation 26	Regulations of the Arkansas Operating Air Permit Program
Facility	40 CFR Part 52.21	Prevention of Significant Deterioration (for NOx, SO2, PM, Beryllium)

SECTION VII: INSIGNIFICANT ACTIVITIES

The following sources are insignificant activities. Any activity that has a state or federal applicable requirement shall be considered a significant activity even if this activity meets the criteria of §26.304 of Regulation 26 or listed in the table below. Insignificant activity determinations rely upon the information submitted by the permittee in an application and letters dated August 31, 2004, April 18, 2005, May 16, 2005 (3 separate applications), July 11, 2005, and July 21, 2006.

Description	Category
Pine Bluff Arsenal	
Laundry Steam Boiler - Building 60-070 (Depot Support)	Group A #1
Laundry Steam Boiler - Building 74-100 (Depot Support)	Group A #1
Two Storage Tanks - Spent Decon Solution (Depot Support))	Group A #4
Storage Tank - Neutralized Cleanup Solution (Depot Support)	Group A #4
Chemical and Biological Defense Performance Testing with 1,1,1,2-Tetrafluoroethane (HFC-134a) and Di-Octyl Phthalate	Group A #5
Mask Test (Quality Control) - Building 60-070 (Depot Support)	Group A #5
Mask Test (Quality Control) - Building 74-100 (Depot Support)	Group A #5
5 Gas Tungsten Arc (TIG) Welders – Building 32-230	Group A #7
CIC Shredders (4) – 42-960(9) (CIC)	Group A #13
Loctite Adhesive Usage (Depot Support)	Group A #13
PBA 86 Landfill (150,000 cubic yards)	Group A #13
Laundry Room - Building 60-070 (Depot Support)	Group B #8
Laundry Room - Building 74-100 (Depot Support)	Group B #8
Pipe Shop - Building 34-910	Group B #14
Machine Shop -Building 34-910	Group B #14
Carpenter Shops - Buildings 34-930, 31-670, 60-400	Group B #14
Miscellaneous Equipment Maintenance Paints and Solvents (Depot Support)	Group B #14
Miscellaneous Small Scale QA/QC PEL Munitions and Munitions Components Testing (QAT)	Group B #36
Pine Bluff Chemical Demilitarization Facility (PBCDF)	

Description	Category
300 kW Maintenance Generator (PBCDF)	Group A #1
350 bhp Maintenance Compressor (PBCDF)	Group A #1
500 bhp Maintenance Compressor (PBCDF)	Group A #1
Diesel Storage Tank (1,000 gallons) (PBCDF)	Group A #3
Diesel Storage Tank (4,000 gallons) (PBCDF)	Group A #3
Non-Stockpile	
100-gallon Diesel Storage Tank (GTRSS)	Group A #2
One Fume Hood (TCDF)	Group A #5
500-gallon Diesel Storage Tank (GTRSS)	Group A #13
Breathing Air Compressor (GTRSS)	Group A #13
Compressed Air Tank - Munitions Assessment System (GTRSS)	Group A #13
1600 CFM Ventilator unit in Decon Area (2 total)	Group A #13
3.5 and 4.0 hp gasoline powered generators (PBMAS)	Group B #16
2500 gal Sodium Permanganate solution (20%) tank (TCDF)	Group B #22
2500 gal Sodium Sulfite solution (20%) tank (TCDF)	Group B #22
4400 Gallon Waste Tank	Group B #22

SECTION VIII: GENERAL PROVISIONS

1. Any terms or conditions included in this permit which specify and reference Arkansas Pollution Control & Ecology Commission Regulation 18 or the Arkansas Water and Air Pollution Control Act (A.C.A. §8-4-101 et seq.) as the sole origin of and authority for the terms or conditions are not required under the Clean Air Act or any of its applicable requirements, and are not federally enforceable under the Clean Air Act. Arkansas Pollution Control & Ecology Commission Regulation 18 was adopted pursuant to the Arkansas Water and Air Pollution Control Act (A.C.A. §8-4-101 et seq.). Any terms or conditions included in this permit which specify and reference Arkansas Pollution Control & Ecology Commission Regulation 18 or the Arkansas Water and Air Pollution Control Act (A.C.A. §8-4-101 et seq.) as the origin of and authority for the terms or conditions are enforceable under this Arkansas statute. [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)]

3. The permittee must submit a complete application for permit renewal at least six (6) months before permit expiration. Permit expiration terminates the permittee's right to operate unless the permittee submitted a complete renewal application at least six (6) months before permit expiration. If the permittee submits a complete application, the existing permit will remain in effect until the Department takes final action on the renewal application. The Department will not necessarily notify the permittee when the permit renewal application is due. [Regulation 26, §26.406]

4. Where an applicable requirement of the Clean Air Act, as amended, 42 U.S.C. 7401, et seq. (Act) is more stringent than an applicable requirement of regulations promulgated under Title IV of the Act, the permit incorporates both provisions into the permit, and the Director or the Administrator can enforce both provisions. [40 CFR 70.6(a)(1)(ii) and Regulation 26, §26.701(A)(2)]

5. The permittee must maintain the following records of monitoring information as required by this permit.

   a. The date, place as defined in this permit, and time of sampling or measurements;
   b. The date(s) analyses performed;
   c. The company or entity performing the analyses;
   d. The analytical techniques or methods used;
   e. The results of such analyses; and
   f. The operating conditions existing at the time of sampling or measurement.

   [40 CFR 70.6(a)(3)(ii)(A) and Regulation 26, §26.701(C)(2)]

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 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:

   Arkansas Department of Environmental Quality
   Air Division
   ATTN: Compliance Inspector Supervisor
   5301 Northshore Drive
   North Little Rock, AR 72118-5317

   [40 C.F.R. 70.6(a)(3)(iii)(A) and Regulation 26, §26.701(C)(3)(a)]

8. The permittee shall report to the Department all deviations from permit requirements, including those attributable to upset conditions as defined in the permit.

   a. For all upset conditions (as defined in Regulation19, § 19.601), the permittee will make an initial report to the Department by the next business day after the discovery of the occurrence. The initial report may be made by telephone and shall include:

      i. The facility name and location;
      ii. The process unit or emission source deviating from the permit limit;
      iii. The permit limit, including the identification of pollutants, from which deviation occurs;
      iv. The date and time the deviation started;
      v. The duration of the deviation;
      vi. The average emissions during the deviation;
      vii. The probable cause of such deviations;
      viii. Any corrective actions or preventive measures taken or being taken to prevent such deviations in the future; and
      ix. The name of the person submitting the report.

The permittee shall 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 shall 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 by the initial and full reports required in 8a.

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

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), Regulation 26, §26.701(E), and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

10. The permittee must comply with all conditions of this Part 70 permit. Any permit noncompliance with applicable requirements as defined in Regulation 26 constitutes a violation of the Clean Air Act, as amended, 42 U.S.C. §7401, et seq. and is grounds for enforcement action; for permit termination, revocation and reissuance, for permit modification; or for denial of a permit renewal application. [40 CFR 70.6(a)(6)(i) and Regulation 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 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 26, §26.701(F)(3)]

13. This permit does not convey any property rights of any sort, or any exclusive privilege. [40 CFR 70.6(a)(6)(iv) and Regulation 26, §26.701(F)(4)]

14. The permittee must furnish to the Director, within the time specified by the Director, any information that the Director may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee must also furnish to the Director copies of records required by the permit. For information the permittee claims confidentiality, the Department may require the permittee to furnish such records directly to the Director along with a claim of confidentiality. [40 CFR 70.6(a)(6)(v) and Regulation 26, §26.701(F)(5)]

15. The permittee must pay all permit fees in accordance with the procedures established in Regulation 9. [40 CFR 70.6(a)(7) and Regulation 26, §26.701(G)]

16. No permit revision shall be required, under any approved economic incentives, marketable permits, emissions trading and other similar programs or processes for changes provided for elsewhere in this permit. [40 CFR 70.6(a)(8) and Regulation 26, §26.701(H)]

17. If the permit allows different operating scenarios, the permittee shall, contemporaneously with making a change from one operating scenario to another, record in a log at the permitted facility a record of the operational scenario. [40 CFR 70.6(a)(9)(i) and Regulation 26, §26.701(I)(1)]

18. The Administrator and citizens may enforce under the Act all terms and conditions in this permit, including any provisions designed to limit a source's potential to emit, unless the Department specifically designates terms and conditions of the permit as being federally unenforceable under the Act or under any of its applicable requirements. [40 CFR 70.6(b) and Regulation 26, §26.702(A) and (B)]

19. Any document (including reports) required by this permit must contain a certification by a responsible official as defined in Regulation 26, §26.2. [40 CFR 70.6(c)(1) and Regulation 26, §26.703(A)]

20. The permittee must allow an authorized representative of the Department, upon presentation of credentials, to perform the following: [40 CFR 70.6(c)(2) and Regulation 26, §26.703(B)]

    a. Enter upon the permittee's premises where the permitted source is located or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
    b. Have access to and copy, at reasonable times, any records required under the conditions of this permit;
    c. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit; and

d. As authorized by the Act, sample or monitor at reasonable times substances or parameters for assuring compliance with this permit or applicable requirements.

21. The permittee shall 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 26, §26.703(E)(3)]

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

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

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

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

24. The permittee may request in writing and at least 15 days in advance of the deadline, an extension to any testing, compliance or other dates in this permit. No such extensions are authorized until the permittee receives written Department approval. The Department may grant such a request, at its discretion in the following circumstances:

    a. Such an extension does not violate a federal requirement;
    b. The permittee demonstrates the need for the extension; and
    c. The permittee documents that all reasonable measures have been taken to meet the current deadline and documents reasons it cannot be met.

[Regulation 18, §18.102(C-D), Regulation 19, §19.103(D), A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, and 40 CFR Part 52, Subpart E]

25. The permittee may request in writing and at least 30 days in advance, temporary emissions and/or testing that would otherwise exceed an emission rate, throughput requirement, or other limit in this permit. No such activities are authorized until the permittee receives written Department approval. Any such emissions shall be included in the facility's total emissions and reported as such. The Department may grant such a request, at its discretion under the following conditions:

   a. Such a request does not violate a federal requirement;
   b. Such a request is temporary in nature;
   c. Such a request will not result in a condition of air pollution;
   d. The request contains such information necessary for the Department to evaluate the request, including but not limited to, quantification of such emissions and the date/time such emission will occur;
   e. Such a request will result in increased emissions less than five tons of any individual criteria pollutant, one ton of any single HAP and 2.5 tons of total HAPs; and
   f. The permittee maintains records of the dates and results of such temporary emissions/testing.

[Regulation 18, §18.102(C-D), Regulation 19, §19.103(D), A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, and 40 CFR Part 52, Subpart E]

26. The permittee may request in writing and at least 30 days in advance, an alternative to the specified monitoring in this permit. No such alternatives are authorized until the permittee receives written Department approval. The Department may grant such a request, at its discretion under the following conditions:

   e. The request does not violate a federal requirement;
   f. The request provides an equivalent or greater degree of actual monitoring to the current requirements; and
   g. Any such request, if approved, is incorporated in the next permit modification application by the permittee.

[Regulation 18, §18.102(C-D), Regulation19, §19.103(D), A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, and 40 CFR Part 52, Subpart E]

APPENDIX A

40 CFR 60 Subpart Dc

Electronic Code of Federal Regulations
e-CFR TM

e-CFR Data is current as of October 29, 2008

Title 40: Protection of Environment
PART 60—STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

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 (SO_2) 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 creating 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 SO_2control 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 SO_2control 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 exhaust 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 SO_2emissions (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 SO_2control 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 SO_2.

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 (SO_2).

(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 SO_2in excess of 87 ng/J (0.20 lb/MMBtu) heat input or 10 percent (0.10) of the potential SO_2emission rate (90 percent reduction), nor cause to be discharged into the atmosphere from the affected facility any gases that contain SO_2in 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 SO_2in excess of 87 ng/J (0.20 lb/MMBtu) heat input or 10 percent (0.10) of the potential SO_2emission rate (90 percent reduction), nor cause to be discharged into the atmosphere from the affected facility any gases that contain SO_2in 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 SO_2in excess of 87 ng/J (0.20 lb/MMBtu) heat input or 20 percent (0.20) of the potential SO_2emission rate (80 percent reduction); nor

(ii) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO_2in excess of SO_2in 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 SO_2emissions limit or the 90 percent SO_2reduction 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 SO_2emissions shall neither:

(i) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO_2in excess of 50 percent (0.50) of the potential SO_2emission rate (50 percent reduction); nor

(ii) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO_2in 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 SO_2reduction 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 SO_2in 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 SO_2in 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 applicable 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 SO_2in excess of the following:

(1) The percent of potential SO_2emission rate or numerical SO_2emission 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= SO_2emission 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

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

(f) Reduction in the potential SO_2emission 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 SO_2emission rate; and

(2) Emissions from the pretreated fuel (without either combustion or post-combustion SO_2control) 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 SO_2emission 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 SO_2emissions 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 SO_2emission 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 affect 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 SO_2emission limits under §60.42c is based on the average percent reduction and the average SO_2emission 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 SO_2emission 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 SO_2emission rate (E_{ho}) and the 30-day average SO_2emission 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_{ho}o) is used in Equation 19–19 of Method 19 of appendix A of this part to compute the adjusted E_{ao}(E_{ao}o). The E_{ho}o is computed using the following formula:

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

Where:

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

E_{ho}= Hourly SO_2emission rate, ng/J (lb/MMBtu);

E_w= SO_2concentration 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 SO_2emission 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 SO_2emission 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 SO_2emission rate, in percent;

$\%R_g$= SO_2removal efficiency of the control device as determined by Method 19 of appendix A of this part, in percent; and

$\%R_f$= SO_2removal 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 $\%R_g$($\%R_go$) is computed from $E_{ao}o$ from paragraph (e)(1) of this section and an adjusted average SO_2inlet rate ($E_{ai}o$) using the following formula:

$$\%R_go = 100\left(1 - \frac{E_{ao}^{\circ}}{E_{ai}^{\circ}}\right)$$

Where:

$\%R_go$ = Adjusted $\%R_g$, in percent;

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

$E_{ai}o$ = Adjusted average SO_2inlet rate, ng/J (lb/MMBtu).

(ii) To compute $E_{ai}o$, an adjusted hourly SO_2inlet rate ($E_{hi}o$) is used. The $E_{hi}o$ is computed using the following formula:

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

Where:

$E_{hi}o$ = Adjusted E_{hi}, ng/J (lb/MMBtu);

E_{hi}= Hourly SO_2inlet rate, ng/J (lb/MMBtu);

E_w= SO_2concentration 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_2standards 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_2standards 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_2emissions 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 (O_2) or carbon dioxide (CO_2) 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 O_2or CO_2measurements 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 O_2(or CO_2) 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 O_2(or CO_2), 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 SO_2emission limits under §60.42c shall install, calibrate, maintain, and operate a CEMS for measuring SO_2concentrations and either O_2or CO_2concentrations at the outlet of the SO_2control device (or the outlet of the steam generating unit if no SO_2control 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 SO_2concentrations and either O_2or CO_2concentrations at both the inlet and outlet of the SO_2control device.

(b) The 1-hour average SO_2emission 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 SO_2emission 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 SO_2emission 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 SO_2CEMS at the inlet to the SO_2control device shall be 125 percent of the maximum estimated hourly potential SO_2emission rate of the fuel combusted, and the span value of the SO_2CEMS at the outlet from the SO_2control device shall be 50 percent of the maximum estimated hourly potential SO_2emission 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 SO_2CEMS at the outlet from the SO_2control device (or outlet of the steam generating unit if no SO_2control device is used) shall be 125 percent of the maximum estimated hourly potential SO_2emission rate of the fuel combusted.

(d) As an alternative to operating a CEMS at the inlet to the SO_2control device (or outlet of the steam generating unit if no SO_2control device is used) as required under paragraph (a) of this section, an owner or operator may elect to determine the average SO_2emission rate by sampling the fuel prior to combustion. As an alternative to operating a CEMS at the outlet from the SO_2control device (or outlet of the steam generating unit if no SO_2control device is used) as required under paragraph (a) of this section, an owner or operator may elect to determine the average SO_2emission 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 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 SO_2input 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 SO_2at the inlet or outlet of the SO_2control 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 $SO_2$and CO_2measurement 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 SO_2standards 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 SO_2or 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, SO_2, 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 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 facility 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 SO_2emissions. 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 SO_2emission 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.

(d) The owner or operator of each affected facility subject to the SO_2emission 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 SO_2emission 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 SO_2emission 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 SO_2emission 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 SO_2or diluent (O_2or CO_2) 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 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 SO_2standard, 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 SO_2standard, 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.

APPENDIX B

40 CFR 60 Subpart DDDD

e-CFR Data is current as of May 30, 2008

Title 40: Protection of Environment

PART 60—STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

Subpart DDDD—Emissions Guidelines and Compliance Times for Commercial and Industrial Solid Waste Incineration Units that Commenced Construction On or Before November 30, 1999

Source: 65 FR 75362, Dec. 1, 2000, unless otherwise noted.

Introduction

§ 60.2500 What is the purpose of this subpart?

This subpart establishes emission guidelines and compliance schedules for the control of emissions from commercial and industrial solid waste incineration (CISWI) units. The pollutants addressed by these emission guidelines are listed in Table 2 of this subpart. These emission guidelines are developed in accordance with sections 111(d) and 129 of the Clean Air Act and subpart B of this part.

§ 60.2505 Am I affected by this subpart?

(a) If you are the Administrator of an air quality program in a State or United States protectorate with one or more existing CISWI units that commenced construction on or before November 30, 1999, you must submit a State plan to U.S. Environmental Protection Agency (EPA) that implements the emission guidelines contained in this subpart.

(b) You must submit the State plan to EPA by December 3, 2001.

§ 60.2510 Is a State plan required for all States?

No. You are not required to submit a State plan if there are no existing CISWI units in your State, and you submit a negative declaration letter in place of the State plan.

§ 60.2515 What must I include in my State plan?

(a) You must include the nine items described in paragraphs (a)(1) through (9) of this section in your State plan.

(1) Inventory of affected CISWI units, including those that have ceased operation but have not been dismantled.

(2) Inventory of emissions from affected CISWI units in your State.

(3) Compliance schedules for each affected CISWI unit.

(4) Emission limitations, operator training and qualification requirements, a waste management plan, and operating limits for affected CISWI units that are at least as protective as the emission guidelines contained in this subpart.

(5) Performance testing, recordkeeping, and reporting requirements.

(6) Certification that the hearing on the State plan was held, a list of witnesses and their organizational affiliations, if any, appearing at the hearing, and a brief written summary of each presentation or written submission.

(7) Provision for State progress reports to EPA.

(8) Identification of enforceable State mechanisms that you selected for implementing the emission guidelines of this subpart.

(9) Demonstration of your State's legal authority to carry out the sections 111(d) and 129 State plan.

(b) Your State plan may deviate from the format and content of the emission guidelines contained in this subpart. However, if your State plan does deviate in content, you must demonstrate that your State plan is at least as protective as the emission guidelines contained in this subpart. Your State plan must address regulatory applicability, increments of progress for retrofit, operator training and qualification, a waste management plan, emission limitations, performance testing, operating limits, monitoring, recordkeeping and reporting, and air curtain incinerator requirements.

(c) You must follow the requirements of subpart B of this part (Adoption and Submittal of State Plans for Designated Facilities) in your State plan.

§ 60.2520 Is there an approval process for my State plan?

Yes. The EPA will review your State plan according to §60.27.

§ 60.2525 What if my State plan is not approvable?

If you do not submit an approvable State plan (or a negative declaration letter) by December 2, 2002, EPA will develop a Federal plan according to §60.27 to implement the emission guidelines contained in this subpart. Owners and operators of CISWI units not covered by an approved State plan must comply with the Federal plan. The Federal plan is an interim action and will be automatically withdrawn when your State plan is approved.

§ 60.2530 Is there an approval process for a negative declaration letter?

No. The EPA has no formal review process for negative declaration letters. Once your negative declaration letter has been received, EPA will place a copy in the public docket and publish a notice in theFederal Register.If, at a later date, an existing CISWI unit is found in your State, the Federal plan implementing the emission guidelines contained in this subpart would automatically apply to that CISWI unit until your State plan is approved.

§ 60.2535 What compliance schedule must I include in my State plan?

(a) Your State plan must include compliance schedules that require CISWI units to achieve final compliance as expeditiously as practicable after approval of the State plan but not later than the earlier of the two dates specified in paragraphs (a)(1) and (2) of this section.

(1) December 1, 2005.

(2) Three years after the effective date of State plan approval.

(b) For compliance schedules more than 1 year following the effective date of State plan approval, State plans must include dates for enforceable increments of progress as specified in §60.2580.

§ 60.2540 Are there any State plan requirements for this subpart that apply instead of the requirements specified in subpart B?

Yes. Subpart B establishes general requirements for developing and processing section 111(d) plans. This subpart applies instead of the requirements in subpart B of this part for paragraphs (a) and (b) of this section:

(a) State plans developed to implement this subpart must be as protective as the emission guidelines contained in this subpart. State plans must require all CISWI units to comply by December 1, 2005 or 3 years after the effective date of State plan approval, whichever is sooner. This applies instead of the option for case-by-case less stringent emission standards and longer compliance schedules in §60.24(f).

(b) State plans developed to implement this subpart are required to include two increments of progress for the affected CISWI units. These two minimum increments are the final control plan submittal date and final compliance date in §60.21(h)(1) and (5). This applies instead of the requirement of §60.24(e)(1) that would require a State plan to include all five increments of progress for all CISWI units.

§ 60.2545 Does this subpart directly affect CISWI unit owners and operators in my State?

(a) No. This subpart does not directly affect CISWI unit owners and operators in your State. However, CISWI unit owners and operators must comply with the State plan you develop to implement the emission guidelines contained in this subpart. States may choose to incorporate the model rule text directly in their State plan.

(b) If you do not submit an approvable plan to implement and enforce the guidelines contained in this subpart by December 2, 2002, the EPA will implement and enforce a Federal plan, as provided in §60.2525, to ensure that each unit within your State reaches compliance with all the provisions of this subpart by December 1, 2005.

Applicability of State Plans

§ 60.2550 What CISWI units must I address in my State plan?

(a) Your State plan must address incineration units that meet all three criteria described in paragraphs (a)(1) through (3) of this section.

(1) Incineration units in your State that commenced construction on or before November 30, 1999.

(2) Incineration units that meet the definition of a CISWI unit as defined in §60.2875.

(3) Incineration units not exempt under §60.2555.

(b) If the owner or operator of a CISWI unit makes changes that meet the definition of modification or reconstruction on or after June 1, 2001, the CISWI unit becomes subject to subpart CCCC of this part and the State plan no longer applies to that unit.

(c) If the owner or operator of a CISWI unit makes physical or operational changes to an existing CISWI unit primarily to comply with your State plan, subpart CCCC of this part does not apply to that unit. Such changes do not qualify as modifications or reconstructions under subpart CCCC of this part.

§ 60.2555 What combustion units are exempt from my State plan?

This subpart exempts fifteen types of units described in paragraphs (a) through (o) of this section.

(a) *Pathological waste incineration units.* Incineration units burning 90 percent or more by weight (on a calendar quarter basis and excluding the weight of auxiliary fuel and combustion air) of pathological waste, low-level radioactive waste, and/or chemotherapeutic waste as defined in §60.2875 are not subject to this subpart if you meet the two requirements specified in paragraphs (a)(1) and (2) of this section.

(1) Notify the Administrator that the unit meets these criteria.

(2) Keep records on a calendar quarter basis of the weight of pathological waste, low-level radioactive waste, and/or chemotherapeutic waste burned, and the weight of all other fuels and wastes burned in the unit.

(b) *Agricultural waste incineration units.* Incineration units burning 90 percent or more by weight (on a calendar quarter basis and excluding the weight of auxiliary fuel and combustion air) of agricultural wastes as defined in §60.2875 are not subject to this subpart if you meet the two requirements specified in paragraphs (b)(1) and (2) of this section.

(1) Notify the Administrator that the unit meets these criteria.

(2) Keep records on a calendar quarter basis of the weight of agricultural waste burned, and the weight of all other fuels and wastes burned in the unit.

(c) *Municipal waste combustion units.* Incineration units that meet either of the two criteria specified in paragraphs (c)(1) or (2) of this section.

(1) Are regulated under subpart Ea of this part (Standards of Performance for Municipal Waste Combustors); subpart Eb of this part (Standards of Performance for Municipal Waste Combustors for Which Construction is Commenced After September 20, 1994); subpart Cb of this part (Emission Guidelines and Compliance Time for Large Municipal Combustors that are Constructed on or Before September 20, 1994); subpart AAAA of this part (Standards of Performance for New Stationary Sources: Small Municipal Waste Combustion Units); or subpart BBBB of this part (Emission Guidelines for Existing Stationary Sources: Small Municipal Waste Combustion Units).

(2) Burn greater than 30 percent municipal solid waste or refuse-derived fuel, as defined in subpart Ea, subpart Eb, subpart AAAA, and subpart BBBB, and that have the capacity to burn less than 35 tons (32 megagrams) per day of municipal solid waste or refuse-derived fuel, if you meet the two requirements in paragraphs (c)(2)(i) and (ii) of this section.

(i) Notify the Administrator that the unit meets these criteria.

(ii) Keep records on a calendar quarter basis of the weight of municipal solid waste burned, and the weight of all other fuels and wastes burned in the unit.

(d) *Medical waste incineration units.* Incineration units regulated under subpart Ec of this part (Standards of Performance for Hospital/Medical/Infectious Waste Incinerators for Which Construction is Commenced After June 20, 1996) or subpart Ca of this part (Emission Guidelines and Compliance Times for Hospital/Medical/Infectious Waste Incinerators).

(e) *Small power production facilities.* Units that meet the three requirements specified in paragraphs (e)(1) through (3) of this section.

(1) The unit qualifies as a small power-production facility under section 3(17)(C) of the Federal Power Act (16 U.S.C. 796(17)(C)).

(2) The unit burns homogeneous waste (not including refuse-derived fuel) to produce electricity.

(3) You notify the Administrator that the unit meets all of these criteria.

(f) *Cogeneration facilities.* Units that meet the three requirements specified in paragraphs (f)(1) through (3) of this section.

(1) The unit qualifies as a cogeneration facility under section 3(18)(B) of the Federal Power Act (16 U.S.C. 796(18)(B)).

(2) The unit burns homogeneous waste (not including refuse-derived fuel) to produce electricity and steam or other forms of energy used for industrial, commercial, heating, or cooling purposes.

(3) You notify the Administrator that the unit meets all of these criteria.

(g) *Hazardous waste combustion units.* Units that meet either of the two criteria specified in paragraph (g)(1) or (2) of this section.

(1) Units for which you are required to get a permit under section 3005 of the Solid Waste Disposal Act.

(2) Units regulated under subpart EEE of 40 CFR part 63 (National Emission Standards for Hazardous Air Pollutants from Hazardous Waste Combustors).

(h) *Materials recovery units.* Units that combust waste for the primary purpose of recovering metals, such as primary and secondary smelters.

(i) *Air curtain incinerators.* Air curtain incinerators that burn only the materials listed in paragraphs (i)(1) through (3) of this section are only required to meet the requirements under "Air Curtain Incinerators" (§§60.2810 through 60.2870).

(1) 100 percent wood waste.

(2) 100 percent clean lumber.

(3) 100 percent mixture of only wood waste, clean lumber, and/or yard waste.

(j) *Cyclonic barrel burners.* (See §60.2875)

(k) *Rack, part, and drum reclamation units.* (See §60.2875)

(l) *Cement kilns.* Kilns regulated under subpart LLL of part 63 of this chapter (National Emission Standards for Hazardous Air Pollutants from the Portland Cement Manufacturing Industry).

(m) *Sewage sludge incinerators.* Incineration units regulated under subpart O of this part (Standards of Performance for Sewage Treatment Plants).

(n) *Chemical recovery units.* Combustion units burning materials to recover chemical constituents or to produce chemical compounds where there is an existing commercial market for such recovered chemical constituents or compounds. The seven types of units described in paragraphs (n)(1) through (7) of this section are considered chemical recovery units.

(1) Units burning only pulping liquors (*i.e.,* black liquor) that are reclaimed in a pulping liquor recovery process and reused in the pulping process.

(2) Units burning only spent sulfuric acid used to produce virgin sulfuric acid.

(3) Units burning only wood or coal feedstock for the production of charcoal.

(4) Units burning only manufacturing byproduct streams/residues containing catalyst metals which are reclaimed and reused as catalysts or used to produce commercial grade catalysts.

(5) Units burning only coke to produce purified carbon monoxide that is used as an intermediate in the production of other chemical compounds.

(6) Units burning only hydrocarbon liquids or solids to produce hydrogen, carbon monoxide, synthesis gas, or other gases for use in other manufacturing processes.

(7) Units burning only photographic film to recover silver.

(o) *Laboratory analysis units.* Units that burn samples of materials for the purpose of chemical or physical analysis.

§ 60.2558 What if a chemical recovery unit is not listed in §60.2555(n)?

(a) If a chemical recovery unit is not listed in §60.2555(n), the owner or operator of the unit can petition the Administrator to add the unit to the list. The petition must contain the six items in paragraphs (a)(1) through (6) of this section.

(1) A description of the source of the materials being burned.

(2) A description of the composition of the materials being burned, highlighting the chemical constituents in these materials that are recovered.

(3) A description (including a process flow diagram) of the process in which the materials are burned, highlighting the type, design, and operation of the equipment used in this process.

(4) A description (including a process flow diagram) of the chemical constituent recovery process, highlighting the type, design, and operation of the equipment used in this process.

(5) A description of the commercial markets for the recovered chemical constituents and their use.

(6) The composition of the recovered chemical constituents and the composition of these chemical constituents as they are bought and sold in commercial markets.

(b) Until the Administrator approves the petition, the incineration unit is covered by this subpart.

(c) If a petition is approved, the Administrator will amend §60.2555(n) to add the unit to the list of chemical recovery units.

Use of Model Rule

§ 60.2560 What is the "model rule" in this subpart?

(a) The model rule is the portion of these emission guidelines (§§60.2575 through 60.2875) that addresses the regulatory requirements applicable to CISWI units. The model rule provides these requirements in regulation format. You must develop a State plan that is at least as protective as the model rule. You may use the model rule language as part of your State plan. Alternative language may be used in your State plan if you demonstrate that the alternative language is at least as protective as the model rule contained in this subpart.

(b) In the model rule of §§60.2575 to 60.2875, "you" means the owner or operator of a CISWI unit.

§ 60.2565 How does the model rule relate to the required elements of my State plan?

Use the model rule to satisfy the State plan requirements specified in §60.2515(a)(4) and (5).

§ 60.2570 What are the principal components of the model rule?

The model rule contains the eleven major components listed in paragraphs (a) through (k) of this section.

(a) Increments of progress toward compliance.

(b) Waste management plan.

(c) Operator training and qualification.

(d) Emission limitations and operating limits.

(e) Performance testing.

(f) Initial compliance requirements.

(g) Continuous compliance requirements.

(h) Monitoring.

(i) Recordkeeping and reporting.

(j) Definitions.

(k) Tables.

Model Rule—Increments of Progress

§ 60.2575 What are my requirements for meeting increments of progress and achieving final compliance?

If you plan to achieve compliance more than 1 year following the effective date of State plan approval, you must meet the two increments of progress specified in paragraphs (a) and (b) of this section.

(a) Submit a final control plan.

(b) Achieve final compliance.

§ 60.2580 When must I complete each increment of progress?

Table 1 of this subpart specifies compliance dates for each of the increments of progress.

§ 60.2585 What must I include in the notifications of achievement of increments of progress?

Your notification of achievement of increments of progress must include the three items specified in paragraphs (a) through (c) of this section.

(a) Notification that the increment of progress has been achieved.

(b) Any items required to be submitted with each increment of progress.

(c) Signature of the owner or operator of the CISWI unit.

§ 60.2590 When must I submit the notifications of achievement of increments of progress?

Notifications for achieving increments of progress must be postmarked no later than 10 business days after the compliance date for the increment.

§ 60.2595 What if I do not meet an increment of progress?

If you fail to meet an increment of progress, you must submit a notification to the Administrator postmarked within 10 business days after the date for that increment of progress in Table 1 of this subpart. You must inform the

Administrator that you did not meet the increment, and you must continue to submit reports each subsequent calendar month until the increment of progress is met.

§ 60.2600 How do I comply with the increment of progress for submittal of a control plan?

For your control plan increment of progress, you must satisfy the two requirements specified in paragraphs (a) and (b) of this section.

(a) Submit the final control plan that includes the five items described in paragraphs (a)(1) through (5) of this section.

(1) A description of the devices for air pollution control and process changes that you will use to comply with the emission limitations and other requirements of this subpart.

(2) The type(s) of waste to be burned.

(3) The maximum design waste burning capacity.

(4) The anticipated maximum charge rate.

(5) If applicable, the petition for site-specific operating limits under §60.2680.

(b) Maintain an onsite copy of the final control plan.

§ 60.2605 How do I comply with the increment of progress for achieving final compliance?

For the final compliance increment of progress, you must complete all process changes and retrofit construction of control devices, as specified in the final control plan, so that, if the affected CISWI unit is brought online, all necessary process changes and air pollution control devices would operate as designed.

§ 60.2610 What must I do if I close my CISWI unit and then restart it?

(a) If you close your CISWI unit but will restart it prior to the final compliance date in your State plan, you must meet the increments of progress specified in §60.2575.

(b) If you close your CISWI unit but will restart it after your final compliance date, you must complete emission control retrofits and meet the emission limitations and operating limits on the date your unit restarts operation.

§ 60.2615 What must I do if I plan to permanently close my CISWI unit and not restart it?

If you plan to close your CISWI unit rather than comply with the State plan, submit a closure notification, including the date of closure, to the Administrator by the date your final control plan is due.

Model Rule—Waste Management Plan

§ 60.2620 What is a waste management plan?

A waste management plan is a written plan that identifies both the feasibility and the methods used to reduce or separate certain components of solid waste from the waste stream in order to reduce or eliminate toxic emissions from incinerated waste.

§ 60.2625 When must I submit my waste management plan?

You must submit a waste management plan no later than the date specified in Table 1 of this subpart for submittal of the final control plan.

§ 60.2630 What should I include in my waste management plan?

A waste management plan must include consideration of the reduction or separation of waste-stream elements such as paper, cardboard, plastics, glass, batteries, or metals; or the use of recyclable materials. The plan must identify any additional waste management measures, and the source must implement those measures considered practical and feasible, based on the effectiveness of waste management measures already in place, the costs of additional measures, the emissions reductions expected to be achieved, and any other environmental or energy impacts they might have.

Model Rule—Operator Training and Qualification

§ 60.2635 What are the operator training and qualification requirements?

(a) No CISWI unit can be operated unless a fully trained and qualified CISWI unit operator is accessible, either at the facility or can be at the facility within 1 hour. The trained and qualified CISWI unit operator may operate the CISWI unit directly or be the direct supervisor of one or more other plant personnel who operate the unit. If all qualified CISWI unit operators are temporarily not accessible, you must follow the procedures in §60.2665.

(b) Operator training and qualification must be obtained through a State-approved program or by completing the requirements included in paragraph (c) of this section.

(c) Training must be obtained by completing an incinerator operator training course that includes, at a minimum, the three elements described in paragraphs (c)(1) through (3) of this section.

(1) Training on the eleven subjects listed in paragraphs (c)(1)(i) through (xi) of this section.

(i) Environmental concerns, including types of emissions.

(ii) Basic combustion principles, including products of combustion.

(iii) Operation of the specific type of incinerator to be used by the operator, including proper startup, waste charging, and shutdown procedures.

(iv) Combustion controls and monitoring.

(v) Operation of air pollution control equipment and factors affecting performance (if applicable).

(vi) Inspection and maintenance of the incinerator and air pollution control devices.

(vii) Actions to correct malfunctions or conditions that may lead to malfunction.

(viii) Bottom and fly ash characteristics and handling procedures.

(ix) Applicable Federal, State, and local regulations, including Occupational Safety and Health Administration workplace standards.

(x) Pollution prevention.

(xi) Waste management practices.

(2) An examination designed and administered by the instructor.

(3) Written material covering the training course topics that can serve as reference material following completion of the course.

§ 60.2640 When must the operator training course be completed?

The operator training course must be completed by the later of the three dates specified in paragraphs (a) through (c) of this section.

(a) The final compliance date (Increment 2).

(b) Six months after CISWI unit startup.

(c) Six months after an employee assumes responsibility for operating the CISWI unit or assumes responsibility for supervising the operation of the CISWI unit.

§ 60.2645 How do I obtain my operator qualification?

(a) You must obtain operator qualification by completing a training course that satisfies the criteria under §60.2635(b).

(b) Qualification is valid from the date on which the training course is completed and the operator successfully passes the examination required under §60.2635(c)(2).

§ 60.2650 How do I maintain my operator qualification?

To maintain qualification, you must complete an annual review or refresher course covering, at a minimum, the five topics described in paragraphs (a) through (e) of this section.

(a) Update of regulations.

(b) Incinerator operation, including startup and shutdown procedures, waste charging, and ash handling.

(c) Inspection and maintenance.

(d) Responses to malfunctions or conditions that may lead to malfunction.

(e) Discussion of operating problems encountered by attendees.

§ 60.2655 How do I renew my lapsed operator qualification?

You must renew a lapsed operator qualification by one of the two methods specified in paragraphs (a) and (b) of this section.

(a) For a lapse of less than 3 years, you must complete a standard annual refresher course described in §60.2650.

(b) For a lapse of 3 years or more, you must repeat the initial qualification requirements in §60.2645(a).

§ 60.2660 What site-specific documentation is required?

(a) Documentation must be available at the facility and readily accessible for all CISWI unit operators that addresses the ten topics described in paragraphs (a)(1) through (10) of this section. You must maintain this information and the training records required by paragraph (c) of this section in a manner that they can be readily accessed and are suitable for inspection upon request.

(1) Summary of the applicable standards under this subpart.

(2) Procedures for receiving, handling, and charging waste.

(3) Incinerator startup, shutdown, and malfunction procedures.

(4) Procedures for maintaining proper combustion air supply levels.

(5) Procedures for operating the incinerator and associated air pollution control systems within the standards established under this subpart.

(6) Monitoring procedures for demonstrating compliance with the incinerator operating limits.

(7) Reporting and recordkeeping procedures.

(8) The waste management plan required under §§60.2620 through 60.2630.

(9) Procedures for handling ash.

(10) A list of the wastes burned during the performance test.

(b) You must establish a program for reviewing the information listed in paragraph (a) of this section with each incinerator operator.

(1) The initial review of the information listed in paragraph (a) of this section must be conducted by the later of the three dates specified in paragraphs (b)(1)(i) through (iii) of this section.

(i) The final compliance date (Increment 2).

(ii) Six months after CISWI unit startup.

(iii) Six months after being assigned to operate the CISWI unit.

(2) Subsequent annual reviews of the information listed in paragraph (a) of this section must be conducted no later than 12 months following the previous review.

(c) You must also maintain the information specified in paragraphs (c)(1) through (3) of this section.

(1) Records showing the names of CISWI unit operators who have completed review of the information in §60.2660(a) as required by §60.2660(b), including the date of the initial review and all subsequent annual reviews.

(2) Records showing the names of the CISWI operators who have completed the operator training requirements under §60.2635, met the criteria for qualification under §60.2645, and maintained or renewed their qualification under §60.2650 or §60.2655. Records must include documentation of training, the dates of the initial refresher training, and the dates of their qualification and all subsequent renewals of such qualifications.

(3) For each qualified operator, the phone and/or pager number at which they can be reached during operating hours.

§ 60.2665 What if all the qualified operators are temporarily not accessible?

If all qualified operators are temporarily not accessible (i.e., not at the facility and not able to be at the facility within 1 hour), you must meet one of the two criteria specified in paragraphs (a) and (b) of this section, depending on the length of time that a qualified operator is not accessible.

(a) When all qualified operators are not accessible for more than 8 hours, but less than 2 weeks, the CISWI unit may be operated by other plant personnel familiar with the operation of the CISWI unit who have completed a review of the information specified in §60.2660(a) within the past 12 months. However, you must record the period when all qualified operators were not accessible and include this deviation in the annual report as specified under §60.2770.

(b) When all qualified operators are not accessible for 2 weeks or more, you must take the two actions that are described in paragraphs (b)(1) and (2) of this section.

(1) Notify the Administrator of this deviation in writing within 10 days. In the notice, state what caused this deviation, what you are doing to ensure that a qualified operator is accessible, and when you anticipate that a qualified operator will be accessible.

(2) Submit a status report to the Administrator every 4 weeks outlining what you are doing to ensure that a qualified operator is accessible, stating when you anticipate that a qualified operator will be accessible and requesting approval from the Administrator to continue operation of the CISWI unit. You must submit the first status report 4 weeks after you notify the Administrator of the deviation under paragraph (b)(1) of this section. If the Administrator notifies you that your request to continue operation of the CISWI unit is disapproved, the CISWI unit may continue operation for 90 days, then must cease operation. Operation of the unit may resume if you meet the two requirements in paragraphs (b)(2)(i) and (ii) of this section.

(i) A qualified operator is accessible as required under §60.2635(a).

(ii) You notify the Administrator that a qualified operator is accessible and that you are resuming operation.

Model Rule—Emission Limitations and Operating Limits

§ 60.2670 What emission limitations must I meet and by when?

You must meet the emission limitations specified in Table 2 of this subpart on the date the initial performance test is required or completed (whichever is earlier).

§ 60.2675 What operating limits must I meet and by when?

(a) If you use a wet scrubber to comply with the emission limitations, you must establish operating limits for four operating parameters (as specified in Table 3 of this subpart) as described in paragraphs (a)(1) through (4) of this section during the initial performance test.

(1) Maximum charge rate, calculated using one of the two different procedures in paragraph (a)(1)(i) or (ii), as appropriate.

(i) For continuous and intermittent units, maximum charge rate is 110 percent of the average charge rate measured during the most recent performance test demonstrating compliance with all applicable emission limitations.

(ii) For batch units, maximum charge rate is 110 percent of the daily charge rate measured during the most recent performance test demonstrating compliance with all applicable emission limitations.

(2) Minimum pressure drop across the wet scrubber, which is calculated as 90 percent of the average pressure drop across the wet scrubber measured during the most recent performance test demonstrating compliance with the particulate matter emission limitations; or minimum amperage to the wet scrubber, which is calculated as 90 percent of the average amperage to the wet scrubber measured during the most recent performance test demonstrating compliance with the particulate matter emission limitations.

(3) Minimum scrubber liquor flow rate, which is calculated as 90 percent of the average liquor flow rate at the inlet to the wet scrubber measured during the most recent performance test demonstrating compliance with all applicable emission limitations.

(4) Minimum scrubber liquor pH, which is calculated as 90 percent of the average liquor pH at the inlet to the wet scrubber measured during the most recent performance test demonstrating compliance with the HCl emission limitation.

(b) You must meet the operating limits established during the initial performance test on the date the initial performance test is required or completed (whichever is earlier).

(c) If you use a fabric filter to comply with the emission limitations, you must operate each fabric filter system such that the bag leak detection system alarm does not sound more than 5 percent of the operating time during a 6-month period. In calculating this operating time percentage, if inspection of the fabric filter demonstrates that no corrective action is required, no alarm time is counted. If corrective action is required, each alarm shall be counted as a minimum of 1 hour. If you take longer than 1 hour to initiate corrective action, the alarm time shall be counted as the actual amount of time taken by you to initiate corrective action.

§ 60.2680 What if I do not use a wet scrubber to comply with the emission limitations?

If you use an air pollution control device other than a wet scrubber, or limit emissions in some other manner, to comply with the emission limitations under §60.2670, you must petition the Administrator for specific operating limits to be established during the initial performance test and continuously monitored thereafter. You must not conduct the initial performance test until after the petition has been approved by the Administrator. Your petition must include the five items listed in paragraphs (a) through (e) of this section.

(a) Identification of the specific parameters you propose to use as additional operating limits.

(b) A discussion of the relationship between these parameters and emissions of regulated pollutants, identifying how emissions of regulated pollutants change with changes in these parameters, and how limits on these parameters will serve to limit emissions of regulated pollutants.

(c) A discussion of how you will establish the upper and/or lower values for these parameters which will establish the operating limits on these parameters.

(d) A discussion identifying the methods you will use to measure and the instruments you will use to monitor these parameters, as well as the relative accuracy and precision of these methods and instruments.

(e) A discussion identifying the frequency and methods for recalibrating the instruments you will use for monitoring these parameters.

§ 60.2685 What happens during periods of startup, shutdown, and malfunction?

(a) The emission limitations and operating limits apply at all times except during CISWI unit startups, shutdowns, or malfunctions.

(b) Each malfunction must last no longer than 3 hours.

Model Rule—Performance Testing

§ 60.2690 How do I conduct the initial and annual performance test?

(a) All performance tests must consist of a minimum of three test runs conducted under conditions representative of normal operations.

(b) You must document that the waste burned during the performance test is representative of the waste burned under normal operating conditions by maintaining a log of the quantity of waste burned (as required in §60.2740(b)(1)) and the types of waste burned during the performance test.

(c) All performance tests must be conducted using the minimum run duration specified in Table 2 of this subpart.

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

(e) Method 3A or 3B of appendix A of this part must be used for gas composition analysis, including measurement of oxygen concentration. Method 3A or 3B of appendix A of this part must be used simultaneously with each method.

(f) All pollutant concentrations, except for opacity, must be adjusted to 7 percent oxygen using Equation 1 of this section:

$C_{adj} = C_{meas}(20.9-7)/(20.9-\%O_2)$ (Eq. 1)

Where:

C_{adj}= pollutant concentration adjusted to 7 percent oxygen;

C_{meas}= pollutant concentration measured on a dry basis;

(20.9−7) = 20.9 percent oxygen−7 percent oxygen (defined oxygen correction basis);

20.9 = oxygen concentration in air, percent; and

$\%O_2$= oxygen concentration measured on a dry basis, percent.

(g) You must determine dioxins/furans toxic equivalency by following the procedures in paragraphs (g)(1) through (3) of this section.

(1) Measure the concentration of each dioxin/furan tetra- through octa-congener emitted using EPA Method 23.

(2) For each dioxin/furan congener measured in accordance with paragraph (g)(1) of this section, multiply the congener concentration by its corresponding toxic equivalency factor specified in Table 4 of this subpart.

(3) Sum the products calculated in accordance with paragraph (g)(2) of this section to obtain the total concentration of dioxins/furans emitted in terms of toxic equivalency.

§ 60.2695 How are the performance test data used?

You use results of performance tests to demonstrate compliance with the emission limitations in Table 2 of this subpart.

Model Rule—Initial Compliance Requirements

§ 60.2700 How do I demonstrate initial compliance with the emission limitations and establish the operating limits?

You must conduct an initial performance test, as required under §60.8, to determine compliance with the emission limitations in Table 2 of this subpart and to establish operating limits using the procedure in §60.2675 or §60.2680. The initial performance test must be conducted using the test methods listed in Table 2 of this subpart and the procedures in §60.2690.

§ 60.2705 By what date must I conduct the initial performance test?

The initial performance test must be conducted no later than 180 days after your final compliance date. Your final compliance date is specified in Table 1 of this subpart.

Model Rule—Continuous Compliance Requirements

§ 60.2710 How do I demonstrate continuous compliance with the emission limitations and the operating limits?

(a) You must conduct an annual performance test for particulate matter, hydrogen chloride, and opacity for each CISWI unit as required under §60.8 to determine compliance with the emission limitations. The annual performance test must be conducted using the test methods listed in Table 2 of this subpart and the procedures in §60.2690.

(b) You must continuously monitor the operating parameters specified in §60.2675 or established under §60.2680. Operation above the established maximum or below the established minimum operating limits constitutes a deviation from the established operating limits. Three-hour rolling average values are used to determine compliance (except for baghouse leak detection system alarms) unless a different averaging period is established under §60.2680. Operating limits do not apply during performance tests.

(c) You must only burn the same types of waste used to establish operating limits during the performance test.

§ 60.2715 By what date must I conduct the annual performance test?

You must conduct annual performance tests for particulate matter, hydrogen chloride, and opacity within 12 months following the initial performance test. Conduct subsequent annual performance tests within 12 months following the previous one.

§ 60.2720 May I conduct performance testing less often?

(a) You can test less often for a given pollutant if you have test data for at least 3 years, and all performance tests for the pollutant (particulate matter, hydrogen chloride, or opacity) over 3 consecutive years show that you comply with the emission limitation. In this case, you do not have to conduct a performance test for that pollutant for the next 2 years. You must conduct a performance test during the third year and no more than 36 months following the previous performance test.

(b) If your CISWI unit continues to meet the emission limitation for particulate matter, hydrogen chloride, or opacity, you may choose to conduct performance tests for these pollutants every third year, but each test must be within 36 months of the previous performance test.

(c) If a performance test shows a deviation from an emission limitation for particulate matter, hydrogen chloride, or opacity, you must conduct annual performance tests for that pollutant until all performance tests over a 3-year period show compliance.

§ 60.2725 May I conduct a repeat performance test to establish new operating limits?

(a) Yes. You may conduct a repeat performance test at any time to establish new values for the operating limits. The Administrator may request a repeat performance test at any time.

(b) You must repeat the performance test if your feed stream is different than the feed streams used during any performance test used to demonstrate compliance.

Model Rule—Monitoring

§ 60.2730 What monitoring equipment must I install and what parameters must I monitor?

(a) If you are using a wet scrubber to comply with the emission limitation under §60.2670, you must install, calibrate (to manufacturers' specifications), maintain, and operate devices (or establish methods) for monitoring the value of the operating parameters used to determine compliance with the operating limits listed in Table 3 of this subpart. These devices (or methods) must measure and record the values for these operating parameters at the frequencies indicated in Table 3 of this subpart at all times except as specified in §60.2735(a).

(b) If you use a fabric filter to comply with the requirements of this subpart, you must install, calibrate, maintain, and continuously operate a bag leak detection system as specified in paragraphs (b)(1) through (8) of this section.

(1) You must install and operate a bag leak detection system for each exhaust stack of the fabric filter.

(2) Each bag leak detection system must be installed, operated, calibrated, and maintained in a manner consistent with the manufacturer's written specifications and recommendations.

(3) The bag leak detection system must be certified by the manufacturer to be capable of detecting particulate matter emissions at concentrations of 10 milligrams per actual cubic meter or less.

(4) The bag leak detection system sensor must provide output of relative or absolute particulate matter loadings.

(5) The bag leak detection system must be equipped with a device to continuously record the output signal from the sensor.

(6) The bag leak detection system must be equipped with an alarm system that will sound automatically when an increase in relative particulate matter emissions over a preset level is detected. The alarm must be located where it is easily heard by plant operating personnel.

(7) For positive pressure fabric filter systems, a bag leak detection system must be installed in each baghouse compartment or cell. For negative pressure or induced air fabric filters, the bag leak detector must be installed downstream of the fabric filter.

(8) Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors.

(c) If you are using something other than a wet scrubber to comply with the emission limitations under §60.2670, you must install, calibrate (to the manufacturers' specifications), maintain, and operate the equipment necessary to monitor compliance with the site-specific operating limits established using the procedures in §60.2680.

§ 60.2735 Is there a minimum amount of monitoring data I must obtain?

(a) Except for monitoring malfunctions, associated repairs, and required quality assurance or quality control activities (including, as applicable, calibration checks and required zero and span adjustments of the monitoring system), you must conduct all monitoring at all times the CISWI unit is operating.

(b) Do not use data recorded during monitoring malfunctions, associated repairs, and required quality assurance or quality control activities for meeting the requirements of this subpart, including data averages and calculations. You must use all the data collected during all other periods in assessing compliance with the operating limits.

Model Rule—Recordkeeping and Reporting

§ 60.2740 What records must I keep?

You must maintain the 13 items (as applicable) as specified in paragraphs (a) through (m) of this section for a period of at least 5 years:

(a) Calendar date of each record.

(b) Records of the data described in paragraphs (b)(1) through (6) of this section:

(1) The CISWI unit charge dates, times, weights, and hourly charge rates.

(2) Liquor flow rate to the wet scrubber inlet every 15 minutes of operation, as applicable.

(3) Pressure drop across the wet scrubber system every 15 minutes of operation or amperage to the wet scrubber every 15 minutes of operation, as applicable.

(4) Liquor pH as introduced to the wet scrubber every 15 minutes of operation, as applicable.

(5) For affected CISWI units that establish operating limits for controls other than wet scrubbers under §60.2680, you must maintain data collected for all operating parameters used to determine compliance with the operating limits.

(6) If a fabric filter is used to comply with the emission limitations, you must record the date, time, and duration of each alarm and the time corrective action was initiated and completed, and a brief description of the cause of the alarm and the corrective action taken. You must also record the percent of operating time during each 6-month period that the alarm sounds, calculated as specified in §60.2675(c).

(c) Identification of calendar dates and times for which monitoring systems used to monitor operating limits were inoperative, inactive, malfunctioning, or out of control (except for downtime associated with zero and span and other routine calibration checks). Identify the operating parameters not measured, the duration, reasons for not obtaining the data, and a description of corrective actions taken.

(d) Identification of calendar dates, times, and durations of malfunctions, and a description of the malfunction and the corrective action taken.

(e) Identification of calendar dates and times for which data show a deviation from the operating limits in Table 3 of this subpart or a deviation from other operating limits established under §60.2680 with a description of the deviations, reasons for such deviations, and a description of corrective actions taken.

(f) The results of the initial, annual, and any subsequent performance tests conducted to determine compliance with the emission limits and/or to establish operating limits, as applicable. Retain a copy of the complete test report including calculations.

(g) Records showing the names of CISWI unit operators who have completed review of the information in §60.2660(a) as required by §60.2660(b), including the date of the initial review and all subsequent annual reviews.

(h) Records showing the names of the CISWI operators who have completed the operator training requirements under §60.2635, met the criteria for qualification under §60.2645, and maintained or renewed their qualification under §60.2650 or §60.2655. Records must include documentation of training, the dates of the initial and refresher training, and the dates of their qualification and all subsequent renewals of such qualifications.

(i) For each qualified operator, the phone and/or pager number at which they can be reached during operating hours.

(j) Records of calibration of any monitoring devices as required under §60.2730.

(k) Equipment vendor specifications and related operation and maintenance requirements for the incinerator, emission controls, and monitoring equipment.

(l) The information listed in §60.2660(a).

(m) On a daily basis, keep a log of the quantity of waste burned and the types of waste burned (always required).

§ 60.2745 Where and in what format must I keep my records?

All records must be available onsite in either paper copy or computer-readable format that can be printed upon request, unless an alternative format is approved by the Administrator.

§ 60.2750 What reports must I submit?

See Table 5 of this subpart for a summary of the reporting requirements.

§ 60.2755 When must I submit my waste management plan?

You must submit the waste management plan no later than the date specified in Table 1 of this subpart for submittal of the final control plan.

§ 60.2760 What information must I submit following my initial performance test?

You must submit the information specified in paragraphs (a) through (c) of this section no later than 60 days following the initial performance test. All reports must be signed by the facilities manager.

(a) The complete test report for the initial performance test results obtained under §60.2700, as applicable.

(b) The values for the site-specific operating limits established in §60.2675 or §60.2680.

(c) If you are using a fabric filter to comply with the emission limitations, documentation that a bag leak detection system has been installed and is being operated, calibrated, and maintained as required by §60.2730(b).

§ 60.2765 When must I submit my annual report?

You must submit an annual report no later than 12 months following the submission of the information in §60.2760. You must submit subsequent reports no more than 12 months following the previous report. (If the unit is subject to permitting requirements under title V of the Clean Air Act, you may be required by the permit to submit these reports more frequently.)

§ 60.2770 What information must I include in my annual report?

The annual report required under §60.2765 must include the ten items listed in paragraphs (a) through (j) of this section. If you have a deviation from the operating limits or the emission limitations, you must also submit deviation reports as specified in §§60.2775, 60.2780, and 60.2785.

(a) Company name and address.

(b) Statement by a responsible official, with that official's name, title, and signature, certifying the accuracy of the content of the report.

(c) Date of report and beginning and ending dates of the reporting period.

(d) The values for the operating limits established pursuant to §60.2675 or §60.2680.

(e) If no deviation from any emission limitation or operating limit that applies to you has been reported, a statement that there was no deviation from the emission limitations or operating limits during the reporting period, and that no monitoring system used to determine compliance with the operating limits was inoperative, inactive, malfunctioning or out of control.

(f) The highest recorded 3-hour average and the lowest recorded 3-hour average, as applicable, for each operating parameter recorded for the calendar year being reported.

(g) Information recorded under §60.2740(b)(6) and (c) through (e) for the calendar year being reported.

(h) If a performance test was conducted during the reporting period, the results of that test.

(i) If you met the requirements of §60.2720(a) or (b), and did not conduct a performance test during the reporting period, you must state that you met the requirements of §60.2720(a) or (b), and, therefore, you were not required to conduct a performance test during the reporting period.

(j) Documentation of periods when all qualified CISWI unit operators were unavailable for more than 8 hours, but less than 2 weeks.

§ 60.2775 What else must I report if I have a deviation from the operating limits or the emission limitations?

(a) You must submit a deviation report if any recorded 3-hour average parameter level is above the maximum operating limit or below the minimum operating limit established under this subpart, if the bag leak detection system alarm sounds for more than 5 percent of the operating time for the 6-month reporting period, or if a performance test was conducted that deviated from any emission limitation.

(b) The deviation report must be submitted by August 1 of that year for data collected during the first half of the calendar year (January 1 to June 30), and by February 1 of the following year for data you collected during the second half of the calendar year (July 1 to December 31).

§ 60.2780 What must I include in the deviation report?

In each report required under §60.2775, for any pollutant or parameter that deviated from the emission limitations or operating limits specified in this subpart, include the six items described in paragraphs (a) through (f) of this section.

(a) The calendar dates and times your unit deviated from the emission limitations or operating limit requirements.

(b) The averaged and recorded data for those dates.

(c) Duration and causes of each deviation from the emission limitations or operating limits and your corrective actions.

(d) A copy of the operating limit monitoring data during each deviation and any test report that documents the emission levels.

(e) The dates, times, number, duration, and causes for monitoring downtime incidents (other than downtime associated with zero, span, and other routine calibration checks).

(f) Whether each deviation occurred during a period of startup, shutdown, or malfunction, or during another period.

§ 60.2785 What else must I report if I have a deviation from the requirement to have a qualified operator accessible?

(a) If all qualified operators are not accessible for 2 weeks or more, you must take the two actions in paragraphs (a)(1) and (2) of this section.

(1) Submit a notification of the deviation within 10 days that includes the three items in paragraphs (a)(1)(i) through (iii) of this section.

(i) A statement of what caused the deviation.

(ii) A description of what you are doing to ensure that a qualified operator is accessible.

(iii) The date when you anticipate that a qualified operator will be available.

(2) Submit a status report to the Administrator every 4 weeks that includes the three items in paragraphs (a)(2)(i) through (iii) of this section.

(i) A description of what you are doing to ensure that a qualified operator is accessible.

(ii) The date when you anticipate that a qualified operator will be accessible.

(iii) Request approval from the Administrator to continue operation of the CISWI unit.

(b) If your unit was shut down by the Administrator, under the provisions of §60.2665(b)(2), due to a failure to provide an accessible qualified operator, you must notify the Administrator that you are resuming operation once a qualified operator is accessible.

§ 60.2790 Are there any other notifications or reports that I must submit?

Yes. You must submit notifications as provided by §60.7.

§ 60.2795 In what form can I submit my reports?

Submit initial, annual, and deviation reports electronically or in paper format, postmarked on or before the submittal due dates.

§ 60.2800 Can reporting dates be changed?

If the Administrator agrees, you may change the semiannual or annual reporting dates. See §60.19(c) for procedures to seek approval to change your reporting date.

Model Rule—Title V Operating Permits

§ 60.2805 Am I required to apply for and obtain a title V operating permit for my unit?

Yes. Each CISWI unit must operate pursuant to a permit issued under section 129(e) and title V of the Clean Air Act by the later of the two dates in paragraphs (a) and (b) of this section.

(a) Thirty-six months after December 1, 2000.

(b) The effective date of the title V permit program to which your unit is subject. If your unit is subject to title V as a result of some triggering requirement(s) other than this subpart (for example, being a major source), then your unit may be required to apply for and obtain a title V permit prior to the deadlines noted above. If more than one requirement triggers the requirement to apply for a title V permit, the 12-month timeframe for filing a title V application is triggered by the requirement which first causes the source to be subject to title V.

Model Rule—Air Curtain Incinerators

§ 60.2810 What is an air curtain incinerator?

(a) An air curtain incinerator operates by forcefully projecting a curtain of air across an open chamber or open pit in which combustion occurs. Incinerators of this type can be constructed above or below ground and with or without refractory walls and floor. (Air curtain incinerators are not to be confused with conventional combustion devices with enclosed fireboxes and controlled air technology such as mass burn, modular, and fluidized bed combustors.)

(b) Air curtain incinerators that burn only the materials listed in paragraphs (b)(1) through (3) of this section are only required to meet the requirements under "Air Curtain Incinerators" (§§60.2810 through 60.2870).

(1) 100 percent wood waste.

(2) 100 percent clean lumber.

(3) 100 percent mixture of only wood waste, clean lumber, and/or yard waste.

§ 60.2815 What are my requirements for meeting increments of progress and achieving final compliance?

If you plan to achieve compliance more than 1 year following the effective date of State plan approval, you must meet the two increments of progress specified in paragraphs (a) and (b) of this section.

(a) Submit a final control plan.

(b) Achieve final compliance.

§ 60.2820 When must I complete each increment of progress?

Table 1 of this subpart specifies compliance dates for each of the increments of progress.

§ 60.2825 What must I include in the notifications of achievement of increments of progress?

Your notification of achievement of increments of progress must include the three items described in paragraphs (a) through (c) of this section.

(a) Notification that the increment of progress has been achieved.

(b) Any items required to be submitted with each increment of progress (see §60.2840).

(c) Signature of the owner or operator of the incinerator.

§ 60.2830 When must I submit the notifications of achievement of increments of progress?

Notifications for achieving increments of progress must be postmarked no later than 10 business days after the compliance date for the increment.

§ 60.2835 What if I do not meet an increment of progress?

If you fail to meet an increment of progress, you must submit a notification to the Administrator postmarked within 10 business days after the date for that increment of progress in Table 1 of this subpart. You must inform the Administrator that you did not meet the increment, and you must continue to submit reports each subsequent calendar month until the increment of progress is met.

§ 60.2840 How do I comply with the increment of progress for submittal of a control plan?

For your control plan increment of progress, you must satisfy the two requirements specified in paragraphs (a) and (b) of this section.

(a) Submit the final control plan, including a description of any devices for air pollution control and any process changes that you will use to comply with the emission limitations and other requirements of this subpart.

(b) Maintain an onsite copy of the final control plan.

§ 60.2845 How do I comply with the increment of progress for achieving final compliance?

For the final compliance increment of progress, you must complete all process changes and retrofit construction of control devices, as specified in the final control plan, so that, if the affected incinerator is brought online, all necessary process changes and air pollution control devices would operate as designed.

§ 60.2850 What must I do if I close my air curtain incinerator and then restart it?

(a) If you close your incinerator but will reopen it prior to the final compliance date in your State plan, you must meet the increments of progress specified in §60.2815.

(b) If you close your incinerator but will restart it after your final compliance date, you must complete emission control retrofits and meet the emission limitations on the date your incinerator restarts operation.

§ 60.2855 What must I do if I plan to permanently close my air curtain incinerator and not restart it?

If you plan to close your incinerator rather than comply with the State plan, submit a closure notification, including the date of closure, to the Administrator by the date your final control plan is due.

§ 60.2860 What are the emission limitations for air curtain incinerators?

(a) After the date the initial stack test is required or completed (whichever is earlier), you must meet the limitations in paragraphs (a)(1) and (2) of this section.

(1) The opacity limitation is 10 percent (6-minute average), except as described in paragraph (a)(2) of this section.

(2) The opacity limitation is 35 percent (6-minute average) during the startup period that is within the first 30 minutes of operation.

(b) Except during malfunctions, the requirements of this subpart apply at all times, and each malfunction must not exceed 3 hours.

§ 60.2865 How must I monitor opacity for air curtain incinerators?

(a) Use Method 9 of appendix A of this part to determine compliance with the opacity limitation.

(b) Conduct an initial test for opacity as specified in §60.8 no later than 180 days after your final compliance date.

(c) After the initial test for opacity, conduct annual tests no more than 12 calendar months following the date of your previous test.

§ 60.2870 What are the recordkeeping and reporting requirements for air curtain incinerators?

(a) Keep records of results of all initial and annual opacity tests onsite in either paper copy or electronic format, unless the Administrator approves another format, for at least 5 years.

(b) Make all records available for submittal to the Administrator or for an inspector's onsite review.

(c) Submit an initial report no later than 60 days following the initial opacity test that includes the information specified in paragraphs (c) (1) and (2) of this section.

(1) The types of materials you plan to combust in your air curtain incinerator.

(2) The results (each 6-minute average) of the initial opacity tests.

(d) Submit annual opacity test results within 12 months following the previous report.

(e) Submit initial and annual opacity test reports as electronic or paper copy on or before the applicable submittal date and keep a copy onsite for a period of 5 years.

Model Rule—Definitions

§ 60.2875 What definitions must I know?

Terms used but not defined in this subpart are defined in the Clean Air Act and subparts A and B of this part.

Administrator means the Administrator of the U.S. Environmental Protection Agency or his/her authorized representative or Administrator of a State Air Pollution Control Agency.

Agricultural waste means vegetative agricultural materials such as nut and grain hulls and chaff (e.g., almond, walnut, peanut, rice, and wheat), bagasse, orchard prunings, corn stalks, coffee bean hulls and grounds, and other vegetative waste materials generated as a result of agricultural operations.

Air curtain incinerator means an incinerator that operates by forcefully projecting a curtain of air across an open chamber or pit in which combustion occurs. Incinerators of this type can be constructed above or below ground and with or without refractory walls and floor. (Air curtain incinerators are not to be confused with conventional combustion devices with enclosed fireboxes and controlled air technology such as mass burn, modular, and fluidized bed combustors.)

Auxiliary fuel means natural gas, liquified petroleum gas, fuel oil, or diesel fuel.

Bag leak detection system means an instrument that is capable of monitoring particulate matter loadings in the exhaust of a fabric filter (i.e., baghouse) in order to detect bag failures. A bag leak detection system includes, but is not limited to, an instrument that operates on triboelectric, light scattering, light transmittance, or other principle to monitor relative particulate matter loadings.

Calendar quarter means three consecutive months (nonoverlapping) beginning on: January 1, April 1, July 1, or October 1.

Calendar year means 365 consecutive days starting on January 1 and ending on December 31.

Chemotherapeutic waste means waste material resulting from the production or use of antineoplastic agents used for the purpose of stopping or reversing the growth of malignant cells.

Clean lumber means wood or wood products that have been cut or shaped and include wet, air-dried, and kiln-dried wood products. Clean lumber does not include wood products that have been painted, pigment-stained, or pressure-treated by compounds such as chromate copper arsenate, pentachlorophenol, and creosote.

Commercial and industrial solid waste incineration (CISWI) unit means any combustion unit that combusts commercial or industrial waste (as defined in this subpart), that is a distinct operating unit of any commercial or industrial facility (including field erected, modular, and custom built incineration units operating with starved or excess air), and any air curtain incinerator that is a distinct operating unit of any commercial or industrial facility that does not comply with the opacity limits under this subpart applicable to air curtain incinerators burning commercial or industrial waste. While not all CISWI units will include all of the following components, a CISWI unit includes, but is not limited to, the commercial or industrial solid waste feed system, grate system, flue gas system, waste heat recovery equipment, if any, and bottom ash system. The CISWI unit does not include air pollution control equipment or the stack. The CISWI unit boundary starts at the commercial or industrial waste hopper (if applicable) and extends through two areas: The combustion unit flue gas system, which ends immediately after the last combustion chamber or after the waste heat recovery equipment, if any; and the combustion unit bottom ash system, which ends at the truck loading station or similar equipment that transfers the ash to final disposal. The CISWI unit includes all ash handling systems connected to the bottom ash handling system. A CISWI unit does not include any of the fifteen types of units described in §60.2555 of this subpart, nor does it include any combustion turbine or reciprocating internal combustion engine.

Commercial or industrial waste means solid waste (as defined in this subpart) that is combusted at any commercial or industrial facility using controlled flame combustion in an enclosed, distinct operating unit: Whose design does not provide for energy recovery (as defined in this subpart); or operated without energy recovery (as defined in this subpart). Commercial or industrial waste also means solid waste (as defined in this subpart) combusted in an air curtain incinerator that is a distinct operating unit of any commercial or industrial facility.

Contained gaseous material means gases that are in a container when that container is combusted.

Cyclonic barrel burner means a combustion device for waste materials that is attached to a 55 gallon, open-head drum. The device consists of a lid, which fits onto and encloses the drum, and a blower that forces combustion air into the drum in a cyclonic manner to enhance the mixing of waste material and air.

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 limitation, operating limit, or operator qualification and accessibility requirements;

(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 limitation, operating limit, or operator qualification and accessibility requirement in this subpart during startup, shutdown, or malfunction, regardless or whether or not such failure is permitted by this subpart.

Dioxins/furans means tetra-through octachlorinated dibenzo-p-dioxins and dibenzofurans.

Discard means, for purposes of this subpart and 40 CFR part 60, subpart DDDD, only, burned in an incineration unit without energy recovery.

Drum reclamation unit means a unit that burns residues out of drums (e.g., 55 gallon drums) so that the drums can be reused.

Energy recovery means the process of recovering thermal energy from combustion for useful purposes such as steam generation or process heating.

Fabric filter means an add-on air pollution control device used to capture particulate matter by filtering gas streams through filter media, also known as a baghouse.

Low-level radioactive waste means waste material which contains radioactive nuclides emitting primarily beta or gamma radiation, or both, in concentrations or quantities that exceed applicable Federal or State standards for unrestricted release. Low-level radioactive waste is not high-level radioactive waste, spent nuclear fuel, or by-product material as defined by the Atomic Energy Act of 1954 (42 U.S.C. 2014(e)(2)).

Malfunction means any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner. Failures that are caused, in part, by poor maintenance or careless operation are not malfunctions.

Modification or *modified CISWI unit* means a CISWI unit you have changed later than June 1, 2001 and that meets one of two criteria:

(1) The cumulative cost of the changes over the life of the unit exceeds 50 percent of the original cost of building and installing the CISWI unit (not including the cost of land) updated to current costs (current dollars). To determine what systems are within the boundary of the CISWI unit used to calculate these costs, see the definition of CISWI unit.

(2) Any physical change in the CISWI unit or change in the method of operating it that increases the amount of any air pollutant emitted for which section 129 or section 111 of the Clean Air Act has established standards.

Part reclamation unit means a unit that burns coatings off parts (e.g., tools, equipment) so that the parts can be reconditioned and reused.

Particulate matter means total particulate matter emitted from CISWI units as measured by Method 5 or Method 29 of appendix A of this part.

Pathological waste means waste material consisting of only human or animal remains, anatomical parts, and/or tissue, the bags/containers used to collect and transport the waste material, and animal bedding (if applicable).

Rack reclamation unit means a unit that burns the coatings off racks used to hold small items for application of a coating. The unit burns the coating overspray off the rack so the rack can be reused.

Reconstruction means rebuilding a CISWI unit and meeting two criteria:

(1) The reconstruction begins on or after June 1, 2001.

(2) The cumulative cost of the construction over the life of the incineration unit exceeds 50 percent of the original cost of building and installing the CISWI unit (not including land) updated to current costs (current dollars). To determine what systems are within the boundary of the CISWI unit used to calculate these costs, see the definition of CISWI unit.

Refuse-derived fuel means a type of municipal solid waste produced by processing municipal solid waste through shredding and size classification. This includes all classes of refuse-derived fuel including two fuels:

(1) Low-density fluff refuse-derived fuel through densified refuse-derived fuel.

(2) Pelletized refuse-derived fuel.

Shutdown means the period of time after all waste has been combusted in the primary chamber.

Solid waste means any garbage, refuse, sludge from a waste treatment plant, water supply treatment plant, or air pollution control facility and other discarded material, including solid, liquid, semisolid, or contained gaseous material resulting from industrial, commercial, mining, agricultural operations, and from community activities, but does not include solid or dissolved material in domestic sewage, or solid or dissolved materials in irrigation return flows or industrial discharges which are point sources subject to permits under section 402 of the Federal Water Pollution Control Act, as amended (33 U.S.C. 1342), or source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954, as amended (42 U.S.C. 2014).

Standard conditions, when referring to units of measure, means a temperature of 68 °F (20 °C) and a pressure of 1 atmosphere (101.3 kilopascals).

Startup period means the period of time between the activation of the system and the first charge to the unit.

Wet scrubber means an add-on air pollution control device that utilizes an aqueous or alkaline scrubbing liquor to collect particulate matter (including nonvaporous metals and condensed organics) and/or to absorb and neutralize acid gases.

Wood waste means untreated wood and untreated wood products, including tree stumps (whole or chipped), trees, tree limbs (whole or chipped), bark, sawdust, chips, scraps, slabs, millings, and shavings. Wood waste does not include:

(1) Grass, grass clippings, bushes, shrubs, and clippings from bushes and shrubs from residential, commercial/retail, institutional, or industrial sources as part of maintaining yards or other private or public lands.

(2) Construction, renovation, or demolition wastes.

(3) Clean lumber.

[65 FR 75362, Dec. 1, 2000, as amended at 70 FR 55581, Sept. 22, 2005]

Table 1 to Subpart DDDD of Part 60—Model Rule—Increments of Progress and Compliance Schedules

Comply with these increments of progress	By these dates[a]
Increment 1—Submit final control plan	(Dates to be specified in State plan)
Increment 2—Final compliance	(Dates to be specified in State plan)[b]

[a]Site-specific schedules can be used at the discretion of the State.

[b]The date can be no later than 3 years after the effective date of State plan approval or December 1, 2005.

Table 2 to Subpart DDDD of Part 60—Model Rule—Emission Limitations

For the air pollutant	You must meet this emission limitation[a]	Using this averaging time	And determining compliance using this method
Cadmium	0.004 milligrams per dry standard cubic meter	3-run average (1 hour minimum sample time per run)	Performance test (Method 29 of appendix A of this part)
Carbon monoxide	157 parts per million by dry volume	3-run average (1 hour minimum sample time per run)	Performance test (Method 10, 10A, or 10B, of appendix A of this part)
Dioxins/furans (toxic equivalency basis)	0.41 nanograms per dry standard cubic meter	3-run average (1 hour minimum sample time per run)	Performance test (Method 23 of appendix A of this part)
Hydrogen chloride	62 parts per million by dry volume	3-run average (1 hour minimum sample time per run)	Performance test (Method 26A of appendix A of this part)
Lead	0.04 milligrams per dry standard cubic meter	3-run average (1 hour minimum sample time per run)	Performance test (Method 29 of appendix A of this part)
Mercury	0.47 milligrams per dry standard cubic meter	3-run average (1 hour minimum sample time per run)	Performance test (Method 29 of appendix A of this part)
Opacity	10 percent	6-minute averages	Performance test (Method 9 of appendix A of this part)
Oxides of nitrogen	388 parts per million by dry volume	3-run average (1 hour minimum sample time per run)	Performance test (Methods 7, 7A, 7C, 7D, or 7E of appendix A of this part)

Particulate matter	70 milligrams per dry standard cubic meter	3-run average (1 hour minimum sample time per run)	Performance test (Method 5 or 29 of appendix A of ths part)
Sulfur dioxide	20 parts per million by dry volume	3-run average (1 hour minimum sample time per run)	Performance test (Method 6 or 6c of appendix A of this part)

[a]All emission limitations (except for opacity) are measured at 7 percent oxygen, dry basis at standard conditions.

Table 3 to Subpart DDDD of Part 60—Model Rule—Operating Limits for Wet Scrubbers

For these operating parameters	You must establish these operating limits	And monitor using these minimum frequencies		
		Data measurement	Data recording	Averaging time
Charge rate	Maximum charge rate	Continuous	Every hour	Daily (batch units). 3-hour rolling (continuous and intermittent units)[a]
Pressure drop across the wet scrubber or amperage to wet scrubber	Minimum pressure drop or amperage	Continuous	Every 15 minutes	3-hour rolling[a]
Scrubber liquor flow rate	Minimum flow rate	Continuous	Every 15 minutes	3-hour rolling[a]
Scrubber liquor pH	Minimum pH	Continuous	Every 15 minutes	3-hour rolling[a]

[a]Calculated each hour as the average of the previous 3 operating hours.

Table 4 to Subpart DDDD of Part 60—Model Rule—Toxic Equivalency Factors

Dioxin/furan congener	Toxic equivalency factor
2,3,7,8-tetrachlorinated dibenzo-p-dioxin	1
1,2,3,7,8-pentachlorinated dibenzo-p-dioxin	0.5
1,2,3,4,7,8-hexachlorinated dibenzo-p-dioxin	0.1
1,2,3,7,8,9-hexachlorinated dibenzo-p-dioxin	0.1
1,2,3,6,7,8-hexachlorinated dibenzo-p-dioxin	0.1
1,2,3,4,6,7,8-heptachlorinated dibenzo-p-dioxin	0.01

octachlorinated dibenzo-p-dioxin	0.001
2,3,7,8-tetrachlorinated dibenzofuran	0.1
2,3,4,7,8-pentachlorinated dibenzofuran	0.5
1,2,3,7,8-pentachlorinated dibenzofuran	0.05
1,2,3,4,7,8-hexachlorinated dibenzofuran	0.1
1,2,3,6,7,8-hexachlorinated dibenzofuran	0.1
1,2,3,7,8,9-hexachlorinated dibenzofuran	0.1
2,3,4,6,7,8-hexachlorinated dibenzofuran	0.1
1,2,3,4,6,7,8-heptachlorinated dibenzofuran	0.01
1,2,3,4,7,8,9-heptachlorinated dibenzofuran	0.01
octachlorinated dibenzofuran	0.001

Table 5 to Subpart DDDD of Part 60—Model Rule—Summary of Reporting Requirements[a]

Report	Due date	Contents	Reference
Waste Management Plan	No later than the date specified in table 1 for submittal of the final control plan	• Waste management plan	§60.2755.
Initial Test Report	No later than 60 days following the initial performance test	• Complete test report for the initial performance test • The values for the site-specific operating limits • Installation of bag leak detection systems for fabric filters	§60.2760.
Annual Report	No later than 12 months following the submission of the initial test report. Subsequent reports are to be submitted no more than 12 months following the previous report	• Name and address • Statement and signature by responsible official • Date of report • Values for the operating limits • If no deviations or malfunctions were reported, a statement that no deviations occurred during the reporting period	§§60.2765 and 60.2770.

		• Highest recorded 3-hour average and the lowest 3-hour average, as applicable, for each operating parameter recorded for the calendar year being reported • Information for deviations or malfunctions recorded under §60.2740(b)(6) and (c) through (e) • If a performance test was conducted during the reporting period, the results of the test • If a performance test was not conducted during the reporting period, a statement that the requirements of §60.2155(a) or (b) were met • Documentation of periods when all qualified CISWI unit operators were unavailable for more than 8 hours but less than 2 weeks	
Emission Limitation or Operating Limit Deviation Report	By August 1 of that year for data collected during the first half of the calendar year. By February 1 of the following year for data collected during the second half of the calendar year	• Dates and times of deviations • Averaged and recorded data for these dates • Duration and causes for each deviation and the corrective actions taken • Copy of operating limit monitoring data and any test reports • Dates, times, and causes for monitor downtime incidents • Whether each deviation occurred during a period of startup, shutdown, or malfunction	§§60.2775 and 60.2780.
Qualified Operator Deviation Notification	Within 10 days of deviation	• Statement of cause of deviation • Description of efforts to have an accessible qualified operator	§60.2785(a)(1).

		• The date a qualified operator will be accessible	
Qualified Operator Deviation Status Report	Every 4 weeks following deviation	• Description of efforts to have an accessible qualified operator • The date a qualified operator will be accessible • Request for approval to continue operation	§60.2785(a)(2).
Qualified Operator Deviation Notification of Resumed Operation	Prior to resuming operation	• Notification that you are resuming operation	§60.2785(b)

[a]This table is only a summary, see the referenced sections of the rule for the complete requirements.

APPENDIX C

40 CFR 63 Subpart EEE

e-CFR Data is current as of May 30, 2008

Title 40: Protection of Environment

PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES

Subpart EEE—National Emission Standards for Hazardous Air Pollutants from Hazardous Waste Combustors

Source: 64 FR 53038, Sept. 30, 1999, unless otherwise noted.

General

§ 63.1200 Who is subject to these regulations?

The provisions of this subpart apply to all hazardous waste combustors: hazardous waste incinerators, hazardous waste cement kilns, hazardous waste lightweight aggregate kilns, hazardous waste solid fuel boilers, hazardous waste liquid fuel boilers, and hazardous waste hydrochloric acid production furnaces. Hazardous waste combustors are also subject to applicable requirements under parts 260 through 270 of this chapter.

(a) *What if I am an area source?* (1) Both area sources and major sources are subject to this subpart.

(2) Both area sources and major sources subject to this subpart, but not previously subject to title V, are immediately subject to the requirement to apply for and obtain a title V permit in all States, and in areas covered by part 71 of this chapter.

(b) These regulations in this subpart do not apply to sources that meet the criteria in Table 1 of this Section, as follows:

Table 1 to §63.1200—Hazardous Waste Combustors Exempt From Subpart EEE

If	And if	Then
(1) You are a previously affected source	(i) You ceased feeding hazardous waste for a period of time greater than the hazardous waste residence time (i.e., hazardous waste no longer resides in the combustion chamber); (ii) You have initiated the closure requirements of subpart G, parts 264 or 265 of this chapter; (iii) You begin complying with the requirements of all other applicable standards of this part (Part 63); and (iv) You notify the Administrator in writing that you are no longer an affected source under this subpart (Subpart EEE)	You are no longer subject to this subpart (Subpart EEE).
(2) You are a research, development, and	You operate for no longer than one year after first burning hazardous waste (Note that the	You are not subject to this subpart (Subpart EEE). This exemption

demonstration source	Administrator can extend this one-year restriction on a case-by-case basis upon your written request documenting when you first burned hazardous waste and the justification for needing additional time to perform research, development, or demonstration operations).	applies even if there is a hazardous waste combustor at the plant site that is regulated under this subpart. You still, however, remain subject to §270.65 of this chapter.
(3) The only hazardous wastes you burn are exempt from regulation under §266.100(c) of this chapter		You are not subject to the requirements of this subpart (Subpart EEE).
(4) You meet the definition of a small quantity burner under §266.108 of this chapter		You are not subject to the requirements of this subpart (Subpart EEE).

(c) Table 1 of this section specifies the provisions of subpart A (General Provisions, §§63.1–63.15) that apply and those that do not apply to sources affected by this subpart.

[64 FR 53038, Sept. 30, 1999, as amended at 65 FR 42297, July 10, 2000; 67 FR 6986, Feb. 14, 2002; 70 FR 59540, Oct. 12, 2005]

§ 63.1201 Definitions and acronyms used in this subpart.

(a) The terms used in this subpart are defined in the Act, in subpart A of this part, or in this section as follows:

Air pollution control system means the equipment used to reduce the release of particulate matter and other pollutants to the atmosphere.

Automatic waste feed cutoff (AWFCO) system means a system comprised of cutoff valves, actuator, sensor, data manager, and other necessary components and electrical circuitry designed, operated and maintained to stop the flow of hazardous waste to the combustion unit automatically and immediately (except as provided by §63.1206(c)(3)(viii)) when any operating requirement is exceeded.

Btu means British Thermal Units.

By-pass duct means a device which diverts a minimum of 10 percent of a cement kiln's off gas, or a device which the Administrator determines on a case-by-case basis diverts a sample of kiln gas that contains levels of carbon monoxide or hydrocarbons representative of the levels in the kiln.

Combustion chamber means the area in which controlled flame combustion of hazardous waste occurs.

Continuous monitor means a device which continuously samples the regulated parameter specified in §63.1209 without interruption, evaluates the detector response at least once every 15 seconds, and computes and records the average value at least every 60 seconds, except during allowable periods of calibration and except as defined otherwise by the CEMS Performance Specifications in appendix B, part 60 of this chapter.

Dioxin/furan and dioxins and furans mean tetra-, penta-, hexa-, hepta-, and octa-chlorinated dibenzo dioxins and furans.

Existing source means any affected source that is not a new source.

Feedrate operating limits means limits on the feedrate of materials (*e.g.,* metals, chlorine) to the combustor that are established based on comprehensive performance testing. The limits are established and monitored by knowing the concentration of the limited material (*e.g.,* chlorine) in each feedstream and the flowrate of each feedstream.

Feedstream means any material fed into a hazardous waste combustor, including, but not limited to, any pumpable or nonpumpable solid, liquid, or gas.

Flowrate means the rate at which a feedstream is fed into a hazardous waste combustor.

Hazardous waste is defined in §261.3 of this chapter.

Hazardous waste burning cement kiln means a rotary kiln and any associated preheater or precalciner devices that produce clinker by heating limestone and other materials for subsequent production of cement for use in commerce, and that burns hazardous waste at any time.

Hazardous waste combustor means a hazardous waste incinerator, hazardous waste burning cement kiln, hazardous waste burning lightweight aggregate kiln, hazardous waste liquid fuel boiler, hazardous waste solid fuel boiler, or hazardous waste hydrochloric acid production furnace.

Hazardous waste hydrochloric acid production furnace and *Hazardous Waste HCl production furnace* mean a halogen acid furnace defined under §260.10 of this chapter that produces aqueous hydrochloric acid (HCl) product and that burns hazardous waste at any time.

Hazardous waste incinerator means a device defined as an incinerator in §260.10 of this chapter and that burns hazardous waste at any time. For purposes of this subpart, the hazardous waste incinerator includes all associated firing systems and air pollution control devices, as well as the combustion chamber equipment.

Hazardous waste lightweight aggregate kiln means a rotary kiln that produces clinker by heating materials such as slate, shale and clay for subsequent production of lightweight aggregate used in commerce, and that burns hazardous waste at any time.

Hazardous waste liquid fuel boiler means a boiler defined under §260.10 of this chapter that does not burn solid fuels and that burns hazardous waste at any time. Liquid fuel boiler includes boilers that only burn gaseous fuel.

Hazardous waste residence time means the time elapsed from cutoff of the flow of hazardous waste into the combustor (including, for example, the time required for liquids to flow from the cutoff valve into the combustor) until solid, liquid, and gaseous materials from the hazardous waste (excluding residues that may adhere to combustion chamber surfaces and excluding waste-derived recycled materials such as cement kiln dust and internally recycled metals) exit the combustion chamber. For combustors with multiple firing systems whereby the residence time may vary for the firing systems, the hazardous waste residence time for purposes of complying with this subpart means the longest residence time for any firing system in use at the time of the waste cutoff.

Hazardous waste solid fuel boiler means a boiler defined under §260.10 of this chapter that burns a solid fuel and that burns hazardous waste at any time.

Initial comprehensive performance test means the comprehensive performance test that is used as the basis for initially demonstrating compliance with the standards.

In-line kiln raw mill means a hazardous waste burning cement kiln design whereby kiln gas is ducted through the raw material mill for portions of time to facilitate drying and heating of the raw material.

Instantaneous monitoring for combustion system leak control means detecting and recording pressure, without use of an averaging period, at a frequency adequate to detect combustion system leak events from hazardous waste combustion.

Monovent means an exhaust configuration of a building or emission control device (*e.g.* positive pressure fabric filter) that extends the length of the structure and has a width very small in relation to its length (*i.e.,* length to width ratio is typically greater than 5:1). The exhaust may be an open vent with or without a roof, louvered vents, or a combination of such features.

MTEC means maximum theoretical emissions concentration of metals or HCl/Cl, expressed as µg/dscm, and is calculated by dividing the feedrate by the gas flowrate.

New source means any affected source the construction or reconstruction of which is commenced after the dates specified under §§63.1206(a)(1)(i)(B), (a)(1)(ii)(B), and (a)(2)(ii).

One-minute average means the average of detector responses calculated at least every 60 seconds from responses obtained at least every 15 seconds.

Operating record means a documentation retained at the facility for ready inspection by authorized officials of all information required by the standards to document and maintain compliance with the applicable regulations, including data and information, reports, notifications, and communications with regulatory officials.

Operating requirements means operating terms or conditions, limits, or operating parameter limits developed under this subpart that ensure compliance with the emission standards.

Preheater tower combustion gas monitoring location means a location within the preheater tower of a dry process cement kiln downstream (in terms of gas flow) of all hazardous waste firing locations and where a representative sample of combustion gas to measure combustion efficiency can be monitored.

Raw material feed means the prepared and mixed materials, which include but are not limited to materials such as limestone, clay, shale, sand, iron ore, mill scale, cement kiln dust and flyash, that are fed to a cement or lightweight aggregate kiln. Raw material feed does not include the fuels used in the kiln to produce heat to form the clinker product.

Research, development, and demonstration source means a source engaged in laboratory, pilot plant, or prototype demonstration operations:

(1) Whose primary purpose is to conduct research, development, or short-term demonstration of an innovative and experimental hazardous waste treatment technology or process; and

(2) Where the operations are under the close supervision of technically-trained personnel.

Rolling average means the average of all one-minute averages over the averaging period.

Run means the net period of time during which an air emission sample is collected under a given set of operating conditions. Three or more runs constitutes a test. Unless otherwise specified, a run may be either intermittent or continuous.

Run average means the average of the one-minute average parameter values for a run.

System removal efficiency means [1 – Emission Rate (mass/time) / Feedrate (mass/time)] X 100.

TEQ means the international method of expressing toxicity equivalents for dioxins and furans as defined in U.S. EPA, Interim Procedures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 Update, March 1989.

You means the owner or operator of a hazardous waste combustor.

(b) The acronyms used in this subpart refer to the following:

AWFCO means automatic waste feed cutoff.

CAS means chemical abstract services registry.

CEMS means continuous emissions monitoring system.

CMS means continuous monitoring system.

DRE means destruction and removal efficiency.

MACT means maximum achievable control technology.

MTEC means maximum theoretical emissions concentration.

NIC means notification of intent to comply.

[64 FR 53038, Sept. 30, 1999, as amended at 65 FR 42297, July 10, 2000; 65 FR 67271, Nov. 9, 2000; 66 FR 35103, July 3, 2001; 67 FR 6986, Feb. 14, 2002; 67 FR 77691, Dec. 19, 2002; 70 FR 59540, Oct. 12, 2005]

§ 63.1202 [Reserved]

Interim Emissions Standards and Operating Limits For Incinerators, Cement Kilns, and Lightweight Aggregate Kilns

§ 63.1203 What are the standards for hazardous waste incinerators that are effective until compliance with the standards under §63.1219?

(a) *Emission limits for existing sources.* You must not discharge or cause combustion gases to be emitted into the atmosphere that contain:

(1) For dioxins and furans:

(i) Emissions in excess of 0.20 ng TEQ/dscm corrected to 7 percent oxygen; or

(ii) Emissions in excess of 0.40 ng TEQ/dscm corrected to 7 percent oxygen provided that the combustion gas temperature at the inlet to the initial particulate matter control device is 400 °F or lower based on the average of the test run average temperatures. (For purposes of compliance, operation of a wet particulate control device is presumed to meet the 400 °F or lower requirement);

(2) Mercury in excess of 130 μg/dscm corrected to 7 percent oxygen;

(3) Lead and cadmium in excess of 240 μg/dscm, combined emissions, corrected to 7 percent oxygen;

(4) Arsenic, beryllium, and chromium in excess of 97 μg/dscm, combined emissions, corrected to 7 percent oxygen;

(5) For carbon monoxide and hydrocarbons, either:

(i) Carbon monoxide in excess of 100 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis and corrected to 7 percent oxygen. If you elect to comply with this carbon monoxide standard rather than the hydrocarbon standard under paragraph (a)(5)(ii) of this section, you must also document that, during the destruction and removal efficiency (DRE) test runs or their equivalent as provided by §63.1206(b)(7), hydrocarbons do not exceed 10 parts per million by volume during those runs, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; or

(ii) Hydrocarbons in excess of 10 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane;

(6) Hydrochloric acid and chlorine gas in excess of 77 parts per million by volume, combined emissions, expressed as hydrochloric acid equivalents, dry basis and corrected to 7 percent oxygen; and

(7) Particulate matter in excess of 34 mg/dscm corrected to 7 percent oxygen.

(b) *Emission limits for new sources.* You must not discharge or cause combustion gases to be emitted into the atmosphere that contain:

(1) Dioxins and furans in excess of 0.20 ng TEQ/dscm, corrected to 7 percent oxygen;

(2) Mercury in excess of 45 μg/dscm corrected to 7 percent oxygen;

(3) Lead and cadmium in excess of 120 μg/dscm, combined emissions, corrected to 7 percent oxygen;

(4) Arsenic, beryllium, and chromium in excess of 97 µg/dscm, combined emissions, corrected to 7 percent oxygen;

(5) For carbon monoxide and hydrocarbons, either:

(i) Carbon monoxide in excess of 100 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis and corrected to 7 percent oxygen. If you elect to comply with this carbon monoxide standard rather than the hydrocarbon standard under paragraph (b)(5)(ii) of this section, you must also document that, during the destruction and removal efficiency (DRE) test runs or their equivalent as provided by §63.1206(b)(7), hydrocarbons do not exceed 10 parts per million by volume during those runs, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; or

(ii) Hydrocarbons in excess of 10 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane;

(6) Hydrochloric acid and chlorine gas in excess of 21 parts per million by volume, combined emissions, expressed as hydrochloric acid equivalents, dry basis and corrected to 7 percent oxygen; and

(7) Particulate matter in excess of 34 mg/dscm corrected to 7 percent oxygen.

(c) *Destruction and removal efficiency (DRE) standard* —(1) *99.99% DRE.* Except as provided in paragraph (c)(2) of this section, you must achieve a destruction and removal efficiency (DRE) of 99.99% for each principle organic hazardous constituent (POHC) designated under paragraph (c)(3) of this section. You must calculate DRE for each POHC from the following equation:

$$DRE = [1-(W_{out}/W_{in})] \times 100\%$$

Where:

W_{in}= mass feedrate of one principal organic hazardous constituent (POHC) in a waste feedstream; and

W_{out}= mass emission rate of the same POHC present in exhaust emissions prior to release to the atmosphere.

(2) *99.9999% DRE.* If you burn the dioxin-listed hazardous wastes F020, F021, F022, F023, F026, or F027 (see §261.31 of this chapter), you must achieve a destruction and removal efficiency (DRE) of 99.9999% for each principle organic hazardous constituent (POHC) that you designate under paragraph (c)(3) of this section. You must demonstrate this DRE performance on POHCs that are more difficult to incinerate than tetra-, penta-, and hexachlorodibenzo- *p* -dioxins and dibenzofurans. You must use the equation in paragraph (c)(1) of this section to calculate DRE for each POHC. In addition, you must notify the Administrator of your intent to incinerate hazardous wastes F020, F021, F022, F023, F026, or F027.

(3) *Principal organic hazardous constituents (POHCs).* (i) You must treat the Principal Organic Hazardous Constituents (POHCs) in the waste feed that you specify under paragraph (c)(3)(ii) of this section to the extent required by paragraphs (c)(1) and (c)(2) of this section.

(ii) You must specify one or more POHCs that are representative of the most difficult to destroy organic compounds in your hazardous waste feedstream. You must base this specification on the degree of difficulty of incineration of the organic constituents in the hazardous waste and on their concentration or mass in the hazardous waste feed, considering the results of hazardous waste analyses or other data and information.

(d) *Significant figures.* The emission limits provided by paragraphs (a) and (b) of this section are presented with two significant figures. Although you must perform intermediate calculations using at least three significant figures, you may round the resultant emission levels to two significant figures to document compliance.

(e) The provisions of this section no longer apply after any of the following dates, whichever occurs first:

(1) The date that your source begins to comply with §63.1219 by placing a Documentation of Compliance in the operating record pursuant to §63.1211(c);

(2) The date that your source begins to comply with §63.1219 by submitting a Notification of Compliance pursuant to §63.1210(b); or

(3) The date for your source to comply with §63.1219 pursuant to §63.1206 and any extensions granted there under.

[67 FR 6809, Feb. 13, 2002, as amended at 70 FR 59541, Oct. 12, 2005; 73 FR 18979, Apr. 8, 2008]

§ 63.1204 What are the standards for hazardous waste burning cement kilns that are effective until compliance with the standards under §63.1220?

(a) *Emission limits for existing sources.* You must not discharge or cause combustion gases to be emitted into the atmosphere that contain:

(1) For dioxins and furans:

(i) Emissions in excess of 0.20 ng TEQ/dscm corrected to 7 percent oxygen; or

(ii) Emissions in excess of 0.40 ng TEQ/dscm corrected to 7 percent oxygen provided that the combustion gas temperature at the inlet to the initial dry particulate matter control device is 400 °F or lower based on the average of the test run average temperatures;

(2) Mercury in excess of 120 µg/dscm corrected to 7 percent oxygen;

(3) Lead and cadmium in excess of 330 µg/dscm, combined emissions, corrected to 7 percent oxygen;

(4) Arsenic, beryllium, and chromium in excess of 56 µg/dscm, combined emissions, corrected to 7 percent oxygen;

(5) *Carbon monoxide and hydrocarbons.* (i) For kilns equipped with a by-pass duct or midkiln gas sampling system, either:

(A) Carbon monoxide in the by-pass duct or mid-kiln gas sampling system in excess of 100 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis and corrected to 7 percent oxygen. If you elect to comply with this carbon monoxide standard rather than the hydrocarbon standard under paragraph (a)(5)(i)(B) of this section, you must also document that, during the destruction and removal efficiency (DRE) test runs or their equivalent as provided by §63.1206(b)(7), hydrocarbons in the by-pass duct or mid-kiln gas sampling system do not exceed 10 parts per million by volume during those runs, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; or

(B) Hydrocarbons in the by-pass duct or midkiln gas sampling system in excess of 10 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane;

(ii) For kilns not equipped with a by-pass duct or midkiln gas sampling system, either:

(A) Hydrocarbons in the main stack in excess of 20 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; or

(B) Carbon monoxide in the main stack in excess of 100 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis and corrected to 7 percent oxygen. If you elect to comply with this carbon monoxide standard rather than the hydrocarbon standard under paragraph (a)(5)(ii)(A) of this section, you also must document that, during the destruction and removal efficiency (DRE) test runs or their equivalent as provided by §63.1206(b)(7), hydrocarbons in the main stack do not exceed 20 parts per million by volume during those runs, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane.

(6) Hydrochloric acid and chlorine gas in excess of 130 parts per million by volume, combined emissions, expressed as hydrochloric acid equivalents, dry basis, corrected to 7 percent oxygen; and

(7) Particulate matter in excess of 0.15 kg/Mg dry feed and opacity greater than 20 percent.

(i) You must use suitable methods to determine the kiln raw material feedrate.

(ii) Except as provided in paragraph (a)(7)(iii) of this section, you must compute the particulate matter emission rate, E, from the following equation:

$$E=(C_s \times Q_{sd})/P$$

Where:

E=emission rate of particulate matter, kg/Mg of kiln raw material feed;

C_s=concentration of particulate matter, kg/dscm;

Q_{sd}=volumetric flowrate of effluent gas, dscm/hr; and

P=total kiln raw material feed (dry basis), Mg/hr.

(iii) If you operate a preheater or preheater/precalciner kiln with dual stacks, you must test simultaneously and compute the combined particulate matter emission rate, E_c, from the following equation:

$$E_c=(C_{sk} \times Q_{sdk}+C_{sb} \times Q_{sdb})/P$$

Where:

E_c=the combined emission rate of particulate matter from the kiln and bypass stack, kg/Mg of kiln raw material feed;

C_{sk}=concentration of particulate matter in the kiln effluent, kg/dscm;

Q_{sdk}=volumetric flowrate of kiln effluent gas, dscm/hr;

C_{sb}=concentration of particulate matter in the bypass stack effluent, kg/dscm;

Q_{sdb}=volumetric flowrate of bypass stack effluent gas, dscm/hr; and

P = total kiln raw material feed (dry basis), Mg/hr.

(b) *Emission limits for new sources.* You must not discharge or cause combustion gases to be emitted into the atmosphere that contain:

(1) For dioxins and furans:

(i) Emissions in excess of 0.20 ng TEQ/dscm corrected to 7 percent oxygen; or

(ii) Emissions in excess of 0.40 ng TEQ/dscm corrected to 7 percent oxygen provided that the combustion gas temperature at the inlet to the initial dry particulate matter control device is 400 °F or lower based on the average of the test run average temperatures;

(2) Mercury in excess of 120 µg/dscm corrected to 7 percent oxygen;

(3) Lead and cadmium in excess of 180 µg/dscm, combined emissions, corrected to 7 percent oxygen;

(4) Arsenic, beryllium, and chromium in excess of 54 µg/dscm, combined emissions, corrected to 7 percent oxygen;

(5) *Carbon monoxide and hydrocarbons.* (i) For kilns equipped with a by-pass duct or midkiln gas sampling system, carbon monoxide and hydrocarbons emissions are limited in both the bypass duct or midkiln gas sampling system and the main stack as follows:

(A) Emissions in the by-pass or midkiln gas sampling system are limited to either:

(*1*) Carbon monoxide in excess of 100 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis and corrected to 7 percent oxygen. If you elect to comply with this carbon monoxide standard rather than the hydrocarbon standard under paragraph (b)(5)(i)(A)(*2*) of this section, you also must document that, during the destruction and removal efficiency (DRE) test runs or their equivalent as provided by §63.1206(b)(7), hydrocarbons do not exceed 10 parts per million by volume during those runs, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; or

(*2*) Hydrocarbons in the by-pass duct or midkiln gas sampling system in excess of 10 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; and

(B) Hydrocarbons in the main stack are limited, if construction of the kiln commenced after April 19, 1996 at a plant site where a cement kiln (whether burning hazardous waste or not) did not previously exist, to 50 parts per million by volume, over a 30-day block average (monitored continuously with a continuous monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane.

(ii) For kilns not equipped with a by-pass duct or midkiln gas sampling system, hydrocarbons and carbon monoxide are limited in the main stack to either:

(A) Hydrocarbons not exceeding 20 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; or

(B)(*1*) Carbon monoxide not exceeding 100 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen; and

(*2*) Hydrocarbons not exceeding 20 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane at any time during the destruction and removal efficiency (DRE) test runs or their equivalent as provided by §63.1206(b)(7); and

(*3*) If construction of the kiln commenced after April 19, 1996 at a plant site where a cement kiln (whether burning hazardous waste or not) did not previously exist, hydrocarbons are limited to 50 parts per million by volume, over a 30-day block average (monitored continuously with a continuous monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane.

(6) Hydrochloric acid and chlorine gas in excess of 86 parts per million, combined emissions, expressed as hydrochloric acid equivalents, dry basis and corrected to 7 percent oxygen; and

(7) Particulate matter in excess of 0.15 kg/Mg dry feed and opacity greater than 20 percent.

(i) You must use suitable methods to determine the kiln raw material feedrate.

(ii) Except as provided in paragraph (a)(7)(iii) of this section, you must compute the particulate matter emission rate, E, from the equation specified in paragraph (a)(7)(ii) of this section.

(iii) If you operate a preheater or preheater/precalciner kiln with dual stacks, you must test simultaneously and compute the combined particulate matter emission rate, E_c, from the equation specified in paragraph (a)(7)(iii) of this section.

(c) *Destruction and removal efficiency (DRE) standard* —(1) *99.99% DRE.* Except as provided in paragraph (c)(2) of this section, you must achieve a destruction and removal efficiency (DRE) of 99.99% for each principle organic hazardous constituent (POHC) designated under paragraph (c)(3) of this section. You must calculate DRE for each POHC from the following equation:

$$DRE=[1-(W_{out}/W_{in})]\times 100\%$$

Where:

W_{in}=mass feedrate of one principal organic hazardous constituent (POHC) in a waste feedstream; and

W_{out}=mass emission rate of the same POHC present in exhaust emissions prior to release to the atmosphere.

(2) *99.9999% DRE.* If you burn the dioxin-listed hazardous wastes F020, F021, F022, F023, F026, or F027 (see §261.31 of this chapter), you must achieve a destruction and removal efficiency (DRE) of 99.9999% for each principle organic hazardous constituent (POHC) that you designate under paragraph (c)(3) of this section. You must demonstrate this DRE performance on POHCs that are more difficult to incinerate than tetra-, penta-, and hexachlorodibenzo- *p* -dioxins and dibenzofurans. You must use the equation in paragraph (c)(1) of this section to calculate DRE for each POHC. In addition, you must notify the Administrator of your intent to incinerate hazardous wastes F020, F021, F022, F023, F026, or F027.

(3) *Principal organic hazardous constituents (POHCs).* (i) You must treat the Principal Organic Hazardous Constituents (POHCs) in the waste feed that you specify under paragraph (c)(3)(ii) of this section to the extent required by paragraphs (c)(1) and (c)(2) of this section.

(ii) You must specify one or more POHCs that are representative of the most difficult to destroy organic compounds in your hazardous waste feedstream. You must base this specification on the degree of difficulty of incineration of the organic constituents in the hazardous waste and on their concentration or mass in the hazardous waste feed, considering the results of hazardous waste analyses or other data and information.

(d) *Cement kilns with in-line kiln raw mills* —(1) *General.* (i) You must conduct performance testing when the raw mill is on-line and when the mill is off-line to demonstrate compliance with the emission standards, and you must establish separate operating parameter limits under §63.1209 for each mode of operation, except as provided by paragraph (d)(1)(iv) of this section.

(ii) You must document in the operating record each time you change from one mode of operation to the alternate mode and begin complying with the operating parameter limits for that alternate mode of operation.

(iii) You must calculate rolling averages for operating parameter limits as provided by §63.1209(q)(2).

(iv) If your in-line kiln raw mill has dual stacks, you may assume that the dioxin/furan emission levels in the by-pass stack and the operating parameter limits determined during performance testing of the by-pass stack when the raw mill is off-line are the same as when the mill is on-line.

(2) *Emissions averaging.* You may comply with the mercury, semivolatile metal, low volatile metal, and hydrochloric acid/chlorine gas emission standards on a time-weighted average basis under the following procedures:

(i) *Averaging methodology.* You must calculate the time-weighted average emission concentration with the following equation:

$$C_{total}=\{Cmill\text{-}off\times(Tmill\text{-}off/(Tmill\text{-}off+Tmill\text{-}on))\}+\{Cmill\text{-}on\times(Tmill\text{-}on/(Tmill\text{-}off+Tmill\text{-}on))\}$$

Where:

C_{total}=time-weighted average concentration of a regulated constituent considering both raw mill on time and off time;

Cmill-off=average performance test concentration of regulated constituent with the raw mill off-line;

Cmill-on=average performance test concentration of regulated constituent with the raw mill on-line;

Tmill-off=time when kiln gases are not routed through the raw mill; and

Tmill-on=time when kiln gases are routed through the raw mill.

(ii) *Compliance.* (A) If you use this emission averaging provision, you must document in the operating record compliance with the emission standards on an annual basis by using the equation provided by paragraph (d)(2) of this section.

(B) Compliance is based on one-year block averages beginning on the day you submit the initial notification of compliance.

(iii) *Notification.* (A) If you elect to document compliance with one or more emission standards using this emission averaging provision, you must notify the Administrator in the initial comprehensive performance test plan submitted under §63.1207(e).

(B) You must include historical raw mill operation data in the performance test plan to estimate future raw mill down-time and document in the performance test plan that estimated emissions and estimated raw mill down-time will not result in an exceedance of an emission standard on an annual basis.

(C) You must document in the notification of compliance submitted under §63.1207(j) that an emission standard will not be exceeded based on the documented emissions from the performance test and predicted raw mill down-time.

(e) *Preheater or preheater/precalciner kilns with dual stacks* —(1) *General.* You must conduct performance testing on each stack to demonstrate compliance with the emission standards, and you must establish operating parameter limits under §63.1209 for each stack, except as provided by paragraph (d)(1)(iv) of this section for dioxin/furan emissions testing and operating parameter limits for the by-pass stack of in-line raw mills.

(2) *Emissions averaging.* You may comply with the mercury, semivolatile metal, low volatile metal, and hydrochloric acid/chlorine gas emission standards specified in this section on a gas flowrate-weighted average basis under the following procedures:

(i) *Averaging methodology.* You must calculate the gas flowrate-weighted average emission concentration using the following equation:

$$C_{tot} = \{C_{main} \times (Q_{main}/(Q_{main} + Q_{bypass}))\} + \{C_{bypass} \times (Q_{bypass}/ (Q_{main} + Q_{bypass}))\}$$

Where:

C_{tot}= gas flowrate-weighted average concentration of the regulated constituent;

C_{main}= average performance test concentration demonstrated in the main stack;

C_{bypass}= average performance test concentration demonstrated in the bypass stack;

Q_{main}= volumetric flowrate of main stack effluent gas; and

Q_{bypass}= volumetric flowrate of bypass effluent gas.

(ii) *Compliance.* (A) You must demonstrate compliance with the emission standard(s) using the emission concentrations determined from the performance tests and the equation provided by paragraph (e)(1) of this section; and

(B) You must develop operating parameter limits for bypass stack and main stack flowrates that ensure the emission concentrations calculated with the equation in paragraph (e)(1) of this section do not exceed the emission standards on a 12-hour rolling average basis. You must include these flowrate limits in the Notification of Compliance.

(iii) *Notification.* If you elect to document compliance under this emissions averaging provision, you must:

(A) Notify the Administrator in the initial comprehensive performance test plan submitted under §63.1207(e). The performance test plan must include, at a minimum, information describing the flowrate limits established under paragraph (e)(2)(ii)(B) of this section; and

(B) Document in the Notification of Compliance submitted under §63.1207(j) the demonstrated gas flowrate-weighted average emissions that you calculate with the equation provided by paragraph (e)(2) of this section.

(f) *Significant figures.* The emission limits provided by paragraphs (a) and (b) of this section are presented with two significant figures. Although you must perform intermediate calculations using at least three significant figures, you may round the resultant emission levels to two significant figures to document compliance.

(g) [Reserved]

(h) When you comply with the particulate matter requirements of paragraphs (a)(7) or (b)(7) of this section, you are exempt from the New Source Performance Standard for particulate matter and opacity under §60.60 of this chapter.

(i) The provisions of this section no longer apply after any of the following dates, whichever occurs first:

(1) The date that your source begins to comply with §63.1220 by placing a Documentation of Compliance in the operating record pursuant to §63.1211(c);

(2) The date that your source begins to comply with §63.1220 by submitting a Notification of Compliance pursuant to §63.1210(b); or

(3) The date for your source to comply with §63.1220 pursuant to §63.1206 and any extensions granted there under.

[67 FR 6809, Feb. 13, 2002, as amended at 67 FR 6987, Feb. 14, 2002; 70 FR 59541, Oct. 12, 2005; 73 FR 18979, Apr. 8, 2008]

§ 63.1205 What are the standards for hazardous waste burning lightweight aggregate kilns that are effective until compliance with the standards under §63.1221?

(a) *Emission limits for existing sources.* You must not discharge or cause combustion gases to be emitted into the atmosphere that contain:

(1) For dioxins and furans:

(i) Emissions in excess of 0.20 ng TEQ/dscm corrected to 7 percent oxygen; or

(ii) Rapid quench of the combustion gas temperature at the exit of the (last) combustion chamber (or exit of any waste heat recovery system) to 400 °F or lower based on the average of the test run average temperatures. You must also notify in writing the RCRA authority that you are complying with this option;

(2) Mercury in excess of 120 µg/dscm corrected to 7 percent oxygen;

(3) Lead and cadmium in excess of 250 µg/dscm, combined emissions, corrected to 7 percent oxygen;

(4) Arsenic, beryllium, and chromium in excess of 110 µg/dscm, combined emissions, corrected to 7 percent oxygen;

(5) *Carbon monoxide and hydrocarbons.* (i) Carbon monoxide in excess of 100 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis and corrected to 7 percent oxygen. If you elect to comply with this carbon monoxide standard rather than the hydrocarbon standard under paragraph (a)(5)(ii) of this section, you also must document that, during the destruction and removal efficiency (DRE) test runs or their equivalent as provided by §63.1206(b)(7), hydrocarbons do not exceed 20 parts per million by volume during those runs, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; or

(ii) Hydrocarbons in excess of 20 parts per million by volume, over an hourly rolling average, dry basis, corrected to 7 percent oxygen, and reported as propane;

(6) Hydrochloric acid and chlorine gas in excess of 600 parts per million by volume, combined emissions, expressed as hydrochloric acid equivalents, dry basis and corrected to 7 percent oxygen; and

(7) Particulate matter in excess of 57 mg/dscm corrected to 7 percent oxygen.

(b) *Emission limits for new sources.* You must not discharge or cause combustion gases to be emitted into the atmosphere that contain:

(1) For dioxins and furans:

(i) Emissions in excess of 0.20 ng TEQ/dscm corrected to 7 percent oxygen; or

(ii) Rapid quench of the combustion gas temperature at the exit of the (last) combustion chamber (or exit of any waste heat recovery system) to 400 °F or lower based on the average of the test run average temperatures. You must also notify in writing the RCRA authority that you are complying with this option;

(2) Mercury in excess of 120 µg/dscm corrected to 7 percent oxygen;

(3) Lead and cadmium in excess of 43 µg/dscm, combined emissions, corrected to 7 percent oxygen;

(4) Arsenic, beryllium, and chromium in excess of 110 µg/dscm, combined emissions, corrected to 7 percent oxygen;

(5) *Carbon monoxide and hydrocarbons.* (i) Carbon monoxide in excess of 100 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis and corrected to 7 percent oxygen. If you elect to comply with this carbon monoxide standard rather than the hydrocarbon standard under paragraph (b)(5)(ii) of this section, you also must document that, during the destruction and removal efficiency (DRE) test runs or their equivalent as provided by §63.1206(b)(7), hydrocarbons do not exceed 20 parts per million by volume during those runs, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; or

(ii) Hydrocarbons in excess of 20 parts per million by volume, over an hourly rolling average, dry basis, corrected to 7 percent oxygen, and reported as propane;

(6) Hydrochloric acid and chlorine gas in excess of 600 parts per million by volume, combined emissions, expressed as hydrochloric acid equivalents, dry basis and corrected to 7 percent oxygen; and

(7) Particulate matter in excess of 57 mg/dscm corrected to 7 percent oxygen.

(c) *Destruction and removal efficiency (DRE) standard*—(1) *99.99% DRE.* Except as provided in paragraph (c)(2) of this section, you must achieve a destruction and removal efficiency (DRE) of 99.99% for each principal organic hazardous constituent (POHC) designated under paragraph (c)(3) of this section. You must calculate DRE for each POHC from the following equation:

$$DRE = [1-(W_{out}/W_{in})] \times 100\%$$

Where:

W_{in}= mass feedrate of one principal organic hazardous constituent (POHC) in a waste feedstream; and

W_{out}= mass emission rate of the same POHC present in exhaust emissions prior to release to the atmosphere.

(2) *99.9999% DRE.* If you burn the dioxin-listed hazardous wastes F020, F021, F022, F023, F026, or F027 (see §261.31 of this chapter), you must achieve a destruction and removal efficiency (DRE) of 99.9999% for each principal organic hazardous constituent (POHC) that you designate under paragraph (c)(3) of this section. You must demonstrate this DRE performance on POHCs that are more difficult to incinerate than tetra-, penta-, and hexachlorodibenzo-dioxins and dibenzofurans. You must use the equation in paragraph (c)(1) of this section to calculate DRE for each POHC. In addition, you must notify the Administrator of your intent to burn hazardous wastes F020, F021, F022, F023, F026, or F027.

(3) *Principal organic hazardous constituents (POHCs).* (i) You must treat the Principal Organic Hazardous Constituents (POHCs) in the waste feed that you specify under paragraph (c)(3)(ii) of this section to the extent required by paragraphs (c)(1) and (c)(2) of this section.

(ii) You must specify one or more POHCs that are representative of the most difficult to destroy organic compounds in your hazardous waste feedstream. You must base this specification on the degree of difficulty of incineration of the organic constituents in the hazardous waste and on their concentration or mass in the hazardous waste feed, considering the results of hazardous waste analyses or other data and information.

(d) *Significant figures.* The emission limits provided by paragraphs (a) and (b) of this section are presented with two significant figures. Although you must perform intermediate calculations using at least three significant figures, you may round the resultant emission levels to two significant figures to document compliance.

(e) The provisions of this section no longer apply after any of the following dates, whichever occurs first:

(1) The date that your source begins to comply with §63.1221 by placing a Documentation of Compliance in the operating record pursuant to §63.1211(c);

(2) The date that your source begins to comply with §63.1221 by submitting a Notification of Compliance pursuant to §63.1210(b); or

(3) The date for your source to comply with §63.1221 pursuant to §63.1206 and any extensions granted there under.

[67 FR 6812, Feb. 13, 2002, as amended at 67 FR 77691, Dec. 19, 2002; 70 FR 59541, Oct. 12, 2005; 73 FR 18979, Apr. 8, 2008]

Monitoring and Compliance Provisions

§ 63.1206 When and how must you comply with the standards and operating requirements?

(a) *Compliance dates* —(1) *Compliance dates for incinerators, cement kilns, and lightweight aggregate kilns that burn hazardous waste* —(i) *Compliance date for standards under §§63.1203, 63.1204, and 63.1205* —(A) *Compliance dates for existing sources.* You must comply with the emission standards under §§63.1203, 63.1204, and 63.1205 and the other requirements of this subpart no later than the compliance date, September 30, 2003, unless the Administrator grants you an extension of time under §63.6(i) or §63.1213, except:

(*1*) Cement kilns are exempt from the bag leak detection system requirements under paragraph (c)(8) of this section;

(*2*) The bag leak detection system required under §63.1206(c)(8) must be capable of continuously detecting and recording particulate matter emissions at concentrations of 1.0 milligram per actual cubic meter unless you demonstrate under §63.1209(g)(1) that a higher detection limit would adequately detect bag leaks, in lieu of the requirement for the higher detection limit under paragraph (c)(8)(ii)(A) of this section; and

(*3*) The excessive exceedances notification requirements for bag leak detection systems under paragraph (c)(8)(iv) of this section are waived.

(B) *New or reconstructed sources.* (*1*) If you commenced construction or reconstruction of your hazardous waste combustor after April 19, 1996, you must comply with the emission standards under §§63.1203, 63.1204, and 63.1205 and the other requirements of this subpart by the later of September 30, 1999 or the date the source starts operations, except as provided by paragraphs (a)(1)(i)(A)(*1*) through (*3*) and (a)(1)(i)(B)(*2*) of this section. The costs of retrofitting and replacement of equipment that is installed specifically to comply with this subpart, between April 19, 1996 and a source's compliance date, are not considered to be reconstruction costs.

(*2*) For a standard under §§63.1203, 63.1204, and 63.1205 that is more stringent than the standard proposed on April 19, 1996, you may achieve compliance no later than September 30, 2003 if you comply with the standard proposed on April 19, 1996 after September 30, 1999. This exception does not apply, however, to new or reconstructed area source hazardous waste combustors that become major sources after September 30, 1999. As provided by §63.6(b)(7), such sources must comply with the standards under §§63.1203, 63.1204, and 63.1205 at startup.

(ii) *Compliance date for standards under §§63.1219, 63.1220, and 63.1221.* (A) *Compliance dates for existing sources.* You must comply with the emission standards under §§63.1219, 63.1220, and 63.1221 and the other requirements of this subpart no later than the compliance date, October 14, 2008, unless the Administrator grants you an extension of time under §63.6(i) or §63.1213.

(B) *New or reconstructed sources.* (*1*) If you commenced construction or reconstruction of your hazardous waste combustor after April 20, 2004, you must comply with the new source emission standards under §§63.1219, 63.1220, and 63.1221 and the other requirements of this subpart by the later of October 12, 2005 or the date the source starts operations, except as provided by paragraphs (a)(1)(ii)(B)(*2*) and (a)(1)(ii)(B)(*3*) of this section. The costs of retrofitting and replacement of equipment that is installed specifically to comply with this subpart, between April 20, 2004, and a source's compliance date, are not considered to be reconstruction costs.

(*2*) For a standard under §§63.1219, 63.1220, and 63.1221 that is more stringent than the standard proposed on April 20, 2004, you may achieve compliance no later than October 14, 2008, if you comply with the standard proposed on April 20, 2004, after October 12, 2005. This exception does not apply, however, to new or reconstructed area source hazardous waste combustors that become major sources after October 14, 2008. As provided by §63.6(b)(7), such sources must comply with the standards under §§63.1219, 63.1220, and 63.1221 at startup.

(*3*) *Temporary particulate matter standard under §63.1220 for new cement kilns.* You are not required to comply with the particulate matter standard specified under §63.1220(b)(7)(i) until EPA takes final action with regard to the particulate matter standard pursuant to reconsideration proceedings. If you start up a new or reconstructed hazardous waste burning cement kiln as defined by this subpart, you must not emit particulate matter in excess of 0.15 kg/Mg dry feed, as determined according to the requirements under §63.1204(b)(7)(i) through (iii).

(2) *Compliance date for solid fuel boilers, liquid fuel boilers, and hydrochloric acid production furnaces that burn hazardous waste for standards under §§63.1216, 63.1217, and 63.1218* . (i) *Compliance date for existing sources.* You must comply with the standards of this subpart no later than the compliance date, October 14, 2008, unless the Administrator grants you an extension of time under §63.6(i) or §63.1213.

(ii) *New or reconstructed sources* . (A) If you commenced construction or reconstruction of your hazardous waste combustor after April 20, 2004, you must comply with the new source emission standards of this subpart by the later of October 12, 2005, or the date the source starts operations, except as provided by paragraph (a)(2)(ii)(B) of this section. The costs of retrofitting and replacement of equipment that is installed specifically to comply with this subpart, between April 20, 2004, and a source's compliance date, are not considered to be reconstruction costs.

(B) For a standard in the subpart that is more stringent than the standard proposed on April 20, 2004, you may achieve compliance no later than October 14, 2008, if you comply with the standard proposed on April 20, 2004, after October 12, 2005. This exception does not apply, however, to new or reconstructed area source hazardous waste combustors that become major sources after October 14, 2008. As provided by §63.6(b)(7), such sources must comply with this subpart at startup.

(3) *Early compliance.* If you choose to comply with the emission standards of this subpart prior to the dates specified in paragraphs (a)(1) and (a)(2) of this section, your compliance date is the earlier of the date you postmark the Notification of Compliance under §63.1207(j)(1) or the dates specified in paragraphs (a)(1) and (a)(2) of this section.

(b) *Compliance with standards* —(1) *Applicability.* The emission standards and operating requirements set forth in this subpart apply at all times except:

(i) During periods of startup, shutdown, and malfunction; and

(ii) When hazardous waste is not in the combustion chamber (i.e., the hazardous waste feed to the combustor has been cut off for a period of time not less than the hazardous waste residence time) and you have documented in the operating record that you are complying with all otherwise applicable requirements and standards promulgated under authority of sections 112 (e.g., 40 CFR part 63, subparts LLL, DDDDD, and NNNNN) or 129 of the Clean Air Act in lieu of the emission standards under §§63.1203, 63.1204, 63.1205, 63.1215, 63.1216, 63.1217, 63.1218, 63.1219, 63.1220, and 63.1221; the monitoring and compliance standards of this section and §§63.1207 through 63.1209, except the modes of operation requirements of §63.1209(q); and the notification, reporting, and recordkeeping requirements of §§63.1210 through 63.1212.

(2) *Methods for determining compliance.* The Administrator will determine compliance with the emission standards of this subpart as provided by §63.6(f)(2). Conducting performance testing under operating conditions representative of the extreme range of normal conditions is consistent with the requirements of §§63.6(f)(2)(iii)(B) and 63.7(e)(1) to conduct performance testing under representative operating conditions.

(3) *Finding of compliance.* The Administrator will make a finding concerning compliance with the emission standards and other requirements of this subpart as provided by §63.6(f)(3).

(4) *Extension of compliance with emission standards.* The Administrator may grant an extension of compliance with the emission standards of this subpart as provided by §§63.6(i) and 63.1213.

(5) *Changes in design, operation, or maintenance* —(i) *Changes that may adversely affect compliance.* If you plan to change (as defined in paragraph (b)(5)(iii) of this section) the design, operation, or maintenance practices of the source in a manner that may adversely affect compliance with any emission standard that is not monitored with a CEMS:

(A) *Notification.* You must notify the Administrator at least 60 days prior to the change, unless you document circumstances that dictate that such prior notice is not reasonably feasible. The notification must include:

(*1*) A description of the changes and which emission standards may be affected; and

(*2*) A comprehensive performance test schedule and test plan under the requirements of §63.1207(f) that will document compliance with the affected emission standard(s);

(B) *Performance test.* You must conduct a comprehensive performance test under the requirements of §§63.1207(f)(1) and (g)(1) to document compliance with the affected emission standard(s) and establish operating parameter limits as required under §63.1209, and submit to the Administrator a Notification of Compliance under §§63.1207(j) and 63.1210(d); and

(C) *Restriction on waste burning.* (*1*) Except as provided by paragraph (b)(5)(i)(C)(*2*) of this section, after the change and prior to submitting the notification of compliance, you must not burn hazardous waste for more than a total of 720 hours (renewable at the discretion of the Administrator) and only for the purposes of pretesting or comprehensive performance testing. Pretesting is defined at §63.1207(h)(2)(i) and (ii).

(*2*) You may petition the Administrator to obtain written approval to burn hazardous waste in the interim prior to submitting a Notification of Compliance for purposes other than testing or pretesting. You must specify operating requirements, including limits on operating parameters, that you determine will ensure compliance with the emission standards of this subpart based on available information. The Administrator will review, modify as necessary, and approve if warranted the interim operating requirements.

(ii) *Changes that will not affect compliance.* If you determine that a change will not adversely affect compliance with the emission standards or operating requirements, you must document the change in the operating record upon making such change. You must revise as necessary the performance test plan, Documentation of Compliance, Notification of Compliance, and start-up, shutdown, and malfunction plan to reflect these changes.

(iii) *Definition of "change."* For purposes of paragraph (b)(5) of this section, "change" means any change in design, operation, or maintenance practices that were documented in the comprehensive performance test plan, Notification of Compliance, or startup, shutdown, and malfunction plan.

(6) *Compliance with the carbon monoxide and hydrocarbon emission standards.* This paragraph applies to sources that elect to comply with the carbon monoxide and hydrocarbon emissions standards of this subpart by documenting continuous compliance with the carbon monoxide standard using a continuous emissions monitoring system and documenting compliance with the hydrocarbon standard during the destruction and removal efficiency (DRE) performance test or its equivalent.

(i) If a DRE test performed pursuant to §63.1207(c)(2) is acceptable as documentation of compliance with the DRE standard, you may use the highest hourly rolling average hydrocarbon level achieved during the DRE test runs to document compliance with the hydrocarbon standard. An acceptable DRE test is any test for which the data and results are determined to meet quality assurance objectives (on a site-specific basis) such that the results adequately demonstrate compliance with the DRE standard.

(ii) If during this acceptable DRE test you did not obtain hydrocarbon emissions data sufficient to document compliance with the hydrocarbon standard, you must either:

(A) Perform, as part of the performance test, an "equivalent DRE test" to document compliance with the hydrocarbon standard. An equivalent DRE test is comprised of a minimum of three runs each with a minimum duration of one hour during which you operate the combustor as close as reasonably possible to the operating parameter limits that you established based on the initial DRE test. You must use the highest hourly rolling average hydrocarbon emission level achieved during the equivalent DRE test to document compliance with the hydrocarbon standard; or

(B) Perform a DRE test as part of the performance test.

(7) *Compliance with the DRE standard.* (i) Except as provided in paragraphs (b)(7)(ii) and (b)(7)(iii) of this section:

(A) You must document compliance with the Destruction and Removal Efficiency (DRE) standard under this subpart only once provided that you do not modify the source after the DRE test in a manner that could affect the ability of the source to achieve the DRE standard.

(B) You may use any DRE test data that documents that your source achieves the required level of DRE provided:

(*1*) You have not modified the design or operation of your source in a manner that could effect the ability of your source to achieve the DRE standard since the DRE test was performed; and,

(*2*) The DRE test data meet quality assurance objectives determined on a site-specific basis.

(ii) *Sources that feed hazardous waste at locations other than the normal flame zone.* (A) Except as provided by paragraph (b)(7)(ii)(B) of this section, if you feed hazardous waste at a location in the combustion system other than the normal flame zone, then you must demonstrate compliance with the DRE standard during each comprehensive performance test;

(B)(*1*) A cement kiln that feeds hazardous waste at a location other than the normal flame zone need only demonstrate compliance with the DRE standard during three consecutive comprehensive performance tests provided that:

(*i*) All three tests achieve the DRE standard in this subpart; and

(*ii*) The design, operation, and maintenance features of each of the three tests are similar;

(*iii*) The data in lieu restriction of §63.1207(c)(2)(iv) does not apply when complying with the provisions of paragraph (b)(7)(ii)(B) of this section;

(*2*) If at any time you change your design, operation, and maintenance features in a manner that could reasonably be expected to affect your ability to meet the DRE standard, then you must comply with the requirements of paragraph (b)(7)(ii)(A) of this section.

(iii) For sources that do not use DRE previous testing to document conformance with the DRE standard pursuant to §63.1207(c)(2), you must perform DRE testing during the initial comprehensive performance test.

(8) *Applicability of particulate matter and opacity standards during particulate matter CEMS correlation tests.* (i) Any particulate matter and opacity standards of parts 60, 61, 63, 264, 265, and 266 of this chapter (*i.e.,* any title 40 particulate or opacity standards) applicable to a hazardous waste combustor do not apply while you conduct particulate matter continuous emissions monitoring system (CEMS) correlation tests (*i.e.,* correlation with manual stack methods) under the conditions of paragraphs (b)(8)(iii) through (vii) of this section.

(ii) Any permit or other emissions or operating parameter limits or conditions, including any limitation on workplace practices, that are applicable to hazardous waste combustors to ensure compliance with any particulate matter and opacity standards of parts 60, 61, 63, 264, 265, and 266 of this chapter (*i.e.,* any title 40 particulate or opacity standards) do not apply while you conduct particulate matter CEMS correlation tests under the conditions of paragraphs (b)(8)(iii) through (vii) of this section.

(iii) For the provisions of this section to apply, you must:

(A) Develop a particulate matter CEMS correlation test plan that includes the following information. This test plan may be included as part of the comprehensive performance test plan required under §§63.1207(e) and (f):

(*1*) Number of test conditions and number of runs for each test condition;

(*2*) Target particulate matter emission level for each test condition;

(*3*) How you plan to modify operations to attain the desired particulate matter emission levels; and

(*4*) Anticipated normal particulate matter emission levels; and

(B) Submit the test plan to the Administrator for approval at least 90 calendar days before the correlation test is scheduled to be conducted.

(iv) The Administrator will review and approve/disapprove the correlation test plan under the procedures for review and approval of the site-specific test plan provided by §63.7(c)(3)(i) and (iii). If the Administrator fails to approve or disapprove the correlation test plan within the time period specified by §63.7(c)(3)(i), the plan is considered approved, unless the Administrator has requested additional information.

(v) The particulate matter and opacity standards and associated operating limits and conditions will not be waived for more than 96 hours, in the aggregate, for a correlation test, including all runs of all test conditions, unless more time is approved by the Administrator.

(vi) The stack sampling team must be on-site and prepared to perform correlation testing no later than 24 hours after you modify operations to attain the desired particulate matter emissions concentrations, unless you document in the correlation test plan that a longer period of conditioning is appropriate.

(vii) You must return to operating conditions indicative of compliance with the applicable particulate matter and opacity standards as soon as possible after correlation testing is completed.

(9) *Alternative standards for existing or new hazardous waste burning lightweight aggregate kilns using MACT.* (i) You may petition the Administrator to request alternative standards to the mercury or hydrogen chloride/chlorine gas emission standards

of this subpart, to the semivolatile metals emission standards under §§63.1205, 63.1221(a)(3)(ii), or 63.1221(b)(3)(ii), or to the low volatile metals emissions standards under §§63.1205, 63.1221(a)(4)(ii), or 63.1221(b)(4)(ii) if:

(A) You cannot achieve one or more of these standards while using maximum achievable control technology (MACT) because of raw material contributions to emissions of mercury, semivolatile metals, low volatile metals, or hydrogen chloride/chlorine gas; or

(B) You determine that mercury is not present at detectable levels in your raw material.

(ii) The alternative standard that you recommend under paragraph (b)(9)(i)(A) of this section may be an operating requirement, such as a hazardous waste feedrate limitation for metals and/or chlorine, and/or an emission limitation.

(iii) The alternative standard must include a requirement to use MACT, or better, applicable to the standard for which the source is seeking relief, as defined in paragraphs (b)(9)(viii) and (ix) of this section.

(iv) *Documentation required.* (A) The alternative standard petition you submit under paragraph (b)(9)(i)(A) of this section must include data or information documenting that raw material contributions to emissions prevent you from complying with the emission standard even though the source is using MACT, as defined under paragraphs (b)(9)(viii) and (ix) of this section, for the standard for which you are seeking relief.

(B) Alternative standard petitions that you submit under paragraph (b)(9)(i)(B) of this section must include data or information documenting that mercury is not present at detectable levels in raw materials.

(v) You must include data or information with semivolatile metal and low volatility metal alternative standard petitions that you submit under paragraph (b)(9)(i)(A) of this section documenting that increased chlorine feedrates associated with the burning of hazardous waste, when compared to non-hazardous waste operations, do not significantly increase metal emissions attributable to raw materials.

(vi) You must include data or information with semivolatile metals, low volatile metals, and hydrogen chloride/chlorine gas alternative standard petitions that you submit under paragraph (b)(9)(i)(A) of this section documenting that semivolatile metals, low volatile metals, and hydrogen chloride/chlorine gas emissions attributable to the hazardous waste only will not exceed the emission standards of this subpart.

(vii) You must not operate pursuant to your recommended alternative standards in lieu of emission standards specified in this subpart:

(A) Unless the Administrator approves the provisions of the alternative standard petition request or establishes other alternative standards; and

(B) Until you submit a revised Notification of Compliance that incorporates the revised standards.

(viii) For purposes of this alternative standard provision, MACT for existing hazardous waste burning lightweight aggregate kilns is defined as:

(A) For mercury, a hazardous waste feedrate corresponding to an MTEC of 24 µg/dscm or less;

(B) For semivolatile metals, a hazardous waste feedrate corresponding to an MTEC of 280,000 µg/dscm or less, and use of a particulate matter control device that achieves particulate matter emissions of 57 mg/dscm or less;

(C) For low volatile metals, a hazardous waste feedrate corresponding to an MTEC of 120,000 µg/dscm or less, and use of a particulate matter control device that achieves particulate matter emissions of 57 mg/dscm or less; and

(D) For hydrogen chloride/chlorine gas, a hazardous waste chlorine feedrate corresponding to an MTEC of 2,000,000 µgm/dscm or less, and use of an air pollution control device with a hydrogen chloride/chlorine gas removal efficiency of 85 percent or greater.

(ix) For purposes of this alternative standard provision, MACT for new hazardous waste burning lightweight aggregate kilns is defined as:

(A) For mercury, a hazardous waste feedrate corresponding to an MTEC of 4 µg/dscm or less;

(B) For semivolatile metals, a hazardous waste feedrate corresponding to an MTEC of 280,000 µg/dscm or less, and use of a particulate matter control device that achieves particulate matter emissions of 57 mg/dscm or less;

(C) For low volatile metals, a hazardous waste feedrate corresponding to an MTEC of 46,000 µg/dscm or less, and use of a particulate matter control device that achieves particulate matter emissions of 57 mg/dscm or less;

(D) For hydrogen chloride/chlorine gas, a hazardous waste chlorine feedrate corresponding to an MTEC of 14,000,000 µgm/dscm or less, and use of an air pollution control device with a hydrogen chloride/chlorine gas removal efficiency of 99.6 percent or greater.

(10) *Alternative standards for existing or new hazardous waste burning cement kilns using MACT.* (i) You may petition the Administrator to request alternative standards to the mercury or hydrogen chloride/chlorine gas emission standards of this subpart, to the semivolatile metals emission standards under §§63.1204, 63.1220(a)(3)(ii), or 63.1220(b)(3)(ii), or to the low volatile metals emissions standards under §§63.1204, 63.1220(a)(4)(ii), or 63.1220(b)(4)(ii) if:

(A) You cannot achieve one or more of these standards while using maximum achievable control technology (MACT) because of raw material contributions to emissions of mercury, semivolatile metals, low volatile metals, or hydrogen chloride/chlorine gas; or

(B) You determine that mercury is not present at detectable levels in your raw material.

(ii) The alternative standard that you recommend under paragraph (b)(10)(i)(A) of this section may be an operating requirement, such as a hazardous waste feedrate limitation for metals and/or chlorine, and/or an emission limitation.

(iii) The alternative standard must include a requirement to use MACT, or better, applicable to the standard for which the source is seeking relief, as defined in paragraphs (b)(10)(viii) and (ix) of this section.

(iv) *Documentation required.* (A) The alternative standard petition you submit under paragraph (b)(10)(i)(A) of this section must include data or information documenting that raw material contributions to emissions prevent you from complying with the emission standard even though the source is using MACT, as defined in paragraphs (b)(10)(viii) and (ix) of this section, for the standard for which you are seeking relief.

(B) Alternative standard petitions that you submit under paragraph (b)(10)(i)(B) of this section must include data or information documenting that mercury is not present at detectable levels in raw materials.

(v) You must include data or information with semivolatile metal and low volatile metal alternative standard petitions that you submit under paragraph (b)(10)(i)(A) of this section documenting that increased chlorine feedrates associated with the burning of hazardous waste, when compared to non-hazardous waste operations, do not significantly increase metal emissions attributable to raw materials.

(vi) You must include data or information with semivolatile metals, low volatile metals, and hydrogen chloride/chlorine gas alternative standard petitions that you submit under paragraph (b)(10)(i)(A) of this section documenting that emissions of the regulated metals and hydrogen chloride/chlorine gas attributable to the hazardous waste only will not exceed the emission standards in this subpart.

(vii) You must not operate pursuant to your recommended alternative standards in lieu of emission standards specified in this subpart:

(A) Unless the Administrator approves the provisions of the alternative standard petition request or establishes other alternative standards; and

(B) Until you submit a revised Notification of Compliance that incorporates the revised standards.

(viii) For purposes of this alternative standard provision, MACT for existing hazardous waste burning cement kilns is defined as:

(A) For mercury, a hazardous waste feedrate corresponding to an MTEC of 88 µg/dscm or less;

(B) For semivolatile metals, a hazardous waste feedrate corresponding to an MTEC of 31,000 µg/dscm or less, and use of a particulate matter control device that achieves particulate matter emissions of 0.15 kg/Mg dry feed or less;

(C) For low volatile metals, a hazardous waste feedrate corresponding to an MTEC of 54,000 µg/dscm or less, and use of a particulate matter control device that achieves particulate matter emissions of 0.15 kg/Mg dry feed or less; and

(D) For hydrogen chloride/chlorine gas, a hazardous waste chlorine feedrate corresponding to an MTEC of 720,000 µgm/dscm or less.

(ix) For purposes of this alternative standard provision, MACT for new hazardous waste burning cement kilns is defined as:

(A) For mercury, a hazardous waste feedrate corresponding to an MTEC of 7 µg/dscm or less;

(B) For semivolatile metals, a hazardous waste feedrate corresponding to an MTEC of 31,000 µg/dscm or less, and use of a particulate matter control device that achieves particulate matter emissions of 0.15 kg/Mg dry feed or less;

(C) For low volatile metals, a hazardous waste feedrate corresponding to an MTEC of 15,000 µg/dscm or less, and use of a particulate matter control device that achieves particulate matter emissions of 0.15 kg/Mg dry feed or less;

(D) For hydrogen chloride/chlorine gas, a hazardous waste chlorine feedrate corresponding to an MTEC of 420,000 µgm/dscm or less.

(11) *Calculation of hazardous waste residence time.* You must calculate the hazardous waste residence time and include the calculation in the performance test plan under §63.1207(f) and the operating record. You must also provide the hazardous waste residence time in the Documentation of Compliance under §63.1211(c) and the Notification of Compliance under §§63.1207(j) and 63.1210(d).

(12) *Documenting compliance with the standards based on performance testing.* (i) You must conduct a minimum of three runs of a performance test required under §63.1207 to document compliance with the emission standards of this subpart.

(ii) You must document compliance with the emission standards based on the arithmetic average of the emission results of each run, except that you must document compliance with the destruction and removal efficiency standard for each run of the comprehensive performance test individually.

(13) *Cement kilns and lightweight aggregate kilns that feed hazardous waste at a location other than the end where products are normally discharged and where fuels are normally fired.*

(i) Cement kilns that feed hazardous waste at a location other than the end where products are normally discharged and where fuels are normally fired must comply with the carbon monoxide and hydrocarbon standards of this subpart as follows:

(A) For existing sources, you must not discharge or cause combustion gases to be emitted into the atmosphere that contain either:

(*1*) Hydrocarbons in the main stack in excess of 20 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; or

(*2*) Hydrocarbons both in the by-pass duct and at a preheater tower combustion gas monitoring location in excess of 10 parts per million by volume, at each location, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; or

(*3*) If the only firing location of hazardous waste upstream (in terms of gas flow) of the point where combustion gases are diverted into the bypass duct is at the kiln end where products are normally discharged, then both hydrocarbons at the preheater tower combustion gas monitoring location in excess of 10 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane, and either hydrocarbons in the by-pass duct in excess of 10 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane, or carbon monoxide in excess of 100 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, and corrected to 7 percent oxygen. If you comply with the carbon monoxide standard of 100 parts per million by volume in the by-pass duct, then you must also not discharge or cause combustion gases to be emitted into the atmosphere that contain hydrocarbons in the by-pass duct in excess of 10 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane, at any time during the destruction and removal efficiency (DRE) test runs or their equivalent as provided by §63.1206(b)(7).

(B) For new sources, you must not discharge or cause combustion gases to be emitted into the atmosphere that contain either:

(*1*) Hydrocarbons in the main stack in excess of 20 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; or

(*2*)(*i*) Hydrocarbons both in the by-pass duct and at a preheater tower combustion gas monitoring location in excess of 10 parts per million by volume, at each location, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane, and

(*ii*) Hydrocarbons in the main stack, if construction of the kiln commenced after April 19, 1996 at a plant site where a cement kiln (whether burning hazardous waste or not) did not previously exist, to 50 parts per million by volume, over a 30-day block average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; or

(*3*)(*i*) If the only firing location of hazardous waste upstream (in terms of gas flow) of the point where combustion gases are diverted into the bypass duct is at the kiln end where products are normally discharged, then both hydrocarbons at the preheater tower combustion gas monitoring location in excess of 10 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane, and either hydrocarbons in the by-pass duct in excess of 10 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane, or carbon monoxide in excess of 100 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, and corrected to 7 percent oxygen. If you comply with the carbon monoxide standard of 100 parts per million by volume in the by-pass duct, then you must also not discharge or cause combustion gases to be emitted into the atmosphere that contain hydrocarbons in the by-pass duct in excess of 10 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane, at any time during the destruction and removal efficiency (DRE) test runs or their equivalent as provided by §63.1206(b)(7).

(*ii*) If construction of the kiln commenced after April 19, 1996 at a plant site where a cement kiln (whether burning hazardous waste or not) did not previously exist, hydrocarbons are limited to 50 parts per million by volume, over a 30-day block average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane.

(ii) Lightweight aggregate kilns that feed hazardous waste at a location other than the end where products are normally discharged and where fuels are normally fired must comply with the hydrocarbon standards of this subpart as follows:

(A) Existing sources must comply with the 20 parts per million by volume hydrocarbon standard of this subpart;

(B) New sources must comply with the 20 parts per million by volume hydrocarbon standard of this subpart.

(14) *Alternative to the particulate matter standard for incinerators.* (i). *General.* In lieu of complying with the particulate matter standards under §63.1203, you may elect to comply with the following alternative metal emission control requirements:

(ii) *Alternative metal emission control requirements for existing incinerators.* (A) You must not discharge or cause combustion gases to be emitted into the atmosphere that contain cadmium, lead, and selenium in excess of 240 µgm/dscm, combined emissions, corrected to 7 percent oxygen; and,

(B) You must not discharge or cause combustion gases to be emitted into the atmosphere that contain antimony, arsenic, beryllium, chromium, cobalt, manganese, and nickel in excess of 97 µgm/dscm, combined emissions, corrected to 7 percent oxygen.

(iii) *Alternative metal emission control requirements for new incinerators.* (A) You must not discharge or cause combustion gases to be emitted into the atmosphere that contain cadmium, lead, and selenium in excess of 24 µgm/dscm, combined emissions, corrected to 7 percent oxygen; and,

(B) You must not discharge or cause combustion gases to be emitted into the atmosphere that contain antimony, arsenic, beryllium, chromium, cobalt, manganese, and nickel in excess of 97 µgm/dscm, combined emissions, corrected to 7 percent oxygen.

(iv) *Operating limits* . Semivolatile and low volatile metal operating parameter limits must be established to ensure compliance with the alternative emission limitations described in paragraphs (b)(14)(ii) and (iii) of this section pursuant to §63.1209(n), except that semivolatile metal feedrate limits apply to lead, cadmium, and selenium, combined, and low volatile metal feedrate limits apply to arsenic, beryllium, chromium, antimony, cobalt, manganese, and nickel, combined.

(15) *Alternative to the interim standards for mercury for cement and lightweight aggregate kilns.* (i) *General.* In lieu of complying with the applicable mercury standards of §§63.1204(a)(2) and (b)(2) for existing and new cement kilns and §§63.1205(a)(2) and (b)(2) for existing and new lightweight aggregate kilns, you may instead elect to comply with the alternative mercury standard described in paragraphs (b)(15)(ii) through (b)(15)(v) of this section.

(ii) *Operating requirement.* You must not exceed a hazardous waste feedrate corresponding to a maximum theoretical emission concentration (MTEC) of 120 µg/dscm on a twelve-hour rolling average.

(iii) To document compliance with the operating requirement of paragraph (b)(15)(ii) of this section, you must:

(A) Monitor and record the feedrate of mercury for each hazardous waste feedstream according to §63.1209(c);

(B) Monitor with a CMS and record in the operating record the gas flowrate (either directly or by monitoring a surrogate parameter that you have correlated to gas flowrate);

(C) Continuously calculate and record in the operating record a MTEC assuming mercury from all hazardous waste feedstreams is emitted;

(D) Interlock the MTEC calculated in paragraph (b)(15)(iii)(C) of this section to the AWFCO system to stop hazardous waste burning when the MTEC exceeds the operating requirement of paragraph (b)(15)(ii) of this section.

(iv) In lieu of the requirement in paragraph (b)(15)(iii) of this section, you may:

(A) Identify in the Notification of Compliance a minimum gas flowrate limit and a maximum feedrate limit of mercury from all hazardous waste feedstreams that ensures the MTEC calculated in paragraph (b)(15)(iii)(C) of this section is below the operating requirement of paragraph (b)(15)(ii) of this section; and

(B) Interlock the minimum gas flowrate limit and maximum feedrate limits in paragraph (b)(15)(iv)(A) of this section to the AWFCO system to stop hazardous waste burning when the gas flowrate or mercury feedrate exceeds the limits in paragraph (b)(15)(iv)(A) of this section.

(v) *Notification requirement.* You must notify in writing the RCRA authority that you intend to comply with the alternative standard.

(16) *Compliance with subcategory standards for liquid fuel boilers.* You must comply with the mercury, semivolatile metals, low volatile metals, and hydrogen chloride and chlorine standards for liquid fuel boilers under §63.1217 as follows:

(i) You must determine the as-fired heating value of each batch of hazardous waste fired by each firing system of the boiler so that you know the mass-weighted heating value of the hazardous waste fired at all times.

(ii) If the as-fired heating value of the hazardous waste is 10,000 Btu per pound or greater, you are subject to the thermal emission concentration standards (lb/million Btu) under §63.1217.

(iii) If the as-fired heating value of the hazardous waste is less than 10,000 Btu/lb, you are subject to the mass or volume emission concentration standards (µgm/dscm or ppmv) under §63.1217.

(iv) If the as-fired heating value of hazardous wastes varies above and below 10,000 Btu/lb over time, you are subject to the thermal concentration standards when the heating value is 10,000 Btu/lb or greater and the mass concentration standards when the heating value is less than 10,000 Btu/lb. You may elect to comply at all times with the more stringent operating requirements that ensure compliance with both the thermal emission concentration standards and the mass or volume emission concentration standards.

(c) *Operating requirements* —(1) *General.* (i) You must operate only under the operating requirements specified in the Documentation of Compliance under §63.1211(c) or the Notification of Compliance under §§63.1207(j) and 63.1210(d), except:

(A) During performance tests under approved test plans according to §63.1207(e), (f), and (g), and

(B) Under the conditions of paragraph (b)(1)(i) or (ii) of this section;

(ii) The Documentation of Compliance and the Notification of Compliance must contain operating requirements including, but not limited to, the operating requirements in this section and §63.1209

(iii) Failure to comply with the operating requirements is failure to ensure compliance with the emission standards of this subpart;

(iv) Operating requirements in the Notification of Compliance are applicable requirements for purposes of parts 70 and 71 of this chapter;

(v) The operating requirements specified in the Notification of Compliance will be incorporated in the title V permit.

(2) *Startup, shutdown, and malfunction plan.* (i) You are subject to the startup, shutdown, and malfunction plan requirements of §63.6(e)(3).

(ii) If you elect to comply with §§270.235(a)(1)(iii), 270.235(a)(2)(iii), or 270.235(b)(1)(ii) of this chapter to address RCRA concerns that you minimize emissions of toxic compounds from startup, shutdown, and malfunction events (including releases from emergency safety vents):

(A) The startup, shutdown, and malfunction plan must include a description of potential causes of malfunctions, including releases from emergency safety vents, that may result in significant releases of hazardous air pollutants, and actions the source is taking to minimize the frequency and severity of those malfunctions.

(B) You must submit the startup, shutdown, and malfunction plan to the Administrator for review and approval.

(*1*) *Approval procedure.* The Administrator will notify you of approval or intention to deny approval of the startup, shutdown, and malfunction plan within 90 calendar days after receipt of the original request and within 60 calendar days after receipt of any supplemental information that you submit. Before disapproving the plan, the Administrator will notify you of the Administrator's intention to disapprove the plan together with:

(*i*) Notice of the information and findings on which intended disapproval is based; and

(*ii*) Notice of opportunity for you to present additional information to the Administrator before final action on disapproval of the plan. At the time the Administrator notifies you of intention to disapprove the plan, the Administrator will specify how much time you will have after being notified on the intended disapproval to submit additional information.

(*2*) *Responsibility of owners and operators.* You are responsible for ensuring that you submit any supplementary and additional information supporting your plan in a timely manner to enable the Administrator to consider whether to approve the plan. Neither your submittal of the plan, nor the Administrator's failure to approve or disapprove the plan, relieves you of the responsibility to comply with the provisions of this subpart.

(C) *Changes to the plan that may significantly increase emissions.* (*1*) You must request approval in writing from the Administrator within 5 days after making a change to the startup, shutdown, and malfunction plan that may significantly increase emissions of hazardous air pollutants.

(*2*) To request approval of such changes to the startup, shutdown, and malfunction plan, you must follow the procedures provided by paragraph (c)(2)(ii)(B) of this section for initial approval of the plan.

(iii) You must identify in the plan a projected oxygen correction factor based on normal operations to use during periods of startup and shutdown.

(iv) You must record the plan in the operating record.

(v) *Operating under the startup, shutdown, and malfunction plan.* (A) *Compliance with AWFCO requirements during malfunctions.* (*1*) During malfunctions, the automatic waste feed cutoff requirements of §63.1206(c)(3) continue to apply, except for paragraphs (c)(3)(v) and (c)(3)(vi) of this section. If you exceed a part 63, Subpart EEE, of this chapter emission standard monitored by a CEMS or COMs or operating limit specified under §63.1209, the automatic waste feed cutoff system must immediately and automatically cutoff the hazardous waste feed, except as provided by paragraph (c)(3)(viii) of this section.

If the malfunction itself prevents immediate and automatic cutoff of the hazardous waste feed, however, you must cease feeding hazardous waste as quickly as possible.

(*2*) Although the automatic waste feed cutoff requirements continue to apply during a malfunction, an exceedance of an emission standard monitored by a CEMS or COMS or operating limit specified under §63.1209 is not a violation of this subpart if you take the corrective measures prescribed in the startup, shutdown, and malfunction plan.

(*3*) *Excessive exceedances during malfunctions.* For each set of 10 exceedances of an emission standard or operating requirement while hazardous waste remains in the combustion chamber (*i.e.*, when the hazardous waste residence time has not transpired since the hazardous waste feed was cutoff) during a 60-day block period, you must:

(*i*) Within 45 days of the 10th exceedance, complete an investigation of the cause of each exceedance and evaluation of approaches to minimize the frequency, duration, and severity of each exceedance, and revise the startup, shutdown, and malfunction plan as warranted by the evaluation to minimize the frequency, duration, and severity of each exceedance; and

(*ii*) Record the results of the investigation and evaluation in the operating record, and include a summary of the investigation and evaluation, and any changes to the startup, shutdown, and malfunction plan, in the excess emissions report required under §63.10(e)(3).

(B) *Compliance with AWFCO requirements when burning hazardous waste during startup and shutdown.* (*1*) If you feed hazardous waste during startup or shutdown, you must include waste feed restrictions (*e.g.*, type and quantity), and other appropriate operating conditions and limits in the startup, shutdown, and malfunction plan.

(*2*) You must interlock the operating limits you establish under paragraph (c)(2)(v)(B)(*1*) of this section with the automatic waste feed cutoff system required under §63.1206(c)(3), except for paragraphs (c)(3)(v) and (c)(3)(vi) of this section.

(*3*) When feeding hazardous waste during startup or shutdown, the automatic waste feed cutoff system must immediately and automatically cutoff the hazardous waste feed if you exceed the operating limits you establish under paragraph (c)(2)(v)(B)(*1*) of this section, except as provided by paragraph (c)(3)(viii) of this section.

(*4*) Although the automatic waste feed cutoff requirements of this paragraph apply during startup and shutdown, an exceedance of an emission standard or operating limit is not a violation of this subpart if you comply with the operating procedures prescribed in the startup, shutdown, and malfunction plan.

(3) *Automatic waste feed cutoff (AWFCO)* —(i) *General.* Upon the compliance date, you must operate the hazardous waste combustor with a functioning system that immediately and automatically cuts off the hazardous waste feed, except as provided by paragraph (c)(3)(viii) of this section:

(A) When any of the following are exceeded: Operating parameter limits specified under §63.1209; an emission standard monitored by a CEMS; and the allowable combustion chamber pressure;

(B) When the span value of any CMS detector, except a CEMS, is met or exceeded;

(C) Upon malfunction of a CMS monitoring an operating parameter limit specified under §63.1209 or an emission level; or

(D) When any component of the automatic waste feed cutoff system fails.

(ii) *Ducting of combustion gases.* During an AWFCO, you must continue to duct combustion gasses to the air pollution control system while hazardous waste remains in the combustion chamber (*i.e* ., if the hazardous waste residence time has not transpired since the hazardous waste feed cutoff system was activated).

(iii) *Restarting waste feed.* You must continue to monitor during the cutoff the operating parameters for which limits are established under §63.1209 and the emissions required under that section to be monitored by a CEMS, and you must not restart the hazardous waste feed until the operating parameters and emission levels are within the specified limits.

(iv) *Failure of the AWFCO system.* If the AWFCO system fails to automatically and immediately cutoff the flow of hazardous waste upon exceedance of a parameter required to be interlocked with the AWFCO system under paragraph (c)(3)(i) of this section, you have failed to comply with the AWFCO requirements of paragraph (c)(3) of this section. If an equipment or other failure prevents immediate and automatic cutoff of the hazardous waste feed, however, you must cease feeding hazardous waste as quickly as possible.

(v) *Corrective measures.* If, after any AWFCO, there is an exceedance of an emission standard or operating requirement, irrespective of whether the exceedance occurred while hazardous waste remained in the combustion chamber (*i.e.,* whether the hazardous waste residence time has transpired since the hazardous waste feed cutoff system was activated), you must investigate the cause of the AWFCO, take appropriate corrective measures to minimize future AWFCOs, and record the findings and corrective measures in the operating record.

(vi) *Excessive exceedance reporting.* (A) For each set of 10 exceedances of an emission standard or operating requirement while hazardous waste remains in the combustion chamber (*i.e.,* when the hazardous waste residence time has not transpired since the hazardous waste feed was cutoff) during a 60-day block period, you must submit to the Administrator a written report within 5 calendar days of the 10th exceedance documenting the exceedances and results of the investigation and corrective measures taken.

(B) On a case-by-case basis, the Administrator may require excessive exceedance reporting when fewer than 10 exceedances occur during a 60-day block period.

(vii) *Testing.* The AWFCO system and associated alarms must be tested at least weekly to verify operability, unless you document in the operating record that weekly inspections will unduly restrict or upset operations and that less frequent inspection will be adequate. At a minimum, you must conduct operability testing at least monthly. You must document and record in the operating record AWFCO operability test procedures and results.

(viii) *Ramping down waste feed.* (A) You may ramp down the waste feedrate of pumpable hazardous waste over a period not to exceed one minute, except as provided by paragraph (c)(3)(viii)(B) of this section. If you elect to ramp down the waste feed, you must document ramp down procedures in the operating and maintenance plan. The procedures must specify that the ramp down begins immediately upon initiation of automatic waste feed cutoff and the procedures must prescribe a bona fide ramping down. If an emission standard or operating limit is exceeded during the ramp down, you have failed to comply with the emission standards or operating requirements of this subpart.

(B) If the automatic waste feed cutoff is triggered by an exceedance of any of the following operating limits, you may not ramp down the waste feed cutoff: Minimum combustion chamber temperature, maximum hazardous waste feedrate, or any hazardous waste firing system operating limits that may be established for your combustor.

(4) *ESV openings* —(i) *Failure to meet standards.* If an emergency safety vent (ESV) opens when hazardous waste remains in the combustion chamber (*i.e.,* when the hazardous waste residence time has not expired) during an event other than a malfunction as defined in the startup, shutdown, and malfunction plan such that combustion gases are not treated as during the most recent comprehensive performance test (*e.g.,* if the combustion gas by-passes any emission control device that was operating during the performance test), you must document in the operating record whether you remain in compliance with the emission standards of this subpart considering emissions during the ESV opening event.

(ii) *ESV operating plan.* (A) You must develop an ESV operating plan, comply with the operating plan, and keep the plan in the operating record.

(B) The ESV operating plan must provide detailed procedures for rapidly stopping the waste feed, shutting down the combustor, and maintaining temperature and negative pressure in the combustion chamber during the hazardous waste residence time, if feasible. The plan must include calculations and information and data documenting the effectiveness of the plan's procedures for ensuring that combustion chamber temperature and negative pressure are maintained as is reasonably feasible.

(iii) *Corrective measures.* After any ESV opening that results in a failure to meet the emission standards as defined in paragraph (c)(4)(i) of this section, you must investigate the cause of the ESV opening, take appropriate corrective measures to minimize such future ESV openings, and record the findings and corrective measures in the operating record.

(iv) *Reporting requirements.* You must submit to the Administrator a written report within 5 days of an ESV opening that results in failure to meet the emission standards of this subpart (as determined in paragraph (c)(4)(i) of this section) documenting the result of the investigation and corrective measures taken.

(5) *Combustion system leaks.* (i) Combustion system leaks of hazardous air pollutants must be controlled by:

(A) Keeping the combustion zone sealed to prevent combustion system leaks; or

(B) Maintaining the maximum combustion zone pressure lower than ambient pressure using an instantaneous monitor; or

(C) Upon prior written approval of the Administrator, an alternative means of control to provide control of combustion system leaks equivalent to maintenance of combustion zone pressure lower than ambient pressure; or

(D) Upon prior written approval of the Administrator, other technique(s) which can be demonstrated to prevent fugitive emissions without use of instantaneous pressure limits; and

(ii) You must specify in the performance test workplan and Notification of Compliance the method that will be used to control combustion system leaks. If you control combustion system leaks by maintaining the combustion zone pressure lower than ambient pressure using an instantaneous monitor, you must also specify in the performance test workplan and Notification of Compliance the monitoring and recording frequency of the pressure monitor, and specify how the monitoring approach will be integrated into the automatic waste feed cutoff system.

(6) *Operator training and certification.* (i) You must establish training programs for all categories of personnel whose activities may reasonably be expected to directly affect emissions of hazardous air pollutants from the source. Such persons include, but are not limited to, chief facility operators, control room operators, continuous monitoring system operators, persons that sample and analyze feedstreams, persons that manage and charge feedstreams to the combustor, persons that operate emission control devices, and ash and waste handlers. Each training program shall be of a technical level commensurate with the person's job duties specified in the training manual. Each commensurate training program shall require an examination to be administered by the instructor at the end of the training course. Passing of this test shall be deemed the "certification" for personnel, except that, for control room operators, the training and certification program shall be as specified in paragraphs (c)(6)(iii) through (c)(6)(vi) of this section.

(ii) You must ensure that the source is operated and maintained at all times by persons who are trained and certified to perform these and any other duties that may affect emissions of hazardous air pollutants. A certified control room operator must be on duty at the site at all times the source is in operation.

(iii) Hazardous waste incinerator control room operators must:

(A) Be trained and certified under a site-specific, source-developed and implemented program that meets the requirements of paragraph (c)(6)(v) of this section; or

(B) Be trained under the requirements of, and certified under, one of the following American Society of Mechanical Engineers (ASME) standards: QHO–1–1994, QHO–1a–1996, or QHO–1–2004 (Standard for the Qualification and Certification of Hazardous Waste Incinerator Operators). If you elect to use the ASME program:

(*1*) Control room operators must, prior to the compliance date, achieve provisional certification, and must submit an application to ASME and be scheduled for the full certification exam. Within one year of the compliance date, control room operators must achieve full certification;

(*2*) New operators and operators of new sources must, before assuming their duties, achieve provisional certification, and must submit an application to ASME, and be scheduled for the full certification exam. Within one year of assuming their duties, these operators must achieve full certification; or

(C) Be trained and certified under a State program.

(iv) Control room operators of cement kilns, lightweight aggregate kilns, solid fuel boilers, liquid fuel boilers, and hydrochloric acid production furnaces must be trained and certified under:

(A) A site-specific, source-developed and implemented program that meets the requirements of paragraph (c)(6)(v) of this section; or

(B) A State program.

(v) Site-specific, source developed and implemented training programs for control room operators must include the following elements:

(A) Training on the following subjects:

(*1*) Environmental concerns, including types of emissions;

(*2*) Basic combustion principles, including products of combustion;

(*3*) Operation of the specific type of combustor used by the operator, including proper startup, waste firing, and shutdown procedures;

(*4*) Combustion controls and continuous monitoring systems;

(*5*) Operation of air pollution control equipment and factors affecting performance;

(*6*) Inspection and maintenance of the combustor, continuous monitoring systems, and air pollution control devices;

(*7*) Actions to correct malfunctions or conditions that may lead to malfunction;

(*8*) Residue characteristics and handling procedures; and

(*9*) Applicable Federal, state, and local regulations, including Occupational Safety and Health Administration workplace standards; and

(B) An examination designed and administered by the instructor; and

(C) Written material covering the training course topics that may serve as reference material following completion of the course.

(vi) To maintain control room operator qualification under a site-specific, source developed and implemented training program as provided by paragraph (c)(6)(v) of this section, control room operators must complete an annual review or refresher course covering, at a minimum, the following topics:

(A) Update of regulations;

(B) Combustor operation, including startup and shutdown procedures, waste firing, and residue handling;

(C) Inspection and maintenance;

(D) Responses to malfunctions or conditions that may lead to malfunction; and

(E) Operating problems encountered by the operator.

(vii) You must record the operator training and certification program in the operating record.

(7) *Operation and maintenance plan* —(i) You must prepare and at all times operate according to an operation and maintenance plan that describes in detail procedures for operation, inspection, maintenance, and corrective measures for all components of the combustor, including associated pollution control equipment, that could affect emissions of regulated hazardous air pollutants.

(ii) The plan must prescribe how you will operate and maintain the combustor in a manner consistent with good air pollution control practices for minimizing emissions at least to the levels achieved during the comprehensive performance test.

(iii) This plan ensures compliance with the operation and maintenance requirements of §63.6(e) and minimizes emissions of pollutants, automatic waste feed cutoffs, and malfunctions.

(iv) You must record the plan in the operating record.

(8) *Bag leak detection system requirements.* (i) If your combustor is equipped with a baghouse (fabric filter), you must continuously operate either:

(A) A bag leak detection system that meets the specifications and requirements of paragraph (c)(8)(ii) of this section and you must comply with the corrective measures and notification requirements of paragraphs (c)(8)(iii) and (iv) of this section; or

(B) A particulate matter detection system under paragraph (c)(9) of this section.

(ii) *Bag leak detection system specification and requirements.* (A) The bag leak detection system must be certified by the manufacturer to be capable of continuously detecting and recording particulate matter emissions at concentrations of 1.0 milligrams per actual cubic meter unless you demonstrate, under §63.1209(g)(1), that a higher detection limit would routinely detect particulate matter loadings during normal operations;

(B) The bag leak detection system shall provide output of relative or absolute particulate matter loadings;

(C) The bag leak detection system shall be equipped with an alarm system that will sound an audible alarm when an increase in relative particulate loadings is detected over a preset level;

(D) The bag leak detection system shall be installed and operated in a manner consistent with available written guidance from the U.S. Environmental Protection Agency or, in the absence of such written guidance, the manufacturer's written specifications and recommendations for installation, operation, and adjustment of the system;

(E) The initial adjustment of the system shall, at a minimum, consist of establishing the baseline output by adjusting the sensitivity (range) and the averaging period of the device, and establishing the alarm set points and the alarm delay time;

(F) Following initial adjustment, you must not adjust the sensitivity or range, averaging period, alarm set points, or alarm delay time, except as detailed in the operation and maintenance plan required under paragraph (c)(7) of this section. You must not increase the sensitivity by more than 100 percent or decrease the sensitivity by more than 50 percent over a 365 day period unless such adjustment follows a complete baghouse inspection which demonstrates the baghouse is in good operating condition;

(G) For negative pressure or induced air baghouses, and positive pressure baghouses that are discharged to the atmosphere through a stack, the bag leak detector shall be installed downstream of the baghouse and upstream of any wet acid gas scrubber; and

(H) Where multiple detectors are required, the system's instrumentation and alarm system may be shared among the detectors.

(iii) *Bag leak detection system corrective measures requirements.* The operating and maintenance plan required by paragraph (c)(7) of this section must include a corrective measures plan that specifies the procedures you will follow in the case of a bag leak detection system alarm. The corrective measures plan must include, at a minimum, the procedures used to determine and record the time and cause of the alarm as well as the corrective measures taken to correct the control device malfunction or minimize emissions as specified below. Failure to initiate the corrective measures required by this paragraph is failure to ensure compliance with the emission standards in this subpart.

(A) You must initiate the procedures used to determine the cause of the alarm within 30 minutes of the time the alarm first sounds; and

(B) You must alleviate the cause of the alarm by taking the necessary corrective measure(s) which may include, but are not to be limited to, the following:

(*1*) Inspecting the baghouse for air leaks, torn or broken filter elements, or any other malfunction that may cause an increase in emissions;

(*2*) Sealing off defective bags or filter media;

(*3*) Replacing defective bags or filter media, or otherwise repairing the control device;

(*4*) Sealing off a defective baghouse compartment;

(*5*) Cleaning the bag leak detection system probe, or otherwise repairing the bag leak detection system; or

(*6*) Shutting down the combustor.

(iv) *Excessive exceedances notification.* If you operate the combustor when the detector response exceeds the alarm set-point more than 5 percent of the time during any 6-month block time period, you must submit a notification to the Administrator within 30 days of the end of the 6-month block time period that describes the causes of the exceedances and the revisions to the design, operation, or maintenance of the combustor or baghouse you are taking to minimize exceedances. To document compliance with this requirement:

(A) You must keep records of the date, time, and duration of each alarm, the time corrective action was initiated and completed, and a brief description of the cause of the alarm and the corrective action taken;

(B) You must record the percent of the operating time during each 6-month period that the alarm sounds;

(C) In calculating the operating time percentage, if inspection of the fabric filter demonstrates that no corrective action is required, no alarm time is counted; and

(D) If corrective action is required, each alarm shall be counted as a minimum of 1 hour.

(9) *Particulate matter detection system requirements* . If you combustor is equipped with an electrostatic precipitator or ionizing wet scrubber and you elect not to establish under §63.1209(m)(1)(iv) site-specific control device operating parameter limits that are linked to the automatic waste feed cutoff system under paragraph (c)(3) of this section, or your combustor is equipped with a fabric filter and you elect to use a particulate matter detection system pursuant to paragraph (c)(8)(i)(B) of this section, you must continuously operate a particulate matter detection system that meets the specifications and requirements of paragraphs (c)(9)(i) through (iii) of this section and you must comply with the corrective measures and notification requirements of paragraphs (c)(9)(iv) through (v) of this section.

(i) *Particulate matter detection system requirements.* —(A) The particulate matter detection system must be certified by the manufacturer to be capable of continuously detecting and recording particulate matter emissions at concentrations of 1.0 milligrams per actual cubic meter unless you demonstrate, under §63.1209(g)(1), that a higher detection limit would routinely detect particulate matter loadings during normal operations;

(B) The particulate matter detector shall provide output of relative or absolute particulate matter loadings;

(C) The particulate matter detection system shall be equipped with an alarm system that will sound an audible alarm when an increase in relative or absolute particulate loadings is detected over the set-point

(D) You must install, operate, and maintain the particulate matter detection system in a manner consistent with the provisions of paragraph (c)(9) of this section and available written guidance from the U.S. Environmental Protection Agency or, in the absence of such written guidance, the manufacturer's written specifications and recommendations for installation, operation, maintenance and quality assurance of the system;

(E) You must include procedures for installation, operation, maintenance, and quality assurance of the particulate matter detection system in the site-specific continuous monitoring system test plan required under §63.8(e)(3) of this chapter.

(F) Where multiple detectors are required to monitor multiple control devices, the system's instrumentation and alarm system may be shared among the detectors.

(G) You must establish the alarm set-point as provided by either paragraph (c)(9)(ii) or paragraph (c)(9)(iii) of this section.

(ii) *Establishing the alarm set-point without extrapolation.* (A) The alarm set-point is the average of the test run averages of the detector response achieved during the comprehensive performance test demonstrating compliance with the particulate matter emission standard.

(B) During the comprehensive performance test, you may simulate emission concentrations at the upper end of the range of normal operations by means including feeding high levels of ash and detuning the emission control equipment.

(C) You must comply with the alarm set-point on a 6-hour rolling average, updated each hour with a one-hour block average that is the average of the detector responses over each 15-minute block;

(iii) *Establishing the alarm set-point with extrapolation.* You may extrapolate the average of the test run averages of the detector response achieved during the comprehensive performance test as provided by paragraph (c)(9)(iii)(A) of this section to establish an alarm level after you approximate the correlation of the detector response to particulate matter concentration as prescribed by paragraph (c)(9)(iii)(B) of this section. You must comply with the extrapolated alarm set-point on a 6-hour rolling average, updated each hour with a one-hour block average that is the average of the detector responses over each 15-minute block.

(A) You may extrapolate the detector response up to a particulate matter concentration that is 50% of the particulate matter emission standard or 125% of the highest particulate matter concentration used to develop the correlation under paragraph (c)(9)(iii)(B) of this section, whichever is greater. The extrapolated emission concentration must not exceed the particulate matter emission standard.

(B) To establish an approximate correlation of the detector response to particulate matter emission concentrations, you should use as guidance Performance Specification-11 for PM CEMS (40 CFR Part 60, Appendix B), except that you need only conduct 5 runs to establish the initial correlation under Section 8.6 of Performance Specification 11.

(C) For quality assurance, you should use as guidance Procedure 2 of Appendix F to Part 60 of this chapter and the detector manufacturer's recommended procedures for periodic quality assurance checks and tests, except that:

(*1*) You must conduct annual Relative Response Audits as prescribed by Procedure 2 of Appendix F to Part 60 of this chapter (Section 10.3(6));

(*2*) You need only conduct Relative Response Audits on a 3-year interval after passing two sequential annual Relative Response Audits.

(D) An exceedance of the particulate matter emission standard by a particulate matter detection system for which particulate emission concentrations have been approximately correlated with the detector response under paragraph (c)(9)(iii) of this section is not evidence that the standard has been exceeded. The approximate correlation is used for compliance assurance to determine when corrective measures must be taken rather than for compliance monitoring.

(iv) *Particulate matter detection system corrective measures requirements.* The operating and maintenance plan required by paragraph (c)(7) of this section must include a corrective measures plan that specifies the procedures you will follow in the case of a particulate matter detection system alarm. The corrective measures plan must include, at a minimum, the procedures used to determine and record the time and cause of the alarm as well as the corrective measures taken to correct the control device malfunction or minimize emissions as specified below. Failure to initiate the corrective measures required by this paragraph is failure to ensure compliance with the emission standards in this subpart.

(A) You must initiate the procedures used to determine the cause of the alarm within 30 minutes of the time the alarm first sounds; and

(B) You must alleviate the cause of the alarm by taking the necessary corrective measure(s) which may include shutting down the combustor.

(v) *Excessive exceedances notification.* If you operate the combustor when the detector response exceeds the alarm set-point more than 5 percent of the time during any 6-month block time period, you must submit a notification to the Administrator within 30 days of the end of the 6-month block time period that describes the causes of the exceedances and the revisions to the design, operation, or maintenance of the combustor or emission control device you are taking to minimize exceedances. To document compliance with this requirement:

(A) You must keep records of the date, time, and duration of each alarm, the time corrective action was initiated and completed, and a brief description of the cause of the alarm and the corrective action taken;

(B) You must record the percent of the operating time during each 6-month period that the alarm sounds;

(C) In calculating the operating time percentage, if inspection of the emission control device demonstrates that no corrective action is required, no alarm time is counted; and

(D) If corrective action is required, each alarm shall be counted as a minimum of 1 hour.

[64 FR 53038, Sept. 30, 1999, as amended at 65 FR 42298, July 10, 2000; 65 FR 67271, Nov. 9, 2000; 66 FR 24272, May 14, 2001; 66 FR 35103, July 3, 2001; 66 FR 63317, Dec. 7, 2001; 67 FR 6813, Feb. 13, 2002; 67 FR 6989, Feb. 14, 2002; 67 FR 77691, Dec. 19, 2002; 70 FR 59541, Oct. 12, 2005; 70 FR 75047, Dec. 19, 2005; 71 FR 20459, Apr. 20, 2006; 71 FR 62393, Oct. 25, 2006; 73 FR 18979, Apr. 8, 2008]

§ 63.1207 What are the performance testing requirements?

(a) *General.* The provisions of §63.7 apply, except as noted below.

(b) *Types of performance tests* —(1) *Comprehensive performance test.* You must conduct comprehensive performance tests to demonstrate compliance with the emission standards provided by this subpart, establish limits for the operating parameters provided by §63.1209, and demonstrate compliance with the performance specifications for continuous monitoring systems.

(2) *Confirmatory performance test.* You must conduct confirmatory performance tests to:

(i) Demonstrate compliance with the dioxin/furan emission standard when the source operates under normal operating conditions; and

(ii) Conduct a performance evaluation of continuous monitoring systems required for compliance assurance with the dioxin/furan emission standard under §63.1209(k).

(3) *One-Time Dioxin/Furan Test for Sources Not Subject to a Numerical Dioxin/Furan Standard.* For solid fuel boilers and hydrochloric acid production furnaces, for lightweight aggregate kilns that are not subject to a numerical dioxin/furan emission standard under §63.1221, and liquid fuel boilers that are not subject to a numerical dioxin/furan emission standard under §63.1217, you must conduct a one-time emission test for dioxin/furan under feed and operating conditions that are most likely to reflect daily maximum operating variability, similar to a dioxin/furan comprehensive performance test.

(i) You must conduct the dioxin/furan emissions test no later than the deadline for conducting the initial comprehensive performance test.

(ii) You may use dioxin/furan emissions data from previous testing to meet this requirement, provided that:

(A) The testing was conducted under feed and operating conditions that are most likely to reflect daily maximum operating variability, similar to a dioxin/furan compliance test;

(B) You have not changed the design or operation of the source in a manner that could significantly affect stack gas dioxin/furan emission concentrations; and

(C) The data meet quality assurance objectives that may be determined on a site-specific basis.

(iii) You may use dioxin/furan emissions data from a source to represent emissions from another on-site source in lieu of testing (i.e., data in lieu of testing) if the design and operation, including hazardous waste feed and other feedstreams, of the sources are identical.

(iv) You must include the results of the one-time dioxin/furan emissions test with the results of the initial comprehensive performance test in the Notification of Compliance.

(v) You must repeat the dioxin/furan emissions test if you change the design or operation of the source in a manner that may increase dioxin/furan emissions.

(vi) Sources that are required to perform the one-time dioxin/furan test pursuant to paragraph (b)(3) of this section are not required to perform confirmatory performance tests.

(c) *Initial comprehensive performance test* —(1) *Test date.* Except as provided by paragraphs (c)(2) and (c)(3) of this section, you must commence the initial comprehensive performance test not later than six months after the compliance date.

(2) *Data in lieu of the initial comprehensive performance test.* (i) You may request that previous emissions test data serve as documentation of conformance with the emission standards of this subpart provided that the previous testing:

(A) Was initiated after 54 months prior to the compliance date, except as provided by paragraphs (c)(2)(iii) or (c)(2)(iv) of this section;

(B) Results in data that meet quality assurance objectives (determined on a site-specific basis) such that the results demonstrate compliance with the applicable standards;

(C) Was in conformance with the requirements of paragraph (g)(1) of this section; and

(D) Was sufficient to establish the applicable operating parameter limits under §63.1209.

(ii) You must submit data in lieu of the initial comprehensive performance test in lieu of (i.e., if the data are in lieu of all performance testing) or with the notification of performance test required under paragraph (e) of this section.

(iii) The data in lieu test age restriction provided in paragraph (c)(2)(i)(A) of this section does not apply for the duration of the interim standards (i.e., the standards published in theFederal Registeron February 13, 2002, 67 FR 6792). See 40 CFR parts 63, 264, 265, 266, 270, and 271 revised as of July 1, 2002. Paragraph (c)(2)(i)(A) of this section does not apply until EPA promulgates permanent replacement standards pursuant to the Settlement Agreement noticed in theFederal Registeron November 16, 2001 (66 FR 57715).

(iv) The data in lieu test age restriction provided in paragraph (c)(2)(i)(A) of this section does not apply to DRE data provided you do not feed hazardous waste at a location in the combustion system other than the normal flame zone.

(3) For incinerators, cement kilns, and lightweight aggregate kilns, you must commence the initial comprehensive performance test to demonstrate compliance with the standards under §§63.1219, 63.1220, and 63.1221 not later than 12 months after the compliance date.

(d) *Frequency of testing.* Except as otherwise specified in paragraph (d)(4) of this section, you must conduct testing periodically as prescribed in paragraphs (d)(1) through (d)(3) of this section. The date of commencement of the initial comprehensive performance test is the basis for establishing the deadline to commence the initial confirmatory performance test and the next comprehensive performance test. You may conduct performance testing at any time prior to the required date. The deadline for commencing subsequent confirmatory and comprehensive performance testing is based on the date of commencement of the previous comprehensive performance test. Unless the Administrator grants a time extension under paragraph (i) of this section, you must conduct testing as follows:

(1) *Comprehensive performance testing* . Except as otherwise specified in paragraph (d)(4) of this section, you must commence testing no later than 61 months after the date of commencing the previous comprehensive performance test used to show compliance with §§63.1216, 63.1217, 63.1218, 63.1219, 63.1220, or 63.1221. If you submit data in lieu of the initial performance test, you must commence the subsequent comprehensive performance test within 61 months of commencing the test used to provide the data in lieu of the initial performance test.

(2) *Confirmatory performance testing* . Except as otherwise specified in paragraph (d)(4) of this section, you must commence confirmatory performance testing no later than 31 months after the date of commencing the previous comprehensive performance test used to show compliance with §§63.1217, 63.1219, 63.1220, or 63.1221. If you submit data in lieu of the initial performance test, you must commence the initial confirmatory performance test within 31 months of the date six months after the compliance date. To ensure that the confirmatory test is conducted approximately midway between comprehensive performance tests, the Administrator will not approve a test plan that schedules testing within 18 months of commencing the previous comprehensive performance test.

(3) *Duration of testing.* You must complete performance testing within 60 days after the date of commencement, unless the Administrator determines that a time extension is warranted based on your documentation in writing of factors beyond your control that prevent you from meeting the 60-day deadline.

(4) *Applicable testing requirements under the interim standards* . (i) *Waiver of periodic comprehensive performance tests* . Except as provided by paragraph (c)(2) of this section, you must conduct only an initial comprehensive performance test under the interim standards (*§§63.1203 through 63.1205*); all subsequent comprehensive performance testing requirements are waived under the interim standards. The provisions in the introductory text to paragraph (d) and in paragraph (d)(1) of this section apply only to tests used to demonstrate compliance with the replacement standards promulgated on or after October 12, 2005.

(ii) *Waiver of confirmatory performance tests* . You are not required to conduct a confirmatory test under the interim standards (*§§63.1203 through 63.1205*). The confirmatory testing requirements in the introductory text to paragraph (d) and in paragraph (d)(2) of this section apply only after you have demonstrated compliance with the replacement standards promulgated on or after October 12, 2005.

(ii) *Waiver of confirmatory performance tests.* You are not required to conduct a confirmatory test under the interim standards (*i.e.*, the standards published in theFederal Registeron February 13, 2002. The confirmatory testing requirements in the introductory text to paragraph (d) and in paragraph (d)(2) of this section are waived until EPA promulgates permanent replacement standards pursuant to the Settlement Agreement noticed in theFederal Registeron November 16, 2001.

(e) *Notification of performance test and CMS performance evaluation, and approval of test plan and CMS performance evaluation plan.* (1) The provisions of §63.7(b) and (c) and §63.8(e) apply, except:

(i) *Comprehensive performance test.* You must submit to the Administrator a notification of your intention to conduct a comprehensive performance test and CMS performance evaluation and a site-specific test plan and CMS performance evaluation test plan at least one year before the performance test and performance evaluation are scheduled to begin.

(A) The Administrator will notify you of approval or intent to deny approval of the site-specific test plan and CMS performance evaluation test plan within 9 months after receipt of the original plan.

(B) You must submit to the Administrator a notification of your intention to conduct the comprehensive performance test at least 60 calendar days before the test is scheduled to begin.

(ii) *Confirmatory performance test.* You must submit to the Administrator a notification of your intention to conduct a confirmatory performance test and CMS performance evaluation and a site-specific test plan and CMS performance evaluation test plan at least 60 calendar days before the performance test is scheduled to begin. The Administrator will notify you of approval or intent to deny approval of the site-specific test plan and CMS performance evaluation test plan within 30 calendar days after receipt of the original test plans.

(2) You must make your site-specific test plan and CMS performance evaluation test plan available to the public for review no later than 60 calendar days before initiation of the test. You must issue a public notice to all persons on your facility/public mailing list (developed pursuant to 40 CFR 70.7(h), 71.11(d)(3)(i)(E) and 124.10(c)(1)(ix)) announcing the availability of the test plans and the location where the test plans are available for review. The test plans must be accessible to the public for 60 calendar days, beginning on the date that you issue your public notice. The location must be unrestricted and provide access to the public during reasonable hours and provide a means for the public to obtain copies. The notification must include the following information at a minimum:

(i) The name and telephone number of the source's contact person;

(ii) The name and telephone number of the regulatory agency's contact person;

(iii) The location where the test plans and any necessary supporting documentation can be reviewed and copied;

(iv) The time period for which the test plans will be available for public review; and

(v) An expected time period for commencement and completion of the performance test and CMS performance evaluation test.

(3) *Petitions for time extension if Administrator fails to approve or deny test plans.* You may petition the Administrator under §63.7(h) to obtain a "waiver" of any performance test—initial or periodic performance test; comprehensive or confirmatory test. The "waiver" would be implemented as an extension of time to conduct the performance test at a later date.

(i) *Qualifications for the waiver.* (A) You may not petition the Administrator for a waiver under this section if the Administrator has issued a notification of intent to deny your test plan(s) under §63.7(c)(3)(i)(B);

(B) You must submit a site-specific emissions testing plan and a continuous monitoring system performance evaluation test plan at least one year before a comprehensive performance test is scheduled to begin as required by paragraph (c)(1) of this section, or at least 60 days before a confirmatory performance test is scheduled to begin as required by paragraph (d) of this section. The test plans must include all required documentation, including the substantive content requirements of paragraph (f) of this section and §63.8(e); and

(C) You must make a good faith effort to accommodate the Administrator's comments on the test plans.

(ii) *Procedures for obtaining a waiver and duration of the waiver:* (A) You must submit to the Administrator a waiver petition or request to renew the petition under §63.7(h) separately for each source at least 60 days prior to the scheduled date of the performance test;

(B) The Administrator will approve or deny the petition within 30 days of receipt and notify you promptly of the decision;

(C) The Administrator will not approve an individual waiver petition for a duration exceeding 6 months;

(D) The Administrator will include a sunset provision in the waiver ending the waiver within 6 months;

(E) You may submit a revised petition to renew the waiver under §63.7(h)(3)(iii) at least 60 days prior to the end date of the most recently approved waiver petition;

(F) The Administrator may approve a revised petition for a total waiver period up to 12 months.

(iii) *Content of the waiver.* (A) You must provide documentation to enable the Administrator to determine that the source is meeting the relevant standard(s) on a continuous basis as required by §63.7(h)(2). For extension requests for the initial comprehensive performance test, you must submit your Documentation of Compliance to assist the Administrator in making this determination.

(B) You must include in the petition information justifying your request for a waiver, such as the technical or economic infeasibility, or the impracticality, of the affected source performing the required test, as required by §63.7(h)(3)(iii).

(iv) *Public notice.* At the same time that you submit your petition to the Administrator, you must notify the public (e.g., distribute a notice to the facility/public mailing list developed pursuant to 40 CFR 70.7(h), 71.11(d)(3)(i)(E) and 124.10(c)(1)(ix)) of your petition to waive a performance test. The notification must include all of the following information at a minimum:

(A) The name and telephone number of the source's contact person;

(B) The name and telephone number of the regulatory agency's contact person;

(C) The date the source submitted its site-specific performance test plan and CMS performance evaluation test plans; and

(D) The length of time requested for the waiver.

(f) *Content of performance test plan.* The provisions of §§63.7(c)(2)(i)–(iii) and (v) regarding the content of the test plan apply. In addition, you must include the following information in the test plan:

(1) *Content of comprehensive performance test plan.* (i) An analysis of each feedstream, including hazardous waste, other fuels, and industrial furnace feedstocks, as fired, that includes:

(A) Heating value, levels of ash (for hazardous waste incinerators only), levels of semivolatile metals, low volatile metals, mercury, and total chlorine (organic and inorganic); and

(B) Viscosity or description of the physical form of the feedstream;

(ii) For organic hazardous air pollutants established by 42 U.S.C. 7412(b)(1), excluding caprolactam (CAS number 105602) as provided by §63.60:

(A) Except as provided by paragraph (f)(1)(ii)(D) of this section, an identification of such organic hazardous air pollutants that are present in each hazardous waste feedstream. You need not analyze for organic hazardous air pollutants that would reasonably not be expected to be found in the feedstream. You must identify any constituents you exclude from analysis and explain the basis for excluding them. You must conduct the feedstream analysis according to §63.1208(b)(8);

(B) An approximate quantification of such identified organic hazardous air pollutants in the hazardous waste feedstreams, within the precision produced by analytical procedures of §63.1208(b)(8); and

(C) A description of blending procedures, if applicable, prior to firing the hazardous waste feedstream, including a detailed analysis of the materials prior to blending, and blending ratios.

(D) The Administrator may approve on a case-by-case basis a hazardous waste feedstream analysis for organic hazardous air pollutants in lieu of the analysis required under paragraph (f)(1)(ii)(A) of this section if the reduced analysis is sufficient to ensure that the POHCs used to demonstrate compliance with the applicable DRE standards of this subpart continue to be representative of the most difficult to destroy organic compounds in your hazardous waste feedstreams;

(iii) A detailed engineering description of the hazardous waste combustor, including:

(A) Manufacturer's name and model number of the hazardous waste combustor;

(B) Type of hazardous waste combustor;

(C) Maximum design capacity in appropriate units;

(D) Description of the feed system for each feedstream;

(E) Capacity of each feed system;

(F) Description of automatic hazardous waste feed cutoff system(s);

(G) Description of the design, operation, and maintenance practices for any air pollution control system; and

(H) Description of the design, operation, and maintenance practices of any stack gas monitoring and pollution control monitoring systems;

(iv) A detailed description of sampling and monitoring procedures including sampling and monitoring locations in the system, the equipment to be used, sampling and monitoring frequency, and planned analytical procedures for sample analysis;

(v) A detailed test schedule for each hazardous waste for which the performance test is planned, including date(s), duration, quantity of hazardous waste to be burned, and other relevant factors;

(vi) A detailed test protocol, including, for each hazardous waste identified, the ranges of hazardous waste feedrate for each feed system, and, as appropriate, the feedrates of other fuels and feedstocks, and any other relevant parameters that may affect the ability of the hazardous waste combustor to meet the emission standards;

(vii) A description of, and planned operating conditions for, any emission control equipment that will be used;

(viii) Procedures for rapidly stopping the hazardous waste feed and controlling emissions in the event of an equipment malfunction;

(ix) A determination of the hazardous waste residence time as required by §63.1206(b)(11);

(x) If you are requesting to extrapolate metal feedrate limits from comprehensive performance test levels under §§63.1209(l)(1)(v) or 63.1209(n)(2)(vii):

(A) A description of the extrapolation methodology and rationale for how the approach ensures compliance with the emission standards;

(B) Documentation of the historical range of normal (*i.e* ., other than during compliance testing) metals feedrates for each feedstream;

(C) Documentation that the level of spiking recommended during the performance test will mask sampling and analysis imprecision and inaccuracy to the extent that the extrapolated feedrate limits adequately assure compliance with the emission standards;

(xi) If you do not continuously monitor regulated constituents in natural gas, process air feedstreams, and feedstreams from vapor recovery systems under §63.1209(c)(5), you must include documentation of the expected levels of regulated constituents in those feedstreams;

(xii) Documentation justifying the duration of system conditioning required to ensure the combustor has achieved steady-state operations under performance test operating conditions, as provided by paragraph (g)(1)(iii) of this section;

(xiii) For cement kilns with in-line raw mills, if you elect to use the emissions averaging provision of this subpart, you must notify the Administrator of your intent in the initial (and subsequent) comprehensive performance test plan, and provide the information required by the emission averaging provision;

(xiv) For preheater or preheater/precalciner cement kilns with dual stacks, if you elect to use the emissions averaging provision of this subpart, you must notify the Administrator of your intent in the initial (and subsequent) comprehensive performance test plan, and provide the information required by the emission averaging provision;

(xv) If you request to use Method 23 for dioxin/furan you must provide the information required under §63.1208(b)(1)(i)(B);

(xvi) If you are not required to conduct performance testing to document compliance with the mercury, semivolatile metals, low volatile metals, or hydrogen chloride/chlorine gas emission standards under paragraph (m) of this section, you must include with the comprehensive performance test plan documentation of compliance with the provisions of that section.

(xvii) If you propose to use a surrogate for measuring or monitoring gas flowrate, you must document in the comprehensive performance test plan that the surrogate adequately correlates with gas flowrate, as required by paragraph (m)(7) of this section, and §63.1209(j)(2), (k)(3), (m)(2)(i), (n)(5)(i), and (o)(2)(i).

(xviii) You must submit an application to request alternative monitoring under §63.1209(g)(1) not later than with the comprehensive performance test plan, as required by §63.1209(g)(1)(iii)(A).

(xix) You must document the temperature location measurement in the comprehensive performance test plan, as required by §§63.1209(j)(1)(i) and 63.1209(k)(2)(i).

(xx) If your source is equipped with activated carbon injection, you must document in the comprehensive performance test plan:

(A) The manufacturer specifications for minimum carrier fluid flowrate or pressure drop, as required by §63.1209(k)(6)(ii); and

(B) Key parameters that affect carbon adsorption, and the operating limits you establish for those parameters based on the carbon used during the performance test, if you elect not to specify and use the brand and type of carbon used during the comprehensive performance test, as required by §63.1209(k)(6)(iii).

(xxi) If your source is equipped with a carbon bed system, and you elect not to specify and use the brand and type of carbon used during the comprehensive performance test, you must include in the comprehensive performance test plan key parameters that affect carbon adsorption, and the operating limits you establish for those parameters based on the carbon used during the performance test, as required by §63.1209(k)(7)(ii).

(xxii) If you feed a dioxin/furan inhibitor into the combustion system, you must document in the comprehensive performance test plan key parameters that affect the effectiveness of the inhibitor, and the operating limits you establish for those parameters based on the inhibitor fed during the performance test, if you elect not to specify and use the brand and type of inhibitor used during the comprehensive performance test, as required by §63.1209(k)(9)(ii).

(xxiii) If your source is equipped with a wet scrubber and you elect to monitor solids content of the scrubber liquid manually but believe that hourly monitoring of solids content is not warranted, you must support an alternative monitoring frequency in the comprehensive performance test plan, as required by §63.1209(m)(1)(i)(B)(*1*)(*i*).

(xxiv) If your source is equipped with a particulate matter control device other than a wet scrubber, baghouse, or electrostatic precipitator, you must include in the comprehensive performance test plan:

(A) Documentation to support the operating parameter limits you establish for the control device, as required by §63.1209(m)(1)(iv)(A)(*4*); and

(B) Support for the use of manufacturer specifications if you recommend such specifications in lieu of basing operating limits on performance test operating levels, as required by §63.1209(m)(1)(iv)(D).

(xxv) If your source is equipped with a dry scrubber to control hydrogen chloride and chlorine gas, you must document in the comprehensive performance test plan key parameters that affect adsorption, and the limits you establish for those parameters based on the sorbent used during the performance test, if you elect not to specify and use the brand and type of sorbent used during the comprehensive performance test, as required by §63.1209(o)(4)(iii)(A); and

(xxvi) For purposes of calculating semivolatile metal, low volatile metal, mercury, and total chlorine (organic and inorganic), and ash feedrate limits, a description of how you will handle performance test feedstream analytical results that determines these constituents are not present at detectable levels.

(xxvii) Such other information as the Administrator reasonably finds necessary to determine whether to approve the performance test plan.

(2) *Content of confirmatory test plan.* (i) A description of your normal hydrocarbon or carbon monoxide operating levels, as specified in paragraph (g)(2)(i) of this section, and an explanation of how these normal levels were determined;

(ii) A description of your normal applicable operating parameter levels, as specified in paragraph (g)(2)(ii) of this section, and an explanation of how these normal levels were determined;

(iii) A description of your normal chlorine operating levels, as specified in paragraph (g)(2)(iii) of this section, and an explanation of how these normal levels were determined;

(iv) If you use carbon injection or a carbon bed, a description of your normal cleaning cycle of the particulate matter control device, as specified in paragraph (g)(2)(iv) of this section, and an explanation of how these normal levels were determined;

(v) A detailed description of sampling and monitoring procedures including sampling and monitoring locations in the system, the equipment to be used, sampling and monitoring frequency, and planned analytical procedures for sample analysis;

(vi) A detailed test schedule for each hazardous waste for which the performance test is planned, including date(s), duration, quantity of hazardous waste to be burned, and other relevant factors;

(vii) A detailed test protocol, including, for each hazardous waste identified, the ranges of hazardous waste feedrate for each feed system, and, as appropriate, the feedrates of other fuels and feedstocks, and any other relevant parameters that may affect the ability of the hazardous waste combustor to meet the dioxin/furan emission standard;

(viii) A description of, and planned operating conditions for, any emission control equipment that will be used;

(ix) Procedures for rapidly stopping the hazardous waste feed and controlling emissions in the event of an equipment malfunction; and

(x) Such other information as the Administrator reasonably finds necessary to determine whether to approve the confirmatory test plan.

(g) *Operating conditions during testing.* You must comply with the provisions of §63.7(e). Conducting performance testing under operating conditions representative of the extreme range of normal conditions is consistent with the requirement of §63.7(e)(1) to conduct performance testing under representative operating conditions.

(1) *Comprehensive performance testing* —(i) *Operations during testing.* For the following parameters, you must operate the combustor during the performance test under normal conditions (or conditions that will result in higher than normal emissions):

(A) *Chlorine feedrate.* You must feed normal (or higher) levels of chlorine during the dioxin/furan performance test;

(B) *Ash feedrate.* For hazardous waste incinerators, you must conduct the following tests when feeding normal (or higher) levels of ash: The semivolatile metal and low volatile metal performance tests; and the dioxin/furan and mercury performance tests if activated carbon injection or a carbon bed is used; and

(C) *Cleaning cycle of the particulate matter control device.* You must conduct the following tests when the particulate matter control device undergoes its normal (or more frequent) cleaning cycle: The particulate matter, semivolatile metal, and low volatile metal performance tests; and the dioxin/furan and mercury performance tests if activated carbon injection or a carbon bed is used.

(ii) *Modes of operation.* Given that you must establish limits for the applicable operating parameters specified in §63.1209 based on operations during the comprehensive performance test, you may conduct testing under two or more operating modes to provide operating flexibility.

(iii) *Steady-state conditions.* (A) Prior to obtaining performance test data, you must operate under performance test conditions until you reach steady-state operations with respect to emissions of pollutants you must measure during the performance test and operating parameters under §63.1209 for which you must establish limits. During system conditioning, you must ensure that each operating parameter for which you must establish a limit is held at the level planned for the performance test. You must include documentation in the performance test plan under paragraph (f) of this section justifying the duration of system conditioning.

(B) If you own or operate a hazardous waste cement kiln that recycles collected particulate matter (*i.e.,* cement kiln dust) into the kiln, you must sample and analyze the recycled particulate matter prior to obtaining performance test data for levels of selected metals that must be measured during performance testing to document that the system has reached steady-state conditions (*i.e.,* that metals levels have stabilized). You must document the rationale for selecting metals that are indicative of system equilibrium and include the information in the performance test plan under paragraph (f) of this section. To determine system equilibrium, you must sample and analyze the recycled particulate matter hourly for each selected metal, unless you submit in the performance test plan a justification for reduced sampling and analysis and the Administrator approves in writing a reduced sampling and analysis frequency.

(2) *Confirmatory performance testing.* You must conduct confirmatory performance testing for dioxin/furan under normal operating conditions for the following parameters:

(i) Carbon monoxide (or hydrocarbon) CEMS emissions levels must be within the range of the average value to the maximum value allowed, except as provided by paragraph (g)(2)(v) of this section. The average value is defined as the sum of the hourly rolling average values recorded (each minute) over the previous 12 months, divided by the number of rolling averages recorded during that time. The average value must not include calibration data, startup data, shutdown data, malfunction data, and data obtained when not burning hazardous waste;

(ii) Each operating limit (specified in §63.1209) established to maintain compliance with the dioxin/furan emission standard must be held within the range of the average value over the previous 12 months and the maximum or minimum, as appropriate, that is allowed, except as provided by paragraph (g)(2)(v) of this section. The average value is defined as the sum of the rolling average values recorded over the previous 12 months, divided by the number of rolling averages recorded during that time. The average value must not include calibration data, startup data, shutdown data, malfunction data, and data obtained when not burning hazardous waste;

(iii) You must feed chlorine at normal feedrates or greater; and

(iv) If the combustor is equipped with carbon injection or carbon bed, normal cleaning cycle of the particulate matter control device.

(v) The Administrator may approve an alternative range to that required by paragraphs (g)(2)(i) and (ii) of this section if you document in the confirmatory performance test plan that it may be problematic to maintain the required range during the test. In addition, when making the finding of compliance, the Administrator may consider test conditions outside of the range specified in the test plan based on a finding that you could not reasonably maintain the range specified in the test plan and considering factors including whether the time duration and level of the parameter when operations were out of the specified range were such that operations during the confirmatory test are determined to be reasonably representative of normal operations. In addition, the Administrator will consider the proximity of the emission test results to the standard.

(h) *Operating conditions during subsequent testing.* (1) Current operating parameter limits established under §63.1209 are waived during subsequent comprehensive performance testing.

(2) Current operating parameter limits are also waived during pretesting prior to comprehensive performance testing for an aggregate time not to exceed 720 hours of operation (renewable at the discretion of the Administrator) under an approved test plan or if the source records the results of the pretesting. Pretesting means:

(i) Operations when stack emissions testing for dioxin/furan, mercury, semivolatile metals, low volatile metals, particulate matter, or hydrogen chloride/chlorine gas is being performed; and

(ii) Operations to reach steady-state operating conditions prior to stack emissions testing under paragraph (g)(1)(iii) of this section.

(i) *Time extension for subsequent performance tests.* After the initial comprehensive performance test, you may request up to a one-year time extension for conducting a comprehensive or confirmatory performance test to consolidate performance testing with other state or federally required emission testing, or for other reasons deemed acceptable by the Administrator. If the Administrator grants a time extension for a comprehensive performance test, the deadlines for commencing the next comprehensive and confirmatory tests are based on the date that the subject comprehensive performance test commences.

(1) You must submit in writing to the Administrator any request under this paragraph for a time extension for conducting a performance test.

(2) You must include in the request for an extension for conducting a performance test the following:

(i) A description of the reasons for requesting the time extension;

(ii) The date by which you will commence performance testing.

(3) The Administrator will notify you in writing of approval or intention to deny approval of your request for an extension for conducting a performance test within 30 calendar days after receipt of sufficient information to evaluate your request. The 30-day approval or denial period will begin after you have been notified in writing that your application is complete. The Administrator will notify you in writing whether the application contains sufficient information to make a determination within 30

calendar days after receipt of the original application and within 30 calendar days after receipt of any supplementary information that you submit.

(4) When notifying you that your application is not complete, the Administrator will specify the information needed to complete the application. The Administrator will also provide notice of opportunity for you to present, in writing, within 30 calendar days after notification of the incomplete application, additional information or arguments to the Administrator to enable further action on the application.

(5) Before denying any request for an extension for performance testing, the Administrator will notify you in writing of the Administrator's intention to issue the denial, together with:

(i) Notice of the information and findings on which the intended denial is based; and

(ii) Notice of opportunity for you to present in writing, within 15 calendar days after notification of the intended denial, additional information or arguments to the Administrator before further action on the request.

(6) The Administrator's final determination to deny any request for an extension will be in writing and will set forth specific grounds upon which the denial is based. The final determination will be made within 30 calendar days after the presentation of additional information or argument (if the application is complete), or within 30 calendar days after the final date specified for the presentation if no presentation is made.

(j) *Notification of compliance* —(1) *Comprehensive performance test.* (i) Except as provided by paragraphs (j)(4) and (j)(5) of this section, within 90 days of completion of a comprehensive performance test, you must postmark a Notification of Compliance documenting compliance with the emission standards and continuous monitoring system requirements, and identifying operating parameter limits under §63.1209.

(ii) Upon postmark of the Notification of Compliance, you must comply with all operating requirements specified in the Notification of Compliance in lieu of the limits specified in the Documentation of Compliance required under §63.1211(c).

(2) *Confirmatory performance test.* Except as provided by paragraph (j)(4) of this section, within 90 days of completion of a confirmatory performance test, you must postmark a Notification of Compliance documenting compliance or noncompliance with the applicable dioxin/furan emission standard.

(3) See §§63.7(g), 63.9(h), and 63.1210(d) for additional requirements pertaining to the Notification of Compliance (*e.g.* , you must include results of performance tests in the Notification of Compliance).

(4) *Time extension.* You may submit a written request to the Administrator for a time extension documenting that, for reasons beyond your control, you may not be able to meet the 90-day deadline for submitting the Notification of Compliance after completion of testing. The Administrator will determine whether a time extension is warranted.

(5) *Early compliance.* If you conduct the initial comprehensive performance test prior to the compliance date, you must postmark the Notification of Compliance within 90 days of completion of the performance test or by the compliance date, whichever is later.

(k) *Failure to submit a timely notification of compliance.* (1) If you fail to postmark a Notification of Compliance by the specified date, you must cease hazardous waste burning immediately.

(2) Prior to submitting a revised Notification of Compliance as provided by paragraph (k)(3) of this section, you may burn hazardous waste only for the purpose of pretesting or comprehensive performance testing and only for a maximum of 720 hours (renewable at the discretion of the Administrator).

(3) You must submit to the Administrator a Notification of Compliance subsequent to a new comprehensive performance test before resuming hazardous waste burning.

(l) *Failure of performance test* —(1) *Comprehensive performance test.* The provisions of this paragraph do not apply to the initial comprehensive performance test if you conduct the test prior to your compliance date.

(i) If you determine (based on CEM recordings, results of analyses of stack samples, or results of CMS performance evaluations) that you have exceeded any emission standard during a comprehensive performance test for a mode of operation, you must cease hazardous waste burning immediately under that mode of operation. You must make this determination within 90 days following completion of the performance test.

(ii) If you have failed to demonstrate compliance with the emission standards for any mode of operation:

(A) Prior to submitting a revised Notification of Compliance as provided by paragraph (l)(1)(ii)(C) of this section, you may burn hazardous waste only for the purpose of pretesting or comprehensive performance testing under revised operating conditions, and only for a maximum of 720 hours (renewable at the discretion of the Administrator), except as provided by paragraph (l)(3) of this section;

(B) You must conduct a comprehensive performance test under revised operating conditions following the requirements for performance testing of this section; and

(C) You must submit to the Administrator a Notification of Compliance subsequent to the new comprehensive performance test.

(2) *Confirmatory performance test.* If you determine (based on CEM recordings, results of analyses of stack samples, or results of CMS performance evaluations) that you have failed the dioxin/furan emission standard during a confirmatory performance test, you must cease burning hazardous waste immediately. You must make this determination within 90 days following completion of the performance test. To burn hazardous waste in the future:

(i) You must submit to the Administrator for review and approval a test plan to conduct a comprehensive performance test to identify revised limits on the applicable dioxin/furan operating parameters specified in §63.1209(k);

(ii) You must submit to the Administrator a Notification of Compliance with the dioxin/furan emission standard under the provisions of paragraphs (j) and (k) of this section and this paragraph (l). You must include in the Notification of Compliance the revised limits on the applicable dioxin/furan operating parameters specified in §63.1209(k); and

(iii) Until the Notification of Compliance is submitted, you must not burn hazardous waste except for purposes of pretesting or confirmatory performance testing, and for a maximum of 720 hours (renewable at the discretion of the Administrator), except as provided by paragraph (l)(3) of this section.

(3) You may petition the Administrator to obtain written approval to burn hazardous waste in the interim prior to submitting a Notification of Compliance for purposes other than testing or pretesting. You must specify operating requirements, including limits on operating parameters, that you determine will ensure compliance with the emission standards of this subpart based on available information including data from the failed performance test. The Administrator will review, modify as necessary, and approve if warranted the interim operating requirements. An approval of interim operating requirements will include a schedule for submitting a Notification of Compliance.

(m) *Waiver of performance test* . You are not required to conduct performance tests to document compliance with the mercury, semivolatile metals, low volatile metals, or hydrogen chloride/chlorine gas emission standards under the conditions specified in paragraphs (m)(1) or (m)(2) of this section. The waiver provisions of this paragraph apply in addition to the provisions of §63.7(h).

(1) *Emission standards based on exhaust gas flow rate* . (i) You are deemed to be in compliance with an emission standard based on the volumetric flow rate of exhaust gas (i.e. µg/dscm or ppmv) if the twelve-hour rolling average maximum theoretical emission concentration (MTEC) determined as specified below does not exceed the emission standard:

(A) Determine the feedrate of mercury, semivolatile metals, low volatile metals, or total chlorine and chloride from all feedstreams;

(B) Determine the stack gas flowrate; and

(C) Calculate a MTEC for each standard assuming all mercury, semivolatile metals, low volatile metals, or total chlorine (organic and inorganic) from all feedstreams is emitted;

(ii) To document compliance with this provision, you must:

(A) Monitor and record the feedrate of mercury, semivolatile metals, low volatile metals, and total chlorine and chloride from all feedstreams according to §63.1209(c);

(B) Monitor with a CMS and record in the operating record the gas flowrate (either directly or by monitoring a surrogate parameter that you have correlated to gas flowrate);

(C) Continuously calculate and record in the operating record the MTEC under the procedures of paragraph (m)(1)(i) of this section; and

(D) Interlock the MTEC calculated in paragraph (m)(1)(i)(C) of this section to the AWFCO system to stop hazardous waste burning when the MTEC exceeds the emission standard.

(iii) in lieu of the requirement in paragraphs (m)(1)(ii)(C) and (D) of this section, you may:

(A) Identify in the Notification of Compliance a minimum gas flowrate limit and a maximum feedrate limit of mercury, semivolatile metals, low volatile metals, and/or total chlorine and chloride from all feedstreams that ensures the MTEC as calculated in paragraph (m)(1)(i)(C) of this section is below the applicable emission standard; and

(B) Interlock the minimum gas flowrate limit and maximum feedrate limit of paragraph (m)(1)(iii)(A) of this section to the AWFCO system to stop hazardous waste burning when the gas flowrate or mercury, semivolatile metals, low volatile metals, and/or total chlorine and chloride feedrate exceeds the limits of paragraph (m)(1)(iii)(A) of this section.

(2) *Emission standards based on hazardous waste thermal concentration* . (i) You are deemed to be in compliance with an emission standard specified on a hazardous waste thermal concentration basis (i.e., pounds emitted per million Btu of heat input) if the HAP thermal concentration in the waste feed does not exceed the allowable HAP thermal concentration emission rate.

(ii) To document compliance with this provision, you must:

(A) Monitor and record the feedrate of mercury, semivolatile metals, low volatile metals, and total chlorine and chloride from all hazardous waste feedstreams in accordance with §63.1209(c);

(B) Determine and record the higher heating value of each hazardous waste feed;

(C) Continuously calculate and record the thermal feed rate of all hazardous waste feedstreams by summing the products of each hazardous waste feed rate multiplied by the higher heating value of that hazardous waste;

(D) Continuously calculate and record the total HAP thermal feed concentration for each constituent by dividing the HAP feedrate determined in paragraph (m)(2)(ii)(A) of this section by the thermal feed rate determined in paragraph (m)(2)(ii)(C) of this section for all hazardous waste feedstreams;

(E) Interlock the HAP thermal feed concentration for each constituent with the AWFCO to stop hazardous waste feed when the thermal feed concentration exceeds the applicable thermal emission standard.

(3) When you determine the feedrate of mercury, semivolatile metals, low volatile metals, or total chlorine and chloride for purposes of this provision, except as provided by paragraph (m)(4) of this section, you must assume that the analyte is present at the full detection limit when the feedstream analysis determines that the analyte in not detected in the feedstream.

(4) Owners and operators of hazardous waste burning cement kilns and lightweight aggregate kilns may assume that mercury is present in raw material at half the detection limit when the raw material feedstream analysis determines that mercury is not detected.

(5) You must state in the site-specific test plan that you submit for review and approval under paragraph (e) of this section that you intend to comply with the provisions of this paragraph. You must include in the test plan documentation that any surrogate that is proposed for gas flowrate adequately correlates with the gas flowrate.

[64 FR 53038, Sept. 30, 1999, as amended at 65 FR 42299, July 10, 2000; 65 FR 67271, Nov. 9, 2000; 66 FR 35106, July 3, 2001; 66 FR 63318, Dec. 6, 2001; 67 FR 6814, Feb. 13, 2002; 67 FR 6990, Feb. 14, 2002; 67 FR 77691, Dec. 19, 2002; 70 FR 59546, Oct. 12, 2005; 73 FR 18980, Apr. 8, 2008]

§ 63.1208 What are the test methods?

(a) [Reserved]

(b) *Test methods.* You must use the following test methods to determine compliance with the emissions standards of this subpart:

(1) *Dioxins and furans.* (i) To determine compliance with the emission standard for dioxins and furans, you must use:

(A) Method 0023A, Sampling Method for Polychlorinated Dibenzo- *p* -Dioxins and Polychlorinated Dibenzofurans emissions from Stationary Sources, EPA Publication SW–846 (incorporated by reference—see §63.14); or

(B) Method 23, provided in appendix A, part 60 of this chapter, after approval by the Administrator.

(*1*) You may request approval to use Method 23 in the performance test plan required under §63.1207(e)(i) and (ii).

(*2*) In determining whether to grant approval to use Method 23, the Administrator may consider factors including whether dioxin/furan were detected at levels substantially below the emission standard in previous testing, and whether previous Method 0023 analyses detected low levels of dioxin/furan in the front half of the sampling train.

(*3*) Sources that emit carbonaceous particulate matter, such as coal-fired boilers, and sources equipped with activated carbon injection, will be deemed not suitable for use of Method 23 unless you document that there would not be a significant improvement in quality assurance with Method 0023A.

(ii) You must sample for a minimum of three hours, and you must collect a minimum sample volume of 2.5 dscm;

(iii) You may assume that nondetects are present at zero concentration.

(2) *Mercury.* You must use Method 29, provided in appendix A, part 60 of this chapter, to demonstrate compliance with emission standard for mercury.

(3) *Cadmium and lead.* You must use Method 29, provided in appendix A, part 60 of this chapter, to determine compliance with the emission standard for cadmium and lead (combined).

(4) *Arsenic, beryllium, and chromium.* You must use Method 29, provided in appendix A, part 60 of this chapter, to determine compliance with the emission standard for arsenic, beryllium, and chromium (combined).

(5) *Hydrogen chloride and chlorine gas* —(i) *Compliance with MACT standards* . To determine compliance with the emission standard for hydrogen chloride and chlorine gas (combined), you must use:

(A) Method 26/26A as provided in appendix A, part 60 of this chapter; or

(B) Methods 320 or 321 as provided in appendix A, part 63 of this chapter, or

(C) ASTM D 6735–01, Standard Test Method for Measurement of Gaseous Chlorides and Fluorides from Mineral Calcining Exhaust Sources—Impinger Method to measure emissions of hydrogen chloride, and Method 26/26A to measure emissions of chlorine gas, provided that you follow the provisions in paragraphs (b)(5)(C)(*1*) through (*6*) of this section. ASTM D 6735–01 is available for purchase from at least one of the following addresses: American Society for Testing and Materials (ASTM), 100 Barr Harbor Drive, Post Office Box C700, West Conshohocken, PA 19428–2959; or ProQuest, 300 North Zeeb Road, Ann Arbor, MI 48106.

(*1*) A test must include three or more runs in which a pair of samples is obtained simultaneously for each run according to section 11.2.6 of ASTM Method D6735–01.

(*2*) You must calculate the test run standard deviation of each set of paired samples to quantify data precision, according to Equation 1 of this section:

$$RSD_a = (100)\ \text{AbsoluteValue}\left[\frac{C1_a - C2_a}{C1_a + C2_a}\right] \qquad \text{(Eq. 1)}$$

Where:

RSD_a= The test run relative standard deviation of sample pair a, percent.

$C1_a$ and $C2_a$= The HCl concentrations, milligram/dry standard cubic meter (mg/dscm), from the paired samples.

(*3*) You must calculate the test average relative standard deviation according to Equation 2 of this section:

$$RSD_{TA} = \frac{\sum_{a=1}^{p} RSD_a}{p} \qquad (Eq. 2)$$

Where:

RSD_{TA}= The test average relative standard deviation, percent.

RSD_a= The test run relative standard deviation for sample pair a.

p = The number of test runs, ≥3.

(*4*) If RSDTA is greater than 20 percent, the data are invalid and the test must be repeated.

(*5*) The post-test analyte spike procedure of section 11.2.7 of ASTM Method D6735–01 is conducted, and the percent recovery is calculated according to section 12.6 of ASTM Method D6735–01.

(*6*) If the percent recovery is between 70 percent and 130 percent, inclusive, the test is valid. If the percent recovery is outside of this range, the data are considered invalid, and the test must be repeated.

(ii) *Compliance with risk-based limits under §63.1215.* To demonstrate compliance with emission limits established under §63.1215, you must use Method 26/26A as provided in appendix A, part 60 of this chapter, Method 320 as provided in appendix A, part 63 of this chapter, Method 321 as provided in appendix A, part 63 of this chapter, or ASTM D 6735–01, Standard Test Method for Measurement of Gaseous Chlorides and Fluorides from Mineral Calcining Exhaust Sources—Impinger Method (following the provisions of paragraphs (b)(5)(C)(*1*) through (*6*) of this section), except:

(A) For cement kilns and sources equipped with a dry acid gas scrubber, you must use Methods 320 or 321 as provided in appendix A, part 63 of this chapter, or ASTM D 6735–01 to measure hydrogen chloride, and the back-half, caustic impingers of Method 26/26A as provided in appendix A, part 60 of this chapter to measure chlorine gas; and

(B) For incinerators, boilers, and lightweight aggregate kilns, you must use Methods 320 or 321 as provided in appendix A, part 63 of this chapter, or ASTM D 6735–01 to measure hydrogen chloride, and Method 26/26A as provided in appendix A, part 60 of this chapter to measure total chlorine, and calculate chlorine gas by difference if:

(*1*) The bromine/chlorine ratio in feedstreams is greater than 5 percent; or

(*2*) The sulfur/chlorine ratio in feedstreams is greater than 50 percent.

(6) *Particulate matter.* You must use Methods 5 or 5I, provided in appendix A, part 60 of this chapter, to demonstrate compliance with the emission standard for particulate matter.

(7) *Other Test Methods.* You may use applicable test methods in EPA Publication SW-846, as incorporated by reference in paragraph (a) of this section, as necessary to demonstrate compliance with requirements of this subpart, except as otherwise specified in paragraphs (b)(2)–(b)(6) of this section.

(8) *Feedstream analytical methods.* You may use any reliable analytical method to determine feedstream concentrations of metals, chlorine, and other constituents. It is your responsibility to ensure that the sampling and analysis procedures are unbiased, precise, and that the results are representative of the feedstream.

(9) *Opacity.* If you determine compliance with the opacity standard under the monitoring requirements of §§63.1209(a)(1)(iv) and (a)(1)(v), you must use Method 9, provided in appendix A, part 60 of this chapter.

[64 FR 53038, Sept. 30, 1999, as amended at 69 FR 18803, Apr. 9, 2004; 70 FR 59547, Oct. 12, 2005]

§ 63.1209 What are the monitoring requirements?

(a) *Continuous emissions monitoring systems (CEMS) and continuous opacity monitoring systems (COMS).* (1)(i) You must use either a carbon monoxide or hydrocarbon CEMS to demonstrate and monitor compliance with the carbon monoxide and hydrocarbon standard under this subpart. You must also use an oxygen CEMS to continuously correct the carbon monoxide or hydrocarbon level to 7 percent oxygen.

(ii) (A) *Cement kilns under §63.1204* —Except as provided by paragraphs (a)(1)(iv) and (a)(1)(v) of the section, you must use a COMS to demonstrate and monitor compliance with the opacity standard under §§63.1204(a)(7) and (b)(7) at each point where emissions are vented from these affected sources including the bypass stack of a preheater or preheater/precalciner kiln with dual stacks.

(B) *Cement kilns under §63.1220* —Except as provided by paragraphs (a)(1)(iv) and (a)(1)(v) of the section and unless your source is equipped with a bag leak detection system under §63.1206(c)(8) or a particulate matter detection system under §63.1206(c)(9), you must use a COMS to demonstrate and monitor compliance with the opacity standard under §§63.1220(a)(7) and (b)(7) at each point where emissions are vented from these affected sources including the bypass stack of a preheater or preheater/precalciner kiln with dual stacks.

(C) You must maintain and operate each COMS in accordance with the requirements of §63.8(c) except for the requirements under §63.8(c)(3). The requirements of §63.1211(c) shall be complied with instead of §63.8(c)(3); and

(D) Compliance is based on a six-minute block average.

(iii) You must install, calibrate, maintain, and operate a particulate matter CEMS to demonstrate and monitor compliance with the particulate matter standards under this subpart. However, compliance with the requirements in this section to install, calibrate, maintain and operate the PM CEMS is not required until such time that the Agency promulgates all performance specifications and operational requirements applicable to PM CEMS.

(iv) If you operate a cement kiln subject to the provisions of this subpart and use a fabric filter with multiple stacks or an electrostatic precipitator with multiple stacks, you may, in lieu of installing the COMS required by paragraph (a)(1)(ii) of this section, comply with the opacity standard in accordance with the procedures of Method 9 to part 60 of this chapter:

(A) You must conduct the Method 9 test while the affected source is operating at the highest load or capacity level reasonably expected to occur within the day;

(B) The duration of the Method 9 test shall be at least 30 minutes each day;

(C) You must use the Method 9 procedures to monitor and record the average opacity for each six-minute block period during the test; and

(D) To remain in compliance, all six-minute block averages must not exceed the opacity standard.

(v) If you operate a cement kiln subject to the provisions of this subpart and use a particulate matter control device that exhausts through a monovent, or if the use of a COMS in accordance with the installation specification of Performance Specification 1 (PS–1) of appendix B to part 60 of this chapter is not feasible, you may, in lieu of installing the COMS required by paragraph (a)(1)(ii) of this section, comply with the opacity standard in accordance with the procedures of Method 9 to part 60 of this chapter:

(A) You must conduct the Method 9 test while the affected source is operating at the highest load or capacity level reasonably expected to occur within the day;

(B) The duration of the Method 9 test shall be at least 30 minutes each day;

(C) You must use the Method 9 procedures to monitor and record the average opacity for each six-minute block period during the test; and

(D) To remain in compliance, all six-minute block averages must not exceed the opacity standard.

(2) *Performance specifications.* You must install, calibrate, maintain, and continuously operate the CEMS and COMS in compliance with the quality assurance procedures provided in the appendix to this subpart and Performance Specifications 1 (opacity), 4B (carbon monoxide and oxygen), and 8A (hydrocarbons) in appendix B, part 60 of this chapter.

(3) *Carbon monoxide readings exceeding the span.* (i) Except as provided by paragraph (a)(3)(ii) of this section, if a carbon monoxide CEMS detects a response that results in a one-minute average at or above the 3,000 ppmv span level required by Performance Specification 4B in appendix B, part 60 of this chapter, the one-minute average must be recorded as 10,000 ppmv. The one-minute 10,000 ppmv value must be used for calculating the hourly rolling average carbon monoxide level.

(ii) Carbon monoxide CEMS that use a span value of 10,000 ppmv when one-minute carbon monoxide levels are equal to or exceed 3,000 ppmv are not subject to paragraph (a)(3)(i) of this section. Carbon monoxide CEMS that use a span value of 10,000 are subject to the same CEMS performance and equipment specifications when operating in the range of 3,000 ppmv to 10,000 ppmv that are provided by Performance Specification 4B for other carbon monoxide CEMS, except:

(A) Calibration drift must be less than 300 ppmv; and

(B) Calibration error must be less than 500 ppmv.

(4) *Hydrocarbon readings exceeding the span.* (i) Except as provided by paragraph (a)(4)(ii) of this section, if a hydrocarbon CEMS detects a response that results in a one-minute average at or above the 100 ppmv span level required by Performance Specification 8A in appendix B, part 60 of this chapter, the one-minute average must be recorded as 500 ppmv. The one-minute 500 ppmv value must be used for calculating the hourly rolling average HC level.

(ii) Hydrocarbon CEMS that use a span value of 500 ppmv when one-minute hydrocarbon levels are equal to or exceed 100 ppmv are not subject to paragraph (a)(4)(i) of this section. Hydrocarbon CEMS that use a span value of 500 ppmv are subject to the same CEMS performance and equipment specifications when operating in the range of 100 ppmv to 500 ppmv that are provided by Performance Specification 8A for other hydrocarbon CEMS, except:

(A) The zero and high-level calibration gas must have a hydrocarbon level of between 0 and 100 ppmv, and between 250 and 450 ppmv, respectively;

(B) The strip chart recorder, computer, or digital recorder must be capable of recording all readings within the CEM measurement range and must have a resolution of 2.5 ppmv;

(C) The CEMS calibration must not differ by more than ±15 ppmv after each 24-hour period of the seven day test at both zero and high levels;

(D) The calibration error must be no greater than 25 ppmv; and

(E) The zero level, mid-level, and high level calibration gas used to determine calibration error must have a hydrocarbon level of 0–200 ppmv, 150–200 ppmv, and 350–400 ppmv, respectively.

(5) *Petitions to use CEMS for other standards.* You may petition the Administrator to use CEMS for compliance monitoring for particulate matter, mercury, semivolatile metals, low volatile metals, and hydrogen chloride and chlorine gas under §63.8(f) in lieu of compliance with the corresponding operating parameter limits under this section.

(6) *Calculation of rolling averages* —(i) *Calculation of rolling averages initially.* The carbon monoxide or hydrocarbon CEMS must begin recording one-minute average values by 12:01 a.m. and hourly rolling average values by 1:01 a.m., when 60 one-minute values will be available for calculating the initial hourly rolling average for those sources that come into compliance on the regulatory compliance date. Sources that elect to come into compliance before the regulatory compliance date must begin recording one-minute and hourly rolling average values within 60 seconds and 60 minutes (when 60 one-minute values will be available for calculating the initial hourly rolling average), respectively, from the time at which compliance begins.

(ii) *Calculation of rolling averages upon intermittent operations.* You must ignore periods of time when one-minute values are not available for calculating the hourly rolling average. When one-minute values become available again, the first one-minute value is added to the previous 59 values to calculate the hourly rolling average.

(iii) *Calculation of rolling averages when the hazardous waste feed is cutoff.* (A) Except as provided by paragraph (a)(6)(iii)(B) of this section, you must continue monitoring carbon monoxide and hydrocarbons when the hazardous waste feed is cutoff if the source is operating. You must not resume feeding hazardous waste if the emission levels exceed the standard.

(B) You are not subject to the CEMS requirements of this subpart during periods of time you meet the requirements of §63.1206(b)(1)(ii) (compliance with emissions standards for nonhazardous waste burning sources when you are not burning hazardous waste).

(7) *Operating parameter limits for hydrocarbons.* If you elect to comply with the carbon monoxide and hydrocarbon emission standard by continuously monitoring carbon monoxide with a CEMS, you must demonstrate that hydrocarbon emissions during the comprehensive performance test do not exceed the hydrocarbon emissions standard. In addition, the limits you establish on the destruction and removal efficiency (DRE) operating parameters required under paragraph (j) of this section also ensure that you maintain compliance with the hydrocarbon emission standard. If you do not conduct the hydrocarbon demonstration and DRE tests concurrently, you must establish separate operating parameter limits under paragraph (j) of this section based on each test and the more restrictive of the operating parameter limits applies.

(b) *Other continuous monitoring systems (CMS).* (1) You must use CMS (e.g., thermocouples, pressure transducers, flow meters) to document compliance with the applicable operating parameter limits under this section.

(2) Except as specified in paragraphs (b)(2)(i) and (ii) of this section, you must install and operate continuous monitoring systems other than CEMS in conformance with §63.8(c)(3) that requires you, at a minimum, to comply with the manufacturer's written specifications or recommendations for installation, operation, and calibration of the system:

(i) *Calibration of thermocouples and pyrometers.* The calibration of thermocouples must be verified at a frequency and in a manner consistent with manufacturer specifications, but no less frequent than once per year. You must operate and maintain optical pyrometers in accordance with manufacturer specifications unless otherwise approved by the Administrator. You must calibrate optical pyrometers in accordance with the frequency and procedures recommended by the manufacturer, but no less frequent than once per year, unless otherwise approved by the Administrator. And,

(ii) *Accuracy and calibration of weight measurement devices for activated carbon injection systems.* If you operate a carbon injection system, the accuracy of the weight measurement device must be ± 1 percent of the weight being measured. The calibration of the device must be verified at least once each calendar quarter at a frequency of approximately 120 days.

(3) CMS must sample the regulated parameter without interruption, and evaluate the detector response at least once each 15 seconds, and compute and record the average values at least every 60 seconds.

(4) The span of the non-CEMS CMS detector must not be exceeded. You must interlock the span limits into the automatic waste feed cutoff system required by §63.1206(c)(3).

(5) *Calculation of rolling averages* —(i) *Calculation of rolling averages initially.* Continuous monitoring systems must begin recording one-minute average values by 12:01 a.m., hourly rolling average values by 1:01 a.m.(e.g., when 60 one-minute values will be available for calculating the initial hourly rolling average), and twelve-hour rolling averages by 12:01 p.m.(e.g., when 720 one-minute averages are available to calculate a 12-hour rolling average), for those sources that come into compliance on the regulatory compliance date. Sources that elect to come into compliance before the regulatory compliance date must begin recording one-minute, hourly rolling average, and 12-hour rolling average values within 60 seconds, 60 minutes (when 60 one-minute values will be available for calculating the initial hourly rolling average), and 720 minutes (when 720 one-minute values will be available for calculating the initial 12-hour hourly rolling average) respectively, from the time at which compliance begins.

(ii) *Calculation of rolling averages upon intermittent operations.* You must ignore periods of time when one-minute values are not available for calculating rolling averages. When one-minute values become available again, the first one-minute value is added to the previous one-minute values to calculate rolling averages.

(iii) *Calculation of rolling averages when the hazardous waste feed is cutoff.* (A) Except as provided by paragraph (b)(5)(iii)(B) of this section, you must continue monitoring operating parameter limits with a CMS when the hazardous waste feed is cutoff if the source is operating. You must not resume feeding hazardous waste if an operating parameter exceeds its limit.

(B) You are not subject to the CMS requirements of this subpart during periods of time you meet the requirements of §63.1206(b)(1)(ii) (compliance with emissions standards for nonhazardous waste burning sources when you are not burning hazardous waste).

(c) *Analysis of feedstreams* —(1) *General.* Prior to feeding the material, you must obtain an analysis of each feedstream that is sufficient to document compliance with the applicable feedrate limits provided by this section.

(2) *Feedstream analysis plan.* You must develop and implement a feedstream analysis plan and record it in the operating record. The plan must specify at a minimum:

(i) The parameters for which you will analyze each feedstream to ensure compliance with the operating parameter limits of this section;

(ii) Whether you will obtain the analysis by performing sampling and analysis or by other methods, such as using analytical information obtained from others or using other published or documented data or information;

(iii) How you will use the analysis to document compliance with applicable feedrate limits (*e.g.*, if you blend hazardous wastes and obtain analyses of the wastes prior to blending but not of the blended, as-fired, waste, the plan must describe how you will determine the pertinent parameters of the blended waste);

(iv) The test methods which you will use to obtain the analyses;

(v) The sampling method which you will use to obtain a representative sample of each feedstream to be analyzed using sampling methods described in appendix IX, part 266 of this chapter, or an equivalent method; and

(vi) The frequency with which you will review or repeat the initial analysis of the feedstream to ensure that the analysis is accurate and up to date.

(3) *Review and approval of analysis plan.* You must submit the feedstream analysis plan to the Administrator for review and approval, if requested.

(4) *Compliance with feedrate limits.* To comply with the applicable feedrate limits of this section, you must monitor and record feedrates as follows:

(i) Determine and record the value of the parameter for each feedstream by sampling and analysis or other method;

(ii) Determine and record the mass or volume flowrate of each feedstream by a CMS. If you determine flowrate of a feedstream by volume, you must determine and record the density of the feedstream by sampling and analysis (unless you report the constituent concentration in units of weight per unit volume (e.g., mg/l)); and

(iii) Calculate and record the mass feedrate of the parameter per unit time.

(5) *Waiver of monitoring of constituents in certain feedstreams.* You are not required to monitor levels of metals or chlorine in the following feedstreams to document compliance with the feedrate limits under this section provided that you document in the comprehensive performance test plan the expected levels of the constituent in the feedstream and account for those assumed feedrate levels in documenting compliance with feedrate limits: natural gas, process air, and feedstreams from vapor recovery systems.

(d) *Performance evaluations.* (1) The requirements of §§63.8(d) (Quality control program) and (e) (Performance evaluation of continuous monitoring systems) apply, except that you must conduct performance evaluations of components of the CMS under the frequency and procedures (for example, submittal of performance evaluation test plan for review and approval) applicable to performance tests as provided by §63.1207.

(2) You must comply with the quality assurance procedures for CEMS prescribed in the appendix to this subpart.

(e) *Conduct of monitoring.* The provisions of §63.8(b) apply.

(f) *Operation and maintenance of continuous monitoring systems.* The provisions of §63.8(c) apply except:

(1) *Section 63.8(c)(3).* The requirements of §63.1211(c), that requires CMSs to be installed, calibrated, and operational on the compliance date, shall be complied with instead of section 63.8(c)(3);

(2) *Section 63.8(c)(4)(ii).* The performance specifications for carbon monoxide, hydrocarbon, and oxygen CEMSs in subpart B, part 60 of this chapter that requires detectors to measure the sample concentration at least once every 15 seconds for calculating an average emission rate once every 60 seconds shall be complied with instead of section 63.8(c)(4)(ii); and

(3) Sections 63.8(c)(4)(i), (c)(5), and (c)(7)(i)(C) pertaining to COMS apply only to owners and operators of hazardous waste burning cement kilns.

(g) *Alternative monitoring requirements other than continuous emissions monitoring systems (CEMS)* —(1) *Requests to use alternatives to operating parameter monitoring requirements.* (i) You may submit an application to the Administrator under this paragraph for approval of alternative operating parameter monitoring requirements to document compliance with the emission standards of this subpart. For requests to use additional CEMS, however, you must use paragraph (a)(5) of this section and

§63.8(f). Alternative requests to operating parameter monitoring requirements that include unproven monitoring methods may not be made under this paragraph and must be made under §63.8(f).

(ii) You may submit an application to waive an operating parameter limit specified in this section based on documentation that neither that operating parameter limit nor an alternative operating parameter limit is needed to ensure compliance with the emission standards of this subpart.

(iii) You must comply with the following procedures for applications submitted under paragraphs (g)(1)(i) and (ii) of this section:

(A) *Timing of the application.* You must submit the application to the Administrator not later than with the comprehensive performance test plan.

(B) *Content of the application.* You must include in the application:

(*1*) Data or information justifying your request for an alternative monitoring requirement (or for a waiver of an operating parameter limit), such as the technical or economic infeasibility or the impracticality of using the required approach;

(*2*) A description of the proposed alternative monitoring requirement, including the operating parameter to be monitored, the monitoring approach/technique (*e.g.,* type of detector, monitoring location), the averaging period for the limit, and how the limit is to be calculated; and

(*3*) Data or information documenting that the alternative monitoring requirement would provide equivalent or better assurance of compliance with the relevant emission standard, or that it is the monitoring requirement that best assures compliance with the standard and that is technically and economically practicable.

(C) *Approval of request to use an alternative monitoring requirement or waive an operating parameter limit.* The Administrator will notify you of approval or intention to deny approval of the request within 90 calendar days after receipt of the original request and within 60 calendar days after receipt of any supplementary information that you submit. The Administrator will not approve an alternative monitoring request unless the alternative monitoring requirement provides equivalent or better assurance of compliance with the relevant emission standard, or is the monitoring requirement that best assures compliance with the standard and that is technically and economically practicable. Before disapproving any request, the Administrator will notify you of the Administrator's intention to disapprove the request together with:

(*1*) Notice of the information and findings on which the intended disapproval is based; and

(*2*) Notice of opportunity for you to present additional information to the Administrator before final action on the request. At the time the Administrator notifies you of intention to disapprove the request, the Administrator will specify how much time you will have after being notified of the intended disapproval to submit the additional information.

(D) *Responsibility of owners and operators.* You are responsible for ensuring that you submit any supplementary and additional information supporting your application in a timely manner to enable the Administrator to consider your application during review of the comprehensive performance test plan. Neither your submittal of an application, nor the Administrator's failure to approve or disapprove the application, relieves you of the responsibility to comply with the provisions of this subpart.

(iv) *Dual Standards that incorporate the Interim Standards for HAP metals.* (A) *Semivolatile and Low Volatile Metals.* You may petition the Administrator to waive a feedrate operating parameter limit under paragraph (n)(2) of this section for either the emission standards expressed in a thermal emissions format or the interim standards based on documentation that the feedrate operating parameter limit is not needed to ensure compliance with the relevant standard on a continuous basis.

(B) *Mercury.* You may petition the Administrator to waive a feedrate operating parameter limit under paragraph (l)(1) of this section for either the feed concentration standard under §§63.1220(a)(2)(i) and (b)(2)(i) or the interim standards based on documentation that the feedrate operating parameter limit is not needed to ensure compliance with the relevant standard on a continuous basis.

(2) *Administrator's discretion to specify additional or alternative requirements.* The Administrator may determine on a case-by-case basis at any time (e.g., during review of the comprehensive performance test plan, during compliance certification review) that you may need to limit additional or alternative operating parameters (e.g., opacity in addition to or in lieu of operating parameter limits on the particulate matter control device) or that alternative approaches to establish limits on operating parameters may be necessary to document compliance with the emission standards of this subpart.

(h) *Reduction of monitoring data.* The provisions of §63.8(g) apply.

(i) *When an operating parameter is applicable to multiple standards.* Paragraphs (j) through (p) of this section require you to establish limits on operating parameters based on comprehensive performance testing to ensure you maintain compliance with the emission standards of this subpart. For several parameters, you must establish a limit for the parameter to ensure compliance with more than one emission standard. An example is a limit on minimum combustion chamber temperature to ensure compliance with both the DRE standard of paragraph (j) of this section and the dioxin/furan standard of paragraph (k) of this section. If the performance tests for such standards are not performed simultaneously, the most stringent limit for a parameter derived from independent performance tests applies.

(j) *DRE.* To remain in compliance with the destruction and removal efficiency (DRE) standard, you must establish operating limits during the comprehensive performance test (or during a previous DRE test under provisions of §63.1206(b)(7)) for the following parameters, unless the limits are based on manufacturer specifications, and comply with those limits at all times that hazardous waste remains in the combustion chamber (*i.e.,* the hazardous waste residence time has not transpired since the hazardous waste feed cutoff system was activated):

(1) *Minimum combustion chamber temperature.* (i) You must measure the temperature of each combustion chamber at a location that best represents, as practicable, the bulk gas temperature in the combustion zone. You must document the temperature measurement location in the test plan you submit under §63.1207(e);

(ii) You must establish a minimum hourly rolling average limit as the average of the test run averages;

(2) *Maximum flue gas flowrate or production rate.* (i) As an indicator of gas residence time in the control device, you must establish and comply with a limit on the maximum flue gas flowrate, the maximum production rate, or another parameter that you document in the site-specific test plan as an appropriate surrogate for gas residence time, as the average of the maximum hourly rolling averages for each run.

(ii) You must comply with this limit on a hourly rolling average basis;

(3) *Maximum hazardous waste feedrate.* (i) You must establish limits on the maximum pumpable and total (i.e., pumpable and nonpumpable) hazardous waste feedrate for each location where hazardous waste is fed.

(ii) You must establish the limits as the average of the maximum hourly rolling averages for each run.

(iii) You must comply with the feedrate limit(s) on a hourly rolling average basis;

(4) *Operation of waste firing system.* You must specify operating parameters and limits to ensure that good operation of each hazardous waste firing system is maintained.

(k) *Dioxins and furans.* You must comply with the dioxin and furans emission standard by establishing and complying with the following operating parameter limits. You must base the limits on operations during the comprehensive performance test, unless the limits are based on manufacturer specifications.

(1) *Gas temperature at the inlet to a dry particulate matter control device.* (i) For sources other than a lightweight aggregate kiln, if the combustor is equipped with an electrostatic precipitator, baghouse (fabric filter), or other dry emissions control device where particulate matter is suspended in contact with combustion gas, you must establish a limit on the maximum temperature of the gas at the inlet to the device on an hourly rolling average. You must establish the hourly rolling average limit as the average of the test run averages.

(ii) For hazardous waste burning lightweight aggregate kilns, you must establish a limit on the maximum temperature of the gas at the exit of the (last) combustion chamber (or exit of any waste heat recovery system) on an hourly rolling average. The limit must be established as the average of the test run averages;

(2) *Minimum combustion chamber temperature.* (i) For sources other than cement kilns, you must measure the temperature of each combustion chamber at a location that best represents, as practicable, the bulk gas temperature in the combustion zone. You must document the temperature measurement location in the test plan you submit under §§63.1207(e) and (f);

(ii) You must establish a minimum hourly rolling average limit as the average of the test run averages.

(3) *Maximum flue gas flowrate or production rate.* (i) As an indicator of gas residence time in the control device, you must establish and comply with a limit on the maximum flue gas flowrate, the maximum production rate, or another parameter that you document in the site-specific test plan as an appropriate surrogate for gas residence time, as the average of the maximum hourly rolling averages for each run.

(ii) You must comply with this limit on a hourly rolling average basis;

(4) *Maximum hazardous waste feedrate.* (i) You must establish limits on the maximum pumpable and total (pumpable and nonpumpable) hazardous waste feedrate for each location where waste is fed.

(ii) You must establish the limits as the average of the maximum hourly rolling averages for each run.

(iii) You must comply with the feedrate limit(s) on a hourly rolling average basis;

(5) *Particulate matter operating limit.* If your combustor is equipped with an activated carbon injection system, you must establish operating parameter limits on the particulate matter control device as specified by paragraph (m)(1) of this section;

(6) *Activated carbon injection parameter limits.* If your combustor is equipped with an activated carbon injection system:

(i) *Carbon feedrate.* You must establish a limit on minimum carbon injection rate on an hourly rolling average calculated as the average of the test run averages. If your carbon injection system injects carbon at more than one location, you must establish a carbon feedrate limit for each location.

(ii) *Carrier fluid.* You must establish a limit on minimum carrier fluid (gas or liquid) flowrate or pressure drop as an hourly rolling average based on the manufacturer's specifications. You must document the specifications in the test plan you submit under §§63.1207(e) and (f);

(iii) *Carbon specification.* (A) You must specify and use the brand (*i.e.,* manufacturer) and type of carbon used during the comprehensive performance test until a subsequent comprehensive performance test is conducted, unless you document in the site-specific performance test plan required under §§63.1207(e) and (f) key parameters that affect adsorption and establish limits on those parameters based on the carbon used in the performance test.

(B) You may substitute at any time a different brand or type of carbon provided that the replacement has equivalent or improved properties compared to the carbon used in the performance test and conforms to the key sorbent parameters you identify under paragraph (k)(6)(iii)(A) of this section. You must include in the operating record documentation that the substitute carbon will provide the same level of control as the original carbon.

(7) *Carbon bed parameter limits.* If your combustor is equipped with a carbon bed system:

(i) *Monitoring bed life.* You must:

(A) Monitor performance of the carbon bed consistent with manufacturer's specifications and recommendations to ensure the carbon bed (or bed segment for sources with multiple segments) has not reached the end of its useful life to minimize dioxin/furan and mercury emissions at least to the levels required by the emission standards;

(B) Document the monitoring procedures in the operation and maintenance plan;

(C) Record results of the performance monitoring in the operating record; and

(D) Replace the bed or bed segment before it has reached the end of its useful life to minimize dioxin/furan and mercury emissions at least to the levels required by the emission standards.

(ii) *Carbon specification.* (A) You must specify and use the brand (*i.e.,* manufacturer) and type of carbon used during the comprehensive performance test until a subsequent comprehensive performance test is conducted, unless you document in the site-specific performance test plan required under §§63.1207(e) and (f) key parameters that affect adsorption and establish limits on those parameters based on the carbon used in the performance test.

(B) You may substitute at any time a different brand or type of carbon provided that the replacement has equivalent or improved properties compared to the carbon used in the performance test. You must include in the operating record documentation that the substitute carbon will provide an equivalent or improved level of control as the original carbon.

(iii) *Maximum temperature.* You must measure the temperature of the carbon bed at either the bed inlet or exit and you must establish a maximum temperature limit on an hourly rolling average as the average of the test run averages.

(8) *Catalytic oxidizer parameter limits.* If your combustor is equipped with a catalytic oxidizer, you must establish limits on the following parameters:

(i) *Minimum flue gas temperature at the entrance of the catalyst.* You must establish a limit on minimum flue gas temperature at the entrance of the catalyst on an hourly rolling average as the average of the test run averages.

(ii) *Maximum time in-use.* You must replace a catalytic oxidizer with a new catalytic oxidizer when it has reached the maximum service time specified by the manufacturer.

(iii) *Catalyst replacement specifications.* When you replace a catalyst with a new one, the new catalyst must be equivalent to or better than the one used during the previous comprehensive test, as measured by:

(A) Catalytic metal loading for each metal;

(B) Space time, expressed in the units s^{-1}, the maximum rated volumetric flow of combustion gas through the catalyst divided by the volume of the catalyst; and

(C) Substrate construction, including materials of construction, washcoat type, and pore density.

(iv) *Maximum flue gas temperature.* You must establish a maximum flue gas temperature limit at the entrance of the catalyst as an hourly rolling average, based on manufacturer's specifications.

(9) *Inhibitor feedrate parameter limits.* If you feed a dioxin/furan inhibitor into the combustion system, you must establish limits for the following parameters:

(i) *Minimum inhibitor feedrate.* You must establish a limit on minimum inhibitor feedrate on an hourly rolling average as the average of the test run averages.

(ii) *Inhibitor specifications.* (A) You must specify and use the brand (*i.e.*, manufacturer) and type of inhibitor used during the comprehensive performance test until a subsequent comprehensive performance test is conducted, unless you document in the site-specific performance test plan required under §§63.1207(e) and (f) key parameters that affect the effectiveness of the inhibitor and establish limits on those parameters based on the inhibitor used in the performance test.

(B) You may substitute at any time a different brand or type of inhibitor provided that the replacement has equivalent or improved properties compared to the inhibitor used in the performance test and conforms to the key parameters you identify under paragraph (k)(9)(ii)(A) of this section. You must include in the operating record documentation that the substitute inhibitor will provide the same level of control as the original inhibitor.

(l) *Mercury.* You must comply with the mercury emission standard by establishing and complying with the following operating parameter limits. You must base the limits on operations during the comprehensive performance test, unless the limits are based on manufacturer specifications.

(1) *Feedrate of mercury.* (i) For incinerators and solid fuel boilers, when complying with the mercury emission standards under §§63.1203, 63.1216 and 63.1219, you must establish a 12-hour rolling average limit for the total feedrate of mercury in all feedstreams as the average of the test run averages.

(ii) For liquid fuel boilers, when complying with the mercury emission standards of §63.1217, you must establish a rolling average limit for the mercury feedrate as follows on an averaging period not to exceed an annual rolling average:

(A) You must calculate a mercury system removal efficiency for each test run and calculate the average system removal efficiency of the test run averages. If emissions exceed the mercury emission standard during the comprehensive performance test, it is not a violation because the averaging period for the mercury emission standard is (not-to-exceed) one year and compliance is based on compliance with the mercury feedrate limit with an averaging period not-to-exceed one year.

(B) If you burn hazardous waste with a heating value of 10,000 Btu/lb or greater, you must calculate the mercury feedrate limit as follows:

(*1*) The mercury feedrate limit is the emission standard divided by [1 − system removal efficiency].

(2) The mercury feedrate limit is a hazardous waste thermal concentration limit expressed as pounds of mercury in hazardous waste feedstreams per million Btu of hazardous waste fired.

(3) You must comply with the hazardous waste mercury thermal concentration limit by determining the feedrate of mercury in all hazardous waste feedstreams (lb/hr) at least once a minute and the hazardous waste thermal feedrate (MM Btu/hr) at least once a minute to calculate a 60-minute average thermal emission concentration as [hazardous waste mercury feedrate (lb/hr) / hazardous waste thermal feedrate (MM Btu/hr)].

(4) You must calculate a rolling average hazardous waste mercury thermal concentration that is updated each hour.

(5) If you select an averaging period for the feedrate limit that is greater than a 12-hour rolling average, you must calculate the initial rolling average as though you had selected a 12-hour rolling average, as provided by paragraph (b)(5)(i) of this section. Thereafter, you must calculate rolling averages using either one-minute or one-hour updates. Hourly updates shall be calculated using the average of the one-minute average data for the preceding hour. For the period beginning with initial operation under this standard until the source has operated for the full averaging period that you select, the average feedrate shall be based only on actual operation under this standard.

(C) If you burn hazardous waste with a heating value of less than 10,000 Btu/lb, you must calculate the mercury feedrate limit as follows:

(1) You must calculate the mercury feedrate limit as the mercury emission standard divided by [1 – System Removal Efficiency].

(2) The feedrate limit is expressed as a mass concentration per unit volume of stack gas (µgm/dscm) and is converted to a mass feedrate (lb/hr) by multiplying it by the average stack gas flowrate of the test run averages.

(3) You must comply with the feedrate limit by determining the mercury feedrate (lb/hr) at least once a minute to calculate a 60-minute average feedrate.

(4) You must update the rolling average feedrate each hour with this 60-minute feedrate measurement.

(5) If you select an averaging period for the feedrate limit that is greater than a 12-hour rolling average, you must calculate the initial rolling average as though you had selected a 12-hour rolling average, as provided by paragraph (b)(5)(i) of this section. Thereafter, you must calculate rolling averages using either one-minute or one-hour updates. Hourly updates shall be calculated using the average of the one-minute average data for the preceding hour. For the period beginning with initial operation under this standard until the source has operated for the full averaging period that you select, the average feedrate shall be based only on actual operation under this standard.

(D) If your boiler is equipped with a wet scrubber, you must comply with the following unless you document in the performance test plan that you do not feed chlorine at rates that may substantially affect the system removal efficiency of mercury for purposes of establishing a mercury feedrate limit based on the system removal efficiency during the test:

(1) Scrubber blowdown must be minimized during a pretest conditioning period and during the performance test:

(2) Scrubber water must be preconditioned so that mercury in the water is at equilibrium with stack gas at the mercury feedrate level of the performance test; and

(3) You must establish an operating limit on minimum pH of scrubber water as the average of the test run averages and comply with the limit on an hourly rolling average.

(iii) For cement kilns:

(A) When complying with the emission standards under §§63.1220(a)(2)(i) and (b)(2)(i), you must:

(1) Comply with the mercury hazardous waste feed concentration operating requirement on a twelve-hour rolling average;

(2) Monitor and record in the operating record the as-fired mercury concentration in the hazardous waste (or the weighted-average mercury concentration for multiple hazardous waste feedstreams);

(*3*) Initiate an automatic waste feed cutoff that immediately and automatically cuts off the hazardous waste feed when the as-fired mercury concentration operating requirement is exceeded;

(B) When complying with the emission standards under §§63.1204 and 63.1220(a)(2)(ii)(A) and (b)(2)(ii)(A), you must establish a 12-hour rolling average limit for the feedrate of mercury in all feedstreams as the average of the test run averages;

(C) Except as provided by paragraph (l)(1)(iii)(D) of this section, when complying with the hazardous waste maximum theoretical emission concentration (MTEC) under §63.1220(a)(2)(ii)(B) and (b)(2)(ii)(B), you must:

(*1*) Comply with the MTEC operating requirement on a twelve-hour rolling average;

(*2*) Monitor and record the feedrate of mercury for each hazardous waste feedstream according to §63.1209(c);

(*3*) Monitor with a CMS and record in the operating record the gas flowrate (either directly or by monitoring a surrogate parameter that you have correlated to gas flowrate);

(*4*) Continuously calculate and record in the operating record a MTEC assuming mercury from all hazardous waste feedstreams is emitted;

(*5*) Initiate an automatic waste feed cutoff that immediately and automatically cuts off the hazardous waste feed when the MTEC operating requirement is exceeded;

(D) In lieu of complying with paragraph (l)(1)(iii)(C) of this section, you may:

(*1*) Identify in the Notification of Compliance a minimum gas flowrate limit and a maximum feedrate limit of mercury from all hazardous waste feedstreams that ensures the MTEC calculated in paragraph (l)(1)(iii)(C)(*4*) of this section is below the operating requirement under paragraphs §§63.1220(a)(2)(ii)(B) and (b)(2)(ii)(B); and

(*2*) Initiate an automatic waste feed cutoff that immediately and automatically cuts off the hazardous waste feed when either the gas flowrate or mercury feedrate exceeds the limits identified in paragraph (l)(1)(iii)(D)(*1*) of this section.

(iv) For lightweight aggregate kilns:

(A) When complying with the emission standards under §§63.1205, 63.1221(a)(2)(i) and (b)(2)(i), you must establish a 12-hour rolling average limit for the total feedrate of mercury in all feedstreams as the average of the test run averages;

(B) Except as provided by paragraph (l)(1)(iv)(C) of this section, when complying with the hazardous waste feedrate corresponding to a maximum theoretical emission concentration (MTEC) under §§63.1221(a)(2)(ii) and (b)(2)(ii), you must:

(*1*) Comply with the MTEC operating requirement on a twelve-hour rolling average;

(*2*) Monitor and record the feedrate of mercury for each hazardous waste feedstream according to §63.1209(c);

(*3*) Monitor with a CMS and record in the operating record the gas flowrate (either directly or by monitoring a surrogate parameter that you have correlated to gas flowrate);

(*4*) Continuously calculate and record in the operating record a MTEC assuming mercury from all hazardous waste feedstreams is emitted;

(*5*) Initiate an automatic waste feed cutoff that immediately and automatically cuts off the hazardous waste feed when the MTEC operating requirement is exceeded;

(C) In lieu of complying with paragraph (l)(1)(iv)(B) of this section, you may:

(*1*) Identify in the Notification of Compliance a minimum gas flowrate limit and a maximum feedrate limit of mercury from all hazardous waste feedstreams that ensures the MTEC calculated in paragraph (l)(1)(iv)(B)(*4*) of this section is below the operating requirement under paragraphs §§63.1221(a)(2)(ii) and (b)(2)(ii); and

(*2*) Initiate an automatic waste feed cutoff that immediately and automatically cuts off the hazardous waste feed when either the gas flowrate or mercury feedrate exceeds the limits identified in paragraph (l)(1)(iv)(C)(*1*) of this section.

(v) *Extrapolation of feedrate levels.* In lieu of establishing mercury feedrate limits as specified in paragraphs (l)(1)(i) through (iv) of this section, you may request as part of the performance test plan under §§63.7(b) and (c) and §§63.1207 (e) and (f) to use the mercury feedrates and associated emission rates during the comprehensive performance test to extrapolate to higher allowable feedrate limits and emission rates. The extrapolation methodology will be reviewed and approved, as warranted, by the Administrator. The review will consider in particular whether:

(A) Performance test metal feedrates are appropriate (*i.e.* , whether feedrates are at least at normal levels; depending on the heterogeneity of the waste, whether some level of spiking would be appropriate; and whether the physical form and species of spiked material is appropriate); and

(B) Whether the extrapolated feedrates you request are warranted considering historical metal feedrate data.

(2) *Wet scrubber.* If your combustor is equipped with a wet scrubber, you must establish operating parameter limits prescribed by paragraph (o)(3) of this section, except for paragraph (o)(3)(iv).

(3) *Activated carbon injection.* If your combustor is equipped with an activated carbon injection system, you must establish operating parameter limits prescribed by paragraphs (k)(5) and (k)(6) of this section.

(4) *Activated carbon bed.* If your combustor is equipped with an activated carbon bed system, you must comply with the requirements of (k)(7) of this section to assure compliance with the mercury emission standard.

(m) *Particulate matter.* You must comply with the particulate matter emission standard by establishing and complying with the following operating parameter limits. You must base the limits on operations during the comprehensive performance test, unless the limits are based on manufacturer specifications.

(1) *Control device operating parameter limits (OPLs).* (i) *Wet scrubbers.* For sources equipped with wet scrubbers, including ionizing wet scrubbers, high energy wet scrubbers such as venturi, hydrosonic, collision, or free jet wet scrubbers, and low energy wet scrubbers such as spray towers, packed beds, or tray towers, you must establish limits on the following parameters:

(A) For high energy scrubbers only, minimum pressure drop across the wet scrubber on an hourly rolling average, established as the average of the test run averages;

(B) For all wet scrubbers:

(*1*) To ensure that the solids content of the scrubber liquid does not exceed levels during the performance test, you must either:

(*i*) Establish a limit on solids content of the scrubber liquid using a CMS or by manual sampling and analysis. If you elect to monitor solids content manually, you must sample and analyze the scrubber liquid hourly unless you support an alternative monitoring frequency in the performance test plan that you submit for review and approval; or

(*ii*) Establish a minimum blowdown rate using a CMS and either a minimum scrubber tank volume or liquid level using a CMS.

(*2*) For maximum solids content monitored with a CMS, you must establish a limit on a twelve-hour rolling average as the average of the test run averages.

(*3*) For maximum solids content measured manually, you must establish an hourly limit, as measured at least once per hour, unless you support an alternative monitoring frequency in the performance test plan that you submit for review and approval. You must establish the maximum hourly limit as the average of the manual measurement averages for each run.

(*4*) For minimum blowdown rate and either a minimum scrubber tank volume or liquid level using a CMS, you must establish a limit on an hourly rolling average as the average of the test run averages.

(C) For high energy wet scrubbers only, you must establish limits on either the minimum liquid to gas ratio or the minimum scrubber water flowrate and maximum flue gas flowrate on an hourly rolling average. If you establish limits on maximum flue gas flowrate under this paragraph, you need not establish a limit on maximum flue gas flowrate under paragraph (m)(2) of this section. You must establish these hourly rolling average limits as the average of the test run averages; and (ii)–(iii) [Reserved]

(iv) *Other particulate matter control devices.* For each particulate matter control device that is not a fabric filter or high energy wet scrubber, or is not an electrostatic precipitator or ionizing wet scrubber for which you elect to monitor particulate matter loadings under §63.1206(c)(9) of this chapter for process control, you must ensure that the control device is properly operated and maintained as required by §63.1206(c)(7) and by monitoring the operation of the control device as follows:

(A) During each comprehensive performance test conducted to demonstrate compliance with the particulate matter emissions standard, you must establish a range of operating values for the control device that is a representative and reliable indicator that the control device is operating within the same range of conditions as during the performance test. You must establish this range of operating values as follows:

(*1*) You must select a set of operating parameters appropriate for the control device design that you determine to be a representative and reliable indicator of the control device performance.

(*2*) You must measure and record values for each of the selected operating parameters during each test run of the performance test. A value for each selected parameter must be recorded using a continuous monitor.

(*3*) For each selected operating parameter measured in accordance with the requirements of paragraph (m)(1)(iv)(A)(*1*) of this section, you must establish a minimum operating parameter limit or a maximum operating parameter limit, as appropriate for the parameter, to define the operating limits within which the control device can operate and still continuously achieve the same operating conditions as during the performance test.

(*4*) You must prepare written documentation to support the operating parameter limits established for the control device and you must include this documentation in the performance test plan that you submit for review and approval. This documentation must include a description for each selected parameter and the operating range and monitoring frequency required to ensure the control device is being properly operated and maintained.

(B) You must install, calibrate, operate, and maintain a monitoring device equipped with a recorder to measure the values for each operating parameter selected in accordance with the requirements of paragraph (m)(1)(iv)(A)(*1*) of this section. You must install, calibrate, and maintain the monitoring equipment in accordance with the equipment manufacturer's specifications. The recorder must record the detector responses at least every 60 seconds, as required in the definition of continuous monitor.

(C) You must regularly inspect the data recorded by the operating parameter monitoring system at a sufficient frequency to ensure the control device is operating properly. An excursion is determined to have occurred any time that the actual value of a selected operating parameter is less than the minimum operating limit (or, if applicable, greater than the maximum operating limit) established for the parameter in accordance with the requirements of paragraph (m)(1)(iv)(A)(3) of this section.

(D) Operating parameters selected in accordance with paragraph (m)(1)(iv) of this section may be based on manufacturer specifications provided you support the use of manufacturer specifications in the performance test plan that you submit for review and approval.

(2) *Maximum flue gas flowrate or production rate.* (i) As an indicator of gas residence time in the control device, you must establish a limit on the maximum flue gas flowrate, the maximum production rate, or another parameter that you document in the site-specific test plan as an appropriate surrogate for gas residence time, as the average of the maximum hourly rolling averages for each run.

(ii) You must comply with this limit on a hourly rolling average basis;

(3) *Maximum ash feedrate.* Owners and operators of hazardous waste incinerators, solid fuel boilers, and liquid fuel boilers must establish a maximum ash feedrate limit as a 12-hour rolling average based on the average of the test run averages. This requirement is waived, however, if you comply with the particulate matter detection system requirements under §63.1206(c)(9).

(n) *Semivolatile metals and low volatility metals.* You must comply with the semivolatile metal (cadmium and lead) and low volatile metal (arsenic, beryllium, and chromium) emission standards by establishing and complying with the following operating parameter limits. You must base the limits on operations during the comprehensive performance test, unless the limits are based on manufacturer specifications.

(1) *Maximum inlet temperature to dry particulate matter air pollution control device.* You must establish a limit on the maximum inlet temperature to the primary dry metals emissions control device (*e.g.,* electrostatic precipitator, baghouse) on an hourly rolling average basis as the average of the test run averages.

(2) *Maximum feedrate of semivolatile and low volatile metals.* (i) *General.* You must establish feedrate limits for semivolatile metals (cadmium and lead) and low volatile metals (arsenic, beryllium, and chromium) as follows, except as provided by paragraph (n)(2)(vii) of this section.

(ii) For incinerators, cement kilns, and lightweight aggregate kilns, when complying with the emission standards under §§63.1203, 63.1204, 63.1205, and 63.1219, and for solid fuel boilers when complying with the emission standards under §63.1216, you must establish 12-hour rolling average limits for the total feedrate of semivolatile and low volatile metals in all feedstreams as the average of the test run averages.

(iii) *Cement kilns under §63.1220* —(A) When complying with the emission standards under §63.1220(a)(3)(i), (a)(4)(i), (b)(3)(i), and (b)(4)(i), you must establish 12-hour rolling average feedrate limits for semivolatile and low volatile metals as the thermal concentration of semivolatile metals or low volatile metals in all hazardous waste feedstreams. You must calculate hazardous waste thermal concentrations for semivolatile metals and low volatile metals for each run as the total mass feedrate of semivolatile metals or low volatile metals for all hazardous waste feedstreams divided by the total heat input rate for all hazardous waste feedstreams. The 12-hour rolling average feedrate limits for semivolatile metals and low volatile metals are the average of the test run averages, calculated on a thermal concentration basis, for all hazardous waste feeds.

(B) When complying with the emission standards under §§63.1220(a)(3)(ii), (a)(4)(ii), (b)(3)(ii), and (b)(4)(ii), you must establish 12-hour rolling average limits for the total feedrate of semivolatile and low volatile metals in all feedstreams as the average of the test run averages.

(iv) *Lightweight aggregate kilns under §63.1221* —(A) When complying with the emission standards under §§63.1221(a)(3)(i), (a)(4)(i), (b)(3)(i), and (b)(4)(i), you must establish 12-hour rolling average feedrate limits for semivolatile and low volatile metals as the thermal concentration of semivolatile metals or low volatile metals in all hazardous waste feedstreams as specified in paragraphs (n)(2)(iii)(A) of this section.

(B) When complying with the emission standards under §§63.1221(a)(3)(ii), (a)(4)(ii), (b)(3)(ii), and (b)(4)(ii), you must establish 12-hour rolling average limits for the total feedrate of semivolatile and low volatile metals in all feedstreams as the average of the test run averages.

(v) *Liquid fuel boilers under §63.1217.* (A) *Semivolatile metals.* You must establish a rolling average limit for the semivolatile metal feedrate as follows on an averaging period not to exceed an annual rolling average.

(*1*) *System removal efficiency.* You must calculate a semivolatile metal system removal efficiency for each test run and calculate the average system removal efficiency of the test run averages. If emissions exceed the semivolatile metal emission standard during the comprehensive performance test, it is not a violation because the averaging period for the semivolatile metal emission standard is one year and compliance is based on compliance with the semivolatile metal feedrate limit that has an averaging period not to exceed an annual rolling average.

(*2*) *Boilers that feed hazardous waste with a heating value of 10,000 Btu/lb or greater.* You must calculate the semivolatile metal feedrate limit as the semivolatile metal emission standard divided by [1 − System Removal Efficiency].

(*i*) The feedrate limit is a hazardous waste thermal concentration limit expressed as pounds of semivolatile metals in all hazardous waste feedstreams per million Btu of hazardous waste fed to the boiler.

(*ii*) You must comply with the hazardous waste semivolatile metal thermal concentration limit by determining the feedrate of semivolatile metal in all hazardous waste feedstreams (lb/hr) and the hazardous waste thermal feedrate (MM Btu/hr) at least once a minute to calculate a 60-minute average thermal emission concentration as [hazardous waste semivolatile metal feedrate (lb/hr) / hazardous waste thermal feedrate (MM Btu/hr)].

(*iii*) You must calculate a rolling average hazardous waste semivolatile metal thermal concentration that is updated each hour.

(*iv*) If you select an averaging period for the feedrate limit that is greater than a 12-hour rolling average, you must calculate the initial rolling average as though you had selected a 12-hour rolling average, as provided by paragraph (b)(5)(i) of this section. Thereafter, you must calculate rolling averages using either one-minute or one-hour updates. Hourly updates shall be calculated using the average of the one-minute average data for the preceding hour. For the period beginning with initial operation under this standard until the source has operated for the full averaging period that you select, the average feedrate shall be based only on actual operation under this standard.

(*3*) *Boilers that feed hazardous waste with a heating value less than 10,000 Btu/lb.* (*i*) You must calculate the semivolatile metal feedrate limit as the semivolatile metal emission standard divided by [1 − System Removal Efficiency].

(*ii*) The feedrate limit is expressed as a mass concentration per unit volume of stack gas (μgm/dscm) and is converted to a mass feedrate (lb/hr) by multiplying it by the average stack gas flowrate (dscm/hr) of the test run averages.

(*iii*) You must comply with the feedrate limit by determining the semivolatile metal feedrate (lb/hr) at least once a minute to calculate a 60-minute average feedrate.

(*iv*) You must update the rolling average feedrate each hour with this 60-minute feedrate measurement.

(*v*) If you select an averaging period for the feedrate limit that is greater than a 12-hour rolling average, you must calculate the initial rolling average as though you had selected a 12-hour rolling average, as provided by paragraph (b)(5)(i) of this section. Thereafter, you must calculate rolling averages using either one-minute or one-hour updates. Hourly updates shall be calculated using the average of the one-minute average data for the preceding hour. For the period beginning with initial operation under this standard until the source has operated for the full averaging period that you select, the average feedrate shall be based only on actual operation under this standard.

(B) *Chromium* —(*1*) *Boilers that feed hazardous waste with a heating value of 10,000 Btu/lb or greater.* (*i*) The 12-hour rolling average feedrate limit is a hazardous waste thermal concentration limit expressed as pounds of chromium in all hazardous waste feedstreams per million Btu of hazardous waste fed to the boiler. You must establish the 12-hour rolling average feedrate limit as the average of the test run averages.

(*ii*) You must comply with the hazardous waste chromium thermal concentration limit by determining the feedrate of chromium in all hazardous waste feedstreams (lb/hr) and the hazardous waste thermal feedrate (MMBtu/hr) at least once each minute as [hazardous waste chromium feedrate (lb/hr)/hazardous waste thermal feedrate (MMBtu/hr)].

(*2*) *Boilers that feed hazardous waste with a heating value less than 10,000 Btu/lb.* You must establish a 12-hour rolling average limit for the total feedrate (lb/hr) of chromium in all feedstreams as the average of the test run averages.

(vi) *LVM limits for pumpable wastes.* You must establish separate feedrate limits for low volatile metals in pumpable feedstreams using the procedures prescribed above for total low volatile metals. Dual feedrate limits for both pumpable and total feedstreams are not required, however, if you base the total feedrate limit solely on the feedrate of pumpable feedstreams.

(vii) *Extrapolation of feedrate levels.* In lieu of establishing feedrate limits as specified in paragraphs (n)(2)(ii) through (vi) of this section, you may request as part of the performance test plan under §§63.7(b) and (c) and §§63.1207(e) and (f) to use the semivolatile metal and low volatile metal feedrates and associated emission rates during the comprehensive performance test to extrapolate to higher allowable feedrate limits and emission rates. The extrapolation methodology will be reviewed and approved, as warranted, by the Administrator. The review will consider in particular whether:

(A) Performance test metal feedrates are appropriate (*i.e.* , whether feedrates are at least at normal levels; depending on the heterogeneity of the waste, whether some level of spiking would be appropriate; and whether the physical form and species of spiked material is appropriate); and

(B) Whether the extrapolated feedrates you request are warranted considering historical metal feedrate data.

(3) *Control device operating parameter limits (OPLs).* You must establish operating parameter limits on the particulate matter control device as specified by paragraph (m)(1) of this section;

(4) *Maximum total chlorine and chloride feedrate.* You must establish a 12-hour rolling average limit for the feedrate of total chlorine and chloride in all feedstreams as the average of the test run averages.

(5) *Maximum flue gas flowrate or production rate.* (i) As an indicator of gas residence time in the control device, you must establish a limit on the maximum flue gas flowrate, the maximum production rate, or another parameter that you document in the site-specific test plan as an appropriate surrogate for gas residence time, as the average of the maximum hourly rolling averages for each run.

(ii) You must comply with this limit on a hourly rolling average basis.

(o) *Hydrogen chloride and chlorine gas.* You must comply with the hydrogen chloride and chlorine gas emission standard by establishing and complying with the following operating parameter limits. You must base the limits on operations during the comprehensive performance test, unless the limits are based on manufacturer specifications.

(1) *Feedrate of total chlorine and chloride.* (i) *Incinerators, cement kilns, lightweight aggregate kilns, solid fuel boilers, and hydrochloric acid production furnaces.* You must establish a 12-hour rolling average limit for the total feedrate of chlorine (organic and inorganic) in all feedstreams as the average of the test run averages.

(ii) *Liquid fuel boilers.* (A) *Boilers that feed hazardous waste with a heating value not less than 10,000 Btu/lb.* (*1*) The feedrate limit is a hazardous waste thermal concentration limit expressed as pounds of chlorine (organic and inorganic) in all hazardous waste feedstreams per million Btu of hazardous waste fed to the boiler.

(*2*) You must establish a 12-hour rolling average feedrate limit as the average of the test run averages.

(*3*) You must comply with the feedrate limit by determining the mass feedrate of hazardous waste feedstreams (lb/hr) at least once a minute and by knowing the chlorine content (organic and inorganic, lb of chlorine/lb of hazardous waste) and heating value (Btu/lb) of hazardous waste feedstreams at all times to calculate a 1-minute average feedrate measurement as [hazardous waste chlorine content (lb of chlorine/lb of hazardous waste feed)/hazardous waste heating value (Btu/lb of hazardous waste)]. You must update the rolling average feedrate each hour with this 60-minute average feedrate measurement.

(B) *Boilers that feed hazardous waste with a heating value less than 10,000 Btu/lb.* You must establish a 12-hour rolling average limit for the total feedrate of chlorine (organic and inorganic) in all feedstreams as the average of the test run averages. You must update the rolling average feedrate each hour with a 60-minute average feedrate measurement.

(2) *Maximum flue gas flowrate or production rate.* (i) As an indicator of gas residence time in the control device, you must establish a limit on the maximum flue gas flowrate, the maximum production rate, or another parameter that you document in the site-specific test plan as an appropriate surrogate for gas residence time, as the average of the maximum hourly rolling averages for each run.

(ii) You must comply with this limit on a hourly rolling average basis;

(3) *Wet scrubber.* If your combustor is equipped with a wet scrubber:

(i) If your source is equipped with a high energy wet scrubber such as a venturi, hydrosonic, collision, or free jet wet scrubber, you must establish a limit on minimum pressure drop across the wet scrubber on an hourly rolling average as the average of the test run averages;

(ii) If your source is equipped with a low energy wet scrubber such as a spray tower, packed bed, or tray tower, you must establish a minimum pressure drop across the wet scrubber based on manufacturer's specifications. You must comply with the limit on an hourly rolling average;

(iii) If your source is equipped with a low energy wet scrubber, you must establish a limit on minimum liquid feed pressure to the wet scrubber based on manufacturer's specifications. You must comply with the limit on an hourly rolling average;

(iv) You must establish a limit on minimum pH on an hourly rolling average as the average of the test run averages;

(v) You must establish limits on either the minimum liquid to gas ratio or the minimum scrubber water flowrate and maximum flue gas flowrate on an hourly rolling average as the average of the test run averages. If you establish limits on maximum flue gas flowrate under this paragraph, you need not establish a limit on maximum flue gas flowrate under paragraph (o)(2) of this section; and

(4) *Dry scrubber.* If your combustor is equipped with a dry scrubber, you must establish the following operating parameter limits:

(i) *Minimum sorbent feedrate.* You must establish a limit on minimum sorbent feedrate on an hourly rolling average as the average of the test run averages.

(ii) *Minimum carrier fluid flowrate or nozzle pressure drop.* You must establish a limit on minimum carrier fluid (gas or liquid) flowrate or nozzle pressure drop based on manufacturer's specifications.

(iii) *Sorbent specifications.* (A) You must specify and use the brand (*i.e.*, manufacturer) and type of sorbent used during the comprehensive performance test until a subsequent comprehensive performance test is conducted, unless you document in the site-specific performance test plan required under §§63.1207(e) and (f) key parameters that affect adsorption and establish limits on those parameters based on the sorbent used in the performance test.

(B) You may substitute at any time a different brand or type of sorbent provided that the replacement has equivalent or improved properties compared to the sorbent used in the performance test and conforms to the key sorbent parameters you identify under paragraph (o)(4)(iii)(A) of this section. You must record in the operating record documentation that the substitute sorbent will provide the same level of control as the original sorbent.

(p) *Maximum combustion chamber pressure.* If you comply with the requirements for combustion system leaks under §63.1206(c)(5) by maintaining the maximum combustion chamber zone pressure lower than ambient pressure to prevent combustion systems leaks from hazardous waste combustion, you must perform instantaneous monitoring of pressure and the automatic waste feed cutoff system must be engaged when negative pressure is not adequately maintained.

(q) *Operating under different modes of operation.* If you operate under different modes of operation, you must establish operating parameter limits for each mode. You must document in the operating record when you change a mode of operation and begin complying with the operating limits for an alternative mode of operation.

(1) *Operating under otherwise applicable standards after the hazardous waste residence time has transpired.* As provided by §63.1206(b)(1)(ii), you may operate under otherwise applicable requirements promulgated under sections 112 and 129 of the Clean Air Act in lieu of the substantive requirements of this subpart.

(i) The otherwise applicable requirements promulgated under sections 112 and 129 of the Clean Air Act are applicable requirements under this subpart.

(ii) You must specify (e.g., by reference) the otherwise applicable requirements as a mode of operation in your Documentation of Compliance under §63.1211(c), your Notification of Compliance under §63.1207(j), and your title V permit application. These requirements include the otherwise applicable requirements governing emission standards, monitoring and compliance, and notification, reporting, and recordkeeping.

(2) *Calculating rolling averages under different modes of operation.* When you transition to a different mode of operation, you must calculate rolling averages as follows:

(i) *Retrieval approach.* Calculate rolling averages anew using the continuous monitoring system values previously recorded for that mode of operation (i.e., you ignore continuous monitoring system values subsequently recorded under other modes of operation when you transition back to a mode of operation); or

(ii) *Start anew.* Calculate rolling averages anew without considering previous recordings.

(A) Rolling averages must be calculated as the average of the available one-minute values for the parameter until enough one-minute values are available to calculate hourly or 12-hour rolling averages, whichever is applicable to the parameter.

(B) You may not transition to a new mode of operation using this approach if the most recent operation in that mode resulted in an exceedance of an applicable emission standard measured with a CEMS or operating parameter limit prior to the hazardous waste residence time expiring; or

(iii) *Seamless transition.* Continue calculating rolling averages using data from the previous operating mode provided that both the operating limit and the averaging period for the parameter are the same for both modes of operation.

(r) *Averaging periods.* The averaging periods specified in this section for operating parameters are not-to-exceed averaging periods. You may elect to use shorter averaging periods. For example, you may elect to use a 1-hour rolling average rather than the 12-hour rolling average specified in paragraph (l)(1)(i) of this section for mercury.

[64 FR 53038, Sept. 30, 1999, as amended at 65 FR 42300, July 10, 2000; 65 FR 67271, Nov. 9, 2000; 66 FR 24272, May 14, 2001; 66 FR 35106, July 3, 2001; 67 FR 6815, Feb. 13, 2002; 67 FR 6991, Feb. 14, 2002; 67 FR 77691, Dec. 19, 2002; 70 FR 59548, Oct. 12, 2005; 73 FR 18981, Apr. 8, 2008]

Notification, Reporting and Recordkeeping

§ 63.1210 What are the notification requirements?

(a) *Summary of requirements.* (1) You must submit the following notifications to the Administrator:

Reference	Notification
63.9(b)	Initial notifications that you are subject to Subpart EEE of this Part.
63.9(d)	Notification that you are subject to special compliance requirements.
63.9(j)	Notification and documentation of any change in information already provided under §63.9.
63.1206(b)(5)(i)	Notification of changes in design, operation, or maintenance.
63.1206(c)(7)(ii)(C)	Notification of excessive bag leak detection system exceedances.
63.1207(e), 63.9(e) 63.9(g)(1) and (3)	Notification of performance test and continuous monitoring system evaluation, including the performance test plan and CMS performance evaluation plan.[1]
63.1210(b)	Notification of intent to comply.
63.1210(d), 63.1207(j), 63.1207(k), 63.1207(l), 63.9(h), 63.10(d)(2), 63.10(e)(2)	Notification of compliance, including results of performance tests and continuous monitoring system performance evaluations.

[1]You may also be required on a case-by-case basis to submit a feedstream analysis plan under §63.1209(c)(3).

(2) You must submit the following notifications to the Administrator if you request or elect to comply with alternative requirements:

Reference	Notification, request, petition, or application
63.9(i)	You may request an adjustment to time periods or postmark deadlines for submittal and review of required information.
63.10(e)(3)(ii)	You may request to reduce the frequency of excess emissions and CMS performance reports.
63.10(f)	You may request to waive recordkeeping or reporting requirements.
63.1204(d)(2)(iii), 63.1220(d)(2)(iii)	Notification that you elect to comply with the emission averaging requirements for cement kilns with in-line raw mills.
63.1204(e)(2)(iii), 63.1220(e)(2)(iii)	Notification that you elect to comply with the emission averaging requirements for preheater or preheater/precalciner kilns with dual stacks.
63.1206(b)(4), 63.1213, 63.6(i), 63.9(c)	You may request an extension of the compliance date for up to one year.
63.1206(b)(5)(i)(C)	You may request to burn hazardous waste for more than 720 hours and for purposes other than testing or pretesting after making a change in the design or operation that could affect compliance with emission standards and prior to submitting a revised Notification of Compliance.

63.1206(b)(8)(iii)(B)	If you elect to conduct particulate matter CEMS correlation testing and wish to have federal particulate matter and opacity standards and associated operating limits waived during the testing, you must notify the Administrator by submitting the correlation test plan for review and approval.
63.1206(b)(8)(v)	You may request approval to have the particulate matter and opacity standards and associated operating limits and conditions waived for more than 96 hours for a correlation test.
63.1206(b)(9)	Owners and operators of lightweight aggregate kilns may request approval of alternative emission standards for mercury, semivolatile metal, low volatile metal, and hydrogen chloride/chlorine gas under certain conditions.
63.1206(b)(10)	Owners and operators of cement kilns may request approval of alternative emission standards for mercury, semivolatile metal, low volatile metal, and hydrogen chloride/chlorine gas under certain conditions.
63.1206(b)(14)	Owners and operators of incinerators may elect to comply with an alternative to the particulate matter standard.
63.1206(b)(15)	Owners and operators of cement and lightweight aggregate kilns may request to comply with the alternative to the interim standards for mercury.
63.1206(c)(2)(ii)(C)	You may request to make changes to the startup, shutdown, and malfunction plan.
63.1206(c)(5)(i)(C)	You may request an alternative means of control to provide control of combustion system leaks.
63.1206(c)(5)(i)(D)	You may request other techniques to prevent fugitive emissions without use of instantaneous pressure limits.
63.1207(c)(2)	You may request to base initial compliance on data in lieu of a comprehensive performance test.
63.1207(d)(3)	You may request more than 60 days to complete a performance test if additional time is needed for reasons beyond your control.
63.1207(e)(3), 63.7(h)	You may request a time extension if the Administrator fails to approve or deny your test plan.
63.1207(h)(2)	You may request to waive current operating parameter limits during pretesting for more than 720 hours.
63.1207(f)(1)(ii)(D)	You may request a reduced hazardous waste feedstream analysis for organic hazardous air pollutants if the reduced analysis continues to be representative of organic hazardous air pollutants in your hazardous waste feedstreams.
63.1207(g)(2)(v)	You may request to operate under a wider operating range for a parameter during confirmatory performance testing.
63.1207(i)	You may request up to a one-year time extension for conducting a performance test (other than the initial comprehensive performance test) to consolidate testing with other state or federally-required testing.
63.1207(j)(4)	You may request more than 90 days to submit a Notification of Compliance after

	completing a performance test if additional time is needed for reasons beyond your control.
63.1207(l)(3)	After failure of a performance test, you may request to burn hazardous waste for more than 720 hours and for purposes other than testing or pretesting.
63.1209(a)(5), 63.8(f)	You may request: (1) Approval of alternative monitoring methods for compliance with standards that are monitored with a CEMS; and (2) approval to use a CEMS in lieu of operating parameter limits.
63.1209(g)(1)	You may request approval of: (1) Alternatives to operating parameter monitoring requirements, except for standards that you must monitor with a continuous emission monitoring system (CEMS) and except for requests to use a CEMS in lieu of operating parameter limits; or (2) a waiver of an operating parameter limit.
63.1209(l)(1)	You may request to extrapolate mercury feedrate limits.
63.1209(n)(2)	You may request to extrapolate semivolatile and low volatile metal feedrate limits.
63.1211(d)	You may request to use data compression techniques to record data on a less frequent basis than required by §63.1209.

(b) *Notification of intent to comply (NIC).* These procedures apply to sources that have not previously complied with the requirements of paragraphs (b) and (c) of this section, and to sources that previously complied with the NIC requirements of §§63.1210 and 63.1212(a), which were in effect prior to October 11, 2000, that must make a technology change requiring a Class 1 permit modification to meet the standards of §§63.1219, 63.1220, and 63.1221.

(1) You must prepare a Notification of Intent to Comply that includes all of the following information:

(i) General information:

(A) The name and address of the owner/operator and the source;

(B) Whether the source is a major or an area source;

(C) Waste minimization and emission control technique(s) being considered;

(D) Emission monitoring technique(s) you are considering;

(E) Waste minimization and emission control technique(s) effectiveness;

(F) A description of the evaluation criteria used or to be used to select waste minimization and/or emission control technique(s); and

(G) A general description of how you intend to comply with the emission standards of this subpart.

(ii) As applicable to each source, information on key activities and estimated dates for these activities that will bring the source into compliance with emission control requirements of this subpart. You must include all of the following key activities and dates in your NIC:

(A) The dates by which you anticipate you will develop engineering designs for emission control systems or process changes for emissions;

(B) The date by which you anticipate you will commit internal or external resources for installing emission control systems or making process changes for emission control, or the date by which you will issue orders for the purchase of component parts to accomplish emission control or process changes.

(C) The date by which you anticipate you will submit construction applications;

(D) The date by which you anticipate you will initiate on-site construction, installation of emission control equipment, or process change;

(E) The date by which you anticipate you will complete on-site construction, installation of emission control equipment, or process change; and

(F) The date by which you anticipate you will achieve final compliance. The individual dates and milestones listed in paragraphs (b)(1)(ii)(A) through (F) of this section as part of the NIC are not requirements and therefore are not enforceable deadlines; the requirements of paragraphs (b)(1)(ii)(A) through (F) of this section must be included as part of the NIC only to inform the public of how you intend to comply with the emission standards of this subpart.

(iii) A summary of the public meeting required under paragraph (c) of this section;

(iv) If you intend to cease burning hazardous waste prior to or on the compliance date, the requirements of paragraphs (b)(1)(ii) and (b)(1)(iii) of this section do not apply. You must include in your NIC a schedule of key dates for the steps to be taken to stop hazardous waste activity at your combustion unit. Key dates include the date for submittal of RCRA closure documents required under subpart G, part 264 or subpart G, part 265 of this chapter.

(2) You must make a draft of the NIC available for public review no later than 30 days prior to the public meeting required under paragraph (c)(1) of this section or no later than 9 months after the effective date of the rule if you intend to cease burning hazardous waste prior to or on the compliance date.

(3) You must submit the final NIC to the Administrator:

(i) *Existing units.* No later than one year following the effective date of the emission standards of this subpart; or

(ii) *New units.* No later than 60 days following the informal public meeting.

(c) *NIC public meeting and notice.* (1) Prior to the submission of the NIC to the permitting agency and:

(i) *Existing units.* No later than 10 months after the effective date of the emission standards of this subpart, you must hold at least one informal meeting with the public to discuss the anticipated activities described in the draft NIC for achieving compliance with the emission standards of this subpart. You must post a sign-in sheet or otherwise provide a voluntary opportunity for attendees to provide their names and addresses.

(ii) *New units.* No earlier than thirty (30) days following notice of the informal public meeting, you must hold at least one informal meeting with the public to discuss the anticipated activities described in the draft NIC for achieving compliance with the emission standards of this subpart. You must post a sign-in sheet or otherwise provide a voluntary opportunity for attendees to provide their names and addresses.

(2) You must submit a summary of the meeting, along with the list of attendees and their addresses developed under paragraph (b)(1) of this section, and copies of any written comments or materials submitted at the meeting, to the Administrator as part of the final NIC, in accordance with paragraph (b)(1)(iii) of this section;

(3) You must provide public notice of the NIC meeting at least 30 days prior to the meeting and you must maintain, and provide to the Administrator upon request, documentation of the notice. You must provide public notice in all of the following forms:

(i) *Newspaper advertisement.* You must publish a notice in a newspaper of general circulation in the county or equivalent jurisdiction of your facility. In addition, you must publish the notice in newspapers of general circulation in adjacent counties or equivalent jurisdiction where such publication would be necessary to inform the affected public. You must publish the notice as a display advertisement.

(ii) *Visible and accessible sign.* You must post a notice on a clearly marked sign at or near the source. If you place the sign on the site of the hazardous waste combustor, the sign must be large enough to be readable from the nearest spot where the public would pass by the site.

(iii) *Broadcast media announcement.* You must broadcast a notice at least once on at least one local radio station or television station.

(iv) *Notice to the facility mailing list.* You must provide a copy of the notice to the facility mailing list in accordance with §124.10(c)(1)(ix) of this chapter.

(4) You must include all of the following in the notices required under paragraph (c)(3) of this section:

(i) The date, time, and location of the meeting;

(ii) A brief description of the purpose of the meeting;

(iii) A brief description of the source and proposed operations, including the address or a map (e.g., a sketched or copied street map) of the source location;

(iv) A statement encouraging people to contact the source at least 72 hours before the meeting if they need special access to participate in the meeting;

(v) A statement describing how the draft NIC (and final NIC, if requested) can be obtained; and

(vi) The name, address, and telephone number of a contact person for the NIC.

(5) The requirements of this paragraph do not apply to sources that intend to cease burning hazardous waste prior to or on the compliance date.

(d) *Notification of compliance.* (1) The Notification of Compliance status requirements of §63.9(h) apply, except that:

(i) The notification is a Notification of Compliance, rather than compliance status;

(ii) The notification is required for the initial comprehensive performance test and each subsequent comprehensive and confirmatory performance test; and

(iii) You must postmark the notification before the close of business on the 90th day following completion of relevant compliance demonstration activity specified in this subpart rather than the 60th day as required by §63.9(h)(2)(ii).

(2) Upon postmark of the Notification of Compliance, the operating parameter limits identified in the Notification of Compliance, as applicable, shall be complied with, the limits identified in the Documentation of Compliance or a previous Notification of Compliance are no longer applicable.

(3) The Notification of Compliance requirements of §63.1207(j) also apply.

[64 FR 53038, Sept. 30, 1999, as amended at 64 FR 63211, Nov. 19, 1999; 65 FR 42301, July 10, 2000; 66 FR 24272, May 14, 2001; 67 FR 6992, Feb. 14, 2002; 70 FR 59552, Oct. 12, 2005; 73 FR 18982, Apr. 8, 2008]

§ 63.1211 What are the recordkeeping and reporting requirements?

(a) *Summary of reporting requirements.* You must submit the following reports to the Administrator:

Reference	Report
63.10(d)(4)	Compliance progress reports, if required as a condition of an extension of the compliance date granted under §63.6(i).

63.10(d)(5)(i)	Periodic startup, shutdown, and malfunction reports.
63.10(d)(5)(ii)	Immediate startup, shutdown, and malfunction reports.
63.10(e)(3)	Excessive emissions and continuous monitoring system performance report and summary report.
63.1206(c)(2)(ii)(B)	Startup, shutdown, and malfunction plan.
63.1206(c)(3)(vi)	Excessive exceedances reports.
63.1206(c)(4)(iv)	Emergency safety vent opening reports.

(b) *Summary of recordkeeping requirements.* You must retain the following in the operating record:

Reference	Document, Data, or Information
63.1200, 63.10(b) and (c)	General. Information required to document and maintain compliance with the regulations of Subpart EEE, including data recorded by continuous monitoring systems (CMS), and copies of all notifications, reports, plans, and other documents submitted to the Administrator.
63.1204(d)(1)(ii), 63.1220(d)(1)(ii)	Documentation of mode of operation changes for cement kilns with in-line raw mills.
63.1204(d)(2)(ii), 63.1220(d)(2)(ii)	Documentation of compliance with the emission averaging requirements for cement kilns with in-line raw mills.
63.1204(e)(2)(ii), 63.1220(e)(2)(ii)	Documentation of compliance with the emission averaging requirements for preheater or preheater/precalciner kilns with dual stacks.
63.1206(b)(1)(ii)	If you elect to comply with all applicable requirements and standards promulgated under authority of the Clean Air Act, including Sections 112 and 129, in lieu of the requirements of Subpart EEE when not burning hazardous waste, you must document in the operating record that you are in compliance with those requirements.
63.1206(b)(5)(ii)	Documentation that a change will not adversely affect compliance with the emission standards or operating requirements.
63.1206(b)(11)	Calculation of hazardous waste residence time.
63.1206(c)(2)	Startup, shutdown, and malfunction plan.
63.1206(c)(2)(v)(A)	Documentation of your investigation and evaluation of excessive exceedances during malfunctions.
63.1206(c)(3)(v)	Corrective measures for any automatic waste feed cutoff that results in an exceedance of an emission standard or operating parameter limit.
63.1206(c)(3)(vii)	Documentation and results of the automatic waste feed cutoff operability testing.
63.1206(c)(4)(ii)	Emergency safety vent operating plan.
63.1206(c)(4)(iii)	Corrective measures for any emergency safety vent opening.

63.1206(c)(5)(ii)	Method used for control of combustion system leaks.
63.1206(c)(6)	Operator training and certification program.
63.1206(c)(7)(i)(D)	Operation and maintenance plan.
63.1209(c)(2)	Feedstream analysis plan.
63.1209(k)(6)(iii), 63.1209(k)(7)(ii), 63.1209(k)(9)(ii), 63.1209(o)(4)(iii)	Documentation that a substitute activated carbon, dioxin/furan formation reaction inhibitor, or dry scrubber sorbent will provide the same level of control as the original material.
63.1209(k)(7)(i)(C)	Results of carbon bed performance monitoring.
63.1209(q)	Documentation of changes in modes of operation.
63.1211(c)	Documentation of compliance.

(c) *Documentation of compliance.* (1) By the compliance date, you must develop and include in the operating record a Documentation of Compliance. You are not subject to this requirement, however, if you submit a Notification of Compliance under §63.1207(j) prior to the compliance date. Upon inclusion of the Documentation of Compliance in the operating record, hazardous waste burning incinerators, cement kilns, and lightweight aggregate kilns regulated under the interim standards of §§63.1203, 63.1204, and 63.1205 are no longer subject to compliance with the previously applicable Notification of Compliance.

(2) The Documentation of Compliance must identify the applicable emission standards under this subpart and the limits on the operating parameters under §63.1209 that will ensure compliance with those emission standards.

(3) You must include a signed and dated certification in the Documentation of Compliance that:

(i) Required CEMs and CMS are installed, calibrated, and continuously operating in compliance with the requirements of this subpart; and

(ii) Based on an engineering evaluation prepared under your direction or supervision in accordance with a system designed to ensure that qualified personnel properly gathered and evaluated the information and supporting documentation, and considering at a minimum the design, operation, and maintenance characteristics of the combustor and emissions control equipment, the types, quantities, and characteristics of feedstreams, and available emissions data:

(A) You are in compliance with the emission standards of this subpart; and

(B) The limits on the operating parameters under §63.1209 ensure compliance with the emission standards of this subpart.

(4) You must comply with the emission standards and operating parameter limits specified in the Documentation of Compliance.

(d) *Data compression.* You may submit a written request to the Administrator for approval to use data compression techniques to record data from CMS, including CEMS, on a frequency less than that required by §63.1209. You must submit the request for review and approval as part of the comprehensive performance test plan.

(1) You must record a data value at least once each ten minutes.

(2) For each CEMS or operating parameter for which you request to use data compression techniques, you must recommend:

(i) A fluctuation limit that defines the maximum permissible deviation of a new data value from a previously generated value without requiring you to revert to recording each one-minute value.

(A) If you exceed a fluctuation limit, you must record each one-minute value for a period of time not less than ten minutes.

(B) If neither the fluctuation limit nor the data compression limit are exceeded during that period of time, you may reinitiate recording data values on a frequency of at least once each ten minutes; and

(ii) A data compression limit defined as the closest level to an operating parameter limit or emission standard at which reduced data recording is allowed.

(A) Within this level and the operating parameter limit or emission standard, you must record each one-minute average.

(B) The data compression limit should reflect a level at which you are unlikely to exceed the specific operating parameter limit or emission standard, considering its averaging period, with the addition of a new one-minute average.

[64 FR 53038, Sept. 30, 1999, as amended at 64 FR 63212, Nov. 19, 1999; 65 FR 42301, July 10, 2000; 66 FR 24272, May 14, 2001; 66 FR 35106, July 3, 2001; 67 FR 6993, Feb. 14, 2002; 70 FR 59554, Oct. 12, 2005]

Other

§ 63.1212 What are the other requirements pertaining to the NIC?

(a) *Certification of intent to comply.* The Notice of Intent to Comply (NIC) must contain the following certification signed and dated by a responsible official as defined under §63.2 of this chapter: I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

(b) *New units.* Any source that files a RCRA permit application or permit modification request for construction of a hazardous waste combustion unit after October 12, 2005 must:

(1) Prepare a draft NIC pursuant to §63.1210(b) and make it available to the public upon issuance of the notice of public meeting pursuant to §63.1210(c)(3);

(2) Prepare a draft comprehensive performance test plan pursuant to the requirements of §63.1207 and make it available for public review upon issuance of the notice of NIC public meeting;

(3) Provide notice to the public of a pre-application meeting pursuant to §124.31 of this chapter or notice to the public of a permit modification request pursuant to §270.42 of this chapter;

(4) Hold an informal public meeting [pursuant to §63.1210(c)(1) and (c)(2)] no earlier than 30 days following notice of the NIC public meeting and notice of the pre-application meeting or notice of the permit modification request to discuss anticipated activities described in the draft NIC and pre-application or permit modification request for achieving compliance with the emission standards of this subpart; and

(5) Submit a final NIC pursuant to §63.1210(b)(3).

(c) *Information Repository specific to new combustion units.* (1) Any source that files a RCRA permit application or modification request for construction of a new hazardous waste combustion unit after October 12, 2005 may be required to establish an information repository if deemed appropriate.

(2) The Administrator may assess the need, on a case-by-case basis for an information repository. When assessing the need for a repository, the Administrator shall consider the level of public interest, the presence of an existing repository, and any information available via the New Source Review and Title V permit processes. If the Administrator determines a need for a repository, then the Administrator shall notify the facility that it must establish and maintain an information repository.

(3) The information repository shall contain all documents, reports, data, and information deemed necessary by the Administrator. The Administrator shall have the discretion to limit the contents of the repository.

(4) The information repository shall be located and maintained at a site chosen by the source. If the Administrator finds the site unsuitable for the purposes and persons for which it was established, due to problems with location, hours of availability, access, or other relevant considerations, then the Administrator shall specify a more appropriate site.

(5) The Administrator shall require the source to provide a written notice about the information repository to all individuals on the source mailing list.

(6) The source shall be responsible for maintaining and updating the repository with appropriate information throughout a period specified by the Administrator. The Administrator may close the repository at his or her discretion based on the considerations in paragraph (c)(2) of this section.

[70 FR 59555, Oct. 12, 2005, as amended at 73 FR 18982, Apr. 8, 2008]

§ 63.1213 How can the compliance date be extended to install pollution prevention or waste minimization controls?

(a) *Applicability.* You may request from the Administrator or State with an approved Title V program an extension of the compliance date of up to one year. An extension may be granted if you can reasonably document that the installation of pollution prevention or waste minimization measures will significantly reduce the amount and/or toxicity of hazardous wastes entering the feedstream(s) of the hazardous waste combustor(s), and that you could not install the necessary control measures and comply with the emission standards and operating requirements of this subpart by the compliance date.

(b) *Requirements for requesting an extension.* (1) You must make your requests for an (up to) one-year extension in writing in accordance with §63.6(i)(4)(B) and (C). The request must contain the following information:

(i) A description of pollution prevention or waste minimization controls that, when installed, will significantly reduce the amount and/or toxicity of hazardous wastes entering the feedstream(s) of the hazardous waste combustor(s). Pollution prevention or waste minimization measures may include: equipment or technology modifications, reformulation or redesign of products, substitution of raw materials, improvements in work practices, maintenance, training, inventory control, or recycling practices conducted as defined in §261.1(c) of this chapter;

(ii) A description of other pollution controls to be installed that are necessary to comply with the emission standards and operating requirements;

(iii) A reduction goal or estimate of the annual reductions in quantity and/or toxicity of hazardous waste(s) entering combustion feedstream(s) that you will achieve by installing the proposed pollution prevention or waste minimization measures;

(iv) A comparison of reductions in the amounts and/or toxicity of hazardous wastes combusted after installation of pollution prevention or waste minimization measures to the amounts and/or toxicity of hazardous wastes combusted prior to the installation of these measures. If the difference is less than a fifteen percent reduction, include a comparison to pollution prevention and waste minimization reductions recorded during the previous five years;

(v) Reasonable documentation that installation of the pollution prevention or waste minimization changes will not result in a net increase (except for documented increases in production) of hazardous constituents released to the environment through other emissions, wastes or effluents;

(vi) Reasonable documentation that the design and installation of waste minimization and other measures that are necessary for compliance with the emission standards and operating requirements of this subpart cannot otherwise be installed within the three year compliance period, and

(vii) The information required in §63.6(i)(6)(i)(B) through (D).

(2) You may enclose documentation prepared under an existing State-required pollution prevention program that contains the information prescribed in paragraph (b) of this section with a request for extension in lieu of complying with the time extension requirements of that paragraph.

(c) *Approval of request for extension of compliance date.* Based on the information provided in any request made under paragraph (a) of this section, the Administrator or State with an approved title V program may grant an extension of the compliance date of this subpart. The extension will be in writing in accordance with §§63.6(i)(10)(i) through 63.6(i)(10)(v)(A).

[57 FR 61992, Dec. 29, 1992, as amended at 67 FR 6994, Feb. 14, 2002; 67 FR 77691, Dec. 19, 2002]

§ 63.1214 Implementation and enforcement.

(a) This subpart can be implemented and enforced by the U.S. EPA, or a delegated authority such as the applicable State, local, or Tribal agency. If the U.S. EPA Administrator has delegated authority to a State, local, or Tribal agency, then that agency, in addition to the U.S. EPA, has the authority to implement and enforce this subpart. Contact the applicable U.S. EPA Regional Office to find out if this subpart is delegated to a State, local, or Tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or Tribal agency under subpart E of this part, the authorities contained in paragraph (c) of this section are retained by the Administrator of U.S. EPA and cannot be transferred to the State, local, or Tribal agency.

(c) The authorities that cannot be delegated to State, local, or Tribal agencies are as specified in paragraphs (c)(1) through (4) of this section.

(1) Approval of alternatives to requirements in §§63.1200, 63.1203, 63.1204, 63.1205, 63.1206(a), 63.1215, 63.1216, 63.1217, 63.1218, 63.1219, 63.1220, and 63.1221.

(2) Approval of major alternatives to test methods under §§63.7(e)(2)(ii) and (f), 63.1208(b), and 63.1209(a)(1), as defined under §63.90, and as required in this subpart.

(3) Approval of major alternatives to monitoring under §§63.8(f) and 63.1209(a)(5), as defined under §63.90, and as required in this subpart.

(4) Approval of major alternatives to recordkeeping and reporting under §§63.10(f) and 63.1211(a) through (c), as defined under §63.90, and as required in this subpart.

[68 FR 37356, June 23, 2003, as amended at 70 FR 59555, Oct. 12, 2005]

§ 63.1215 What are the health-based compliance alternatives for total chlorine?

(a) *General* —(1) *Overview.* You may establish and comply with health-based compliance alternatives for total chlorine under the procedures prescribed in this section for your hazardous waste combustors other than hydrochloric acid production furnaces. You may comply with these health-based compliance alternatives in lieu of the emission standards for total chlorine provided under §§63.1216, 63.1217, 63.1219, 63.1220, and 63.1221. To identify and comply with the limits, you must:

(i) Identify a total chlorine emission concentration (ppmv) expressed as chloride ($Cl(-)$) equivalent for each on site hazardous waste combustor. You may select total chlorine emission concentrations as you choose to demonstrate eligibility for the risk-based limits under this section, except as provided by paragraph (b)(7) of this section;

(ii) Apportion the total chlorine emission concentration between HCl and Cl_2according to paragraph (b)(6)(i) of this section, and calculate HCl and Cl_2emission rates (lb/hr) using the gas flowrate and other parameters from the most recent regulatory compliance test.

(iii) Calculate the annual average HCl-equivalent emission rate as prescribed in paragraph (b)(2) of this section.

(iv) Perform an eligibility demonstration to determine if your HCl-equivalent emission rate meets the national exposure standard and thus is below the annual average HCl-equivalent emission rate limit, as prescribed by paragraph (c) of this section;

(v) Submit your eligibility demonstration for review and approval, as prescribed by paragraph (e) of this section, which must include information to ensure that the 1-hour average HCl-equivalent emission rate limit is not exceeded, as prescribed by paragraph (d) of this section;

(vi) Demonstrate compliance with the annual average HCl-equivalent emission rate limit during the comprehensive performance test, as prescribed by the testing and monitoring requirements under paragraph (e) of this section;

(vii) Comply with compliance monitoring requirements, including establishing feedrate limits on total chlorine and chloride, and operating parameter limits on emission control equipment, as prescribed by paragraph (f) of this section; and

(viii) Comply with the requirements for changes, as prescribed by paragraph (h) of this section.

(2) *Definitions.* In addition to the definitions under §63.1201, the following definitions apply to this section:

1–Hour Average HCl-Equivalent Emission Rate means the HCl-equivalent emission rate (lb/hr) determined by equating the toxicity of chlorine to HCl using aRELs as the health risk metric for acute exposure.

1–Hour Average HCl-Equivalent Emission Rate Limit means the HCl-equivalent emission rate (lb/hr) determined by equating the toxicity of chlorine to HCl using aRELs as the health risk metric for acute exposure and which ensures that maximum 1-hour average ambient concentrations of HCl-equivalents do not exceed a Hazard Index of 1.0, rounded to the nearest tenths decimal place (0.1), at an off-site receptor location.

Acute Reference Exposure Level (aREL) means health thresholds below which there would be no adverse health effects for greater than once in a lifetime exposures of one hour. ARELs are developed by the California Office of Health Hazard Assessment and are available at *http://www.oehha.ca.gov/air/acute_rels/acuterel.html.*

Annual Average HCl-Equivalent Emission Rate means the HCl-equivalent emission rate (lb/hr) determined by equating the toxicity of chlorine to HCl using RfCs as the health risk metric for long-term exposure.

Annual Average HCl-Equivalent Emission Rate Limit means the HCl-equivalent emission rate (lb/hr) determined by equating the toxicity of chlorine to HCl using RfCs as the health risk metric for long-term exposure and which ensures that maximum annual average ambient concentrations of HCl equivalents do not exceed a Hazard Index of 1.0, rounded to the nearest tenths decimal place (0.1), at an off-site receptor location.

Hazard Index (HI) means the sum of more than one Hazard Quotient for multiple substances and/or multiple exposure pathways. In this section, the Hazard Index is the sum of the Hazard Quotients for HCl and chlorine.

Hazard Quotient (HQ) means the ratio of the predicted media concentration of a pollutant to the media concentration at which no adverse effects are expected. For chronic inhalation exposures, the HQ is calculated under this section as the air concentration divided by the RfC. For acute inhalation exposures, the HQ is calculated under this section as the air concentration divided by the aREL.

Look-up table analysis means a risk screening analysis based on comparing the HCl-equivalent emission rate from the affected source to the appropriate HCl-equivalent emission rate limit specified in Tables 1 through 4 of this section.

Reference Concentration (RfC) means an estimate (with uncertainty spanning perhaps an order of magnitude) of a continuous inhalation exposure to the human population (including sensitive subgroups) that is likely to be without an appreciable risk of deleterious effects during a lifetime. It can be derived from various types of human or animal data, with uncertainty factors generally applied to reflect limitations of the data used.

(b) *HCl-equivalent emission rates* . (1) You must express total chlorine emission rates for each hazardous waste combustor as HCl-equivalent emission rates.

(2) *Annual average rates* . You must calculate annual average toxicity-weighted HCl-equivalent emission rates for each combustor as follows:

$ER_{LTtw} = ER_{HCl} + ER_{Cl}2 \times (RfC_{HCl}/RfC_{Cl}2)$

Where:

ER_{LTtw} is the annual average HCl toxicity-weighted emission rate (HCl-equivalent emission rate) considering long-term exposures, lb/hr

ER_{HCl} is the emission rate of HCl in lbs/hr

$ER_{Cl}2$ is the emission rate of chlorine in lbs/hr

RfC_{HCl} is the reference concentration of HCl

$RfC_{Cl}2$ is the reference concentration of chlorine

(3) *1-hour average rates* . You must calculate 1-hour average toxicity-weighted HCl-equivalent emission rates for each combustor as follows:

$ER_{STtw} = ER_{HCl} + ER_{Cl2} \times (aREL_{HCl}/aREL_{Cl2})$

Where:

ER_{STtw} is the 1-hour average HCl-toxicity-weighted emission rate (HCl-equivalent emission rate) considering 1-hour (short-term) exposures, lb/hr

ER_{HCl} is the emission rate of HCl in lbs/hr

ER_{Cl2} is the emission rate of chlorine in lbs/hr

$aREL_{HCl}$ is the aREL for HCl

$aREL_{Cl2}$ is the aREL for chlorine

(4) You must use the RfC values for hydrogen chloride and chlorine found at *http://epa.gov/ttn/atw/toxsource/ summary.html* .

(5) You must use the aREL values for hydrogen chloride and chlorine found at *http://www.oehha.ca.gov/air/ acute_rels/acuterel.html* .

(6) *Cl_2 HCl ratios* —(i) *Ratio for calculating annual average HCl-equivalent emission rates* . (A) To calculate the annual average HCl-equivalent emission rate (lb/hr) for each combustor, you must apportion the total chlorine emission concentration (ppmv chloride (Cl(-)) equivalent) between HCl and chlorine according to the historical average Cl_2/HCl volumetric ratio for all regulatory compliance tests.

(B) You must calculate HCl and Cl_2 emission rates (lb/hr) using the apportioned emission concentrations and the gas flowrate and other parameters from the most recent regulatory compliance test.

(C) You must calculate the annual average HCl-equivalent emission rate using these HCl and Cl_2 emission rates and the equation in paragraph (b)(2) of this section.

(ii) *Ratio for calculating 1-hour average HCl-equivalent emission rates* . (A) To calculate the 1-hour average HCl-equivalent emission rate for each combustor as a criterion for you to determine under paragraph (d) of this section if an hourly rolling average feedrate limit on total chlorine and chloride may be waived, you must apportion the total chlorine emission concentration (ppmv chloride (Cl(-)) equivalent) between HCl and chlorine according to the historical highest Cl_2/HCl volumetric ratio for all regulatory compliance tests.

(B) You must calculate HCl and Cl_2 emission rates (lb/hr) using the apportioned emission concentrations and the gas flowrate and other parameters from the most recent regulatory compliance test.

(C) You must calculate the 1-hour average HCl-equivalent emission rate using these HCl and Cl_2 emission rates and the equation in paragraph (b)(3) of this section.

(iii) *Ratios for new sources* . (A) You must use engineering information to estimate the Cl_2/HCl volumetric ratio for a new source for the initial eligibility demonstration.

(B) You must use the Cl_2/HCl volumetric ratio demonstrated during the initial comprehensive performance test to demonstrate in the Notification of Compliance that your HCl-equivalent emission rate does not exceed your HCl-equivalent emission rate limit.

(C) When approving the test plan for the initial comprehensive performance test, the permitting authority will establish a periodic testing requirement, such as every 3 months for 1 year, to establish a record of representative Cl_2/HCl volumetric ratios.

(*1*) You must revise your HCl-equivalent emission rates and HCl-equivalent emission rate limits after each such test using the procedures prescribed in paragraphs (b)(6)(i) and (ii) of this section

(*2*) If you no longer are eligible for the health-based compliance alternative, you must notify the permitting authority immediately and either:

(*i*) Submit a revised eligibility demonstration requesting lower HCl-equivalent emission rate limits, establishing lower HCl-equivalent emission rates, and establishing by downward extrapolation lower feedrate limits for total chlorine and chloride; or

(*ii*) Request a compliance schedule of up to three years to demonstrate compliance with the emission standards under §§63.1216, 63.1217, 63.1219, 63.1220, and 63.1221.

(iv) *Unrepresentative or inadequate historical Cl_2/HCl volumetric ratios* . (A) If you believe that the Cl_2/HCl volumetric ratio for one or more historical regulatory compliance tests is not representative of the current ratio, you may request that the permitting authority allow you to screen those ratios from the analysis of historical ratios.

(B) If the permitting authority believes that too few historical ratios are available to calculate a representative average ratio or establish a maximum ratio, the permitting authority may require you to conduct periodic testing to establish representative ratios.

(v) *Updating Cl_2/HCl ratios* . You must include the Cl_2/HCl volumetric ratio demonstrated during each performance test in your data base of historical Cl2/HCl ratios to update the ratios you establish under paragraphs (b)(6)(i) and (ii) of this section for subsequent calculations of the annual average and 1-hour average HCl-equivalent emission rates.

(7) *Emission rates are capped* . The hydrogen chloride and chlorine emission rates you use to calculate the HCl-equivalent emission rate limit for incinerators, cement kilns, and lightweight aggregate kilns must not result in total chlorine emission concentrations exceeding:

(i) For incinerators that were existing sources on April 19, 1996: 77 parts per million by volume, combined emissions, expressed as chloride (Cl(-)) equivalent, dry basis and corrected to 7 percent oxygen;

(ii) For incinerators that are new or reconstructed sources after April 19, 1996: 21 parts per million by volume, combined emissions, expressed as chloride (Cl(-)) equivalent, dry basis and corrected to 7 percent oxygen;

(iii) For cement kilns that were existing sources on April 19, 1996: 130 parts per million by volume, combined emissions, expressed as chloride (Cl(-)) equivalent, dry basis and corrected to 7 percent oxygen;

(iv) For cement kilns that are new or reconstructed sources after April 19, 1996: 86 parts per million by volume, combined emissions, expressed as chloride (Cl(-)) equivalent, dry basis and corrected to 7 percent oxygen;

(v) For lightweight aggregate kilns that were existing sources on April 19, 1996: 600 parts per million by volume, combined emissions, expressed as chloride (Cl(-)) equivalent, dry basis and corrected to 7 percent oxygen;

(vi) For lightweight aggregate kilns that are new or reconstructed sources after April 19, 1996: 600 parts per million by volume, combined emissions, expressed as chloride (Cl(-)) equivalent, dry basis and corrected to 7 percent oxygen.

(c) *Eligibility demonstration* —(1) *General.* (i) You must perform an eligibility demonstration to determine whether the total chlorine emission rates you select for each on-site hazardous waste combustor meet the national exposure standards using either a look-up table analysis prescribed by paragraph (c)(3) of this section, or a site-specific compliance demonstration prescribed by paragraph (c)(4) of this section.

(ii) You must also determine in your eligibility demonstration whether each combustor may exceed the 1-hour HCl-equivalent emission rate limit absent an hourly rolling average limit on the feedrate of total chlorine and chloride, as provided by paragraph (d) of this section.

(2) *Definition of eligibility.* (i) Eligibility for the risk-based total chlorine standard is determined by comparing the annual average HCl-equivalent emission rate for the total chlorine emission rate you select for each combustor to the annual average HCl-equivalent emission rate limit.

(ii) The annual average HCl-equivalent emission rate limit ensures that the Hazard Index for chronic exposure from HCl and chlorine emissions from all on-site hazardous waste combustors is less than or equal to 1.0, rounded to the nearest tenths decimal place (0.1), for the actual individual most exposed to the facility's emissions, considering off-site locations where people reside and where people congregate for work, school, or recreation.

(iii) Your facility is eligible for the health-based compliance alternative for total chlorine if either:

(A) The annual average HCl-equivalent emission rate for each on-site hazardous waste combustor is below the appropriate value in the look-up table determined under paragraph (c)(3) of this section; or

(B) The annual average HCl-equivalent emission rate for each on-site hazardous waste combustor is below the annual average HCl-equivalent emission rate limit you calculate based on a site-specific compliance demonstration under paragraph (c)(4) of this section.

(3) *Look-up table analysis.* Look-up tables for the eligibility demonstration are provided as Tables 1 and 2 to this section.

(i) Table 1 presents annual average HCl-equivalent emission rate limits for sources located in flat terrain. For purposes of this analysis, flat terrain is terrain that rises to a level not exceeding one half the stack height within a distance of 50 stack heights.

(ii) Table 2 presents annual average HCl-equivalent emission rate limits for sources located in simple elevated terrain. For purposes of this analysis, simple elevated terrain is terrain that rises to a level exceeding one half the stack height, but that does not exceed the stack height, within a distance of 50 stack heights.

(iii) To determine the annual average HCl-equivalent emission rate limit for a source from the look-up table, you must use the stack height and stack diameter for your hazardous waste combustors and the distance between the stack and the property boundary.

(iv) If any of these values for stack height, stack diameter, and distance to nearest property boundary do not match the exact values in the look-up table, you must use the next lowest table value.

(v) *Adjusted HCl-equivalent emission rate limit for multiple on-site combustors.* (A) If you have more than one hazardous waste combustor on site, the sum across all hazardous waste combustors of the ratio of the adjusted HCl-equivalent emission rate limit to the HCl-equivalent emission rate limit provided by Tables 1 or 2 cannot exceed 1.0, according to the following equation:

$$\sum_{i=1}^{n} \frac{\text{HCl-Equivalent Emission Rate Limit Adjusted}_i}{\text{HCl-Equivalent Emission Rate Limit Table}_i} \leq 1.0$$

Where:

i = number of on-site hazardous waste combustors;

HCl-Equivalent Emission Rate Limit Adjusted$_i$ means the apportioned, allowable HCl-equivalent emission rate limit for combustor i, and

HCl-Equivalent Emission Rate Limit Table$_i$ means the HCl-equivalent emission rate limit from Table 1 or 2 to §63.1215 for combustor *i*.

(B) The adjusted HCl-equivalent emission rate limit becomes the HCl-equivalent emission rate limit.

(4) *Site-specific compliance demonstration.* (i) You may use any scientifically-accepted peer-reviewed risk assessment methodology for your site-specific compliance demonstration to calculate an annual average HCl-equivalent emission rate limit for each on-site hazardous waste combustor. An example of one approach for performing the demonstration for air toxics can be found in the EPA's "Air Toxics Risk Assessment Reference Library, Volume 2, Site-Specific Risk Assessment Technical Resource Document," which may be obtained through the EPA's Air Toxics Web site at *http://www.epa.gov/ttn/fera/risk_atra_main.html.*

(ii) The annual average HCl-equivalent emission rate limit is the HCl-equivalent emission rate that ensures that the Hazard Index associated with maximum annual average exposures is not greater than 1.0 rounded to the nearest tenths decimal place (0.1).

(iii) To determine the annual average HCl-equivalent emission rate limit, your site-specific compliance demonstration must, at a minimum:

(A) Estimate long-term inhalation exposures through the estimation of annual or multi-year average ambient concentrations;

(B) Estimate the inhalation exposure for the actual individual most exposed to the facility's emissions from hazardous waste combustors, considering off-site locations where people reside and where people congregate for work, school, or recreation;

(C) Use site-specific, quality-assured data wherever possible;

(D) Use health-protective default assumptions wherever site-specific data are not available, and:

(E) Contain adequate documentation of the data and methods used for the assessment so that it is transparent and can be reproduced by an experienced risk assessor and emissions measurement expert.

(iv) Your site-specific compliance demonstration need not:

(A) Assume any attenuation of exposure concentrations due to the penetration of outdoor pollutants into indoor exposure areas;

(B) Assume any reaction or deposition of the emitted pollutants during transport from the emission point to the point of exposure.

(d) *Assurance that the 1-hour HCl-equivalent emission rate limit will not be exceeded.* To ensure that the 1-hour HCl-equivalent emission rate limit will not be exceeded when complying with the annual average HCl-equivalent emission rate limit, you must establish a 1-hour average HCl-equivalent emission rate for each combustor, establish a 1-hour average HCl-equivalent emission rate limit for each combustor, and consider site-specific factors including prescribed criteria to determine if the 1-hour average HCl-equivalent emission rate limit may be exceeded absent an hourly rolling average limit on the feedrate of total chlorine and chloride. If the 1-hour average HCl-equivalent emission rate limit may be exceeded, you must establish an hourly rolling average feedrate limit on total chlorine as provided by paragraph (f)(3) of this section.

(1) *1-hour average HCl-equivalent emission rate.* You must calculate the 1-hour average HCl-equivalent emission rate from the total chlorine emission concentration you select for each source as prescribed in paragraph (b)(6)(ii)(C) of this section.

(2) *1-hour average HCl-equivalent emission rate limit.* You must establish the 1-hour average HCl-equivalent emission rate limit for each affected source using either a look-up table analysis or site-specific analysis:

(i) *Look-up table analysis.* Look-up tables are provided for 1-hour average HCl-equivalent emission rate limits as Table 3 and Table 4 to this section. Table 3 provides limits for facilities located in flat terrain. Table 4 provides limits for facilities located in simple elevated terrain. You must use the Tables to establish 1-hour average HCl-equivalent emission rate limits as prescribed in paragraphs (c)(3)(iii) through (c)(3)(v) of this section for annual average HCl-equivalent emission rate limits.

(ii) *Site-specific analysis.* The 1-hour average HCl-equivalent emission rate limit is the HCl-equivalent emission rate that ensures that the Hazard Index associated with maximum 1-hour average exposures is not greater than 1.0 rounded to the nearest tenths decimal place (0.1). You must follow the risk assessment procedures under paragraph (c)(4) of this section to estimate short-term inhalation exposures through the estimation of maximum 1-hour average ambient concentrations.

(3) *Criteria for determining whether the 1-hour HCl-equivalent emission rate may be exceeded absent an hourly rolling average limit on the feedrate of total chlorine and chloride.* An hourly rolling average feedrate limit on total chlorine and chloride is waived if you determine considering the criteria listed below that the long-term feedrate limit (and averaging period) established under paragraph (c)(4)(i) of this section will also ensure that the 1-hour average HCl-equivalent emission rate will not exceed the 1-hour average HCl-equivalent emission rate limit you calculate for each combustor.

(i) The ratio of the 1-hour average HCl-equivalent emission rate based on the total chlorine emission rate you select for each hazardous waste combustor to the 1-hour average HCl-equivalent emission rate limit for the combustor; and

(ii) The potential for the source to vary total chlorine and chloride feedrates substantially over the averaging period for the feedrate limit established under paragraph (c)(4)(i) of this section.

(e) *Review and approval of eligibility demonstrations* —(1) *Content of the eligibility demonstration* —(i) *General.* The eligibility demonstration must include the following information, at a minimum:

(A) Identification of each hazardous waste combustor combustion gas emission point (e.g., generally, the flue gas stack);

(B) The maximum and average capacity at which each combustor will operate, and the maximum rated capacity for each combustor, using the metric of stack gas volume (under both actual and standard conditions) emitted per unit of time, as well as any other metric that is appropriate for the combustor (e.g., million Btu/hr heat input for boilers; tons of dry raw material feed/hour for cement kilns);

(C) Stack parameters for each combustor, including, but not limited to stack height, stack diameter, stack gas temperature, and stack gas exit velocity;

(D) Plot plan showing all stack emission points, nearby residences and property boundary line;

(E) Identification of any stack gas control devices used to reduce emissions from each combustor;

(F) Identification of the RfC values used to calculate annual average HCl-equivalent emission rates and the aREL values used to calculate 1-hour average HCl-equivalent emission rates;

(G) Calculations used to determine the annual average and 1-hour average HCl-equivalent emission rates and rate limits, including calculation of the Cl_2/HCl ratios as prescribed by paragraph (b)(6) of this section;

(ii) *Additional content to implement the annual average HCl-equivalent emission rate limit.* You must include the following in your eligibility demonstration to implement the annual average HCl-equivalent emission rate limit:

(A) For incinerators, cement kilns, and lightweight aggregate kilns, calculations to confirm that the annual average HCl-equivalent emission rate that you calculate from the total chlorine emission rate you select for each combustor does not exceed the limits provided by paragraph (b)(7) of this section;

(B) Comparison of the annual average HCl-equivalent emission rate limit for each combustor to the annual average HCl-equivalent emission rate for the total chlorine emission rate you select for each combustor;

(C) The annual average HCl-equivalent emission rate limit for each hazardous waste combustor, and the limits on operating parameters required under paragraph (g)(1) of this section;

(D) Determination of the long-term chlorine feedrate limit, including the total chlorine system removal efficiency for sources that establish an (up to) annual rolling average feedrate limit under paragraph (g)(2)(ii) of this section;

(iii) *Additional content to implement the 1-hour average HCl-equivalent emission rate limit.* You must include the following in your eligibility demonstration to implement the 1-hour average HCl-equivalent emission rate limit:

(A) Determination of whether the combustor may exceed the 1-hour HCl-equivalent emission rate limit absent an hourly rolling average chlorine feedrate limit, including:

(*1*) Determination of the 1-hour average HCl-equivalent emission rate from the total chlorine emission rate you select for the combustor;

(*2*) Determination of the 1-hour average HCl-equivalent emission rate limit using either look-up Tables 3 and 4 to this section or site-specific risk analysis;

(*3*) Determination of the ratio of the 1-hour average HCl-equivalent emission rate to the 1-hour average HCl-equivalent emission rate limit for the combustor; and

(*4*) The potential for the source to vary total chlorine and chloride feedrates substantially over the averaging period for the long-term feedrate limit established under paragraphs (g)(2)(i) and (g)(2)(ii) of this section; and

(B) Determination of the hourly rolling average chlorine feedrate limit, including the total chlorine system removal efficiency.

(iv) *Additional content of a look-up table demonstration.* If you use the look-up table analysis to establish HCl-equivalent emission rate limits, your eligibility demonstration must also contain, at a minimum, the following:

(A) Documentation that the facility is located in either flat or simple elevated terrain; and

(B) For facilities with more than one on-site hazardous waste combustor, documentation that the sum of the ratios for all such combustors of the HCl-equivalent emission rate to the HCl-equivalent emission rate limit does not exceed 1.0.

(v) *Additional content of a site-specific compliance demonstration.* If you use a site-specific compliance demonstration, your eligibility demonstration must also contain, at a minimum, the following information to support your determination of the annual average HCl-equivalent emission rate limit for each combustor:

(A) Identification of the risk assessment methodology used;

(B) Documentation of the fate and transport model used;

(C) Documentation of the fate and transport model inputs, including the stack parameters listed in paragraph (d)(1)(i)(C) of this section converted to the dimensions required for the model;

(D) As applicable:

(*1*) Meteorological data;

(*2*) Building, land use, and terrain data;

(*3*) Receptor locations and population data, including areas where people congregate for work, school, or recreation; and

(*4*) Other facility-specific parameters input into the model;

(E) Documentation of the fate and transport model outputs; and

(F) Documentation of any exposure assessment and risk characterization calculations.

(2) *Review and approval* —(i) *Existing sources.* (A) If you operate an existing source, you must submit the eligibility demonstration to your permitting authority for review and approval not later than 12 months prior to the compliance date. You must also submit a separate copy of the eligibility demonstration to: U.S. EPA, Risk and Exposure Assessment Group, Emission Standards Division (C404–01), Attn: Group Leader, Research Triangle Park, North Carolina 27711, electronic mail address *REAG@epa.gov.*

(B) Your permitting authority should notify you of approval or intent to disapprove your eligibility demonstration within 6 months after receipt of the original demonstration, and within 3 months after receipt of any supplemental information that you submit. A notice of intent to disapprove your eligibility demonstration, whether before or after the compliance date, will identify incomplete or inaccurate information or noncompliance with prescribed procedures and specify how much time you will have to submit additional information or to achieve the MACT standards for total chlorine under §§63.1216, 63.1217, 63.1219, 63.1220, and 63.1221. If your eligibility demonstration is disapproved, the permitting authority may extend the compliance date of the total chlorine standards to allow you to make changes to the design or operation of the combustor or related systems as quickly as practicable to enable you to achieve compliance with the MACT total chlorine standards.

(C) If your permitting authority has not approved your eligibility demonstration by the compliance date, and has not issued a notice of intent to disapprove your demonstration, you may nonetheless begin complying, on the compliance date, with the HCl-equivalent emission rate limits you present in your eligibility demonstration.

(D) If your permitting authority issues a notice of intent to disapprove your eligibility demonstration after the compliance date, the authority will identify the basis for that notice and specify how much time you will have to submit additional information or to comply with the MACT standards for total chlorine under §§63.1216, 63.1217, 63.1219, 63.1220, and 63.1221. The permitting authority may extend the compliance date of the total chlorine standards to allow you to make changes to the design or operation of the combustor or related systems as quickly as practicable to enable you to achieve compliance with the MACT standards for total chlorine.

(ii) *New or reconstructed sources.* (A) *General.* The procedures for review and approval of eligibility demonstrations applicable to existing sources under paragraph (e)(2)(i) of this section also apply to new or reconstructed sources, except that the date you must submit the eligibility demonstration is as prescribed in this paragraph (e)(2)(ii).

(B) If you operate a new or reconstructed source that starts up before April 12, 2007, or a solid fuel boiler or liquid fuel boiler that is an area source that increases its emissions or its potential to emit such that it becomes a major source of HAP before April 12, 2007, you must either:

(*1*) Comply with the final total chlorine emission standards under §§63.1216, 63.1217, 63.1219, 63.1220, and 63.1221, by October 12, 2005, or upon startup, whichever is later, except for a standard that is more stringent than the standard proposed on April 20, 2004 for your source. If a final standard is more stringent than the proposed standard, you may comply with the proposed standard until October 14, 2008, after which you must comply with the final standard; or

(*2*) Submit an eligibility demonstration for review and approval under this section by April 12, 2006, and comply with the HCl-equivalent emission rate limits and operating requirements you establish in the eligibility demonstration.

(C) If you operate a new or reconstructed source that starts up on or after April 12, 2007, or a solid fuel boiler or liquid fuel boiler that is an area source that increases its emissions or its potential to emit such that it becomes a major source of HAP on or after April 12, 2007, you must either:

(*1*) Comply with the final total chlorine emission standards under §§63.1216, 63.1217, 63.1219, 63.1220, and 63.1221 upon startup. If the final standard is more stringent than the standard proposed for your source on April 20, 2004, however, and if you start operations before October 14, 2008, you may comply with the proposed standard until October 14, 2008, after which you must comply with the final standard; or

(*2*) Submit an eligibility demonstration for review and approval under this section 12 months prior to startup.

(f) *Testing requirements* —(1) *General.* You must comply with the requirements for comprehensive performance testing under §63.1207.

(2) *System removal efficiency.* (i) You must calculate the total chlorine removal efficiency of the combustor during each run of the comprehensive performance test.

(ii) You must calculate the average system removal efficiency as the average of the test run averages.

(iii) If your source does not control emissions of total chlorine, you must assume zero system removal efficiency.

(3) *Annual average HCl-equivalent emission rate limit.* If emissions during the comprehensive performance test exceed the annual average HCl-equivalent emission rate limit, eligibility for emission limits under this section is not affected. This emission rate limit is an annual average limit even though compliance is based on a 12-hour or (up to) an annual rolling average feedrate limit on total chlorine and chloride because the feedrate limit is also used for compliance assurance for the semivolatile metal emission standard

(4) *1-hour average HCl-equivalent emission rate limit.* Total chlorine emissions during each run of the comprehensive performance test cannot exceed the 1-hour average HCl-equivalent emission rate limit.

(5) *Test methods.* (i) If you operate a cement kiln or a combustor equipped with a dry acid gas scrubber, you must use EPA Method 320/321 or ASTM D 6735–01, or an equivalent method, to measure hydrogen chloride, and the back-half (caustic impingers) of Method 26/26A, or an equivalent method, to measure chlorine gas.

(ii) *Bromine and sulfur considerations.* If you operate an incinerator, boiler, or lightweight aggregate kiln and your feedstreams contain bromine or sulfur during the comprehensive performance test at levels specified under paragraph (e)(2)(ii)(B) of this section, you must use EPA Method 320/321 or ASTM D 6735–01, or an equivalent method, to measure hydrogen chloride, and Method 26/26A, or an equivalent method, to measure chlorine and hydrogen chloride, and determine your chlorine emissions as follows:

(A) You must determine your chlorine emissions to be the higher of the value measured by Method 26/26A as provided in appendix A–8, part 60 of this chapter, or an equivalent method, or the value calculated by the difference between the combined hydrogen chloride and chlorine levels measured by Method 26/26A as provided in appendix A–8, part 60 of this chapter, or an equivalent method, and the hydrogen chloride measurement from EPA Method 320/321 as provided in appendix A, part 63 of this chapter, or ASTM D 6735–01 as described under §63.1208(b)(5)(i)(C), or an equivalent method.

(B) The procedures under paragraph (f)(2)(ii) of this section for determining hydrogen chloride and chlorine emissions apply if you feed bromine or sulfur during the performance test at the levels specified in this paragraph (f)(5)(ii)(B):

(*1*) If the bromine/chlorine ratio in feedstreams is greater than 5 percent by mass; or

(*2*) If the sulfur/chlorine ratio in feedstreams is greater than 50 percent by mass.

(g) *Monitoring requirements* —(1) *General.* You must establish and comply with limits on the same operating parameters that apply to sources complying with the MACT standard for total chlorine under §63.1209(o), except that feedrate limits on total chlorine and chloride must be established according to paragraphs (g)(2) and (g)(3) of this section:

(2) *Feedrate limit to ensure compliance with the annual average HCl-equivalent emission rate limit.* (i) For sources subject to the feedrate limit for total chlorine and chloride under §63.1209(n)(4) to ensure compliance with the semivolatile metals standard:

(A) The feedrate limit (and averaging period) for total chlorine and chloride to ensure compliance with the annual average HCl-equivalent emission rate limit is the same as required by §63.1209(n)(4), except as provided by paragraph (g)(2)(i)(B) of this section.

(B) The numerical value of the total chlorine and chloride feedrate limit (*i.e.* , not considering the averaging period) you establish under §63.1209(n)(4) must not exceed the value you calculate as the annual average HCl-equivalent emission rate limit (lb/hr) divided by [1 − system removal efficiency], where the system removal efficiency is calculated as prescribed by paragraph (f)(2) of this section.

(ii) For sources exempt from the feedrate limit for total chlorine and chloride under §63.1209(n)(4) because they comply with §63.1207(m)(2), the feedrate limit for total chlorine and chloride to ensure compliance with the annual average HCl-equivalent emission rate must be established as follows:

(A) You must establish an average period for the feedrate limit that does not exceed an annual rolling average;

(B) The numerical value of the total chlorine and chloride feedrate limit (*i.e.* , not considering the averaging period) must not exceed the value you calculate as the annual average HCl-equivalent emission rate limit (lb/hr) divided by [1 − system removal efficiency], where the system removal efficiency is calculated as prescribed by paragraph (f)(2) of this section.

(C) You must calculate the initial rolling average as though you had selected a 12-hour rolling average, as provided by paragraph (b)(5)(i) of this section. You must calculate rolling averages thereafter as the average of the available one-minute values until enough one-minute values are available to calculate the rolling average period you select. At that time and thereafter, you update the rolling average feedrate each hour with a 60-minute average feedrate.

(3) *Feedrate limit to ensure compliance with the 1-hour average HCl-equivalent emission rate limit.* (i) You must establish an hourly rolling average feedrate limit on total chlorine and chloride to ensure compliance with the 1-hour average HCl-equivalent emission rate limit unless you determine that the hourly rolling average feedrate limit is waived under paragraph (d) of this section.

(ii) You must calculate the hourly rolling average feedrate limit for total chlorine and chloride as the 1-hour average HCl-equivalent emission rate limit (lb/hr) divided by [1 − system removal efficiency], where the system removal efficiency is calculated as prescribed by paragraph (f)(2)(ii) of this section.

(h) *Changes* —(1) *Changes over which you have control.* (i) *Changes that would affect the HCl-equivalent emission rate limit.* (A) If you plan to change the design, operation, or maintenance of the facility in a manner than would decrease the annual average or 1-hour average HCl-equivalent emission rate limit, you must submit to the permitting authority prior to the change a revised eligibility demonstration documenting the lower emission rate limits and calculations of reduced total chlorine and chloride feedrate limits.

(B) If you plan to change the design, operation, or maintenance of the facility in a manner than would increase the annual average or 1-hour average HCl-equivalent emission rate limit, and you elect to increase your total chlorine and chloride feedrate limits. You must also submit to the permitting authority prior to the change a revised eligibility demonstration documenting the increased emission rate limits and calculations of the increased feedrate limits prior to the change.

(ii) *Changes that could affect system removal efficiency.* (A) If you plan to change the design, operation, or maintenance of the combustor in a manner than could decrease the system removal efficiency, you are subject to the requirements of §63.1206(b)(5) for conducting a performance test to reestablish the combustor's system removal efficiency and you must submit a revised eligibility demonstration documenting the lower system removal efficiency and the reduced feedrate limits on total chlorine and chloride.

(B) If you plan to change the design, operation, or maintenance of the combustor in a manner than could increase the system removal efficiency, and you elect to document the increased system removal efficiency to establish higher feedrate limits on total chlorine and chloride, you are subject to the requirements of §63.1206(b)(5) for conducting a performance test to reestablish the combustor's system removal efficiency. You must also submit to the permitting authority a revised eligibility demonstration documenting the higher system removal efficiency and the increased feedrate limits on total chlorine and chloride.

(2) *Changes over which you do not have control that may decrease the HCl-equivalent emission rate limits.* These requirements apply if you use a site-specific risk assessment under paragraph (c)(4) of this section to demonstrate eligibility for the health-based limits.

(i) *Proactive review* . You must submit for review and approval with each comprehensive performance test plan either a certification that the information used in your eligibility demonstration has not changed in a manner that would decrease the annual average or 1-hour average HCl-equivalent emission rate limit, or a revised eligibility demonstration.

(ii) *Reactive review.* If in the interim between your comprehensive performance tests you have reason to know of changes that would decrease the annual average or 1-hour average HCl-equivalent emission rate limit, you must submit a revised eligibility demonstration as soon as practicable but not more frequently than annually.

(iii) *Compliance schedule.* If you determine that you cannot demonstrate compliance with a lower annual average HCl-equivalent emission rate limit during the comprehensive performance test because you need additional time to complete changes to the design or operation of the source, you may request that the permitting authority grant you additional time to make those changes as quickly as practicable.

Table 1 of §63.1215: Annual Average HCl-Equivalent Emssion Rate Limits (lb/hr)--Flat Terrain

	Distance to property boundary (m)											
Stack Diameter = 0.3 m												
Stack Height (m)	30	50	70	100	200	300	500	700	1000	2000	3000	5000
5	3.7E-01	4.0E-01	7.3E-01	9.1E-01	1.6E+00	2.3E+00	4.1E+00	5.7E+00	8.1E+00	1.0E+01	1.5E+01	2.5E+01
10	1.0E+00	1.0E+00	1.1E+00	1.5E+00	2.1E+00	2.7E+00	4.8E+00	5.7E+00	8.5E+00	1.1E+01	1.6E+01	1.7E+01
20	2.3E+00	2.3E+00	2.3E+00	2.3E+00	2.7E+00	3.7E+00	5.6E+00	7.4E+00	1.0E+01	1.9E+01	2.5E+01	3.2E+01
30	4.1E+00	4.1E+00	4.1E+00	4.2E+00	4.7E+00	[illegible]	9.6E+00	1.3E+01	1.9E+01	3.3E+01	[illegible]	7.9E+01
50	1.2E+01	1.2E+01	1.2E+01	1.2E+01	1.3E+01	1.5E+01	2.0E+01	2.1E+01	[illegible]	[illegible]	1.3E+02	1.8E+02
Stack Diameter = 0.5 m												
Stack Height (m)	30	50	70	100	200	300	500	700	1000	2000	3000	5000
5	6.0E-01	9.3E-01	1.4E+00	1.8E+00	3.0E+00	4.4E+00	7.2E+00	9.7E+00	1.3E+01	1.5E+01	2.0E+01	3.4E+01
10	1.4E+00	1.4E+00	1.6E+00	2.1E+00	3.8E+00	5.4E+00	8.3E+00	1.2E+01	1.5E+01	1.7E+01	2.3E+01	3.8E+01
20	3.7E+00	3.7E+00	3.7E+00	3.9E+00	4.9E+00	6.5E+00	9.5E+00	1.3E+01	1.3E+01	2.2E+01	3.2E+01	5.5E+01
30	5.5E+00	5.5E+00	5.5E+00	5.5E+00	5.6E+00	6.7E+00	1.3E+01	1.4E+01	1.9E+01	3.4E+01	4.9E+01	[illegible]
50	1.4E+01	1.4E+01	1.4E+01	1.4E+01	1.4E+01	1.5E+01	2.1E+01	2.7E+01	3.8E+01	7.2E+01	1.0E+02	1.6E+02
Stack Diameter = 1.0 m												
Stack Height (m)	30	50	70	100	200	300	500	700	1000	2000	3000	5000
10	3.2E+00	[illegible]	4.3E+00	5.4E+00	9.6E+00	1.3E+01	1.6E+01	[illegible]	[illegible]	4.5E+01	5.3E+01	6.3E+01
20	[illegible]	[illegible]	[illegible]	6.1E+00	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	4.5E+01	[illegible]	[illegible]
30	[illegible]	[illegible]	[illegible]	1.0E+01	1.2E+01	1.3E+01	1.6E+01	2.3E+01	2.6E+01	4.5E+01	6.1E+01	9.3E+01
50	[illegible]	[illegible]	[illegible]	1.8E+01	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
70	7.4E+01	7.4E+01	7.4E+01	7.4E+01	7.4E+01	7.4E+01	8.0E+01	1.0E+02	1.4E+02	2.1E+02	2.7E+02	4.3E+02
Stack Diameter = 1.5 m												
Stack Height (m)	30	50	70	100	200	300	500	700	1000	2000	3000	5000
10	4.1E+00	5.3E+00	5.4E+00	7.9E+00	1.3E+01	2.1E+01	2.7E+01	3.6E+01	4.9E+01	7.6E+01	9.1E+01	1.1E+02
20	7.0E+00	7.6E+00	7.6E+00	7.9E+00	1.3E+01	2.1E+01	2.7E+01	3.6E+01	4.9E+01	7.6E+01	9.1E+01	1.2E+02
30	1.3E+01	1.3E+01	1.3E+01	1.3E+01	1.6E+01	2.1E+01	2.7E+01	3.6E+01	4.9E+01	7.6E+01	9.1E+01	1.2E+02
50	2.3E+01	2.3E+01	2.3E+01	2.3E+01	2.3E+01	2.3E+01	2.7E+01	3.6E+01	4.9E+01	8.5E+01	1.2E+02	1.8E+02
70	1.0E+02	1.0E+02	1.0E+02	1.0E+02	1.0E+02	1.0E+02	1.1E+02	1.4E+02	1.8E+02	3.0E+02	4.0E+02	5.8E+02
Stack Diameter = 2.0 m												
Stack Height (m)	30	50	70	100	200	300	500	700	1000	2000	3000	5000
10	5.0E+00	6.3E+00	7.7E+00	9.8E+00	1.7E+01	2.4E+01	3.3E+01	4.4E+01	5.9E+01	1.2E+02	1.4E+02	1.6E+02
20	9.3E+00	9.3E+00	9.4E+00	1.0E+01	1.7E+01	2.5E+01	3.3E+01	4.4E+01	5.9E+01	1.2E+02	1.4E+02	1.8E+02
30	1.6E+01	1.6E+01	1.6E+01	1.6E+01	1.9E+01	2.4E+01	3.3E+01	4.4E+01	5.9E+01	1.2E+02	1.4E+02	1.8E+02
50	2.9E+01	2.9E+01	2.9E+01	2.9E+01	2.9E+01	2.9E+01	3.3E+01	4.4E+01	5.9E+01	[illegible]	1.4E+02	2.0E+02
70	1.4E+02	1.4E+02	1.4E+02	1.4E+02	1.4E+02	1.4E+02	1.4E+02	1.8E+02	2.3E+02	3.4E+02	4.3E+02	6.1E+02
100	3.0E+02	3.0E+02	3.0E+02	3.0E+02	3.0E+02	3.0E+02	3.0E+02	3.0E+02	3.5E+02	5.2E+02	8.4E+02	8.2E+02
Stack Diameter = 3.0 m												
Stack Height (m)	30	50	70	100	200	300	500	700	1000	2000	3000	5000
10	6.5E+00	[illegible]	7.7E+00	9.8E+00	2.2E+01	3.4E+01	5.4E+01	7.4E+01	9.5E+01	1.3E+02	1.6E+02	1.6E+02
20	1.5E+01	1.5E+01	1.7E+01	2.0E+01	2.5E+01	3.7E+01	5.0E+01	7.4E+01	9.5E+01	1.5E+02	2.1E+02	3.0E+02
30	2.0E+01	2.0E+01	2.0E+01	2.0E+01	2.5E+01	3.7E+01	5.8E+01	7.4E+01	9.5E+01	1.7E+02	2.2E+02	3.0E+02
50	4.2E+01	4.2E+01	4.2E+01	4.2E+01	4.4E+01	5.1E+01	5.0E+01	7.4E+01	9.5E+01	1.7E+02	2.2E+02	3.0E+02
70	2.3E+02	2.3E+02	2.3E+02	2.3E+02	2.3E+02	2.4E+02	2.4E+02	2.9E+02	3.6E+02	4.1E+02	5.0E+02	7.0E+02
100	3.5E+02	3.5E+02	3.5E+02	3.5E+02	3.5E+02	3.5E+02	[illegible]	[illegible]	[illegible]	6.3E+02	[illegible]	8.7E+02
Stack Diameter = 4.0 m												
Stack Height (m)	30	50	70	100	200	300	500	700	1000	2000	3000	5000
20	2.5E+01	2.5E+01	2.5E+01	2.5E+01	3.4E+01	5.6E+01	8.1E+01	1.1E+02	1.4E+02	2.2E+02	2.8E+02	4.0E+02
50	5.1E+01	5.1E+01	5.1E+01	5.1E+01	5.3E+01	6.2E+01	8.1E+01	1.1E+02	1.4E+02	2.4E+02	3.1E+02	4.4E+02
70	2.6E+02	2.6E+02	2.6E+02	2.6E+02	2.7E+02	2.8E+02	3.3E+02	4.6E+02	4.9E+02	5.1E+02	5.7E+02	7.7E+02
100	5.7E+02	5.7E+02	5.7E+02	5.7E+02	5.7E+02	5.7E+02	5.7E+02	5.7E+02	5.8E+02	5.6E+02	9.3E+02	1.1E+03

Table 2 of §63.1215: Annual Average HCl-Equivalent Emission Rate Limits (lbs/hr)—Simple Elevated Terrain

Distance to property boundary (m)

Stack height (m)	30	50	70	100	200	300	500	700	1000	2000	3000	5000
Stack Diameter = 0.3 m												
5	1.3E-01	1.8E-01	2.5E-01	3.7E-01	6.4E-01	9.9E-01	1.4E+00	2.0E+00	3.1E+00	7.7E+00	1.5E+01	2.6E+01
10	3.8E-01	3.8E-01	4.4E-01	6.1E-01	6.4E-01	9.9E-01	1.4E+00	2.0E+00	3.1E+00	7.7E+00	1.5E+01	2.6E+01
20	1.1E+00	1.1E+00	1.1E+00	1.2E+00	1.2E+00	1.5E+00	2.3E+00	3.4E+00	5.2E+00	1.2E+01	2.0E+01	3.9E+01
30	2.4E+00	2.4E+00	2.4E+00	2.4E+00	2.7E+00	3.5E+00	4.2E+00	5.2E+00	7.0E+00	1.5E+01	2.6E+01	4.9E+01
50	7.7E+00	7.7E+00	7.7E+00	7.7E+00	7.7E+00	8.6E+00	8.6E+00	8.6E+00	8.6E+00	2.0E+01	3.4E+01	6.5E+01
Stack Diameter = 0.5 m												
5	1.8E-01	2.6E-01	3.5E-01	5.0E-01	1.4E+00	1.6E+00	2.3E+00	3.4E+00	5.2E+00	9.6E+00	1.5E+01	2.8E+01
10	5.3E-01	5.3E-01	6.2E-01	8.5E-01	1.4E+00	1.6E+00	2.3E+00	3.4E+00	5.2E+00	9.6E+00	1.5E+01	2.8E+01
20	1.5E+00	1.5E+00	1.5E+00	1.5E+00	1.5E+00	1.6E+00	2.3E+00	3.4E+00	5.2E+00	1.2E+01	2.0E+01	3.9E+01
30	2.9E+00	2.9E+00	2.9E+00	2.9E+00	2.9E+00	3.5E+00	4.2E+00	5.5E+00	8.1E+00	1.7E+01	2.7E+01	5.2E+01
50	8.0E+00	8.0E+00	8.0E+00	8.0E+00	8.0E+00	9.3E+00	1.2E+01	1.3E+01	1.2E+01	2.3E+01	3.7E+01	6.9E+01
Stack Diameter = 1.0 m												
10	9.7E-01	9.7E-01	1.1E+00	1.7E+00	3.7E+00	1.7E+00	4.2E+00	5.5E+00	7.5E+00	1.5E+01	2.1E+01	4.1E+01
20	2.7E+00	2.7E+00	2.7E+00	3.0E+00	3.7E+00	1.7E+00	4.2E+00	5.5E+00	7.5E+00	1.5E+01	2.1E+01	4.1E+01
30	4.3E+00	4.3E+00	4.3E+00	4.3E+00	4.3E+00	1.3E+00	4.3E+00	5.5E+00	8.1E+00	1.7E+01	2.4E+01	5.2E+01
50	9.5E+00	9.5E+00	9.5E+00	9.5E+00	9.5E+00	9.5E+00	1.2E+01	1.4E+01	1.6E+01	3.1E+01	4.6E+01	9.2E+01
70	4.0E+01	4.0E+01	4.0E+01	4.0E+01	4.0E+01	4.0E+01	4.0E+01	4.1E+01	4.1E+01	6.1E+01	5.9E+01	9.5E+01
Stack Diameter = 1.5 m												
10	2.0E+00	2.0E+00	2.3E+00	3.4E+00	5.1E+00	6.0E+00	6.0E+00	6.6E+00	9.3E+00	1.9E+01	3.0E+01	5.4E+01
20	3.5E+00	3.5E+00	3.5E+00	3.9E+00	5.1E+00	6.0E+00	6.0E+00	6.6E+00	9.3E+00	1.9E+01	3.0E+01	5.4E+01
30	6.0E+00	6.0E+00	6.0E+00	6.0E+00	6.0E+00	6.0E+00	6.0E+00	6.6E+00	9.3E+00	1.9E+01	3.0E+01	5.5E+01
50	1.1E+01	1.1E+01	1.1E+01	1.1E+01	1.1E+01	1.1E+01	1.2E+01	1.4E+01	1.6E+01	3.1E+01	4.5E+01	8.3E+01
70	5.1E+01	5.1E+01	5.1E+01	5.1E+01	5.1E+01	5.1E+01	5.1E+01	5.1E+01	5.1E+01	6.2E+01	7.8E+01	1.2E+02
Stack Diameter = 2.0 m												
10	2.6E+00	2.6E+00	3.0E+00	4.2E+00	6.3E+00	9.2E+00	9.2E+00	1.0E+01	1.4E+01	2.5E+01	3.7E+01	6.1E+01
20	4.2E+00	4.2E+00	4.2E+00	4.7E+00	6.3E+00	9.2E+00	9.2E+00	1.0E+01	1.4E+01	2.5E+01	3.7E+01	6.3E+01
30	8.4E+00	8.4E+00	8.4E+00	8.4E+00	9.7E+00	9.2E+00	9.2E+00	1.0E+01	1.4E+01	2.5E+01	3.7E+01	6.2E+01
50	1.4E+01	1.4E+01	1.4E+01	1.4E+01	1.4E+01	1.4E+01	1.4E+01	1.5E+01	1.6E+01	3.1E+01	4.7E+01	8.1E+01
70	5.9E+01	5.9E+01	5.9E+01	5.9E+01	5.9E+01	5.9E+01	5.9E+01	5.9E+01	5.9E+01	7.0E+01	1.0E+02	1.5E+02
100	8.2E+01	8.2E+01	8.2E+01	8.2E+01	8.2E+01	8.2E+01	8.2E+01	8.2E+01	8.2E+01	8.2E+01	1.1E+02	1.7E+02
Stack Diameter = 3.0 m												
10	3.3E+00	3.4E+00	3.9E+00	5.5E+00	1.1E+01	1.4E+01	1.7E+01	1.7E+01	1.7E+01	3.3E+01	5.0E+01	8.6E+01
20	6.5E+00	6.5E+00	6.5E+00	7.6E+00	1.1E+01	1.7E+01	1.7E+01	1.7E+01	1.7E+01	3.3E+01	5.0E+01	8.6E+01
30	1.1E+01	1.1E+01	1.1E+01	1.1E+01	1.2E+01	1.7E+01	1.7E+01	1.7E+01	1.7E+01	3.3E+01	5.0E+01	8.6E+01
50	1.7E+01	1.7E+01	1.7E+01	1.7E+01	1.7E+01	1.7E+01	1.7E+01	1.7E+01	1.7E+01	3.3E+01	5.0E+01	8.6E+01
70	8.0E+01	8.0E+01	8.0E+01	8.0E+01	8.0E+01	8.0E+01	8.0E+01	8.0E+01	8.0E+01	8.5E+01	1.2E+02	1.9E+02
100	1.3E+02	1.3E+02	1.3E+02	1.3E+02	1.3E+02	1.3E+02	1.3E+02	1.3E+02	1.3E+02	1.3E+02	1.9E+02	2.4E+02
Stack Diameter = 4.0 m												
30	1.3E+01	1.3E+01	1.3E+01	1.3E+01	1.3E+01	2.1E+01	2.1E+01	2.1E+01	2.1E+01	4.0E+01	6.0E+01	9.8E+01
50	2.1E+01	2.1E+01	2.1E+01	2.1E+01	2.1E+01	2.1E+01	2.1E+01	2.1E+01	2.1E+01	4.0E+01	6.0E+01	9.8E+01
70	1.1E+02	1.1E+02	1.1E+02	1.1E+02	1.1E+02	1.1E+02	1.1E+02	1.1E+02	1.1E+02	1.2E+02	1.5E+02	2.3E+02
100	1.5E+02	1.5E+02	1.5E+02	1.5E+02	1.5E+02	1.5E+02	1.5E+02	1.5E+02	1.5E+02	1.9E+02	2.2E+02	3.4E+02

Table 3 of §63.1215: 1-Hour Average HCl-Equivalent Emission Rates (lb/hr)—Flat Terrain

	Distance to property boundary (m)											
Stack Diameter = 0.3 m												
Stack Height (m)	**30**	**50**	**70**	**100**	**200**	**300**	**500**	**700**	**1000**	**2000**	**3000**	**5000**
5	3.9E+00	5.1E+00	7.6E+00	9.8E+00	1.5E+01	2.4E+01	4.3E+01	5.3E+01	6.2E+01	1.1E+02	1.7E+02	3.1E+02
10	6.7E+00	9.5E+00	1.1E+01	1.4E+01	2.0E+01	2.8E+01	4.8E+01	5.5E+01	6.2E+01	1.1E+02	1.7E+02	3.1E+02
20	2.2E+01	2.2E+01	2.2E+01	2.2E+01	2.5E+01	3.5E+01	5.3E+01	7.0E+01	9.5E+01	1.8E+02	2.8E+02	4.9E+02
30	3.9E+01	3.9E+01	3.9E+01	4.0E+01	4.4E+01	5.7E+01	8.8E+01	1.2E+02	1.7E+02	3.1E+02	4.5E+02	7.6E+02
60	1.2E+02	1.2E+02	1.2E+02	1.2E+02	1.2E+02	1.4E+02	1.9E+02	2.6E+02	3.6E+02	6.7E+02	9.7E+02	1.5E+03
Stack Diameter = 0.5 m												
Stack Height (m)	**30**	**50**	**70**	**100**	**200**	**300**	**500**	**700**	**1000**	**2000**	**3000**	**5000**
5	4.9E+00	6.5E+00	1.5E+01	1.8E+01	3.2E+01	4.6E+01	7.5E+01	9.8E+01	1.2E+02	1.6E+02	2.1E+02	3.6E+02
10	1.3E+01	1.4E+01	1.5E+01	2.0E+01	3.7E+01	5.1E+01	7.0E+01	9.7E+01	1.2E+02	1.8E+02	2.3E+02	4.0E+02
20	3.5E+01	3.5E+01	3.5E+01	3.6E+01	4.6E+01	6.2E+01	8.1E+01	9.7E+01	1.2E+02	2.1E+02	3.0E+02	5.2E+02
30	5.2E+01	5.2E+01	5.2E+01	5.2E+01	5.3E+01	6.4E+01	9.8E+01	1.3E+02	1.6E+02	3.2E+02	4.7E+02	7.7E+02
50	1.3E+02	1.3E+02	1.3E+02	1.3E+02	1.3E+02	1.4E+02	2.0E+02	2.7E+02	3.7E+02	6.8E+02	9.7E+02	1.5E+03
Stack Diameter = 1.0 m												
Stack Height (m)	**30**	**50**	**70**	**100**	**200**	**300**	**500**	**700**	**1000**	**2000**	**3000**	**5000**
10	3.0E+01	3.4E+01	3.6E+01	3.1E+01	5.5E+01	1.2E+02	1.7E+02	2.2E+02	2.7E+02	4.3E+02	5.0E+02	6.1E+02
20	5.6E+01	5.5E+01	5.5E+01	5.8E+01	9.0E+01	1.2E+02	1.7E+02	2.2E+02	2.7E+02	4.3E+02	5.0E+02	7.1E+02
30	9.8E+01	9.5E+01	9.6E+01	[illegible]	1.1E+02	1.3E+02	1.7E+02	2.2E+02	2.7E+02	4.3E+02	5.0E+02	5.8E+02
50	1.7E+02	1.7E+02	1.7E+02	1.7E+02	1.7E+02	1.7E+02	2.2E+02	2.8E+02	4.0E+02	7.3E+02	1.0E+03	1.5E+03
70	7.0E+02	7.0E+02	7.0E+02	7.0E+02	7.0E+02	7.0E+02	7.8E+02	9.8E+02	1.3E+03	2.0E+03	2.8E+03	1.8E+03
Stack Diameter = 1.5 m												
Stack Height (m)	**30**	**50**	**70**	**100**	**200**	**300**	**500**	**700**	**1000**	**2000**	**3000**	**5000**
10	3.9E+01	5.0E+01	6.1E+01	7.5E+01	1.2E+02	2.0E+02	2.5E+02	3.4E+02	4.8E+02	7.2E+02	7.8E+02	1.0E+03
20	7.1E+01	7.1E+01	7.9E+01	7.9E+01	1.2E+02	2.0E+02	2.8E+02	3.4E+02	4.6E+02	7.2E+02	8.8E+02	1.1E+03
30	1.2E+02	1.2E+02	1.2E+02	1.2E+02	1.4E+02	2.0E+02	2.5E+02	3.4E+02	4.8E+02	7.2E+02	9.0E+02	1.1E+03
50	2.2E+02	2.2E+02	2.2E+02	2.2E+02	2.2E+02	2.2E+02	2.5E+02	3.4E+02	4.0E+02	8.1E+02	1.1E+03	1.7E+03
70	9.6E+02	9.6E+02	9.6E+02	9.6E+02	9.6E+02	9.6E+02	1.0E+03	1.3E+03	1.7E+03	2.8E+03	2.8E+03	3.5E+03
Stack Diameter = 2.0 m												
Stack Height (m)	**30**	**50**	**70**	**100**	**200**	**300**	**500**	**700**	**1000**	**2000**	**3000**	**5000**
10	4.7E+01	6.3E+01	7.2E+01	9.2E+01	1.7E+02	2.7E+02	3.2E+02	4.2E+02	5.6E+02	9.7E+02	1.3E+03	1.5E+03
20	6.6E+01	6.9E+01	9.6E+01	9.4E+01	1.7E+02	2.6E+02	3.2E+02	4.2E+02	5.0E+02	9.7E+02	1.3E+03	1.7E+03
30	1.5E+02	1.5E+02	1.5E+02	1.5E+02	1.8E+02	2.6E+02	3.2E+02	4.0E+02	5.8E+02	9.7E+02	1.3E+03	1.7E+03
50	2.7E+02	2.7E+02	2.7E+02	2.7E+02	2.7E+02	2.7E+02	3.2E+02	4.2E+02	5.0E+02	9.7E+02	1.3E+03	1.9E+03
70	1.3E+03	1.3E+03	1.3E+03	1.3E+03	1.3E+03	1.3E+03	1.4E+03	1.5E+03	2.2E+03	3.2E+03	4.1E+03	5.0E+03
100	2.8E+03	2.8E+03	2.8E+03	2.8E+03	2.8E+03	2.8E+03	2.8E+03	2.8E+03	3.3E+03	5.0E+03	6.6E+03	7.7E+03
Stack Diameter = 3.0 m												
Stack Height (m)	**30**	**50**	**70**	**100**	**200**	**300**	**500**	**700**	**1000**	**2000**	**3000**	**5000**
10	6.2E+01	6.5E+01	7.3E+01	9.2E+01	2.1E+02	3.3E+02	5.1E+02	7.0E+02	9.7E+02	1.2E+03	1.5E+03	1.9E+03
20	1.5E+02	1.5E+02	1.5E+02	1.9E+02	2.4E+02	3.5E+02	5.3E+02	7.0E+02	9.3E+02	1.4E+03	2.0E+03	3.0E+03
30	1.9E+02	1.9E+02	1.9E+02	1.9E+02	2.4E+02	3.5E+02	5.3E+02	7.0E+02	9.3E+02	1.8E+03	2.1E+03	2.0E+03
50	4.0E+02	4.0E+02	4.0E+02	4.0E+02	4.2E+02	4.6E+02	5.3E+02	7.0E+02	9.3E+02	1.6E+03	2.7E+03	2.8E+03
70	2.2E+03	2.2E+03	2.2E+03	2.2E+03	2.2E+03	2.2E+03	2.2E+03	2.8E+03	3.4E+03	3.8E+03	4.7E+03	5.5E+03
100	3.3E+03	3.3E+03	3.3E+03	3.3E+03	3.3E+03	3.3E+03	3.3E+03	3.3E+03	3.7E+03	5.0E+03	7.1E+03	8.2E+03
Stack Diameter = 4.0 m												
Stack Height (m)	**30**	**50**	**70**	**100**	**200**	**300**	**500**	**700**	**1000**	**2000**	**3000**	**5000**
30	2.3E+02	2.3E+02	2.3E+02	2.4E+02	3.3E+02	5.3E+02	7.7E+02	1.0E+03	1.3E+03	2.1E+03	2.6E+03	4.1E+03
50	4.8E+02	4.8E+02	4.8E+02	4.8E+02	5.0E+02	6.8E+02	7.7E+02	1.0E+03	1.3E+03	2.3E+03	3.0E+03	4.2E+03
70	2.4E+03	2.4E+03	2.4E+03	2.4E+03	2.5E+03	2.6E+03	3.2E+03	4.3E+03	4.5E+03	4.7E+03	5.4E+03	7.2E+03
100	5.4E+03	5.4E+03	5.4E+03	5.4E+03	5.4E+03	5.4E+03	5.4E+03	5.4E+03	6.5E+03	9.1E+03	9.8E+03	1.0E+04

Table 4 of §63.1215: 1-Hour Average HCl-Equivalent Emission Rate Limits (lb/hr)--Simple Elevated Terrain

	Distance to property boundary (m)											
Stack Diameter = 0.3 m												
Stack Height (m)	30	50	70	100	200	300	500	700	1000	2000	3000	5000
5	1.4E+00	1.9E+00	2.8E+00	3.8E+00	6.9E+00	9.4E+00	1.5E+01	2.1E+01	3.3E+01	8.1E+01	1.4E+02	2.7E+02
10	4.0E+00	4.0E+00	4.8E+00	6.4E+00	6.9E+00	9.4E+00	1.5E+01	2.1E+01	3.3E+01	8.1E+01	1.4E+02	2.7E+02
20	1.1E+01	1.1E+01	1.1E+01	1.1E+01	1.2E+01	1.3E+01	2.4E+01	3.9E+01	5.4E+01	1.3E+02	2.1E+02	4.0E+02
30	2.3E+01	2.3E+01	2.3E+01	2.3E+01	2.5E+01	3.3E+01	4.4E+01	5.5E+01	7.3E+01	1.6E+02	2.7E+02	5.3E+02
50	7.3E+01	7.3E+01	7.3E+01	7.3E+01	7.3E+01	8.1E+01	9.0E+01	9.7E+01	9.9E+01	2.1E+02	3.5E+02	6.5E+02
Stack Diameter = 0.5 m												
Stack Height (m)	30	50	70	100	200	300	500	700	1000	2000	3000	5000
5	1.9E+00	2.7E+00	3.7E+00	5.9E+00	1.4E+01	1.7E+01	2.4E+01	3.5E+01	5.4E+01	1.0E+02	1.5E+02	3.0E+02
10	5.6E+00	5.8E+00	6.4E+00	8.9E+00	1.4E+01	1.7E+01	2.4E+01	3.5E+01	5.4E+01	1.0E+02	1.5E+02	3.0E+02
20	1.6E+01	1.6E+01	1.6E+01	1.6E+01	1.6E+01	1.7E+01	2.4E+01	3.5E+01	5.4E+01	1.0E+02	2.1E+02	4.0E+02
30	2.7E+01	2.7E+01	2.7E+01	2.7E+01	2.7E+01	3.3E+01	4.4E+01	5.8E+01	8.5E+01	1.8E+02	2.8E+02	5.5E+02
50	7.6E+01	7.6E+01	7.6E+01	7.6E+01	7.6E+01	8.3E+01	1.1E+02	1.5E+02	1.9E+02	2.6E+02	3.8E+02	7.2E+02
Stack Diameter = 1.0 m												
Stack Height (m)	30	50	70	100	200	300	500	700	1000	2000	3000	5000
10	1.9E+01	1.9E+01	1.9E+01	1.9E+01	3.6E+01	3.9E+01	4.5E+01	5.8E+01	7.9E+01	1.6E+02	2.4E+02	4.4E+02
20	2.6E+01	2.6E+01	2.6E+01	2.8E+01	3.6E+01	3.8E+01	4.6E+01	5.8E+01	7.9E+01	1.6E+02	2.4E+02	4.6E+02
30	4.2E+01	4.2E+01	4.2E+01	4.2E+01	4.2E+01	4.2E+01	4.5E+01	5.0E+01	8.5E+01	1.8E+02	2.6E+02	5.5E+02
50	8.9E+01	8.9E+01	8.9E+01	8.9E+01	8.9E+01	8.9E+01	1.1E+02	1.4E+02	1.7E+02	3.3E+02	5.0E+02	5.7E+02
70	3.8E+02	3.8E+02	3.8E+02	3.8E+02	3.8E+02	3.8E+02	3.8E+02	4.0E+02	4.1E+02	4.9E+02	5.1E+02	1.0E+03
Stack Diameter = 1.5 m												
Stack Height (m)	30	50	70	100	200	300	500	700	1000	2000	3000	5000
10	2.1E+01	2.1E+01	2.5E+01	3.5E+01	5.4E+01	6.3E+01	6.3E+01	6.9E+01	9.8E+01	2.0E+02	3.0E+02	5.7E+02
20	3.3E+01	3.3E+01	3.3E+01	3.7E+01	5.4E+01	6.3E+01	6.3E+01	6.9E+01	9.8E+01	2.0E+02	3.2E+02	5.7E+02
30	5.3E+01	5.3E+01	5.3E+01	5.3E+01	6.2E+01	6.3E+01	6.3E+01	6.9E+01	9.8E+01	2.0E+02	3.2E+02	5.8E+02
50	1.0E+02	1.0E+02	1.0E+02	1.0E+02	1.0E+02	1.0E+02	1.2E+02	1.4E+02	1.7E+02	3.3E+02	5.0E+02	8.7E+02
70	4.8E+02	4.8E+02	4.8E+02	4.8E+02	4.8E+02	4.8E+02	4.8E+02	4.8E+02	4.8E+02	6.5E+02	8.2E+02	1.3E+03
Stack Diameter = 2.0 m												
Stack Height (m)	30	50	70	100	200	300	500	700	1000	2000	3000	5000
10	2.7E+01	2.7E+01	3.2E+01	4.4E+01	[illegible]	9.7E+01	9.7E+01	1.1E+02	1.5E+02	2.6E+02	3.9E+02	6.5E+02
20	4.0E+01	4.0E+01	4.0E+01	4.4E+01	6.6E+01	9.7E+01	9.7E+01	1.1E+02	1.5E+02	2.6E+02	3.9E+02	6.5E+02
30	7.9E+01	7.9E+01	7.9E+01	7.9E+01	9.1E+01	9.7E+01	9.7E+01	1.1E+02	1.5E+02	2.6E+02	3.9E+02	6.5E+02
50	1.3E+02	1.3E+02	1.3E+02	1.3E+02	1.3E+02	1.3E+02	1.3E+02	1.4E+02	1.7E+02	3.3E+02	5.0E+02	8.7E+02
70	5.6E+02	5.6E+02	5.6E+02	5.6E+02	5.6E+02	5.6E+02	5.6E+02	5.6E+02	5.6E+02	7.3E+02	[illegible]	[illegible]
100	8.6E+02	8.6E+02	8.6E+02	8.6E+02	8.6E+02	8.6E+02	8.6E+02	8.6E+02	8.6E+02	8.6E+02	1.2E+03	[illegible]
Stack Diameter = 3.0 m												
Stack Height (m)	30	50	70	100	200	300	500	700	1000	2000	3000	5000
10	3.5E+01	3.5E+01	4.1E+01	5.8E+01	1.2E+02	1.6E+02	1.8E+02	1.8E+02	1.8E+02	3.5E+02	5.2E+02	9.0E+02
20	5.2E+01	5.2E+01	5.2E+01	7.2E+01	1.2E+02	1.6E+02	1.8E+02	1.8E+02	1.8E+02	3.5E+02	5.2E+02	9.0E+02
30	1.0E+02	1.0E+02	1.0E+02	1.0E+02	1.2E+02	1.6E+02	1.8E+02	1.8E+02	1.8E+02	3.5E+02	5.2E+02	9.0E+02
50	1.9E+02	1.9E+02	1.8E+02	1.8E+02	1.8E+02	1.9E+02	1.8E+02	1.8E+02	1.8E+02	3.3E+02	5.2E+02	9.0E+02
70	7.5E+02	7.5E+02	7.5E+02	7.5E+02	7.5E+02	7.5E+02	7.5E+02	7.5E+02	7.5E+02	9.9E+02	1.3E+03	2.0E+03
100	1.4E+03	1.4E+03	1.4E+03	1.4E+03	1.4E+03	1.4E+03	1.4E+03	1.4E+03	1.4E+03	1.4E+03	2.0E+03	2.6E+03
Stack Diameter = 4.0 m												
Stack Height (m)	30	50	70	100	200	300	500	700	1000	2000	3000	5000
30	1.2E+02	1.2E+02	1.2E+02	1.2E+02	1.4E+02	2.0E+02	2.2E+02	2.2E+02	2.2E+02	4.2E+02	6.3E+02	1.0E+03
50	2.2E+02	2.2E+02	2.2E+02	2.2E+02	2.2E+02	2.2E+02	2.2E+02	2.2E+02	2.2E+02	4.2E+02	6.3E+02	1.0E+03
70	1.0E+03	1.0E+03	1.0E+03	1.0E+03	1.0E+03	1.0E+03	1.0E+03	1.0E+03	1.0E+03	1.1E+03	1.6E+03	2.4E+03
100	1.6E+03	1.6E+03	1.6E+03	1.6E+03	1.6E+03	1.6E+03	1.6E+03	1.6E+03	1.6E+03	1.9E+03	2.3E+03	3.9E+03

[70 FR 59565, Oct. 12, 2005, as amended at 73 FR 18983, Apr. 8, 2008]

Emissions Standards and Operating Limits for Solid Fuel Boilers, Liquid Fuel Boilers, and Hydrochloric Acid Production Furnaces

§ 63.1216 What are the standards for solid fuel boilers that burn hazardous waste?

(a) *Emission limits for existing sources.* You must not discharge or cause combustion gases to be emitted into the atmosphere that contain:

(1) For dioxins and furans, either carbon monoxide or hydrocarbon emissions in excess of the limits provided by paragraph (a)(5) of this section;

(2) Mercury in excess of 11 µgm/dscm corrected to 7 percent oxygen;

(3) For cadmium and lead combined, except for an area source as defined under §63.2, emissions in excess of 180 µgm/dscm, corrected to 7 percent oxygen;

(4) For arsenic, beryllium, and chromium combined, except for an area source as defined under §63.2, emissions in excess of 380 µgm/dscm, corrected to 7 percent oxygen;

(5) For carbon monoxide and hydrocarbons, either:

(i) Carbon monoxide in excess of 100 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis and corrected to 7 percent oxygen. If you elect to comply with this carbon monoxide standard rather than the hydrocarbon standard under paragraph (a)(5)(ii) of this section, you must also document that, during the destruction and removal efficiency (DRE) test runs or their equivalent as provided by §63.1206(b)(7), hydrocarbons do not exceed 10 parts per million by volume during those runs, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; or

(ii) Hydrocarbons in excess of 10 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane;

(6) For hydrogen chloride and chlorine combined, except for an area source as defined under §63.2, emissions in excess of 440 parts per million by volume, expressed as a chloride (Cl(-)) equivalent, dry basis and corrected to 7 percent oxygen; and

(7) For particulate matter, except for an area source as defined under §63.2 or as provided by paragraph (e) of this section, emissions in excess of 68 mg/dscm corrected to 7 percent oxygen.

(b) *Emission limits for new sources.* You must not discharge or cause combustion gases to be emitted into the atmosphere that contain:

(1) For dioxins and furans, either carbon monoxide or hydrocarbon emissions in excess of the limits provided by paragraph (b)(5) of this section;

(2) Mercury in excess of 11 µgm/dscm corrected to 7 percent oxygen;

(3) For cadmium and lead combined, except for an area source as defined under §63.2, emissions in excess of 180 µgm/dscm, corrected to 7 percent oxygen;

(4) For arsenic, beryllium, and chromium combined, except for an area source as defined under §63.2, emissions in excess of 190 µgm/dscm, corrected to 7 percent oxygen;

(5) For carbon monoxide and hydrocarbons, either:

(i) Carbon monoxide in excess of 100 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis and corrected to 7 percent oxygen. If you elect to comply with this carbon monoxide standard rather than the hydrocarbon standard under paragraph (b)(5)(ii) of this section, you must also document that, during the destruction and removal efficiency (DRE) test runs or their equivalent as provided by §63.1206(b)(7), hydrocarbons do not exceed 10 parts per million by volume during those runs, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; or

(ii) Hydrocarbons in excess of 10 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane;

(6) For hydrogen chloride and chlorine combined, except for an area source as defined under §63.2, emissions in excess of 73 parts per million by volume, expressed as a chloride (Cl(-)) equivalent, dry basis and corrected to 7 percent oxygen; and

(7) For particulate matter, except for an area source as defined under §63.2 or as provided by paragraph (e) of this section, emissions in excess of 34 mg/dscm corrected to 7 percent oxygen.

(c) *Destruction and removal efficiency (DRE) standard* —(1) *99.99% DRE.* Except as provided in paragraph (c)(2) of this section, you must achieve a DRE of 99.99% for each principle organic hazardous constituent (POHC) designated under paragraph (c)(3) of this section. You must calculate DRE for each POHC from the following equation:

$DRE = [1 - (W_{out} \div W_{in})] \times 100\%$

Where:

W_{in}= mass feedrate of one POHC in a waste feedstream; and

W_{out}= mass emission rate of the same POHC present in exhaust emissions prior to release to the atmosphere.

(2) *99.9999% DRE.* If you burn the dioxin-listed hazardous wastes F020, F021, F022, F023, F026, or F027 (see §261.31 of this chapter), you must achieve a DRE of 99.9999% for each POHC that you designate under paragraph (c)(3) of this section. You must demonstrate this DRE performance on POHCs that are more difficult to incinerate than tetra-, penta-, and hexachlorodibenzo- *p* -dioxins and dibenzofurans. You must use the equation in paragraph (c)(1) of this section to calculate DRE for each POHC. In addition, you must notify the Administrator of your intent to incinerate hazardous wastes F020, F021, F022, F023, F026, or F027.

(3) *Principal organic hazardous constituents (POHCs).* (i) You must treat the POHCs in the waste feed that you specify under paragraph (c)(3)(ii) of this section to the extent required by paragraphs (c)(1) and (c)(2) of this section.

(ii) You must specify one or more POHCs that are representative of the most difficult to destroy organic compounds in your hazardous waste feedstream. You must base this specification on the degree of difficulty of incineration of the organic constituents in the hazardous waste and on their concentration or mass in the hazardous waste feed, considering the results of hazardous waste analyses or other data and information.

(d) *Significant figures.* The emission limits provided by paragraphs (a) and (b) of this section are presented with two significant figures. Although you must perform intermediate calculations using at least three significant figures, you may round the resultant emission levels to two significant figures to document compliance.

(e) *Alternative to the particulate matter standard* —(1) *General.* In lieu of complying with the particulate matter standards of this section, you may elect to comply with the following alternative metal emission control requirement:

(2) *Alternative metal emission control requirements for existing solid fuel boilers.* (i) You must not discharge or cause combustion gases to be emitted into the atmosphere that contain cadmium, lead, and selenium in excess of 180 µgm/dscm, combined emissions, corrected to 7 percent oxygen; and,

(ii) You must not discharge or cause combustion gases to be emitted into the atmosphere that contain antimony, arsenic, beryllium, chromium, cobalt, manganese, and nickel in excess of 380 µgm/dscm, combined emissions, corrected to 7 percent oxygen.

(3) Alternative metal emission control requirements for new solid fuel boilers. (i) You must not discharge or cause combustion gases to be emitted into the atmosphere that contain cadmium, lead, and selenium in excess of 180 µgm/dscm, combined emissions, corrected to 7 percent oxygen; and,

(ii) You must not discharge or cause combustion gases to be emitted into the atmosphere that contain antimony, arsenic, beryllium, chromium, cobalt, manganese, and nickel in excess of 190 µgm/dscm, combined emissions, corrected to 7 percent oxygen.

(4) *Operating limits.* Semivolatile and low volatile metal operating parameter limits must be established to ensure compliance with the alternative emission limitations described in paragraphs (e)(2) and (e)(3) of this section pursuant to §63.1209(n), except that semivolatile metal feedrate limits apply to lead, cadmium, and selenium, combined, and low volatile metal feedrate limits apply to arsenic, beryllium, chromium, antimony, cobalt, manganese, and nickel, combined.

(f) *Elective standards for area sources.* Area sources as defined under §63.2 are subject to the standards for cadmium and lead, the standards for arsenic, beryllium, and chromium, the standards for hydrogen chloride and chlorine, and the standards for particulate matter under this section if they elect under §266.100(b)(3) of this chapter to comply with those standards in lieu of the standards under 40 CFR 266.105, 266.106, and 266.107 to control those pollutants.

[70 FR 59565, Oct. 12, 2005]

§ 63.1217 What are the standards for liquid fuel boilers that burn hazardous waste?

(a) *Emission limits for existing sources.* You must not discharge or cause combustion gases to be emitted into the atmosphere that contain:

(1)(i) Dioxins and furans in excess of 0.40 ng TEQ/dscm, corrected to 7 percent oxygen, for liquid fuel boilers equipped with a dry air pollution control system; or

(ii) Either carbon monoxide or hydrocarbon emissions in excess of the limits provided by paragraph (a)(5) of this section for sources not equipped with a dry air pollution control system;

(iii) A source equipped with a wet air pollution control system followed by a dry air pollution control system is not considered to be a dry air pollution control system, and a source equipped with a dry air pollution control system followed by a wet air pollution control system is considered to be a dry air pollution control system for purposes of this emission limit;

(2) For mercury, except as provided for in paragraph (a)(2)(iii) of this section:

(i) When you burn hazardous waste with an as-fired heating value less than 10,000 Btu/lb, emissions in excess of 19 μgm/dscm, corrected to 7 percent oxygen, on an (not-to-exceed) annual averaging period;

(ii) When you burn hazardous waste with an as-fired heating value 10,000 Btu/lb or greater, emissions in excess of 4.2×10^{-5}lbs mercury attributable to the hazardous waste per million Btu heat input from the hazardous waste on an (not-to-exceed) annual averaging period;

(iii) The boiler operated by Diversified Scientific Services, Inc. with EPA identification number TND982109142, and which burns radioactive waste mixed with hazardous waste, must comply with the mercury emission standard under §63.1219(a)(2);

(3) For cadmium and lead combined, except for an area source as defined under §63.2,

(i) When you burn hazardous waste with an as-fired heating value less than 10,000 Btu/lb, emissions in excess of 150 μgm/dscm, corrected to 7 percent oxygen, on an (not-to-exceed) annual averaging period;

(ii) When you burn hazardous waste with an as-fired heating value of 10,000 Btu/lb or greater, emissions in excess of 8.2×10^{-5}lbs combined cadmium and lead emissions attributable to the hazardous waste per million Btu heat input from the hazardous waste on an (not-to-exceed) annual averaging period;

(4) For chromium, except for an area source as defined under §63.2:

(i) When you burn hazardous waste with an as-fired heating value less than 10,000 Btu/lb, emissions in excess of 370 μgm/dscm, corrected to 7 percent oxygen;

(ii) When you burn hazardous waste with an as-fired heating value of 10,000 Btu/lb or greater, emissions in excess of 1.3×10^{-4}lbs chromium emissions attributable to the hazardous waste per million Btu heat input from the hazardous waste;

(5) For carbon monoxide and hydrocarbons, either:

(i) Carbon monoxide in excess of 100 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis and corrected to 7 percent oxygen. If you elect to comply with this carbon monoxide standard rather than the hydrocarbon standard under paragraph (a)(5)(ii) of this section, you must also document that, during the destruction and removal efficiency (DRE) test runs or their equivalent as provided by §63.1206(b)(7), hydrocarbons do not exceed 10 parts per million by volume during those runs, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; or

(ii) Hydrocarbons in excess of 10 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane;

(6) For hydrogen chloride and chlorine, except for an area source as defined under §63.2:

(i) When you burn hazardous waste with an as-fired heating value less than 10,000 Btu/lb, emissions in excess of 31 parts per million by volume, combined emissions, expressed as a chloride (Cl(-)) equivalent, dry basis and corrected to 7 percent oxygen;

(ii) When you burn hazardous waste with an as-fired heating value of 10,000 Btu/lb or greater, emissions in excess of 5.1×10^{-2}lbs combined emissions of hydrogen chloride and chlorine gas attributable to the hazardous waste per million Btu heat input from the hazardous waste;

(7) For particulate matter, except for an area source as defined under §63.2 or as provided by paragraph (e) of this section, emissions in excess of 80 mg/dscm corrected to 7 percent oxygen.

(b) *Emission limits for new sources.* You must not discharge or cause combustion gases to be emitted into the atmosphere that contain:

(1)(i) Dioxins and furans in excess of 0.40 ng TEQ/dscm, corrected to 7 percent oxygen, for liquid fuel boilers equipped with a dry air pollution control system; or

(ii) Either carbon monoxide or hydrocarbon emissions in excess of the limits provided by paragraph (b)(5) of this section for sources not equipped with a dry air pollution control system;

(iii) A source equipped with a wet air pollution control system followed by a dry air pollution control system is not considered to be a dry air pollution control system, and a source equipped with a dry air pollution control system followed by a wet air pollution control system is considered to be a dry air pollution control system for purposes of this emission limit;

(2) For mercury:

(i) When you burn hazardous waste with an as-fired heating value less than 10,000 Btu/lb, emissions in excess of 6.8 μgm/dscm, corrected to 7 percent oxygen, on an (not-to-exceed) annual averaging period;

(ii) When you burn hazardous waste with an as-fired heating value of 10,000 Btu/lb or greater, emissions in excess of 1.2×10^{-6}lbs mercury emissions attributable to the hazardous waste per million Btu heat input from the hazardous waste on an (not-to-exceed) annual averaging period;

(3) For cadmium and lead combined, except for an area source as defined under §63.2:

(i) When you burn hazardous waste with an as-fired heating value less than 10,000 Btu/lb, emissions in excess of 78 μgm/dscm, corrected to 7 percent oxygen, on an (not-to-exceed) annual averaging period;

(ii) When you burn hazardous waste with an as-fired heating value greater than or equal to 10,000 Btu/lb, emissions in excess of 6.2×10^{-6}lbs combined cadmium and lead emissions attributable to the hazardous waste per million Btu heat input from the hazardous waste on an (not-to-exceed) annual averaging period;

(4) For chromium, except for an area source as defined under §63.2:

(i) When you burn hazardous waste with an as-fired heating value less than 10,000 Btu/lb, emissions in excess of 12 μgm/dscm, corrected to 7 percent oxygen;

(ii) When you burn hazardous waste with an as-fired heating value of 10,000 Btu/lb or greater, emissions in excess of 1.4×10^{-5}lbs chromium emissions attributable to the hazardous waste per million Btu heat input from the hazardous waste;

(5) For carbon monoxide and hydrocarbons, either:

(i) Carbon monoxide in excess of 100 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis and corrected to 7 percent oxygen. If you elect to comply with this carbon monoxide standard rather than the hydrocarbon standard under paragraph (b)(5)(ii) of this section, you must also document that, during the destruction and removal efficiency (DRE) test runs or their equivalent as provided by §63.1206(b)(7), hydrocarbons do not exceed 10 parts per million by volume during those runs, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; or

(ii) Hydrocarbons in excess of 10 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane;

(6) For hydrogen chloride and chlorine, except for an area source as defined under §63.2:

(i) When you burn hazardous waste with an as-fired heating value less than 10,000 Btu/lb, emissions in excess of 31 parts per million by volume, combined emissions, expressed as a chloride (Cl(-)) equivalent, dry basis and corrected to 7 percent oxygen;

(ii) When you burn hazardous waste with an as-fired heating value of 10,000 Btu/lb or greater, emissions in excess of $5.1 \times^{-2}$lbs combined emissions of hydrogen chloride and chlorine gas attributable to the hazardous waste per million Btu heat input from the hazardous waste;

(7) For particulate matter, except for an area source as defined under §63.2 or as provided by paragraph (e) of this section, emissions in excess of 20 mg/dscm corrected to 7 percent oxygen.

(c) *Destruction and removal efficiency (DRE) standard* —(1) *99.99% DRE.* Except as provided in paragraph (c)(2) of this section, you must achieve a DRE of 99.99% for each principle organic hazardous constituent (POHC) designated under paragraph (c)(3) of this section. You must calculate DRE for each POHC from the following equation:

$DRE = [1 - (W_{out} \div W_{in})] \times 100\%$

Where:

W_{in}= mass feedrate of one POHC in a waste feedstream; and

W_{out}= mass emission rate of the same POHC present in exhaust emissions prior to release to the atmosphere.

(2) *99.9999% DRE.* If you burn the dioxin-listed hazardous wastes F020, F021, F022, F023, F026, or F027 (see §261.31 of this chapter), you must achieve a DRE of 99.9999% for each POHC that you designate under paragraph (c)(3) of this section. You must demonstrate this DRE performance on POHCs that are more difficult to incinerate than tetra-, penta-, and hexachlorodibenzo- *p* -dioxins and dibenzofurans. You must use the equation in paragraph (c)(1) of this section to calculate DRE for each POHC. In addition, you must notify the Administrator of your intent to incinerate hazardous wastes F020, F021, F022, F023, F026, or F027.

(3) *Principal organic hazardous constituents (POHCs).* (i) You must treat the POHCs in the waste feed that you specify under paragraph (c)(3)(ii) of this section to the extent required by paragraphs (c)(1) and (c)(2) of this section.

(ii) You must specify one or more POHCs that are representative of the most difficult to destroy organic compounds in your hazardous waste feedstream. You must base this specification on the degree of difficulty of incineration of the organic constituents in the hazardous waste and on their concentration or mass in the hazardous waste feed, considering the results of hazardous waste analyses or other data and information.

(d) *Significant figures.* The emission limits provided by paragraphs (a) and (b) of this section are presented with two significant figures. Although you must perform intermediate calculations using at least three significant figures, you may round the resultant emission levels to two significant figures to document compliance.

(e) *Alternative to the particulate matter standard* —(1) *General.* In lieu of complying with the particulate matter standards of this section, you may elect to comply with the following alternative metal emission control requirement:

(2) *Alternative metal emission control requirements for existing liquid fuel boilers.* (i) When you burn hazardous waste with a heating value less than 10,000 Btu/lb:

(A) You must not discharge or cause combustion gases to be emitted into the atmosphere that contain cadmium, lead, and selenium, combined, in excess of 150 µgm/dscm, corrected to 7 percent oxygen; and

(B) You must not discharge or cause combustion gases to be emitted into the atmosphere that contain antimony, arsenic, beryllium, chromium, cobalt, manganese, and nickel, combined, in excess of 370 µgm/dscm, corrected to 7 percent oxygen;

(ii) When you burn hazardous waste with a heating value of 10,000 Btu/lb or greater:

(A) You must not discharge or cause combustion gases to be emitted into the atmosphere that contain in excess of 8.2×10^{-5}lbs combined emissions of cadmium, lead, and selenium attributable to the hazardous waste per million Btu heat input from the hazardous waste; and

(B) You must not discharge or cause combustion gases to be emitted into the atmosphere that contain either in excess of 1.3×10^{-4}lbs combined emissions of antimony, arsenic, beryllium, chromium, cobalt, manganese, and nickel attributable to the hazardous waste per million Btu heat input from the hazardous waste;

(3) *Alternative metal emission control requirements for new liquid fuel boilers.* (i) When you burn hazardous waste with a heating value less than 10,000 Btu/lb:

(A) You must not discharge or cause combustion gases to be emitted into the atmosphere that contain cadmium, lead, and selenium, combined, in excess of 78 µgm/dscm, corrected to 7 percent oxygen; and

(B) You must not discharge or cause combustion gases to be emitted into the atmosphere that contain antimony, arsenic, beryllium, chromium, cobalt, manganese, and nickel, combined, in excess of 12 µgm/dscm, corrected to 7 percent oxygen;

(ii) When you burn hazardous waste with a heating value greater than or equal to 10,000 Btu/lb:

(A) You must not discharge or cause combustion gases to be emitted into the atmosphere that contain in excess of 6.2×10^{-6}lbs combined emissions of cadmium, lead, and selenium attributable to the hazardous waste per million Btu heat input from the hazardous waste; and

(B) You must not discharge or cause combustion gases to be emitted into the atmosphere that contain either in excess of 1.4×10^{-5}lbs combined emissions of antimony, arsenic, beryllium, chromium, cobalt, manganese, and nickel attributable to the hazardous waste per million Btu heat input from the hazardous waste;

(4) *Operating limits.* Semivolatile and low volatile metal operating parameter limits must be established to ensure compliance with the alternative emission limitations described in paragraphs (e)(2) and (e)(3) of this section pursuant to §63.1209(n), except that semivolatile metal feedrate limits apply to lead, cadmium, and selenium, combined, and low volatile metal feedrate limits apply to arsenic, beryllium, chromium, antimony, cobalt, manganese, and nickel, combined.

(f) *Elective standards for area sources.* Area sources as defined under §63.2 are subject to the standards for cadmium and lead, the standards for chromium, the standards for hydrogen chloride and chlorine, and the standards for particulate matter under this section if they elect under §266.100(b)(3) of this chapter to comply with those standards in lieu of the standards under 40 CFR 266.105, 266.106, and 266.107 to control those pollutants.

[70 FR 59567, Oct. 12, 2005, as amended at 73 FR 18983, Apr. 8, 2008]

§ 63.1218 What are the standards for hydrochloric acid production furnaces that burn hazardous waste?

(a) *Emission limits for existing sources.* You must not discharge or cause combustion gases to be emitted into the atmosphere that contain:

(1) For dioxins and furans, either carbon monoxide or hydrocarbon emissions in excess of the limits provided by paragraph (a)(5) of this section;

(2) For mercury, hydrogen chloride and chlorine gas emissions in excess of the levels provided by paragraph (a)(6) of this section;

(3) For lead and cadmium, except for an area source as defined under §63.2, hydrogen chloride and chlorine gas emissions in excess of the levels provided by paragraph (a)(6) of this section;

(4) For arsenic, beryllium, and chromium, except for an area source as defined under §63.2, hydrogen chloride and chlorine gas emissions in excess of the levels provided by paragraph (a)(6) of this section;

(5) For carbon monoxide and hydrocarbons, either:

(i) Carbon monoxide in excess of 100 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis and corrected to 7 percent oxygen. If you elect to comply with this carbon monoxide standard rather than the hydrocarbon standard under paragraph (a)(5)(ii) of this section, you must also document that, during the destruction and removal efficiency (DRE) test runs or their equivalent as provided by §63.1206(b)(7), hydrocarbons do not exceed 10 parts per million by volume during those runs, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; or

(ii) Hydrocarbons in excess of 10 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane;

(6) For hydrogen chloride and chlorine gas, either:

(i) Emission in excess of 150 parts per million by volume, combined emissions, expressed as a chloride (Cl(−)equivalent, dry basis and corrected to 7 percent oxygen; or

(ii) Emissions greater than the levels that would be emitted if the source is achieving a system removal efficiency (SRE) of less than 99.923 percent for total chlorine and chloride fed to the combustor. You must calculate SRE from the following equation:

$SRE = [1 - (Cl_{out}/ Cl_{in})] \times 100\%$

Where:

Cl in = mass feedrate of total chlorine or chloride in all feedstreams, reported as chloride; and

Cl out = mass emission rate of hydrogen chloride and chlorine gas, reported as chloride, in exhaust emissions prior to release to the atmosphere.

(7) For particulate matter, except for an area source as defined under §63.2, hydrogen chloride and chlorine gas emissions in excess of the levels provided by paragraph (a)(6) of this section.

(b) *Emission limits for new sources.* You must not discharge or cause combustion gases to be emitted into the atmosphere that contain:

(1) For dioxins and furans, either carbon monoxide or hydrocarbon emissions in excess of the limits provided by paragraph (b)(5) of this section;

(2) For mercury, hydrogen chloride and chlorine gas emissions in excess of the levels provided by paragraph (b)(6) of this section;

(3) For lead and cadmium, except for an area source as defined under §63.2, hydrogen chloride and chlorine gas emissions in excess of the levels provided by paragraph (b)(6) of this section;

(4) For arsenic, beryllium, and chromium, except for an area source as defined under §63.2, hydrogen chloride and chlorine gas emissions in excess of the levels provided by paragraph (b)(6) of this section;

(5) For carbon monoxide and hydrocarbons, either:

(i) Carbon monoxide in excess of 100 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis and corrected to 7 percent oxygen. If you elect to comply with this carbon monoxide standard rather than the hydrocarbon standard under paragraph (b)(5)(ii) of this section, you must also document that, during the destruction and removal efficiency (DRE) test runs or their equivalent as provided by §63.1206(b)(7), hydrocarbons do not exceed 10 parts per million by volume during those runs, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; or

(ii) Hydrocarbons in excess of 10 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane;

(6) For hydrogen chloride and chlorine gas, either:

(i) Emission in excess of 25 parts per million by volume, combined emissions, expressed as a chloride (Cl(−)equivalent, dry basis and corrected to 7 percent oxygen; or

(ii) Emissions greater than the levels that would be emitted if the source is achieving a system removal efficiency (SRE) of less than 99.987 percent for total chlorine and chloride fed to the combustor. You must calculate SRE from the following equation:

$SRE = [1 - (Cl_{out}/ Cl_{in})] \times 100\%$

Where:

Cl in = mass feedrate of total chlorine or chloride in all feedstreams, reported as chloride; and

Cl out = mass emission rate of hydrogen chloride and chlorine gas, reported as chloride, in exhaust emissions prior to release to the atmosphere.

(7) For particulate matter, except for an area source as defined under §63.2, hydrogen chloride and chlorine gas emissions in excess of the levels provided by paragraph (b)(6) of this section.

(c) *Destruction and removal efficiency (DRE) standard* —(1) *99.99% DRE.* Except as provided in paragraph (c)(2) of this section, you must achieve a DRE of 99.99% for each principle organic hazardous constituent (POHC) designated under paragraph (c)(3) of this section. You must calculate DRE for each POHC from the following equation:

$DRE = [1 - (W_{out}/W_{in})] \times 100\%$

Where:

Win = mass feedrate of one POHC in a waste feedstream; and

Wout = mass emission rate of the same POHC present in exhaust emissions prior to release to the atmosphere.

(2) *99.9999% DRE.* If you burn the dioxin-listed hazardous wastes F020, F021, F022, F023, F026, or F027 (see §261.31 of this chapter), you must achieve a DRE of 99.9999% for each POHC that you designate under paragraph (c)(3) of this section. You must demonstrate this DRE performance on POHCs that are more difficult to incinerate than tetra-, penta-, and hexachlorodibenzo- *p* -dioxins and dibenzofurans. You must use the equation in paragraph (c)(1) of this section to calculate DRE for each POHC. In addition, you must notify the Administrator of your intent to incinerate hazardous wastes F020, F021, F022, F023, F026, or F027.

(3) *Principal organic hazardous constituents (POHCs).* (i) You must treat the POHCs in the waste feed that you specify under paragraph (c)(3)(ii) of this section to the extent required by paragraphs (c)(1) and (c)(2) of this section.

(ii) You must specify one or more POHCs that are representative of the most difficult to destroy organic compounds in your hazardous waste feedstream. You must base this specification on the degree of difficulty of incineration of the organic constituents in the hazardous waste and on their concentration or mass in the hazardous waste feed, considering the results of hazardous waste analyses or other data and information.

(d) *Significant figures.* The emission limits provided by paragraphs (a) and (b) of this section are presented with two significant figures. Although you must perform intermediate calculations using at least three significant figures, you may round the resultant emission levels to two significant figures to document compliance.

(e) *Elective standards for area sources.* Area sources as defined under §63.2 are subject to the standards for cadmium and lead, the standards for arsenic, beryllium, and chromium, the standards for hydrogen chloride and chlorine, and the standards for particulate matter under this section if they elect under §266.100(b)(3) of this chapter to comply with those standards in lieu of the standards under 40 CFR 266.105, 266.106, and 266.107 to control those pollutants.

[70 FR 59569, Oct. 12, 2005]

Replacement Emissions Standards and Operating Limits for Incinerators, Cement Kilns, and Lightweight Aggregate Kilns

§ 63.1219 What are the replacement standards for hazardous waste incinerators?

(a) *Emission limits for existing sources.* You must not discharge or cause combustion gases to be emitted into the atmosphere that contain:

(1) For dioxins and furans:

(i) For incinerators equipped with either a waste heat boiler or dry air pollution control system, either:

(A) Emissions in excess of 0.20 ng TEQ/dscm, corrected to 7 percent oxygen; or

(B) Emissions in excess of 0.40 ng TEQ/dscm, corrected to 7 percent oxygen, provided that the combustion gas temperature at the inlet to the initial particulate matter control device is 400 °F or lower based on the average of the test run average temperatures. (For purposes of compliance, operation of a wet particulate matter control device is presumed to meet the 400 °F or lower requirement);

(ii) Emissions in excess of 0.40 ng TEQ/dscm, corrected to 7 percent oxygen, for incinerators not equipped with either a waste heat boiler or dry air pollution control system;

(iii) A source equipped with a wet air pollution control system followed by a dry air pollution control system is not considered to be a dry air pollution control system, and a source equipped with a dry air pollution control system followed by a wet air pollution control system is considered to be a dry air pollution control system for purposes of this standard;

(2) Mercury in excess of 130 µgm/dscm, corrected to 7 percent oxygen;

(3) Cadmium and lead in excess of 230 µgm/dscm, combined emissions, corrected to 7 percent oxygen;

(4) Arsenic, beryllium, and chromium in excess of 92 µgm/dscm, combined emissions, corrected to 7 percent oxygen;

(5) For carbon monoxide and hydrocarbons, either:

(i) Carbon monoxide in excess of 100 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis and corrected to 7 percent oxygen. If you elect to comply with this carbon monoxide standard rather than the hydrocarbon standard under paragraph (a)(5)(ii) of this section, you must also document that, during the destruction and removal efficiency (DRE) test runs or their equivalent as provided by §63.1206(b)(7), hydrocarbons do not exceed 10 parts per million by volume during those runs, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; or

(ii) Hydrocarbons in excess of 10 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane;

(6) Hydrogen chloride and chlorine gas (total chlorine) in excess of 32 parts per million by volume, combined emissions, expressed as a chloride ($Cl^{(-)}$) equivalent, dry basis and corrected to 7 percent oxygen; and

(7) Except as provided by paragraph (e) of this section, particulate matter in excess of 0.013 gr/dscf corrected to 7 percent oxygen.

(b) *Emission limits for new sources.* You must not discharge or cause combustion gases to be emitted into the atmosphere that contain:

(1)(i) Dioxins and furans in excess of 0.11 ng TEQ/dscm corrected to 7 percent oxygen for incinerators equipped with either a waste heat boiler or dry air pollution control system; or

(ii) Dioxins and furans in excess of 0.20 ng TEQ/dscm corrected to 7 percent oxygen for sources not equipped with either a waste heat boiler or dry air pollution control system;

(iii) A source equipped with a wet air pollution control system followed by a dry air pollution control system is not considered to be a dry air pollution control system, and a source equipped with a dry air pollution control system followed by a wet air pollution control system is considered to be a dry air pollution control system for purposes of this standard;

(2) Mercury in excess of 8.1 µgm/dscm, corrected to 7 percent oxygen;

(3) Cadmium and lead in excess of 10 µgm/dscm, combined emissions, corrected to 7 percent oxygen;

(4) Arsenic, beryllium, and chromium in excess of 23 µgm/dscm, combined emissions, corrected to 7 percent oxygen;

(5) For carbon monoxide and hydrocarbons, either:

(i) Carbon monoxide in excess of 100 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis and corrected to 7 percent oxygen. If you elect to comply with this carbon monoxide standard rather than the hydrocarbon standard under paragraph (b)(5)(ii) of this section, you must also document that, during the destruction and removal efficiency (DRE) test runs or their equivalent as provided by §63.1206(b)(7), hydrocarbons do not exceed 10 parts per million by volume during those runs, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; or

(ii) Hydrocarbons in excess of 10 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane;

(6) Hydrogen chloride and chlorine gas in excess of 21 parts per million by volume, combined emissions, expressed as a chloride ($Cl^{(-)}$) equivalent, dry basis and corrected to 7 percent oxygen; and

(7) Except as provided by paragraph (e) of this section, particulate matter in excess of 0.0015 gr/dscf, corrected to 7 percent oxygen.

(c) *Destruction and removal efficiency (DRE) standard* . (1) *99.99% DRE* . Except as provided in paragraph (c)(2) of this section, you must achieve a destruction and removal efficiency (DRE) of 99.99% for each principle organic hazardous constituent (POHC) designated under paragraph (c)(3) of this section. You must calculate DRE for each POHC from the following equation:

$$DRE = [1 - (W_{out}/W_{in})] \times 100\%$$

Where:

W_{in}= mass feedrate of one POHC in a waste feedstream; and

W_{out}= mass emission rate of the same POHC present in exhaust emissions prior to release to the atmosphere.

(2) *99.9999% DRE* . If you burn the dioxin-listed hazardous wastes F020, F021, F022, F023, F026, or F027 (see §261.31 of this chapter), you must achieve a DRE of 99.9999% for each POHC that you designate under paragraph (c)(3) of this section. You must demonstrate this DRE performance on POHCs that are more difficult to incinerate than tetra-, penta-, and hexachlorodibenzo- *p* -dioxins and dibenzofurans. You must use the equation in paragraph (c)(1) of this section to calculate DRE for each POHC. In addition, you must notify the Administrator of your intent to incinerate hazardous wastes F020, F021, F022, F023, F026, or F027.

(3) *Principal organic hazardous constituent (POHC)* . (i) You must treat each POHC in the waste feed that you specify under paragraph (c)(3)(ii) of this section to the extent required by paragraphs (c)(1) and (c)(2) of this section.

(ii) You must specify one or more POHCs that are representative of the most difficult to destroy organic compounds in your hazardous waste feedstream. You must base this specification on the degree of difficulty of incineration of the organic constituents in the hazardous waste and on their concentration or mass in the hazardous waste feed, considering the results of hazardous waste analyses or other data and information.

(d) *Significant figures* . The emission limits provided by paragraphs (a) and (b) of this section are presented with two significant figures. Although you must perform intermediate calculations using at least three significant figures, you may round the resultant emission levels to two significant figures to document compliance.

(e) *Alternative to the particulate matter standard* . (1). *General* . In lieu of complying with the particulate matter standards of this section, you may elect to comply with the following alternative metal emission control requirement:

(2) *Alternative metal emission control requirements for existing incinerators* . (i) You must not discharge or cause combustion gases to be emitted into the atmosphere that contain cadmium, lead, and selenium in excess of 230 μgm/dscm, combined emissions, corrected to 7 percent oxygen; and,

(ii) You must not discharge or cause combustion gases to be emitted into the atmosphere that contain antimony, arsenic, beryllium, chromium, cobalt, manganese, and nickel in excess of 92 μgm/dscm, combined emissions, corrected to 7 percent oxygen.

(3) *Alternative metal emission control requirements for new incinerators* . (i) You must not discharge or cause combustion gases to be emitted into the atmosphere that contain cadmium, lead, and selenium in excess of 10 μgm/dscm, combined emissions, corrected to 7 percent oxygen; and,

(ii) You must not discharge or cause combustion gases to be emitted into the atmosphere that contain antimony, arsenic, beryllium, chromium, cobalt, manganese, and nickel in excess of 23 μgm/dscm, combined emissions, corrected to 7 percent oxygen.

(4) *Operating limits* . Semivolatile and low volatile metal operating parameter limits must be established to ensure compliance with the alternative emission limitations described in paragraphs (e)(2) and (e)(3) of this section pursuant to §63.1209(n), except that semivolatile metal feedrate limits apply to lead, cadmium, and selenium, combined, and low volatile metal feedrate limits apply to arsenic, beryllium, chromium, antimony, cobalt, manganese, and nickel, combined.

[70 FR 59570, Oct. 12, 2005]

§ 63.1220 What are the replacement standards for hazardous waste burning cement kilns?

(a) *Emission and hazardous waste feed limits for existing sources* . You must not discharge or cause combustion gases to be emitted into the atmosphere or feed hazardous waste that contain:

(1) For dioxins and furans, either:

(i) Emissions in excess of 0.20 ng TEQ/dscm corrected to 7 percent oxygen; or

(ii) Emissions in excess of 0.40 ng TEQ/dscm corrected to 7 percent oxygen provided that the combustion gas temperature at the inlet to the initial dry particulate matter control device is 400 °F or lower based on the average of the test run average temperatures;

(2) For mercury, both:

(i) An average as-fired concentration of mercury in all hazardous waste feedstreams in excess of 3.0 parts per million by weight; and

(ii) Either:

(A) Emissions in excess of 120 μg/dscm, corrected to 7 percent oxygen, or

(B) A hazardous waste feed maximum theoretical emission concentration (MTEC) in excess of 120 μg/dscm;

(iii) A hazardous waste feedrate corresponding to a maximum theoretical emission concentration (MTEC) in excess of 120 μgm/dscm;

(3) For cadmium and lead, both:

(i) Emissions in excess of 7.6×10^{-4} lbs combined emissions of cadmium and lead attributable to the hazardous waste per million Btu heat input from the hazardous waste; and

(ii) Emissions in excess of 330 μgm/dscm, combined emissions, corrected to 7 percent oxygen;

(4) For arsenic, beryllium, and chromium, both:

(i) Emissions in excess of 2.1×10^{-5} lbs combined emissions of arsenic, beryllium, and chromium attributable to the hazardous waste per million Btu heat input from the hazardous waste; and

(ii) Emissions in excess of 56 μgm/dscm, combined emissions, corrected to 7 percent oxygen;

(5) *Carbon monoxide and hydrocarbons* . (i) For kilns equipped with a by-pass duct or midkiln gas sampling system, either:

(A) Carbon monoxide in the by-pass duct or mid-kiln gas sampling system in excess of 100 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis and corrected to 7 percent oxygen. If you elect to comply with this carbon monoxide standard rather than the hydrocarbon standard under paragraph (a)(5)(i)(B) of this section, you must also document that, during the destruction and removal efficiency (DRE) test runs or their equivalent as provided by §63.1206(b)(7), hydrocarbons in the by-pass duct or mid-kiln gas sampling system do not exceed 10 parts per million by volume during those runs, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; or

(B) Hydrocarbons in the by-pass duct or midkiln gas sampling system in excess of 10 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane;

(ii) For kilns not equipped with a by-pass duct or midkiln gas sampling system, either:

(A) Hydrocarbons in the main stack in excess of 20 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; or

(B) Carbon monoxide in the main stack in excess of 100 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis and corrected to 7 percent oxygen. If you elect to comply with this carbon monoxide standard rather than the hydrocarbon standard under paragraph (a)(5)(ii)(A) of this section, you also must document that, during the destruction and removal efficiency (DRE) test runs or their equivalent as provided by §63.1206(b)(7), hydrocarbons in the main stack do not exceed 20 parts per million by volume during those runs, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane.

(6) Hydrogen chloride and chlorine gas in excess of 120 parts per million by volume, combined emissions, expressed as a chloride (Cl(-)) equivalent, dry basis, corrected to 7 percent oxygen; and

(7) For particulate matter, both:

(i) Emissions in excess of 0.028 gr/dscf corrected to 7 percent oxygen; and

(ii) Opacity greater than 20 percent, unless your source is equipped with a bag leak detection system under §63.1206(c)(8) or a particulate matter detection system under §63.1206(c)(9).

(b) *Emission and hazardous waste feed limits for new sources* . You must not discharge or cause combustion gases to be emitted into the atmosphere or feed hazardous waste that contain:

(1) For dioxins and furans, either:

(i) Emissions in excess of 0.20 ng TEQ/dscm corrected to 7 percent oxygen; or

(ii) Emissions in excess of 0.40 ng TEQ/dscm corrected to 7 percent oxygen provided that the combustion gas temperature at the inlet to the initial dry particulate matter control device is 400 °F or lower based on the average of the test run average temperatures;

(2) For mercury, both:

(i) An average as-fired concentration of mercury in all hazardous waste feedstreams in excess of 1.9 parts per million by weight; and

(ii) Either:

(A) Emissions in excess of 120 µg/dscm, corrected to 7 percent oxygen, or

(B) A hazardous waste feed maximum theoretical emission concentration (MTEC) in excess of 120 µg/dscm;

(iii) A hazardous waste feedrate corresponding to a maximum theoretical emission concentration (MTEC) in excess of 120 µgm/dscm;

(3) For cadmium and lead, both:

(i) Emissions in excess of 6.2×10^{-5}lbs combined emissions of cadmium and lead attributable to the hazardous waste per million Btu heat input from the hazardous waste; and

(ii) Emissions in excess of 180 μgm/dscm, combined emissions, corrected to 7 percent oxygen;

(4) For arsenic, beryllium, and chromium, both:

(i) Emissions in excess of 1.5×10^{-5}lbs combined emissions of arsenic, beryllium, and chromium attributable to the hazardous waste per million Btu heat input from the hazardous waste; and

(ii) Emissions in excess of 54 μgm/dscm, combined emissions, corrected to 7 percent oxygen;

(5) *Carbon monoxide and hydrocarbons* . (i) For kilns equipped with a by-pass duct or midkiln gas sampling system, carbon monoxide and hydrocarbons emissions are limited in both the bypass duct or midkiln gas sampling system and the main stack as follows:

(A) Emissions in the by-pass or midkiln gas sampling system are limited to either:

(*1*) Carbon monoxide in excess of 100 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis and corrected to 7 percent oxygen. If you elect to comply with this carbon monoxide standard rather than the hydrocarbon standard under paragraph (b)(5)(i)(A)(*2*) of this section, you also must document that, during the destruction and removal efficiency (DRE) test runs or their equivalent as provided by §63.1206(b)(7), hydrocarbons do not exceed 10 parts per million by volume during those runs, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; or

(*2*) Hydrocarbons in the by-pass duct or midkiln gas sampling system in excess of 10 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; and

(B) Hydrocarbons in the main stack are limited, if construction of the kiln commenced after April 19, 1996 at a plant site where a cement kiln (whether burning hazardous waste or not) did not previously exist, to 50 parts per million by volume, over a 30-day block average (monitored continuously with a continuous monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane.

(ii) For kilns not equipped with a by-pass duct or midkiln gas sampling system, hydrocarbons and carbon monoxide are limited in the main stack to either:

(A) Hydrocarbons not exceeding 20 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; or

(B)(*1*) Carbon monoxide not exceeding 100 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen; and

(*2*) Hydrocarbons not exceeding 20 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane at any time during the destruction and removal efficiency (DRE) test runs or their equivalent as provided by §63.1206(b)(7); and

(*3*) If construction of the kiln commenced after April 19, 1996 at a plant site where a cement kiln (whether burning hazardous waste or not) did not previously exist, hydrocarbons are limited to 50 parts per million by volume, over a 30-day block average (monitored continuously with a continuous monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane.

(6) Hydrogen chloride and chlorine gas in excess of 86 parts per million by volume, combined emissions, expressed as a chloride (Cl(-)) equivalent, dry basis and corrected to 7 percent oxygen; and

(7) For particulate matter:

(i) Except as provided by §63.1206(a)(1)(ii)(B)(*3*) and paragraph (b)(7)(iii) of this section, particulate matter emissions in excess of 0.0023 gr/dscf corrected to 7 percent oxygen.

(ii) Opacity greater than 20 percent, unless your source is equipped with a bag leak detection system under §63.1206(c)(8) or a particulate matter detection system under §63.1206(c)(9).

(iii) The particulate matter standard specified in paragraph (b)(7)(i) of this section is stayed from March 23, 2006 to June 23, 2006. During the period that this stay is in effect, you must not emit particulate matter in excess of 0.15 kg/Mg dry feed, as determined according to the requirements under §63.1204(b)(7)(i) through (iii).

(c) *Destruction and removal efficiency (DRE) standard* . (1) *99.99% DRE* . Except as provided in paragraph (c)(2) of this section, you must achieve a destruction and removal efficiency (DRE) of 99.99% for each principle organic hazardous constituent (POHC) designated under paragraph (c)(3) of this section. You must calculate DRE for each POHC from the following equation:

$$DRE = [1 - (W_{out}/W_{in})] \times 100\%$$

Where:

W_{in}= mass feedrate of one POHC in a waste feedstream; and

W_{out}= mass emission rate of the same POHC present in exhaust emissions prior to release to the atmosphere.

(2) *99.9999% DRE.* If you burn the dioxin-listed hazardous wastes F020, F021, F022, F023, F026, or F027 (see §261.31 of this chapter), you must achieve a DRE of 99.9999% for each POHC that you designate under paragraph (c)(3) of this section. You must demonstrate this DRE performance on POHCs that are more difficult to incinerate than tetra-, penta-, and hexachlorodibenzo- *p* -dioxins and dibenzofurans. You must use the equation in paragraph (c)(1) of this section to calculate DRE for each POHC. In addition, you must notify the Administrator of your intent to incinerate hazardous wastes F020, F021, F022, F023, F026, or F027.

(3) *Principal organic hazardous constituent (POHC).* (i) You must treat each POHC in the waste feed that you specify under paragraph (c)(3)(ii) of this section to the extent required by paragraphs (c)(1) and (c)(2) of this section.

(ii) You must specify one or more POHCs that are representative of the most difficult to destroy organic compounds in your hazardous waste feedstream. You must base this specification on the degree of difficulty of incineration of the organic constituents in the hazardous waste and on their concentration or mass in the hazardous waste feed, considering the results of hazardous waste analyses or other data and information.

(d) *Cement kilns with in-line kiln raw mills* —(1) *General.* (i) You must conduct performance testing when the raw mill is on-line and when the mill is off-line to demonstrate compliance with the emission standards, and you must establish separate operating parameter limits under §63.1209 for each mode of operation, except as provided by paragraphs (d)(1)(iv) and (d)(1)(v) of this section.

(ii) You must document in the operating record each time you change from one mode of operation to the alternate mode and begin complying with the operating parameter limits for that alternate mode of operation.

(iii) You must calculate rolling averages for operating parameter limits as provided by §63.1209(q)(2).

(iv) If your in-line kiln raw mill has dual stacks, you may assume that the dioxin/furan emission levels in the by-pass stack and the operating parameter limits determined during performance testing of the by-pass stack when the raw mill is off-line are the same as when the mill is on-line.

(v) In lieu of conducting a performance test to demonstrate compliance with the dioxin/furan emission standards for the mode of operation when the raw mill is on-line, you may specify in the performance test workplan and Notification of Compliance the same operating parameter limits required under §63.1209(k) for the mode of operation when the raw mill is on-line as you establish during performance testing for the mode of operation when the raw mill is off-line.

(2) *Emissions averaging.* You may comply with the mercury, semivolatile metal, low volatile metal, and hydrogen chloride/chlorine gas emission standards on a time-weighted average basis under the following procedures:

(i) *Averaging methodology.* You must calculate the time-weighted average emission concentration with the following equation:

$$C_{total}= \{Cmill\text{-}off \times (Tmill\text{-}off/(Tmill\text{-}off+ Tmill\text{-}on))\} + \{Cmill\text{-}on \times (Tmill\text{-}on/(Tmill\text{-}off+ Tmill\text{-}on))\}$$

Where:

C_{total}= time-weighted average concentration of a regulated constituent considering both raw mill on time and off time;

Cmill-off= average performance test concentration of regulated constituent with the raw mill off-line;

Cmill-on= average performance test concentration of regulated constituent with the raw mill on-line;

Tmill-off= time when kiln gases are not routed through the raw mill; and

Tmill-on= time when kiln gases are routed through the raw mill.

(ii) *Compliance.* (A) If you use this emission averaging provision, you must document in the operating record compliance with the emission standards on an annual basis by using the equation provided by paragraph (d)(2) of this section.

(B) Compliance is based on one-year block averages beginning on the day you submit the initial notification of compliance.

(iii) *Notification.* (A) If you elect to document compliance with one or more emission standards using this emission averaging provision, you must notify the Administrator in the initial comprehensive performance test plan submitted under §63.1207(e).

(B) You must include historical raw mill operation data in the performance test plan to estimate future raw mill down-time and document in the performance test plan that estimated emissions and estimated raw mill down-time will not result in an exceedance of an emission standard on an annual basis.

(C) You must document in the notification of compliance submitted under §63.1207(j) that an emission standard will not be exceeded based on the documented emissions from the performance test and predicted raw mill down-time.

(e) *Preheater or preheater/precalciner kilns with dual stacks* —(1) *General.* You must conduct performance testing on each stack to demonstrate compliance with the emission standards, and you must establish operating parameter limits under §63.1209 for each stack, except as provided by paragraph (d)(1)(iv) of this section for dioxin/furan emissions testing and operating parameter limits for the by-pass stack of in-line raw mills.

(2) *Emissions averaging.* You may comply with the mercury, semivolatile metal, low volatile metal, and hydrogen chloride/chlorine gas emission standards specified in this section on a gas flowrate-weighted average basis under the following procedures:

(i) *Averaging methodology.* You must calculate the gas flowrate-weighted average emission concentration using the following equation:

$$C_{tot}= \{C_{main}\times (Q_{main}/(Q_{main}+ Q_{bypass}))\} + \{C_{bypass}\times (Q_{bypass}/(Q_{main}+ Q_{bypass}))\}$$

Where:

C_{tot}= gas flowrate-weighted average concentration of the regulated constituent;

C_{main}= average performance test concentration demonstrated in the main stack;

C_{bypass}= average performance test concentration demonstrated in the bypass stack;

Q_{main}= volumetric flowrate of main stack effluent gas; and

Q_{bypass}= volumetric flowrate of bypass effluent gas.

(ii) *Compliance.* (A) You must demonstrate compliance with the emission standard(s) using the emission concentrations determined from the performance tests and the equation provided by paragraph (e)(1) of this section; and

(B) You must develop operating parameter limits for bypass stack and main stack flowrates that ensure the emission concentrations calculated with the equation in paragraph (e)(1) of this section do not exceed the emission standards on a 12-hour rolling average basis. You must include these flowrate limits in the Notification of Compliance.

(iii) *Notification* . If you elect to document compliance under this emissions averaging provision, you must:

(A) Notify the Administrator in the initial comprehensive performance test plan submitted under §63.1207(e). The performance test plan must include, at a minimum, information describing the flowrate limits established under paragraph (e)(2)(ii)(B) of this section; and

(B) Document in the Notification of Compliance submitted under §63.1207(j) the demonstrated gas flowrate-weighted average emissions that you calculate with the equation provided by paragraph (e)(2) of this section.

(f) *Significant figures* . The emission limits provided by paragraphs (a) and (b) of this section are presented with two significant figures. Although you must perform intermediate calculations using at least three significant figures, you may round the resultant emission levels to two significant figures to document compliance.

(g) [Reserved]

(h) When you comply with the particulate matter requirements of paragraphs (a)(7) or (b)(7) of this section, you are exempt from the New Source Performance Standard for particulate matter and opacity under §60.60 of this chapter.

[70 FR 59571, Oct. 12, 2005, as amended at 71 FR 62394, Oct. 25, 2006; 73 FR 18983, Apr. 8, 2008]

§ 63.1221 What are the replacement standards for hazardous waste burning lightweight aggregate kilns?

(a) *Emission and hazardous waste feed limits for existing sources* . You must not discharge or cause combustion gases to be emitted into the atmosphere or feed hazardous waste that contain:

(1) For dioxins and furans, either:

(i) Emissions in excess of 0.20 ng TEQ/dscm corrected to 7 percent oxygen; or

(ii) Rapid quench of the combustion gas temperature at the exit of the (last) combustion chamber (or exit of any waste heat recovery system that immediately follows the last combustion chamber) to 400 °F or lower based on the average of the test run average temperatures. You must also notify in writing the RCRA authority that you are complying with this option;

(2) For mercury, either:

(i) Emissions in excess of 120 µgm/dscm, corrected to 7 percent oxygen; or

(ii) A hazardous waste feedrate corresponding to a maximum theoretical emission concentration (MTEC) in excess of 120 µgm/dscm;

(3) For cadmium and lead, both:

(i) Emissions in excess of 3.0×10^{-4} lbs combined emissions of cadmium and lead attributable to the hazardous waste per million Btu heat input from the hazardous waste; and

(ii) Emissions in excess of 250 µgm/dscm, combined emissions, corrected to 7 percent oxygen;

(4) For arsenic, beryllium, and chromium, both:

(i) In excess of 9.5×10^{-5} lbs combined emissions of arsenic, beryllium, and chromium attributable to the hazardous waste per million Btu heat input from the hazardous waste;

(ii) Emissions in excess of 110 µgm/dscm, combined emissions, corrected to 7 percent oxygen;

(5) *Carbon monoxide and hydrocarbons* . (i) Carbon monoxide in excess of 100 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis and corrected to 7 percent oxygen. If you elect to comply with this carbon monoxide standard rather than the hydrocarbon standard under paragraph (a)(5)(ii) of this section, you also must document that, during the destruction and removal efficiency (DRE) test runs or their equivalent as provided by §63.1206(b)(7), hydrocarbons do not exceed 20 parts per million by volume during those runs, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; or

(ii) Hydrocarbons in excess of 20 parts per million by volume, over an hourly rolling average, dry basis, corrected to 7 percent oxygen, and reported as propane;

(6) Hydrogen chloride and chlorine gas in excess of 600 parts per million by volume, combined emissions, expressed as a chloride (Cl(-)) equivalent, dry basis and corrected to 7 percent oxygen; and

(7) Particulate matter emissions in excess of 0.025 gr/dscf, corrected to 7 percent oxygen.

(b) *Emission and hazardous waste feed limits for new sources* . You must not discharge or cause combustion gases to be emitted into the atmosphere or feed hazardous waste that contain:

(1) For dioxins and furans, either:

(i) Emissions in excess of 0.20 ng TEQ/dscm corrected to 7 percent oxygen; or

(ii) Rapid quench of the combustion gas temperature at the exit of the (last) combustion chamber (or exit of any waste heat recovery system that immediately follows the last combustion chamber) to 400 °F or lower based on the average of the test run average temperatures. You must also notify in writing the RCRA authority that you are complying with this option;

(2) For mercury, either:

(i) Emissions in excess of 120 μgm/dscm, corrected to 7 percent oxygen; or

(ii) A hazardous waste feedrate corresponding to a maximum theoretical emission concentration (MTEC) in excess of 120 μgm/dscm;

(3) For cadmium and lead, both:

(i) Emissions in excess of 3.7×10^{-5}lbs combined emissions of cadmium and lead attributable to the hazardous waste per million Btu heat input from the hazardous waste; and

(ii) Emissions in excess of 43 μgm/dscm, combined emissions, corrected to 7 percent oxygen;

(4) For arsenic, beryllium, and chromium, both:

(i) In excess of 3.3×10^{-5} lbs combined emissions of arsenic, beryllium, and chromium attributable to the hazardous waste per million Btu heat input from the hazardous waste;

(ii) Emissions in excess of 110 μgm/dscm, combined emissions, corrected to 7 percent oxygen;

(5) *Carbon monoxide and hydrocarbons* . (i) Carbon monoxide in excess of 100 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis and corrected to 7 percent oxygen. If you elect to comply with this carbon monoxide standard rather than the hydrocarbon standard under paragraph (b)(5)(ii) of this section, you also must document that, during the destruction and removal efficiency (DRE) test runs or their equivalent as provided by §63.1206(b)(7), hydrocarbons do not exceed 20 parts per million by volume during those runs, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; or

(ii) Hydrocarbons in excess of 20 parts per million by volume, over an hourly rolling average, dry basis, corrected to 7 percent oxygen, and reported as propane;

(6) Hydrogen chloride and chlorine gas in excess of 600 parts per million by volume, combined emissions, expressed as a chloride (Cl(-)) equivalent, dry basis and corrected to 7 percent oxygen; and

(7) Particulate matter emissions in excess of 0.0098 gr/dscf corrected to 7 percent oxygen.

(c) *Destruction and removal efficiency (DRE) standard* . (1) *99.99% DRE* . Except as provided in paragraph (c)(2) of this section, you must achieve a destruction and removal efficiency (DRE) of 99.99% for each principal organic hazardous constituent (POHC) designated under paragraph (c)(3) of this section. You must calculate DRE for each POHC from the following equation:

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

Where:

W_{in}= mass feedrate of one POHC in a waste feedstream; and

W_{out}= mass emission rate of the same POHC present in exhaust emissions prior to release to the atmosphere.

(2) *99.9999% DRE* . If you burn the dioxin-listed hazardous wastes F020, F021, F022, F023, F026, or F027 (see §261.31 of this chapter), you must achieve a destruction and removal efficiency (DRE) of 99.9999% for each POHC that you designate under paragraph (c)(3) of this section. You must demonstrate this DRE performance on POHCs that are more difficult to incinerate than tetra-, penta-, and hexachlorodibenzo-dioxins and dibenzofurans. You must use the equation in paragraph (c)(1) of this section to calculate DRE for each POHC. In addition, you must notify the Administrator of your intent to burn hazardous wastes F020, F021, F022, F023, F026, or F027.

(3) *Principal organic hazardous constituents (POHCs)* . (i) You must treat each POHC in the waste feed that you specify under paragraph (c)(3)(ii) of this section to the extent required by paragraphs (c)(1) and (c)(2) of this section.

(ii) You must specify one or more POHCs that are representative of the most difficult to destroy organic compounds in your hazardous waste feedstream. You must base this specification on the degree of difficulty of incineration of the organic constituents in the hazardous waste and on their concentration or mass in the hazardous waste feed, considering the results of hazardous waste analyses or other data and information.

(d) *Significant figures* . The emission limits provided by paragraphs (a) and (b) of this section are presented with two significant figures. Although you must perform intermediate calculations using at least three significant figures, you may round the resultant emission levels to two significant figures to document compliance.

[70 FR 59574, Oct. 12, 2005]

Table 1 to Subpart EEE of Part 63—General Provisions Applicable to Subpart EEE

Reference	Applies to subpart EEE	Explanation
63.1	Yes.	
63.2	Yes.	
63.3	Yes.	
63.4	Yes.	
63.5	Yes.	
63.6(a), (b), (c), (d), and (e)	Yes.	

63.6(f)	Yes	Except that the performance test requirements of Sec. 63.1207 apply instead of §63.6(f)(2)(iii)(B).
63.6(g) and (h)	Yes.	
63.6(i)	Yes	Section 63.1213 specifies that the compliance date may also be extended for inability to install necessary emission control equipment by the compliance date because of implementation of pollution prevention or waste minimization controls.
63.6(j)	Yes.	
63.7(a)	Yes	Except §63.1207(e)(3) allows you to petition the Administrator under §63.7(h) to provide an extension of time to conduct a performance test.
63.7(b)	Yes	Except §63.1207(e) requires you to submit the site-specific test plan for approval at least one year before the comprehensive performance test is scheduled to begin.
63.7(c)	Yes	Except §63.1207(e) requires you to submit the site-specific test plan (including the quality assurance provisions under §63.7(c)) for approval at least one year before the comprehensive performance test is scheduled to begin.
63.7(d)	Yes.	
63.7(e)	Yes	Except §63.1207 prescribes operations during performance testing and §63.1209 specifies operating limits that will be established during performance testing (such that testing is likely to be representative of the extreme range of normal performance).
63.7(f)	Yes.	
63.7(g)	Yes	Except §63.1207(j) requiring that you submit the results of the performance test (and the notification of compliance) within 90 days of completing the test, unless the Administrator grants a time extension, applies instead of §63.7(g)(1).
63.7(h)	Yes	Except §63.1207(c)(2) allows data in lieu of the initial comprehensive performance test, and §63.1207(m) provides a waiver of certain performance tests. You must submit requests for these waivers with the site-specific test plan.
63.8(a) and (b)	Yes.	
63.8(c)	Yes	Except: (1) §63.1211(c) that requires you to install, calibrate, and operate CMS by the compliance date applies instead of §63.8(c)(3); and (2) the performance specifications for CO, HC, and O2 CEMS in subpart B, of this chapter requiring that the detectors measure the sample concentration at least once every 15 seconds for calculating an average emission level once every 60 seconds apply instead of §63.8(c)(4)(ii).
63.8(d)	Yes.	

63.8(e)	Yes	Except §63.1207(e) requiring you to submit the site-specific comprehensive performance test plan and the CMS performance evaluation test plan for approval at least one year prior to the planned test date applies instead of §§63.8(e)(2) and (3)(iii).
63.8(f) and (g)	Yes.	
63.9(a)	Yes.	
63.9(b)	Yes	*Note:* Section 63.9(b)(1)(ii) pertains to notification requirements for area sources that become a major source, and §63.9(b)(2)(v) requires a major source determination. Although area sources are subject to all provisions of this subpart (Subpart EEE), these sections nonetheless apply because the major source determination may affect the applicability of part 63 standards or title V permit requirements to other sources (i.e., other than a hazardous waste combustor) of hazardous air pollutants at the facility.
63.9(c) and (d)	Yes.	
63.9(e)	Yes	Except §63.1207(e) which requires you to submit the comprehensive performance test plan for approval one year prior to the planned performance test date applies instead of §63.9(e).
63.9(f)	Yes	Section 63.9(f) applies if you are allowed under §63.1209(a)(1)(v) to use visible determination of opacity for compliance in lieu of a COMS.
63.9(g)	Yes	Except §63.9(g)(2) pertaining to COMS does not apply.
63.9(h)	Yes	Except §63.1207(j) requiring you to submit the notification of compliance within 90 days of completing a performance test unless the Administrator grants a time extension applies instead of §63.9(h)(2)(iii). Note: Even though area sources are subject to this subpart, the major source determination required by §63.9(h)(2)(i)(E) is applicable to hazardous waste combustors for the reasons discussed above.
63.9(i) and (j)	Yes.	
63.10	Yes	Except reports of performance test results required under §63.10(d)(2) may be submitted up to 90 days after completion of the test.
63.11	No.	
63.12–63.15	Yes.	

[67 FR 6994, Feb. 14, 2002]

Appendix to Subpart EEE of Part 63—Quality Assurance Procedures for Continuous Emissions Monitors Used for Hazardous Waste Combustors

1. Applicability and Principle

1.1 Applicability. These quality assurance requirements are used to evaluate the effectiveness of quality control (QC) and quality assurance (QA) procedures and the quality of data produced by continuous emission monitoring systems (CEMS) that are used for determining compliance with the emission standards on a continuous basis as specified in the applicable regulation. The QA procedures specified by these requirements represent the minimum requirements necessary for the control and assessment of the quality of CEMS data used to demonstrate compliance with the emission standards provided under this subpart EEE of part 63. Owners and operators must meet these minimum requirements and are encouraged to develop and implement a more extensive QA program. These requirements supersede those found in part 60, Appendix F, of this chapter. Appendix F does not apply to hazardous waste-burning devices.

1.2 Principle. The QA procedures consist of two distinct and equally important functions. One function is the assessment of the quality of the CEMS data by estimating accuracy. The other function is the control and improvement of the quality of the CEMS data by implementing QC policies and corrective actions. These two functions form a control loop. When the assessment function indicates that the data quality is inadequate, the source must immediately stop burning hazardous waste. The CEM data control effort must be increased until the data quality is acceptable before hazardous waste burning can resume.

a. In order to provide uniformity in the assessment and reporting of data quality, this procedure explicitly specifies the assessment methods for response drift and accuracy. The methods are based on procedures included in the applicable performance specifications provided in appendix B to part 60 of this chapter. These procedures also require the analysis of the EPA audit samples concurrent with certain reference method (RM) analyses as specified in the applicable RM's.

b. Because the control and corrective action function encompasses a variety of policies, specifications, standards, and corrective measures, this procedure treats QC requirements in general terms to allow each source owner or operator to develop a QC system that is most effective and efficient for the circumstances.

2. Definitions

2.1 *Continuous Emission Monitoring System (CEMS).* The total equipment required for the determination of a pollutant concentration. The system consists of the following major subsystems:

2.1.1 *Sample Interface.* That portion of the CEMS used for one or more of the following: sample acquisition, sample transport, and sample conditioning, or protection of the monitor from the effects of the stack effluent.

2.1.2 *Pollutant Analyzer.* That portion of the CEMS that senses the pollutant concentration and generates a proportional output.

2.1.3 *Diluent Analyzer.* That portion of the CEMS that senses the diluent gas (O2) and generates an output proportional to the gas concentration.

2.1.4 *Data Recorder.* That portion of the CEMS that provides a permanent record of the analyzer output. The data recorder may provide automatic data reduction and CEMS control capabilities.

2.2 *Relative Accuracy (RA).* The absolute mean difference between the pollutant concentration determined by the CEMS and the value determined by the reference method (RM) plus the 2.5 percent error confidence coefficient of a series of test divided by the mean of the RM tests or the applicable emission limit.

2.3 *Calibration Drift (CD).* The difference in the CEMS output readings from the established reference value after a stated period of operation during which no unscheduled maintenance, repair, or adjustment took place.

2.4 *Zero Drift (ZD).* The difference in CEMS output readings at the zero pollutant level after a stated period of operation during which no unscheduled maintenance, repair, or adjustment took place.

2.5 *Calibration Standard.* Calibration standards produce a known and unchanging response when presented to the pollutant analyzer portion of the CEMS, and are used to calibrate the drift or response of the analyzer.

2.6 *Relative Accuracy Test Audit (RATA).* Comparison of CEMS measurements to reference method measurements in order to evaluate relative accuracy following procedures and specification given in the appropriate performance specification.

2.7 *Absolute Calibration Audit (ACA).* Equivalent to calibration error (CE) test defined in the appropriate performance specification using NIST traceable calibration standards to challenge the CEMS and assess accuracy.

2.8 *Rolling Average.* The average emissions, based on some (specified) time period, calculated every minute from a one-minute average of four measurements taken at 15-second intervals.

3. QA/QC Requirements

3.1 QC Requirements. a. Each owner or operator must develop and implement a QC program. At a minimum, each QC program must include written procedures describing in detail complete, step-by-step procedures and operations for the following activities.

1. Checks for component failures, leaks, and other abnormal conditions.

2. Calibration of CEMS.

3. CD determination and adjustment of CEMS.

4. Integration of CEMS with the automatic waste feed cutoff (AWFCO) system.

5. Preventive Maintenance of CEMS (including spare parts inventory).

6. Data recording, calculations, and reporting.

7. Checks of record keeping.

8. Accuracy audit procedures, including sampling and analysis methods.

9. Program of corrective action for malfunctioning CEMS.

10. Operator training and certification.

11. Maintaining and ensuring current certification or naming of cylinder gasses, metal solutions, and particulate samples used for audit and accuracy tests, daily checks, and calibrations.

b. Whenever excessive inaccuracies occur for two consecutive quarters, the current written procedures must be revised or the CEMS modified or replaced to correct the deficiency causing the excessive inaccuracies. These written procedures must be kept on record and available for inspection by the enforcement agency.

3.2 QA Requirements. Each source owner or operator must develop and implement a QA plan that includes, at a minimum, the following.

1. QA responsibilities (including maintaining records, preparing reports, reviewing reports).

2. Schedules for the daily checks, periodic audits, and preventive maintenance.

3. Check lists and data sheets.

4. Preventive maintenance procedures.

5. Description of the media, format, and location of all records and reports.

6. Provisions for a review of the CEMS data at least once a year. Based on the results of the review, the owner or operator must revise or update the QA plan, if necessary.

4. CD and ZD Assessment and Daily System Audit

4.1 *CD and ZD Requirement.* Owners and operators must check, record, and quantify the ZD and the CD at least once daily (approximately 24 hours) in accordance with the method prescribed by the manufacturer. The CEMS calibration must, at a minimum, be adjusted whenever the daily ZD or CD exceeds the limits in the Performance Specifications. If, on any given ZD and/or CD check the ZD and/or CD exceed(s) two times the limits in the Performance Specifications, or if the cumulative adjustment to the ZD and/or CD (see Section 4.2) exceed(s) three times the limits in the Performance Specifications, hazardous waste burning must immediately cease and the CEMS must be serviced and recalibrated. Hazardous waste burning cannot resume until the owner or operator documents that the CEMS is in compliance with the Performance Specifications by carrying out an ACA.

4.2 *Recording Requirements for Automatic ZD and CD Adjusting Monitors.* Monitors that automatically adjust the data to the corrected calibration values must record the unadjusted concentration measurement prior to resetting the calibration, if performed, or record the amount of the adjustment.

4.3 *Daily System Audit.* The audit must include a review of the calibration check data, an inspection of the recording system, an inspection of the control panel warning lights, and an inspection of the sample transport and interface system (e.g., flowmeters, filters, etc.) as appropriate.

4.4 *Data Recording and Reporting.* All measurements from the CEMS must be retained in the operating record for at least 5 years.

5. Performance Evaluation for CO, O_2, and HC CEMS

Carbon Monoxide (CO), Oxygen (O_2), and Hydrocarbon (HC) CEMS. An Absolute Calibration Audit (ACA) must be conducted quarterly, and a Relative Accuracy Test Audit (RATA) (if applicable, see sections 5.1 and 5.2) must be conducted yearly. An Interference Response Tests must be performed whenever an ACA or a RATA is conducted. When a performance test is also required under §63.1207 to document compliance with emission standards, the RATA must coincide with the performance test. The audits must be conducted as follows.

5.1 *Relative Accuracy Test Audit (RATA).* This requirement applies to $O_2$and CO CEMS. The RATA must be conducted at least yearly. Conduct the RATA as described in the RA test procedure (or alternate procedures section) described in the applicable Performance Specifications. In addition, analyze the appropriate performance audit samples received from the EPA as described in the applicable sampling methods.

5.2 *Absolute Calibration Audit (ACA).* The ACA must be conducted at least quarterly except in a quarter when a RATA (if applicable, see section 5.1) is conducted instead. Conduct an ACA as described in the calibration error (CE) test procedure described in the applicable Performance Specifications.

5.3 *Interference Response Test.* The interference response test must be conducted whenever an ACA or RATA is conducted. Conduct an interference response test as described in the applicable Performance Specifications.

5.4 *Excessive Audit Inaccuracy.* If the RA from the RATA or the CE from the ACA exceeds the criteria in the applicable Performance Specifications, hazardous waste burning must cease immediately. Hazardous waste burning cannot resume until the owner or operator takes corrective measures and audit the CEMS with a RATA to document that the CEMS is operating within the specifications.

6. Other Requirements

6.1 *Performance Specifications.* CEMS used by owners and operators of HWCs must comply with the following performance specifications in appendix B to part 60 of this chapter:

Table I: Performance Specifications for CEMS

CEMS	Performance specification
Carbon monoxide	4B
Oxygen	4B
Total hydrocarbons	8A

6.2 *Downtime due to Calibration.* Facilities may continue to burn hazardous waste for a maximum of 20 minutes while calibrating the CEMS. If all CEMS are calibrated at once, the facility must have twenty minutes to calibrate all the CEMS. If CEMS are calibrated individually, the facility must have twenty minutes to calibrate each CEMS. If the CEMS are calibrated individually, other CEMS must be operational while the individual CEMS is being calibrated.

6.3 Span of the CEMS.

6.3.1 *CO CEMS.* The CO CEM must have two ranges, a low range with a span of 200 ppmv and a high range with a span of 3000 ppmv at an oxygen correction factor of 1. A one-range CEM may be used, but it must meet the performance specifications for the low range in the specified span of the low range.

6.3.2 *O_{2} CEMS.* The O_2CEM must have a span of 25 percent. The span may be higher than 25 percent if the O_2concentration at the sampling point is greater than 25 percent.

6.3.3 *HC CEMS.* The HC CEM must have a span of 100 ppmv, expressed as propane, at an oxygen correction factor of 1.

6.3.4 *CEMS Span Values.* When the Oxygen Correction Factor is Greater than 2. When an owner or operator installs a CEMS at a location of high ambient air dilution, *i.e.,* where the maximum oxygen correction factor as determined by the permitting agency is greater than 2, the owner or operator must install a CEM with a lower span(s), proportionate to the larger oxygen correction factor, than those specified above.

6.3.5 *Use of Alternative Spans.* Owner or operators may request approval to use alternative spans and ranges to those specified. Alternate spans must be approved in writing in advance by the Administrator. In considering approval of alternative spans and ranges, the Administrator will consider that measurements beyond the span will be recorded as values at the maximum span for purposes of calculating rolling averages.

6.3.6 *Documentation of Span Values.* The span value must be documented by the CEMS manufacturer with laboratory data.

6.4.1 *Moisture Correction.* Method 4 of appendix A, part 60 of this chapter, must be used to determine moisture content of the stack gasses.

6.4.2 *Oxygen Correction Factor.* Measured pollutant levels must be corrected for the amount of oxygen in the stack according to the following formula:

[illegible]

Where:

P_c= concentration of the pollutant or standard corrected to 7 percent oxygen, dry basis;

P_m= measured concentration of the pollutant, dry basis;

E = volume fraction of oxygen in the combustion air fed into the device, on a dry basis (normally 21 percent or 0.21 if only air is fed);

Y = measured fraction of oxygen on a dry basis at the sampling point.

The oxygen correction factor is:

[illegible]

6.4.3 *Temperature Correction.* Correction values for temperature are obtainable from standard reference materials.

6.5 *Rolling Average.* A rolling average is the arithmetic average of all one-minute averages over the averaging period.

6.5.1 *One-Minute Average for CO and HHC CEMS.* One-minute averages are the arithmetic average of the four most recent 15-second observations and must be calculated using the following equation:

$$\bar{c} = \sum_{i=1}^{4} \frac{c_i}{4}$$

Where:

c= the one minute average

c_i= a fifteen-second observation from the CEM

Fifteen second observations must not be rounded or smoothed. Fifteen-second observations may be disregarded only as a result of a failure in the CEMS and allowed in the source's quality assurance plan at the time of the CEMS failure. One-minute averages must not be rounded, smoothed, or disregarded.

6.5.2 Ten Minute Rolling Average Equation. The ten minute rolling average must be calculated using the following equation:

Where:

C_{RA}= The concentration of the standard, expressed as a rolling average

c_i= a one minute average

6.5.3 *Hourly Rolling Average Equation for CO and THC CEMS and Operating Parameter Limits.* The rolling average, based on a specific number integer of hours, must be calculated using the following equation:

Where:

c_{RA}= The concentration of the standard, expressed as a rolling average

c_i= a one minute average

6.5.4 Averaging Periods for CEMS other than CO and THC. The averaging period for CEMS other than CO and THC CEMS must be calculated as a rolling average of all one-hour values over the averaging period. An hourly average is comprised of 4 measurements taken at equally spaced time intervals, or at most every 15 minutes. Fewer than 4 measurements might be available within an hour for reasons such as facility downtime or CEMS calibration. If at least two measurements (30 minutes of data) are available, an hourly average must be calculated. The *n* -hour rolling average is calculated by averaging the *n* most recent hourly averages.

6.6 Units of the Standards for the Purposes of Recording and Reporting Emissions. Emissions must be recorded and reported expressed after correcting for oxygen, temperature, and moisture. Emissions must be reported in metric, but may also be reported in the English system of units, at 7 percent oxygen, 20 °C, and on a dry basis.

6.7 Rounding and Significant Figures. Emissions must be rounded to two significant figures using ASTM procedure E–29–90 or its successor. Rounding must be avoided prior to rounding for the reported value.

7. Bibliography

1. 40 CFR part 60, appendix F, "Quality Assurance Procedures: Procedure 1. Quality Assurance Requirements for Gas continuous Emission Monitoring Systems Used For Compliance Determination".

[64 FR 53038, Sept. 30, 1999, as amended at 65 FR 42301, July 10, 2000]

APPENDIX D

ADEQ CEM Conditions

Arkansas Department of Environmental Quality

CONTINUOUS EMISSION MONITORING SYSTEMS CONDITIONS

Revised August 2004

PREAMBLE

These conditions are intended to outline the requirements for facilities required to operate Continuous Emission Monitoring Systems/Continuous Opacity Monitoring Systems (CEMS/COMS). Generally there are three types of sources required to operate CEMS/COMS:

1. CEMS/COMS required by 40 CFR Part 60 or 63,
2. CEMS required by 40 CFR Part 75,
3. CEMS/COMS required by ADEQ permit for reasons other that Part 60, 63 or 75.

These CEMS/COMS conditions are not intended to supercede Part 60, 63 or 75 requirements.

- Only CEMS/COMS in the third category (those required by ADEQ permit for reasons other than Part 60, 63, or 75) shall comply with SECTION II, MONITORING REQUIREMENTS and SECTION IV, QUALITY ASSURANCE/QUALITY CONTROL.

- All CEMS/COMS shall comply with Section III, NOTIFICATION AND RECORDKEEPING.

SECTION I

DEFINITIONS

Continuous Emission Monitoring System (CEMS) - The total equipment required for the determination of a gas concentration and/or emission rate so as to include sampling, analysis and recording of emission data.

Continuous Opacity Monitoring System (COMS) - The total equipment required for the determination of opacity as to include sampling, analysis and recording of emission data.

Calibration Drift (CD) - The difference in the CEMS output reading from the established reference value after a stated period of operation during which no unscheduled maintenance, repair, or adjustments took place.

Back-up CEMS (Secondary CEMS) - A CEMS with the ability to sample, analyze and record stack pollutant to determine gas concentration and/or emission rate. This CEMS is to serve as a back-up to the primary CEMS to minimize monitor downtime.

Excess Emissions - Any period in which the emissions exceed the permit limits.

Monitor Downtime - Any period during which the CEMS/COMS is unable to sample, analyze and record a minimum of four evenly spaced data points over an hour, except during one daily zero-span check during which two data points per hour are sufficient.

Out-of-Control Period - Begins with the time corresponding to the completion of the fifth, consecutive, daily CD check with a CD in excess of two times the allowable limit, or the time corresponding to the completion of the daily CD check preceding the daily CD check that results in a CD in excess of four times the allowable limit and the time corresponding to the completion of the sampling for the RATA, RAA, or CGA which exceeds the limits outlined in Section IV. Out-of-Control Period ends with the time corresponding to the completion of the CD check following corrective action with the results being within the allowable CD limit or the completion of the sampling of the subsequent successful RATA, RAA, or CGA.

Primary CEMS - The main reporting CEMS with the ability to sample, analyze, and record stack pollutant to determine gas concentration and/or emission rate.

Relative Accuracy (RA) - The absolute mean difference between the gas concentration or emission rate determined by the CEMS and the value determined by the reference method plus the 2.5 percent error confidence coefficient of a series of tests divided by the mean of the reference method tests of the applicable emission limit.

Span Value – The upper limit of a gas concentration measurement range.

SECTION II

MONITORING REQUIREMENTS

A. For new sources, the installation date for the CEMS/COMS shall be no later than thirty (30) days from the date of start-up of the source.

B. For existing sources, the installation date for the CEMS/COMS shall be no later than sixty (60) days from the issuance of the permit unless the permit requires a specific date.

C. Within sixty (60) days of installation of a CEMS/COMS, a performance specification test (PST) must be completed. PST's are defined in 40 CFR, Part 60, Appendix B, PS 1-9. The Department may accept alternate PST's for pollutants not covered by Appendix B on a case-by-case basis. Alternate PST's shall be approved, in writing, by the ADEQ CEM Coordinator prior to testing.

D. Each CEMS/COMS shall have, as a minimum, a daily zero-span check. The zero-span shall be adjusted whenever the 24-hour zero or 24-hour span drift exceeds two times the limits in the applicable performance specification in 40 CFR, Part 60, Appendix B. Before any adjustments are made to either the zero or span drifts measured at the 24-hour interval the excess zero and span drifts measured must be quantified and recorded.

E. All CEMS/COMS shall be in continuous operation and shall meet minimum frequency of operation requirements of 95% up-time for each quarter for each pollutant measured. Percent of monitor down-time is calculated by dividing the total minutes the monitor is not in operation by the total time in the calendar quarter and multiplying by one hundred. Failure to maintain operation time shall constitute a violation of the CEMS conditions.

F. Percent of excess emissions are calculated by dividing the total minutes of excess emissions by the total time the source operated and multiplying by one hundred. Failure to maintain compliance may constitute a violation of the CEMS conditions.

G. All CEMS measuring emissions shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive fifteen minute period unless more cycles are required by the permit. For each CEMS, one-hour averages shall be computed from four or more data points equally spaced over each one hour period unless more data points are required by the permit.

H. All COMS shall complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period.

I. When the pollutant from a single affected facility is released through more than one point, a CEMS/COMS shall be installed on each point unless installation of fewer systems is approved, in writing, by the ADEQ CEM Coordinator. When more than one CEM/COM is used to monitor emissions from one affected facility the owner or operator shall report the results as required from each CEMS/COMS.

SECTION III

NOTIFICATION AND RECORD KEEPING

A. When requested to do so by an owner or operator, the ADEQ CEM Coordinator will review plans for installation or modification for the purpose of providing technical advice to the owner or operator.

B. Each facility which operates a CEMS/COMS shall notify the ADEQ CEM Coordinator of the date for which the demonstration of the CEMS/COMS performance will commence (i.e. PST, RATA, RAA, CGA). Notification shall be received in writing no less than 15 days prior to testing. Performance test results shall be submitted to the Department within thirty days after completion of testing.

C. Each facility which operates a CEMS/COMS shall maintain records of the occurrence and duration of start up/shut down, cleaning/soot blowing, process problems, fuel problems, or other malfunction in the operation of the affected facility which causes excess emissions. This includes any malfunction of the air pollution control equipment or any period during which a continuous monitoring device/system is inoperative.

D. Except for Part 75 CEMs, each facility required to install a CEMS/COMS shall submit an excess emission and monitoring system performance report to the Department (Attention: Air Division, CEM Coordinator) at least quarterly, unless more frequent submittals are warranted to assess the compliance status of the facility. Quarterly reports shall be postmarked no later than the 30th day of the month following the end of each calendar quarter. Part 75 CEMs shall submit this information semi-annually and as part of Title V six (6) month reporting requirement if the facility is a Title V facility.

E. All excess emissions shall be reported in terms of the applicable standard. Each report shall be submitted on ADEQ Quarterly Excess Emission Report Forms. Alternate forms may be used with prior written approval from the Department.

F. Each facility which operates a CEMS/COMS must maintain on site a file of CEMS/COMS data including all raw data, corrected and adjusted, repair logs, calibration checks, adjustments, and test audits. This file must be retained for a period of at least five years, and is required to be maintained in such a condition that it can easily be audited by an inspector.

G. Except for Part 75 CEMs, quarterly reports shall be used by the Department to determine compliance with the permit. For Part 75 CEMs, the semi-annual report shall be used.

SECTION IV

QUALITY ASSURANCE/QUALITY CONTROL

A. For each CEMS/COMS a Quality Assurance/Quality Control (QA/QC) plan shall be submitted to the Department (Attn.: Air Division, CEM Coordinator). CEMS quality assurance procedures are defined in 40 CFR, Part 60, Appendix F. This plan shall be submitted within 180 days of the CEMS/COMS installation. A QA/QC plan shall consist of procedure and practices which assures acceptable level of monitor data accuracy, precision, representativeness, and availability.

B. The submitted QA/QC plan for each CEMS/COMS shall not be considered as accepted until the facility receives a written notification of acceptance from the Department.

C. Facilities responsible for one, or more, CEMS/COMS used for compliance monitoring shall meet these minimum requirements and are encouraged to develop and implement a more extensive QA/QC program, or to continue such programs where they already exist. Each QA/QC program must include written procedures which should describe in detail, complete, step-by-step procedures and operations for each of the following activities:

1. Calibration of CEMS/COMS
    a. Daily calibrations (including the approximate time(s) that the daily zero and span drifts will be checked and the time required to perform these checks and return to stable operation)
2. Calibration drift determination and adjustment of CEMS/COMS
    a. Out-of-control period determination
    b. Steps of corrective action
3. Preventive maintenance of CEMS/COMS
    a. CEMS/COMS information
        1) Manufacture
        2) Model number
        3) Serial number
    b. Scheduled activities (check list)
    c. Spare part inventory
4. Data recording, calculations, and reporting
5. Accuracy audit procedures including sampling and analysis methods
6. Program of corrective action for malfunctioning CEMS/COMS

D. A Relative Accuracy Test Audit (RATA), shall be conducted at least once every four calendar quarters. A Relative Accuracy Audit (RAA), or a Cylinder Gas Audit (CGA), may be conducted in the other three quarters but in no more than three quarters in succession. The RATA should be conducted in accordance with the applicable test procedure in 40 CFR Part 60 Appendix A and calculated in accordance with the applicable performance specification in 40 CFR Part 60 Appendix B. CGA's and RAA's should be conducted and the data calculated in accordance with the procedures outlined on 40 CFR Part 60 Appendix F.

If alternative testing procedures or methods of calculation are to be used in the RATA, RAA or CGA audits prior authorization must be obtained from the ADEQ CEM Coordinator.

E. Criteria for excessive audit inaccuracy.

RATA

All Pollutants except Carbon Monoxide	> 20% Relative Accuracy
Carbon Monoxide	> 10% Relative Accuracy
All Pollutants except Carbon Monoxide	> 10% of the Applicable Standard
Carbon Monoxide	> 5% of the Applicable Standard
Diluent (O_2 & CO_2)	> 1.0 % O2 or CO2
Flow	> 20% Relative Accuracy

CGA

Pollutant	> 15% of average audit value or 5 ppm difference
Diluent (O_2 & CO_2)	> 15% of average audit value or 5 ppm difference

RAA

Pollutant	> 15% of the three run average or > 7.5 % of the applicable standard
Diluent (O_2 & CO_2)	> 15% of the three run average or > 7.5 % of the applicable standard

F. If either the zero or span drift results exceed two times the applicable drift specification in 40 CFR, Part 60, Appendix B for five consecutive, daily periods, the CEMS is out-of-control. If either the zero or span drift results exceed four times the applicable drift specification in Appendix B during a calibration drift check, the CEMS is out-of-control. If the CEMS exceeds the audit inaccuracies listed above, the CEMS is out-of-control. If a CEMS is out-of-control, the data from that out-of-control period is not counted towards meeting the minimum data availability as required and described in the applicable subpart. The end of the out-of-control period is the time corresponding to the completion of the successful daily zero or span drift or completion of the successful CGA, RAA or RATA.

G. A back-up monitor may be placed on an emission source to minimize monitor downtime. This back-up CEMS is subject to the same QA/QC procedure and practices as the primary CEMS. The back-up CEMS shall be certified by a PST. Daily zero-span checks must be performed and recorded in accordance with standard practices. When the primary CEMS goes down, the back-up CEMS may then be engaged to sample, analyze and record the emission source pollutant until repairs are made and the primary unit is placed back in service. Records must be maintained on site when the back-up CEMS is placed in service, these records shall include at a minimum the reason the primary CEMS is out of service, the date and time the primary CEMS was out of service and the date and time the primary CEMS was placed back in service.

APPENDIX E

EPA Determination Subpart Dc Recordkeeping

Search Applicability Determination Index

Determination Detail

Control Number: 0300114

Category: NSPS
EPA Office: Region 10
Date: 07/10/2003
Title: Alternative Fuel Monitoring Plan for Boilers
Recipient: Mike Sattler
Author: Jeff KenKnight
Comments:

Subparts: Part 60, Dc Small Indust.-Comm.-Inst. Steam Gen. Units

Abstract:

Q1: Will EPA approve keeping records of natural gas fuel usage on a monthly basis for NSPS Subpart Dc boilers, rather than on a daily basis as required by 40 CFR 60.48c(g)?

A1: Yes. EPA approves the request to reduce fuel gas usage recordkeeping because compliance can be adequately verified by keeping fuel usage records on a monthly basis if only natural gas and/or low sulfur oil are burned.

Q2: Will EPA approve of an apportionment method to estimate the amount of natural gas used between boilers where more than one boiler is attached to a fuel gas meter?

A2: Yes. EPA approves the request for an apportionment method to divide each boiler's design heat input capacity by the total design input capacities of all the natural gas-fired combustion units. This method is consistent with the record-keeping requirement in 40 CFR 60.48c(g) that applies to each separate affected facility (i.e., boiler) regulated under Subpart Dc.

Letter:

Reply To
Attn Of: OAQ-107

Mike Sattler, P.E., R.E.M.
Western Regional Environment,
Safety and Health Team Leader
Koch Materials Company
6880 South Yosemite Court, Suite 100
Englewood, Colorado 80112

Re: Request for Alternative Record-keeping and Fuel Gas Usage Apportionment Method 40 CFR 60.48c(g), "Subpart Dc Boilers"

Dear Mr. Sattler:

This letter is in response to a request from Koch Materials Company (KMC) dated September 18, 2002, requesting approval of alternative requirements as referenced above for facilities in Boise, Idaho, and Pasco and Spokane, Washington. Specifically, KMC requested approval to keep records of natural gas usage monthly instead of daily, as is required under the New Source Performance Standards (NSPS) Subpart Dc. In addition, KMC also requested approval to apportion natural gas usage between boilers where more than one boiler is attached to a fuel gas meter.

Pursuant to 40 CFR Sec. 60.48c(g), owners or operators of each affected facility are required to record and maintain records of the amounts of each fuel combusted during each day. On previous occasions, the U.S. Environmental Protection Agency (EPA) has approved changes in fuel usage record keeping frequency for Subpart Dc boilers that are fired only with natural gas and/or low sulfur oil. The basis for these approvals is that, although records must be kept to verify the types of fuel combusted, compliance can be adequately verified by keeping fuel usage records on a monthly basis if only natural gas and/or low sulfur oil are burned. In your letter, you specified that only natural gas will be burned in the boilers subject to the requirements of 40 CFR Sec. 60.48c(g). Therefore, EPA Region 10 approves the request to reduce fuel gas usage record- keeping from daily to monthly.

As discussed in your letter and summarized in the table below, not all of the facilities' gas-fired units are subject to Subpart Dc while a single gas meter is used to monitor the total amount of natural gas burned at the facilities making it necessary that some of the facilities need to estimate fuel gas consumption for the Subpart Dc boilers.

Facility Location	No. of Boilers/ Input MMBtu/hr	No. of Oil Heaters/ Input MMBtu/hr	Subject to Subpart DC
Boise, ID	2 @ 16.7 ea	1 @14.5 MMBtu/hr	14.5 MMBtu/hr
Pasco, WA	2 @ 10.2 & 7.32	--	10.2 MMBtu/hr
Spokane, WA	1 @ 10.4	--	10.4 MMBtu/hr

The record-keeping requirement in 40 CFR Sec. 60. 48c(g) applies to each affected facility.

Therefore, any alternative record-keeping or reporting approvals for Subpart Dc boilers also need to specify how the total fuel usage will be apportioned to individual units when a single fuel flow meter is used to measure the amount of fuel burned in multiple boilers. Koch Materials Company has proposed to use an apportionment method similar to one discussed and approved by EPA Region 4 in a December 7, 2000 applicability determination. This method involves dividing each boiler's design heat input capacity by the total design input capacities of all the natural gas-fired combustion units at the affected facility and using this quantity to prorate the natural gas usage for each heater subject to 40 CFR 60 Subpart Dc on a monthly basis. As an example (as discussed in the December 7, 2000 Region 4 approval), if the 100 million scf of natural gas were used at the Boise facility in a month, and the facility has a total of 47.9 MMBtu/hr, then the 14.5 MMBtu/hr hot oil heater would be assigned (14.5/47.9) X 100 million scf, or 30.3 scf of gas usage for the month.

According to the letter sent by KMC on September 18, 2002, each of the facilities uses a single gas meter that measures the total natural gas usage for each facility. Dividing each boiler or hot oil heaters' design heat input capacity by the total of the design heat input capacities of all natural gas-fired combustion units at the facility and using this quantity to prorate the natural gas usage for each heater on a monthly basis would be an acceptable method of fuel usage recordkeeping at KMC. If you have any questions, please have your staff contact Madonna Narvaez at (206) 553-2117, or electronically at narvaez.madonna@epa.gov.

Sincerely,

Jeff KenKnight, Manager
Federal and Delegated Air Programs Unit

cc: Dan Salgado, IDEQ, Boise
Alan Newman, WDOE, Olympia
Ron Edigar, SCAPCA
Dale A. Guariglia, Bryan Cave LLP, St. Louis, MO
Sid Johnson, Koch Pavement Solutions, Wichita, KS

CERTIFICATE OF SERVICE

I, Pam Owen, hereby certify that a copy of this permit has been mailed by first class mail to U.S. Army, Pine Bluff Arsenal, Commander PBA, Attn: SJMPB-RR, 10020 Kabrich Circle, Pine Bluff, AR, 71602-9500, on this 9th day of February, 2009.

Pam Owen

Pam Owen, AAII, Air Division