Louisville Metro Air Pollution Control District
850 Barret Avenue
Louisville, Kentucky 40204-1745

Title V Operating Permit

Permit No.: O-0148-15-V | Plant ID: 148

Effective Date: xx/xx/20xx | Expiration Date: xx/xx/20xx

Permission is hereby given by the Louisville Metro Air Pollution Control District to operate the process(es) and equipment described herein which are located at:

Louisville Medical Center, Inc., Steam & Chilled Water Plant
235 Abraham Flexner Way
Louisville, Kentucky 40202-1817

The applicable procedures of District Regulation 2.16 regarding review by the U.S. EPA and public participation have been followed in the issuance of this permit. Based on review of the application on file with the District, permission is given to operate under the conditions stipulated herein. If a renewal permit is not issued prior to the expiration date, the owner or operator may continue to operate in accordance with the terms and conditions of this permit beyond the expiration date, provided that a complete renewal application is submitted to the District no earlier than eighteen (18) months and no later than six (6) months prior to the expiration date.

Application No.:	62308	Application Received: 2/10/2014
	63505; 69338; 69787	3/30/2014, 2/12/2015, 2/27/2015
	69981, 70240, 73006	3/10/2015, 3/20/2015, 8/14/2015
Permit Writer:	Yiqiu Lin	
Administratively Complete:	5/29/2014	
Date of Public Notice:	08/20/2015	{Manager1} Air Pollution Control Officer
Date of proposed permit:	08/20/2015	{date1}

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Title V Permit Revisions/Changes

Revision No.	Permit No.	Issue Date	Public Notice Date	Change Type	Change Scope	Description
Initial	89-97-TV	01/31/2000	11/21/1999	Initial	Entire Permit	Initial Permit Issuance
R1	89-97-TV (R1)	09/30/2009	06/15/2009	Renewal	Entire Permit	Scheduled permit renewal; Incorporation of construction permit 244-08-C, 696-08-C, and revised NOx RACT Plan (Amendment 2). *
N/A	O-0148-15-V	x/xx/2015	8/20/2015	Renewal	Entire Permit	Scheduled permit renewal; Incorporation of Construction Permit 34050-12-C, 35728-12-C, C-0148-1000-14, C-0148-1003-15-V, and revised NOx RACT Plan (Amendment 3). *

* Incorporated construction permits and NOx RACT Plan:	
244-08-C	Modification to allow plantwide heat input capacity from 362 to 418 MMBtu/hr
696-08-C	Coal and fly ash handling equipment
34050-12-C	Boiler #3: Installation of a natural gas burner to replace existing coal stoker
35728-12-C	Installation of three (3) new baghouses one for each Boiler #4, 5, and 6
C-0148-1000-14	Installation of one (1) 1,500 kW diesel emergency generator
C-0148-1003-15-V	Installation of three (3) lime injection systems and modification of permit 244-08-C and 35728-12-C
NOx RACT Plan (Amendment 2)	Add NOx limit for Boiler #1 and add average period for NOx limits
NOx RACT Plan (Amendment 3)	Remove 10% seasonal capacity factor for Boiler #3 since a low NOx natural gas burner replaced the coal stoker.

Abbreviations and Acronyms

AP-42	- AP-42, *Compilation of Air Pollutant Emission Factors*, published by USEPA
APCD	- Louisville Metro Air Pollution Control District
BAC	- Background Ambient Concentration
Btu	- British thermal unit
CEMS	- Continuous Emission Monitoring System
CFR	- Code of Federal Regulations
CO	- Carbon monoxide
District	- Louisville Metro Air Pollution Control District
EA	- Environmental Acceptability
gal	- U.S. fluid gallons
GHG	- Greenhouse Gas
HAP	- Hazardous Air Pollutant
HCl	- Hydrogen chloride
Hg	- Mercury
hr	- hour
in.	- inches
lbs	- pounds
l	- liter
LMAPCD	- Louisville Metro Air Pollution Control District
mm_{Hg}	- millimeters of mercury column height
MM	- million
NAICS	- North American Industry Classification System
NO_x	- Nitrogen oxides
PM	- Particulate Matter
PM_{10}	- Particulate Matter less than 10 microns
$PM_{2.5}$	- Particulate Matter less than 2.5 microns
ppm	- parts per million
PSD	- Prevention of Significant Deterioration
psia	- pounds per square inch absolute
QA	- Quality Assurance
SIC	- Standard Industrial Classification
SIP	- State Implementation Plan
SO_2	- Sulfur dioxide
STAR	- Strategic Toxic Air Reduction
TAC	- Toxic Air Contaminant
UTM	- Universal Transverse Mercator
VOC	- Volatile Organic Compound
w.c.	- water column
year	- any period of twelve consecutive months, unless "calendar year" is specified
yr	- year, or any 12 consecutive-month period, as determined by context

Preamble

Title V of the Clean Air Act Amendments of 1990 (the Act) required EPA to create an operating permit program for implementation by state or local air permitting authorities. The purposes of this program are: (1) to require an affected company to assume full responsibility for demonstrating compliance with applicable regulations; (2) to capture all of the regulatory information pertaining to an affected company in a single document; and (3) to make permits more consistent with each other.

A company is subject to the Title V program if it meets any of several criteria related to the nature or amount of its emissions. The Title V operating permit specifies what the affected company is, how it may operate, what its applicable regulations are, how it will demonstrate compliance, and what is required if compliance is not achieved. In Jefferson County, Kentucky, the Louisville Metro Air Pollution Control District (LMAPCD or APCD) is responsible for issuing Title V permits to affected companies and enforcing local regulations and delegated federal and state regulations. EPA may enforce federal regulations but not "District Only Enforceable Regulations."

Title V offers the public an opportunity to review and comment on a company's draft permit. It is intended to help the public understand the company's compliance responsibility under the Clean Air Act. Additionally, the Title V process provides a mechanism to incorporate new applicable requirements. Such requirements are available to the public for review and comment before they are adopted.

Title V Permit General Conditions define requirements that are generally applicable to all Title V companies under the jurisdiction of LMAPCD. This avoids repeating these requirements in every section of the company's Title V permit. Company-specific conditions augment the General Conditions as necessary; these appear in the sections of the permit addressing individual emission units or emission points.

The General Conditions include references to regulatory requirements that may not currently apply to the company, but which provide guidance for potential changes at the company or in the regulations during the life of the permit. Such requirements may become applicable if the company makes certain modifications or a new applicable requirement is adopted.

When the applicability of a section or subpart of a regulation is unclear, a clarifying citation will be made in the company's Title V permit at the emission unit/point level. Comments may also be added at the emission unit/point level to give further clarification or explanation.

The owner or operator's Title V permit may include a current table of "insignificant activities."

Insignificant activities are defined in District Regulation 2.16 section 1.23, as of the date the permit was proposed for review by U.S. EPA, Region 4.

Insignificant activities identified in District Regulation 1.02, section 1.38, and Appendix A may be subject to size or production rate disclosure requirements pursuant to Regulation 2.16 section 3.5.4.1.4.

Insignificant activities identified in District Regulation 1.02, section 1.38, and Appendix A shall comply with generally applicable requirements as required by Regulation 2.16 section 4.1.9.4.

General Conditions

1. **Compliance** - The owner or operator shall comply with all applicable requirements and with all terms and conditions of this permit. Any noncompliance shall constitute a violation of the Act, State, and District regulations and shall cause the source to be subject to enforcement actions including, but not limited to, the termination, revocation and reissuance, or revision of this permit, or denial of a permit application to renew this permit. Notwithstanding any other provision in the Jefferson County portion of the Kentucky SIP approved by EPA, any credible evidence may be used for the purpose of establishing whether the owner or operator is in compliance with, has violated, or is in violation of any such plan. [Regulation 2.16, sections 4.1.3, 4.1.13.1, and 4.1.13.7]

2. **Compliance Certification** - The owner or operator shall certify, annually, or more frequently if required in applicable regulations, compliance with the terms and conditions contained in this permit, including emission limitations, standards, or work practices. This certification shall meet the requirements of Regulation 2.16, sections 3.5.11 and 4.3.5. The owner or operator shall submit the annual compliance certification (Form 9400-O) directly to the EPA and to the District, as set forth in Regulation 2.16, section 4.3.5.4, at the following addresses:

   US EPA - Region IV
   Air Enforcement Branch
   Atlanta Federal Center
   61 Forsyth Street
   Atlanta, GA 30303-8960

   Air Pollution Control District
   Room 205
   850 Barret Ave
   Louisville, KY 40204-1745

   This certification must be postmarked by 15 April of the year following the year for which the certification is being submitted, or other such due date as required by another applicable regulation.

3. **Compliance Schedule** - The owner or operator shall submit a schedule of compliance for each emission unit that is not in compliance with all applicable requirements. A compliance schedule must meet the requirements of Regulation 2.16, section 3.5.9.5. A schedule of compliance shall be supplemental to, and shall not condone noncompliance with, the applicable requirements on which it is based. For each schedule of compliance, the owner or operator shall submit certified progress reports at least semi-annually, or at a more frequent period if specified in an applicable requirement or by the District in accordance with Regulation 2.16 section 4.3.4. The progress reports shall contain:

   a. Dates for achieving the activities, milestones, or compliance required in the schedule of compliance, and dates when activities, milestones, or compliance were achieved.

   b. An explanation of why dates in the schedule of compliance were not or will not be met, and preventive or corrective measures adopted.

4. **Duty to Supplement or Correct Application** - If the owner or operator fails to submit relevant facts or has submitted incorrect information in the permit application, they shall,

upon discovery of the occurrence, promptly submit the supplementary facts or corrected information in accordance with Regulation 2.16, section 3.4.

5. **Emergency Provision**

a. An emergency shall constitute an affirmative defense to an enforcement action brought for noncompliance with technology-based emission limitations if the conditions in Regulation 2.16 are met. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:

i. An emergency occurred and that the owner or operator can identify the cause of the emergency;

ii. The permitted facility was at the time being properly operated;

iii. During the period of the emergency the owner or operator expeditiously took all reasonable steps, consistent with safe operating practices, to minimize levels of emissions that exceeded the emission standards or other requirements in this permit; and

iv. The owner or operator submitted notice meeting the requirements of Regulation 1.07 of the time when emissions limitations were exceeded because of the emergency. This notice must fulfill the requirement of this condition, and must contain a description of the emergency, any steps taken to mitigate emissions, and any corrective actions taken.

b. In an enforcement proceeding, the owner or operator seeking to establish the occurrence of an emergency has the burden of proof.

c. This condition is in addition to any emergency or upset provision contained in an applicable requirement. [Regulation 2.16, sections 4.7.1 through 4.7.4]

6. **Emission Fees Payment Requirements** - The owner or operator shall pay annual emission fees in accordance with Regulation 2.08, section 1.3. Failure to pay the emissions fees when due shall constitute a violation of District Regulations. Such failure is subject to penalties and an increase in the fee of an additional 5% per month up to a maximum of 25% of the original amount due. In addition, failure to pay emissions fees within 60 days of the due date shall automatically suspend this permit to operate until the fee is paid or a schedule for payment acceptable to the District has been established. [Regulation 2.08, section 1.6]

7. **Emission Offset Requirements** - The owner or operator shall comply with the requirements of Regulation 2.04.

8. **Enforceability Requirements** - Except for the conditions that are specifically designated as "District-Only Enforceable Conditions", all terms and conditions of this permit, including any provisions designed to limit a source's potential to emit, are enforceable by EPA and citizens as specified under the Act. [Regulation 2.16, sections 4.2.1 and 4.2.2]

9. **Enforcement Action Defense**

a. It shall not be a defense for the owner or operator in an enforcement action that it would have been necessary for the owner or operator to halt or reduce the

permitted activity in order to maintain compliance with the conditions of this permit.

b. The owner or operator's failure to halt or reduce activity may be a mitigating factor in assessing penalties for noncompliance if the health, safety or environmental impacts of halting or reducing operations would be more serious than the impacts of continued operation. [Regulation 2.16, sections 4.1.13.2 and 4.1.13.3]

10. **Hazardous Air Pollutants and Sources Categories** - The owner or operator shall comply with the applicable requirements of Regulations 5.02 and 5.14.

11. **Information Requests** - The owner or operator shall furnish to the District, within a reasonable time, information requested in writing by the District, to determine whether cause exists for revising, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The owner or operator shall also furnish, upon request, copies of records required to be kept by this permit.
[Regulation 2.16, section 4.1.13.6]

If information is submitted to the District under a claim of confidentiality, the source shall submit a copy of the confidential information directly to EPA at the address shown in General Condition 35.b.
[Regulation 2.07, section 10.2]

12. **Insignificant Activities** - The owner or operator shall:

a. Notify the District in a timely manner of any proposed change to an insignificant activity that would require a permit revision. [Regulation 2.16, section 5]

b. Submit a current list of insignificant activities by April 15 of each year with the annual compliance certification, including an identification of the additions and removals of insignificant activities that occurred during the preceding year. [Regulation 2.16, section 4.3.5.3.6]

13. **Inspection and Entry** - Upon presentation of credentials and other documents as required by law, the owner or operator shall allow the District or an authorized representative to perform the following during reasonable hours:
[Regulation 2.16, section 4.3.2]

a. Enter the premises to inspect any emissions-related activity or records required in this permit.

b. Have access to and copy records required by this permit.

c. Inspect facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required by this permit.

d. Sample or monitor substances or parameters to assure compliance with this permit or any applicable requirements.

14. **Monitoring and Related Record Keeping and Reporting Requirement** - The owner or operator shall comply with the requirements of Regulation 2.16, section 4.1.9. Unless specified elsewhere in this permit, the owner or operator shall complete required monthly record keeping within 30 days following the end of each calendar month. The owner or

operator shall submit all required monitoring reports at least once every six months, unless more frequent reporting is required by an applicable requirement. The reporting period shall be 1 January through 30 June and 1 July through 31 December of each calendar year. All reports shall be sent to the District at the address shown in paragraph 2 of these General Conditions and must be postmarked by the 60th day following the end of each reporting period, unless specified elsewhere in this permit. If surrogate operating parameters are monitored and recorded in lieu of emission monitoring, then an exceedance of multiple parameters may be deemed a single violation by the District for enforcement purposes. All reports shall include the company name, plant ID number, and the beginning and ending date of the reporting period. The compliance reports shall clearly identify any deviation from a permit requirement or a declaration that there were no such deviations. All semi-annual compliance reports shall include the statement "Based on information and belief formed after reasonable inquiry, I certify that the statements and information in this document are true, accurate, and complete" and the signature and title of a responsible official of the company.

The semi-annual compliance reports are due on or before the following dates of each calendar year:

Reporting Period	Report Due Date
January 1 - June 30	August 29
July 1 - December 31	March 1 of the following year

If a change in the responsible official (RO) occurs during the term of this permit, or if an RO is added, the owner or operator shall provide written notification (Form AP-100A) to the District within 30 calendar days of such change or addition.

15. **Off-permit Documents** - Any applicable requirements, including emission limitations, control technology requirements, or work practice standards, contained in an off-permit document cannot be changed without undergoing the permit revision procedures in Regulation 2.16, section 5.
[Regulation 2.16, section 4.1.5]

16. **Operational Flexibility** - The owner or operator may make changes without permit revision in accordance with Regulation 2.16, section 5.8.

17. **Permit Amendments (Administrative)** - This permit can be administratively amended by the District in accordance with Regulation 2.16, section 5.4.

18. **Permit Application Submittal** - The owner or operator shall submit a timely and complete application for permit renewal or significant revision. If the owner or operator submits a timely and complete application then the owner or operator's failure to have a permit is not a violation until the District takes formal action on this permit application. This protection shall cease to apply if, subsequent to completeness determination, the owner or operator fails to submit, by the deadline specified in writing by the District, additional information required to process the application as required by Regulation 2.16, sections 3 and 5.2.

19. **Permit Duration** - This permit is issued for a fixed term of 5 years, in accordance with Regulation 2.16, section 4.1.8.3.

20. **Permit Renewal, Expiration and Application** - Permit renewal, expiration and application procedural requirements shall be in accordance with Regulation 2.16, sections 4.1.8.2 and 5.3. This permit may only be renewed in accordance with section 5.3.

21. **Permit Revisions** - No permit revision shall be required under any approved economic incentives, marketable permits, emissions trading and other similar programs or processes for changes that are provided for in the permit. [Regulation 2.16, section 4.1.16]

22. **Permit Revision Procedures (Minor)** - Except as provided in 40 CFR Part 72, the Acid Rain Program, this permit may be revised in accordance with Regulation 2.16, section 5.5.

23. **Permit Revision Procedures (Significant)** - A source seeking to make a significant permit revision shall meet all the Title V requirements for permit applications, issuance and Permit renewal, in accordance with Regulation 2.16, section 5.7, and all other applicable District Regulations.

24. **Permit Termination and Revocation by the District** - The District may terminate this permit only upon written request of the owner or operator. The District may revoke a permit for cause, in accordance with Regulation 2.16, section 5.11.1 through 5.11.6. For purposes of section 5.11.1, substantial or unresolved noncompliance includes, but is not limited to:

    a. Knowingly operating process or air pollution control equipment in a manner not allowed by an applicable requirement or that results in excess emissions of a regulated air pollutant that would endanger the public or the environment;

    b. Failure or neglect to furnish information, analyses, plans, or specifications required by the District;

    c. Knowingly making any false statement in any permit application;

    d. Noncompliance with Regulation 1.07, section 4.2; or

    e. Noncompliance with KRS Chapter 77.

25. **Permit Shield** - The permit shield shall apply in accordance with Regulation 2.16, section 4.6.1.

26. **Prevention of Significant Deterioration of Air Quality** - The owner or operator shall comply with the requirements of Regulation 2.05.

27. **Property Rights** - This permit shall not convey property rights of any sort or grant exclusive privileges in accordance with Regulation 2.16, section 4.1.13.5.

28. **Public Participation** - Except for modifications qualifying for administrative permit amendments or minor permit revision procedures, all permit proceedings shall meet the requirements of Regulations 2.07, section 1; and 2.16, sections 5.1.1.2 and 5.5.4.

29. **Reopening For Cause** - This permit shall be reopened and revised by the District in accordance with Regulation 2.16 section 5.9.

30. **Reopening for Cause by EPA** - This permit may be revised, revoked and reissued or terminated for cause by EPA in accordance with Regulation 2.16 section 5.10.

31. **Risk Management Plan (112(r))** - For each process subject to section 112(r) of the Act, the owner or operator shall comply with 40 CFR Part 68 and Regulation 5.15.

32. **Severability Clause** - The conditions of this permit are severable. Therefore, if any condition of this permit, or the application of any condition of this permit to any specific circumstance, is determined to be invalid, the application of the condition in question to other circumstances, as well as the remainder of this permit's conditions, shall not be affected. [Regulation 2.16, section 4.1.12]

33. **Stack Height Considerations** - The owner or operator shall comply with the requirements of Regulation 2.10.

34. **Startups, Shutdowns, and Upset Conditions Requirements** - The owner or operator shall comply with the requirements of Regulation 1.07.

35. **Submittal of Reports, Data, Notifications, and Applications**

    a. Applications, reports, test data, monitoring data, compliance certifications, and any other document required by this permit as set forth in Regulation 2.16 sections 3.1, 3.3, 3.4, 3.5, 4.1.13.6, 5.8.5 and 5.12 shall be submitted to:

    Air Pollution Control District
    Room #205
    850 Barret Ave
    Louisville, KY 40204-1745

    b. Documents that are specifically required to be submitted to EPA, as set forth in Regulation 2.16 sections 3.3 and 5.8.5 shall be mailed to EPA at:

    US EPA - Region IV
    APTMD - 12th floor
    Atlanta Federal Center
    61 Forsyth Street
    Atlanta, GA 30303-3104

36. **Other Applicable Regulations** - The owner or operator shall comply with all applicable requirements of the following:

Regulation	Title
1.01	General Application of Regulations and Standards
1.02	Definitions
1.03	Abbreviations and Acronyms
1.04	Performance Tests
1.05	Compliance With Emissions Standards And Maintenance Requirements
1.06	Source Self-Monitoring, Emission Inventory Development and Reporting
1.07	Excess Emissions During Startups, Shutdowns, and Upset Conditions
1.08	Administrative Procedures
1.09	Prohibition of Air Pollution
1.10	Circumvention

Regulation	Title
1.11	Control of Open Burning
1.14	Control of Fugitive Particulate Emissions
2.01	General Application (Permit Requirements)
2.02	Air Pollution Regulation Requirements and Exemptions
2.03	Authorization to Construct or Operate; Demolition/Renovation Notices and Permit Requirements
2.07	Public Notification for Title V, PSD, and Other Offset Permits; SIP Revisions; and Use of Emission Reduction Credits
2.09	Causes for Permit Modification, Revocation, or Suspension
2.10	Stack Height Considerations
2.11	Air Quality Model Usage
2.16	Title V Operating Permits
4.01	General Provisions for Emergency Episodes
4.02	Episode Criteria
4.03	General Abatement Requirements
4.07	Episode Reporting Requirements
5.02	Adoption and Incorporation by Reference of National Emission Standards for Hazardous Air Pollutants
6.01	General Provisions (Existing Affected Facilities)
6.02	Emission Monitoring for Existing Sources
7.01	General Provisions (New Affected Facilities)
7.02	Adoption and Incorporation by Reference of Federal New Source Performance Standards

District Only Enforceable Regulations:

Regulation	Title
1.12	Control of Nuisances
1.13	Control of Objectionable Odors
2.08	Emission Fee, Permit Fees and Permit Renewal Procedures
5.00	Definitions
5.01	General Provisions
5.20	Methodology for Determining Benchmark Ambient Concentration of a Toxic Air Contaminant
5.21	Environmental Acceptability for Toxic Air Contaminants
5.22	Procedures for Determining the Maximum Ambient Concentration of a Toxic Air Contaminant
5.23	Categories of Toxic Air Contaminants

37. **Stratospheric Ozone Protection Requirements** - Any facility having refrigeration equipment, including air conditioning equipment, which uses a Class I or II substance (listed in 40 CFR 82, Subpart A, Appendices A and B), and any facility which maintains,

services, or repairs motor vehicles using a Class I or II substance as refrigerant must comply with all requirements of 40 CFR 82, Subparts A, B, and F. Those requirements include the following restrictions:

a. Any facility having any refrigeration equipment that normally contains fifty (50) pounds of refrigerant or more must keep servicing records documenting the date and type of all service and the quantity of any refrigerant added, according to 40 CFR 82.166;

b. No person repairing or servicing a motor vehicle may perform any service on a motor vehicle air conditioner (MVAC) involving the refrigerant for such air conditioner unless the person has been properly trained and certified as provided in 40 CFR 82.34 and 40 CFR 82.40, and properly uses equipment approved according to 40 CFR 82.36 and 40 CFR 82.38, and complies with 40 CFR 82.42;

c. No person may sell or distribute, or offer for sale or distribution, any substance listed as a Class I or II substance in 40 CFR 82, Subpart A, Appendices A and B, except in compliance with 40 CFR 82.34(b), 40 CFR 82.42, and/or 40 CFR 82.166;

d. No person maintaining, servicing, repairing, or disposing of appliances may knowingly vent or otherwise release into the atmosphere any Class I or II substance used as a refrigerant in such equipment and no other person may open appliances (except MVACs as defined in 40 CFR 82.152) for service, maintenance, or repair unless the person has been properly trained and certified according to 40 CFR 82.161 and unless the person uses equipment certified for that type of appliance according to 40 CFR 82.158 and unless the person observes the practices set forth in 40 CFR 82.156 and 40 CFR 82.166;

e. No person may dispose of appliances (except small appliances, as defined in 40 CFR 82.152) without using equipment certified for that type of appliance according to 40 CFR 82.158 and without observing the practices set forth in 40 CFR 82.156 and 40 CFR 82.166;

f. No person may recover refrigerant from small appliances, MVACs and MVAC-like appliances (as defined in 40 CFR 82.152), except in compliance with the requirements of 40 CFR 82 Subpart F;

g. If the permittee manufactures, transforms, imports, or exports, a Class I or II substance (listed in 40 CFR 82, Subpart A, Appendices A and B), the permittee is subject to all requirements as specified in 40 CFR 82 Subpart A, Production and Consumption Controls.
[Regulation 2.16, section 4.1.5]

Plant-wide STAR Requirements

DISTRICT ONLY ENFORCEABLE REGULATIONS		
Regulation	**Title**	**Applicable Sections**
5.00	Definitions	1, 2
5.01	General Provisions	1 through 4
5.20	Methodology for Determining Benchmark Ambient Concentration of a Toxic Air Contaminant	1 through 6
5.21	Environmental Acceptability for Toxic Air Contaminants	1 through 5
5.22	Procedures for Determining the Maximum Ambient Concentration of a Toxic Air Contaminant	1 through 5
5.23	Categories of Toxic Air Contaminants	1 through 6

Specific Conditions

S1. **Standards** (Regulation 2.16, section 4.1.1)

a. **TAC**

i. The owner or operator shall not allow emissions of any TAC to exceed environmentally acceptable (EA) levels, whether specifically established by modeling or determined by the District to be *de minimis*. (Regulations 5.00 and 5.21)

ii. The owner or operator shall submit with the notification of construction for any new emission unit the STAR EA Demonstration for all Category 1 through Category 4 TACs emitted from that emission unit.

iii. The owner or operator shall submit a *plant-wide* emissions-based EA Demonstration to the District showing compliance with the *plant-wide* EA goals of 7.5 for new and existing, 3.8 for all new combined, and 1.0 for each TAC from each process when a change occurs that increases emissions above *de minimis* or previously modeled values.

iv. If the TAC does not have an established BAC or *de minimis* value, the owner or operator shall calculate and report these values. The form located on the APCD website (http://louisvilleky.gov/government/air-pollution-control-district) may be used for determining BAC and *de minimis* values.

S2. **Monitoring and Record Keeping** (Regulation 2.16, sections 4.1.9.1 and 4.1.9.2)

The owner or operator shall maintain the required records for a minimum of 5 years and make the records readily available to the District upon request.

a. **TAC**

i. The owner or operator shall maintain records sufficient to demonstrate environmental acceptability, including, but not limited to MSDS, analysis of emissions, and/or modeling results.

ii. The owner or operator shall re-evaluate the environmental acceptability and document the environmentally acceptable emissions if a new TAC is introduced or the content of a TAC in a raw material increases above *de minimis* at the time of the change.

S3. **Reporting** (Regulation 2.16, section 4.1.9.3)

a. **TAC**

i. The owner or operator shall report any conditions that were inconsistent with those conditions analyzed in the most recent Environmental Acceptability Demonstration or a negative declaration stating that operations were within the conditions analyzed. This includes, but is not limited to, control device upset conditions.

ii. For any conditions outside the analysis, the owner or operator shall re-analyze to determine whether these conditions comply with the STAR program. Changes to the air dispersion modeling program or meteorological data used in the most recent Environmental Acceptability Demonstration do not trigger the requirement to re-analyze. (Regulation 5.21 sections 4.22 – 4.24)

iii. The owner or operator shall submit the re-evaluated EA demonstration to the District within 6 months after a change of a raw material as described in S2.a.ii.

Comments for Plant-wide STAR Requirements

Louisville Medical Center, Inc., Steam & Chilled Water Plant submitted the TAC Environmental Acceptability Demonstration to the District in December 2006, March 2007, March 2008, and August 2014. Compliance with the STAR EA Goals was demonstrated in the source's EA Demonstrations. Tier 4 AERMOD air dispersion modeling was performed for each emission unit that has non-de minimis TAC emissions. The District reviewed the EA Demonstrations submitted by the source. The following table demonstrates that the carcinogen risk and non-

carcinogen risk values, calculated using the District approved PTE for each unit and the Tier 4 AERMOD model results from the source's EA Demonstration, comply with the STAR EA goals required in Regulation 5.21.

Plant-wide Summary	All existing & new		All new P/PE	
Industrial Total R_C	**3.19**	< 75	**0.997**	< 38
Non-Ind. Total R_C	**3.19**	< 7.5	**0.997**	< 3.8
Industrial Max. R_{NC}	**0.03**	< 3.0		
Non-Ind. Max. R_{NC}	**0.03**	< 1.0		

		R_{NC} Total		**U2-B4**		**U2-B5**		**U2-B6**		**U4-E11**	
		Indus.	R_{NC}	Ind/Non-Ind		Ind/Non-Ind		Ind/Non-Ind		Ind/Non-Ind	
TAC	CAS #	R_{NC}	EA	R_C	R_{NC}	R_C	R_{NC}	R_C	R_{NC}	R_C	R_{NC}
Total R_C/ Max. R_{NC}		**0.14**	0	**0.63**		**0.63**		**0.62**		**0.997**	
Arsenic and arsenic compounds	7440-38-2	0.01	<3.0/1.0	0.13	0	0.13	0	0.13	0	0	0
Chromium hexavalent Compounds	7440-47-3	0.02	<3.0/1.0	0.5	0.005	0.5	0.005	0.49	0.01	0	0
Nickel and nickel compounds	7440-02-0	0.03	<3.0/1.0	0.04	0.01	0.04	0.01	0.04	0.01	0	0
Cobalt and cobalt compounds	7440-48-4	0.01	<3.0/1.0	0.06	0	0.06	0	0.06	0	0	0
Hydrochloric acid	7647-01-0	0.03	<3.0/1.0	0	0.01	0	0.01	0	0.01	0	0
Diesel particulate matter	9901	0.00	<3.0/1.0	0	0	0	0	0	0	0.997	0.001

Emission Unit U1: Steam boilers - Boiler #1, #2, and #3

U1 Applicable Regulations:

FEDERALLY ENFORCEABLE REGULATIONS		
Regulation	**Title**	**Applicable Sections**
2.04	Construction or Modification of Major Sources in or Impacting Upon Non-attainment Areas (Emission Offset Requirements)	1 through 10
6.07	Standards of Performance for Existing Indirect Heat Exchangers	1 through 4
6.42	Reasonably Available Control Technology Requirements for Major Volatile Organic Compound and Nitrogen Oxides Emitting Facilities	1, 2, 3, 4.3, 5
7.06	Standards of Performance for New Indirect Heat Exchangers	1 through 6
40 CFR 60 Subpart Dc	Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units	60.40c through 60.48c
40 CFR 63 Subpart DDDDD	National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters	63.7480 through 63.7575

DISTRICT ONLY ENFORCEABLE REGULATIONS		
Regulation	**Title**	**Applicable Sections**
5.00	Definitions	1, 2
5.01	General Provisions	1 through 2
5.02	Adoption of National Emission Standards for Hazardous Air Pollutants	1, 3.95 and 4
5.14	Hazardous Air Pollutants and Source Categories	1, 2
5.20	Methodology for Determining Benchmark Ambient Concentration of a Toxic Air Contaminant	1 through 6
5.21	Environmental Acceptability for Toxic Air Contaminants	1 through 5
5.22	Procedures for Determining the Maximum Ambient Concentration of a Toxic Air Contaminant	1 through 5
5.23	Categories of Toxic Air Contaminants	1 through 6

U1 Equipment:

Emission Point	Description	Applicable Regulation	Control ID	Stack ID
E1	One (1) natural gas fired boiler with low NO_x burners, designated as Boiler #1, with a rated heat input capacity of 56 MMBtu/hr, make VOGT, model CL-VS, SN-7152. (1954, 2004)	STAR* 7.06, 6.42, 40CFR60 Subpart Dc, 40CFR63, DDDDD,		S1
E2	One (1) natural gas fired boiler,[1] designated as Boiler #2, with a rated heat input capacity of 56 MMBtu/hr, make VOGT, model CL-VS, SN-9638. (1954)	STAR 6.07, 6.42, 40 CFR 63, DDDDD	C2	
E3	One (1) natural gas-fired boiler with low NOx burner, designated as Boiler #3, with a rated heat input capacity of 56 MMBtu/hr, make VOGT, model CL-VS, SN-7861. (1954, 2012) [2]	STAR 7.06, 6.42, 40CFR60 Subpart Dc, 40 CFR 63, DDDDD,		
* STAR rules consist of Regulation 5.00, 5.01, 5.20, 5.21, 5.22, and 5.23.				

U1 Control Devices:

Control ID	Description	Performance Indicator	Stack ID
C2	One (1) multi-cyclone dust collector with 25 tubes, make Universal Oil Products, model 104 BWHT 5-25. (1977)	N/A	S1

[1] Boiler #2 used to be natural gas fired with coal as backup fuel. In a letter dated March 27, 2015, the source stated that the coal and ash handling components for this boiler are disabled and therefore requested to remove the secondary fuel (coal) for this boiler. Since Boiler #2 only combusts natural gas, it is not subject to 40 CFR 64 (CAM).

[2] Boiler #3 was converted from coal-fired to natural gas-fired boiler according to construction permit 34050-12-C. Boiler #1 and #3 are subject to 40 CFR 60, Subpart Dc – Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units, due to the commencement date of construction (after June 9, 1989) and the heat input capacity (less than 100 MMBtu/hr, but greater than 10 MMBtu/hr). However, there are no applicable PM, SO2, and NOx emission limits for natural gas fired boiler in 40 CFR 60, Subpart Dc.

U1 Specific Conditions

S1. **Standards** (Regulation 2.16, section 4.1.1)

a. **NOx**

i. The owner or operator shall comply with the NOx emission standards specified in the NOx RACT Plan (Amendment 3).[3] (See Attachment A)

ii. The owner or operator shall not allow or cause the total plant-wide heat input capacity from Boilers #1, #2, #3, #4, #5, and #6 combined to exceed 418 MMBtu/hr.[3,4] (Regulation 2.04) (Permit C-0148-1003-15-V)

b. **SO_2**

The owner or operator shall not allow or cause the SO_2 emissions to exceed the following emission standards:[5] (Regulation 6.07, section 4 and Regulation 7.06, section 5)

P/PE	**Capacity** (MMBtu/hr)	**Fuel Types**	**SO_2 Emission Limit** (lb/MMBtu, based on 30 day averaging period)
Boiler #1	56	Natural Gas	0.80
Boiler #2	56	Natural Gas	1.0
Boiler #3	56	Natural Gas	0.80

c. **PM**

The owner or operator shall not allow or cause the PM emissions to exceed the following emission standards:[6] (Regulation 6.07, section 3.1 and Regulation 7.06, section 4.1)

[3] Per permit 244-08-C, the plant-wide heat input capacity from the boilers was increased from 362 MMBtu/hr to 418 MMBtu/hr and the 10% annual capacity factor limit for Boiler #1 was removed. The coal stoker of Boiler #3 has been replaced with a low NOx natural gas burner per construction permit 34050-12-C. On 8/21/2013, APCD Board approved NOx RACT Plan - Amendment 3 in which the 10% seasonal capacity factor for Boiler #3 was removed. The NOx emission limits for Boiler #2 are based on permit 98-97-TV (R1).

[4] On 3/10/2015, the District approved the source's proposal to demonstrate compliance with the 418 MMBtu/hr heat input limit by monitoring fuel consumptions and calculating the total heat inputs. The source is allowed to operate all the six boilers simultaneously.

[5] It has been demonstrated that the SO_2 standards for natural gas-fired and coal-fired boilers cannot be exceeded uncontrolled if the sulfur content of the coal meets the requirement in Condition S1.b.

[6] It has been demonstrated that the PM emissions from the natural gas fired boilers cannot be exceeded uncontrolled. Therefore, there are no monitoring, record keeping, and reporting requirements for this pollutant.

P/PE	Capacity (MMBtu/hr)	Fuel Types	PM Emission Limit (lb/MMBtu, based on 30 day averaging period)
Boiler #1	56	Natural Gas	0.10
Boiler #2	56	Natural Gas	0.288
Boiler #3	56	Natural Gas	0.10

d. **Opacity**

i. For indirect heat exchangers subject to Regulation 6.07 (Boiler #2), the owner or operator shall not allow or cause the particulate emissions into the open air from any indirect heat exchanger which is greater than twenty percent (20%) opacity except for:

1) Emissions into the open air of particulate matter from any indirect heat exchanger during building a new fire, cleaning the fire box, or blowing soot for a period or periods aggregating not more than ten minutes in any 60 minutes which are less than 40% opacity;

2) Emissions up to 40% opacity from all other waterwall indirect heat exchangers for any 30-minute period during startup operations. (Regulation 6.07, section 3.2 and 3.3)

ii. For indirect heat exchangers subject to Regulation 7.06 (Boiler #1 and #3), the owner or operator shall not allow or cause the particulate emissions into the open air from any indirect heat exchanger which is greater than twenty percent (20%) opacity except for:

1) For indirect heat exchangers with a heat input capacity of less than 250 million BTU/hr, a maximum of 40% opacity shall be permissible for not more than two consecutive minutes in any 60 consecutive minutes;

2) For indirect heat exchangers with heat input capacity of less than 250 million BTU/hr, a maximum of 40% opacity shall be permissible for not more than six consecutive minutes in any 60 consecutive minutes during cleaning the fire box or blowing soot; or

3) For emissions from an indirect heat exchanger during building a new fire for the period required to bring the boiler up to operating conditions provided the method used is that recommended by the manufacturer and the time does not exceed the manufacturer's recommendations. (Regulation 7.06, section 4.2)

e. **TAC**

See Plant-wide STAR Requirements Specific Condition S1.a.[7]

f. **HAP** (40 CFR 63, Subpart DDDDD)

The owner or operator shall comply with all emission limitations, work practice standards, and operating limits in 40 CFR 63, Subpart DDDDD (See Attachment B).

S2. **Monitoring and Record Keeping** (Regulation 2.16, sections 4.1.9.1 and 4.1.9.2)

The owner or operator shall maintain the following records for a minimum of 5 years and make the records readily available to the District upon request.

a. **NO_x**

i. The owner or operator shall monitor and maintain daily records that show the quantity and type of fuel combusted in each boiler during each calendar day.

ii. The owner or operator shall maintain daily records of the hours of operation for each boiler.

iii. The owner or operator shall calculate and maintain records of the daily, averaged over a 24-hour period, total plant-wide heat input capacity, in MMBtu/hr, from Boilers #1, #2, #3, #4, #5, and #6. [8]

iv. The owner or operator shall maintain the required records as specified in the NO_X RACT Plan in Attachment A of this permit.

b. **SO_2**

The owner or operator shall keep records of the amount of natural gas combusted in boiler #1 and #3 during each month. (40 CFR 60.48c(g)(2))

c. **PM**

There are no routine monitoring and record keeping requirements for this pollutant.

[7] According to Regulation 5.21, section 2.7, TAC emissions from natural gas fired boilers are de minimis.

[8] The District approved the source's Daily Input Monitoring Plan dated March 10, 2015, in which the source proposed to daily monitor the coal and natural gas consumptions for each boiler and calculate the 24-hr average total plant-wide heat input in order to demonstrate compliance with the 418 MMBtu/hr limit.

d. **Opacity**

There are no monitoring and record keeping requirements for opacity compliance.[9]

e. **TAC**

See Plant-wide STAR Requirements Specific Condition S2.a.

f. **HAP** (40 CFR 63, Subpart DDDDD)

The owner or operator shall comply with all monitoring and record keeping requirements in 40 CFR 63, Subpart DDDDD (See Attachment B).

S3. **Reporting** (Regulation 2.16, section 4.1.9.3)

a. **NO_x**

i. The owner or operator shall identify all periods of exceeding a NO_x emission standard during a reporting period. The report shall include the following:

1) Emission Unit ID number and emission point ID number;
2) Identification of all periods during which a deviation occurred;
3) A description of the deviation, including actual emissions and the magnitude of the deviation;
4) If known, the cause of the deviation;
5) A description of all corrective actions taken to abate the deviation; and
6) If no deviations occur during a semi-annual reporting period, the report shall contain a negative declaration.

ii. The owner or operator shall report any exceedance of the daily 418 MMBtu/hr total plant-wide heat input capacity from Boilers #1, #2, #3, #4, #5, and #6. A negative declaration shall be stated if no exceedance occurred.

b. **SO_2**

There are no routine reporting requirements for this pollutant.

[9] The District has determined that using a natural gas fired boiler will inherently meet the 20% opacity standard. Therefore, the company is not required to perform periodic monitoring to demonstrate compliance with the opacity standard.

c. **PM**

There are no routine reporting requirements for this pollutant.

d. **Opacity**

There are no routine reporting requirements for this pollutant.

e. **TAC**

See Plant-wide STAR Requirements Specific Condition S3.a.

f. **HAP** (40 CFR 63, Subpart DDDDD)

The owner or operator shall comply with all reporting requirements in 40 CFR 63, Subpart DDDDD (See Attachment B).

S4. **Testing** (Regulation 2.16, section 4.1.9.1)

a. **NO_x**

The owner or operator shall conduct compliance testing in accordance with District regulation 6.42 and the NOx RACT Plan in Attachment A of this permit.

b. **HAP**

The owner or operator shall comply with testing requirements in 40 CFR 63, Subpart DDDDD (See Attachment B).

Emission Unit U2: Steam boilers - Boiler #4, #5, and #6

U2 Applicable Regulations:

FEDERALLY ENFORCEABLE REGULATIONS		
Regulation	**Title**	**Applicable Sections**
2.04	Construction or Modification of Major Sources in or Impacting Upon Non-attainment Areas (Emission Offset Requirements)	1 through 10
6.07	Standards of Performance for Existing Indirect Heat Exchangers	1 through 4
6.42	Reasonably Available Control Technology Requirements for Major Volatile Organic Compound and Nitrogen Oxides Emitting Facilities	1, 2, 3, 4.3, 5
7.06	Standards of Performance for New Indirect Heat Exchangers	1 through 6
7.08	Standards of Performance for New Process Operations	1, 2, 3, 4, 5
40 CFR 63 Subpart DDDDD	National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters	63.7480 through 63.7575
40 CFR 64	Compliance Assurance Monitoring for Major Stationary Sources	64.1 through 64.10

DISTRICT ONLY ENFORCEABLE REGULATIONS		
Regulation	**Title**	**Applicable Sections**
5.00	Definitions	1, 2
5.01	General Provisions	1 through 2
5.02	Adoption of National Emission Standards for Hazardous Air Pollutants	1, 3.95 and 4
5.14	Hazardous Air Pollutants and Source Categories	1, 2
5.20	Methodology for Determining Benchmark Ambient Concentration of a Toxic Air Contaminant	1 through 6
5.21	Environmental Acceptability for Toxic Air Contaminants	1 through 5
5.22	Procedures for Determining the Maximum Ambient Concentration of a Toxic Air Contaminant	1 through 5
5.23	Categories of Toxic Air Contaminants	1 through 6

U2 Equipment:

Emission Point	Description	Applicable Regulation	Control ID	Stack ID
E4	One (1) boiler using coal as a primary fuel and natural gas as the secondary fuel, designated as Boiler #4, with a rated heat input capacity of 102 MMBtu/hr, make VOGT, model CL-VS, SN-11620. (1969)	STAR* 6.07, 6.42, 40 CFR 63, DDDDD, 40 CFR 64	C4, C10[10], C13	S2
E5	One (1) boiler using coal as a primary fuel and natural gas as the secondary fuel, designated as Boiler #5, with a rated heat input capacity of 102 MMBtu/hr, make VOGT, model CL-VS, SN-11621. (1969)	STAR 6.07, 6.42, 40 CFR 63, DDDDD, 40 CFR 64	C5, C11, C14	
E6	One (1) coal-fired boiler designated as Boiler #6, with a rated heat input capacity of 100 MMBtu/hr, make VOGT, model CL-VS, SN-17193. (1981)	STAR 7.06, 6.42, 40 CFR 63, DDDDD, 40 CFR 64	C6, C12, C15	
E12	One (1) lime handling equipment used for lime injection systems, including one (1) lime storage silo with vent filter, make Imperial Industries, equipped with three (3) surge hoppers each has a vent filter, and three (3) lime feeders. [11]	7.08	N/A	N/A
* STAR rules consist of Regulation 5.00, 5.01, 5.20, 5.21, 5.22, and 5.23.				

U2 Control Devices:

Control ID	Description	Performance Indicator	Stack ID
C4	One (1) multi-cyclone dust collector with 48 tubes, make Universal Oil Products, model BWHS-48. (1977)	N/A	S2
C5	One (1) multi-cyclone dust collector with 48 tubes, make Universal Oil Products, model BWHS-48. (1977)	N/A	
C6	One (1) multi-cyclone dust collector with 48 tubes, make Universal Oil Products, model BWHS-48. (1977)	N/A	

[10] Baghouse C10, C11, and C12 were installed according to construction permit C-0148-1003-15-V in order to comply with PM/opacity standards.

[11] The lime handling equipment, E12, including lime storage silo and its associated hoppers and feeders are determined to be insignificant activities.

Control ID	Description	Performance Indicator	Stack ID
C10	One (1) baghouse, make MAC Process, model 168MCF494. (2013)	Pressure drop range 3” to 6” water column	
C11	One (1) baghouse, make MAC Process, model 168MCF494. (2013)	Pressure drop range 3” to 6” water column	
C12	One (1) baghouse, make MAC Process, model 168MCF494. (2013)	Pressure drop range 3” to 6” water column	
C13	One (1) lime injection system, make Schenk Process, model 520.	Minimum lime injection rate established according to Table 7 to 40 CFR 63, Subpart DDDDD (See Attachment B)	N/A
C14	One (1) lime injection system, make Schenk Process, model 520.		N/A
C15	One (1) lime injection system, make Schenk Process, model 520.		N/A

U2 Specific Conditions

S1. **Standards** (Regulation 2.16, section 4.1.1)

a. **NOx**

i. The owner or operator shall comply with the NOx emission standards specified in the NOx RACT Plan (Amendment 3). (See Attachment A)

ii. The owner or operator shall not allow or cause the total plant-wide heat input capacity from Boilers #1, #2, #3, #4, #5, and #6 combined to exceed 418 MMBtu/hr[2]. (Regulation 2.04) (Permit C-0148-1003-15-V)

b. **SO_2**

i. The owner or operator shall not allow or cause the SO_2 emissions to exceed the following emission standards:[12] (Regulation 6.07, section 4 and Regulation 7.06, section 5)

P/PE	**Capacity** (MMBtu/hr)	**Fuel Types**	**SO_2 Emission Limit** (lb/MMBtu, based on 30 day averaging period)
Boiler #4	102	Natural Gas or Coal	0.87 (Gas) 1.29 (Coal)
Boiler #5	102	Natural Gas or Coal	0.87 (Gas) 1.29 (Coal)
Boiler #6	100	Coal	1.69

ii. The sulfur content of the coal combusted in the boilers shall not exceed 0.85% by weight. (Regulation 2.04) (Permit 348-81-C)

c. **PM**

i. The owner or operator shall not allow or cause the PM emissions to exceed the following emission standards:[13] (Regulation 6.07, section 3.1 and Regulation 7.06, section 4.1)

[12] It has been demonstrated that the SO2 standards for natural gas-fired and coal-fired boilers cannot be exceeded uncontrolled if the sulfur content of the coal meets the requirement in Condition S1.b.ii.

[13] According to Table 2 to 40 CFR 63, Subpart DDDDD, filterable PM (or TSM) limit for coal-fired boiler (Boiler #4, 5, 6) is 0.04 lb/MMBtu of heat input (or 5.3E-05 lb/MMBtu of heat input) which is more stringent than the PM standards from Regulation 7.06.

P/PE	Capacity (MMBtu/hr)	Fuel Types	PM Limit (lb/MMBtu, 30 day averaging period)	PM Limit (per 40 CFR 63, DDDDD)
Boiler #4	102	Natural Gas or Coal	0.275	0.04 lb/MMBtu
Boiler #5	102	Natural Gas or Coal	0.275	
Boiler #6	100	Coal	0.163	

ii. The ash content of the coal combusted in the boilers shall not exceed 8.0% by weight. (Regulation 2.04) (Permit C-0148-1003-15-V)

iii. The owner or operator shall operate and maintain the baghouses C10, C11, and C12 at all times when Boiler #4, #5, and #6 are combusting coal, including periods of startup, shutdown, and malfunction, in a manner consistent with good air pollution control practice to meet the standards.[14] (Construction permit C-0148-1003-15-V)

iv. The owner or operator shall not allow PM emissions to exceed 2.34 lb/hr from each of the lime storage silos, hoppers, or feeders.[15] (Regulation 7.08, section 3.1.2)

d. **Opacity**

i. For indirect heat exchangers subject to Regulation 6.07 (Boiler #4 and #5), the owner or operator shall not allow or cause the particulate emissions into the open air from any indirect heat exchanger which is greater than twenty percent (20%) opacity except for:

1) Emissions into the open air of particulate matter from any indirect heat exchanger during building a new fire, cleaning the fire box, or blowing soot for a period or periods aggregating not more than ten minutes in any 60 minutes which are less than 40% opacity;

2) Emissions from waterwall spreader-stoker indirect heat exchangers during startup operations if the emissions do not exceed the following limits:

First 30 minutes - 80% opacity;
Next hour - 60% opacity; and

[14] A one-time PM compliance demonstration has been performed for these boilers when they are combusting coal. The lb/MMBtu standard can be exceeded uncontrolled or only controlled by multi-cyclones. Therefore, the owner or operator is required to operate the control devices at all time to meet the PM standards.

[15] The District has performed a one-time PM compliance demonstration for the lime handling equipment and the lb/hr standard cannot be exceeded uncontrolled. Therefore, there are no monitoring, record keeping, and reporting requirements with respect to PM lb/hr emission limits.

Next 2.5 hours - 40% opacity.

3) Emissions up to 40% opacity from all other waterwall indirect heat exchangers for any 30-minute period during startup operations. (Regulation 6.07, section 3.2 and 3.3)

ii. For indirect heat exchangers subject to Regulation 7.06 (Boiler #6), the owner or operator shall not allow or cause the particulate emissions into the open air which is greater than twenty percent (20%) opacity except for:

1) For indirect heat exchangers with a heat input capacity of less than 250 million BTU/hr, a maximum of 40% opacity shall be permissible for not more than two consecutive minutes in any 60 consecutive minutes;

2) For indirect heat exchangers with heat input capacity of less than 250 million BTU/hr, a maximum of 40% opacity shall be permissible for not more than six consecutive minutes in any 60 consecutive minutes during cleaning the fire box or blowing soot; or

3) For emissions from an indirect heat exchanger during building a new fire for the period required to bring the boiler up to operating conditions provided the method used is that recommended by the manufacturer and the time does not exceed the manufacturer's recommendations. (Regulation 7.06, section 4.2)

e. **TAC**

i. See Plant-wide STAR Requirements Specific Condition S1.a.

ii. The owner or operator shall not allow TAC emissions for Boiler #4, #5, and #6, while combusting coal, to exceed the TAC emission standards listed in the following table[16]. (Regulation 5.21, section 4.2 and section 4.3)

[16] The coal-fired boilers have TAC emission standards for Category 1 and 2 metal TACs since its EA Demonstration was based on controlled PTE. If the controlled PTE for the TAC is less than de minimis level, use De Minimis as limit. If the controlled PTE for the TAC is greater than de minimis level, modeling results were used to calculate risk value to compare to the EA Goals and controlled PTE is used as limit.

TAC Name	CAS #	TAC Limits Determination (lbs/12 consecutive month period)	Basis of Limits
TAC limits for Boiler #4			
Arsenic compounds	7440-38-2	1.27	Controlled PTE
Chromium VI	7440-47-3	1.77	Controlled PTE
Cobalt compounds	7440-48-4	1.05	Controlled PTE
Nickel compounds	7440-02-0	6.27	Controlled PTE
Cadmium compounds	7440-43-9	De minimis values (See Comment 1)	De Minimis
Chromium III	16065-83-1		De Minimis
Lead compounds	7439-92-1		De Minimis
Manganese compounds	7439-96-5		De Minimis
TAC limits for Boiler #5			
Arsenic compounds	7440-38-2	1.27	Controlled PTE
Chromium VI	7440-47-3	1.77	Controlled PTE
Cobalt compounds	7440-48-4	1.05	Controlled PTE
Nickel compounds	7440-02-0	6.27	Controlled PTE
Cadmium compounds	7440-43-9	De minimis values (See Comment 1)	De Minimis
Chromium III	16065-83-1		De Minimis
Lead compounds	7439-92-1		De Minimis
Manganese compounds	7439-96-5		De Minimis
TAC limits for Boiler #6			
Arsenic compounds	7440-38-2	1.25	Controlled PTE
Chromium VI	7440-47-3	1.73	Controlled PTE
Cobalt compounds	7440-48-4	1.03	Controlled PTE
Nickel compounds	7440-02-0	6.14	Controlled PTE
Cadmium compounds	7440-43-9	De minimis values (See Comment 1)	De Minimis
Chromium III	16065-83-1		De Minimis
Lead compounds	7439-92-1		De Minimis
Manganese compounds	7439-96-5		De Minimis

iii. The owner or operator shall operate and maintain the baghouses C10, C11, and C12 at all times when Boiler #4, #5, and #6 are combusting coal, including periods of startup, shutdown, and malfunction, in a manner consistent with good air pollution control practice to meet the standards.[17] (Regulation 2.03, section 6.1)

f. **HAP** (40 CFR 63, Subpart DDDDD)

The owner or operator shall comply with all emission limitations, work practice standards, and operating limits in 40 CFR 63, Subpart DDDDD (See Attachment B).

[17] It has been demonstrated that the uncontrolled TAC emissions from the coal-fired boilers cannot meet the EA goals specified in Regulation 5.21. Therefore, the owner or operator is required to operate the baghouses to meet the TAC standards.

S2. **Monitoring and Record Keeping** (Regulation 2.16, sections 4.1.9.1 and 4.1.9.2)

The owner or operator shall maintain the following records for a minimum of 5 years and make the records readily available to the District upon request.

a. **NO_x**

i. The owner or operator shall monitor and maintain daily records that show the quantity and type of fuel combusted in each boiler during each calendar day.

ii. The owner or operator shall maintain daily records of the hours of operation for each boiler.

iii. The owner or operator shall calculate and maintain records of the daily, averaged over a 24-hour period, total plant-wide heat input capacity, in MMBtu/hr, from Boilers #1, #2, #3, #4, #5, and #6. [18]

iv. The owner or operator shall maintain the required records as specified in the NO_X RACT Plan in Attachment A of this permit.

b. **SO_2**

The owner or operator shall maintain records that show the heating value and sulfur content of each shipment of coal.

c. **PM**

i. The owner or operator shall monitor and maintain records of the quantity and type of fuel combusted in each boiler during each calendar month and each consecutive 12-month period.

ii. The owner or operator shall monitor and maintain records that show the ash content of each shipment of coal.

iii. The owner or operator shall, monthly, perform a visual inspection of the structural and mechanical integrity of the multi-cyclones C4, C5, and C6 and baghouses C10, C11, and C12 for signs of damage, air leakage, corrosion, etc. and repair and/or replace detective components within 7 days after the equipment defect was first observed. (40 CFR 64) [19]

[18] The District approved the source's Daily Input Monitoring Plan dated March 10, 2015, in which the source proposed to daily monitor the coal and natural gas consumptions for each boiler and calculate the 24-hr average total plant-wide heat input in order to demonstrate compliance with the 418 MMBtu/hr limit.

[19] The source is potentially major for PM_{10}, NOx, SO2, and CO, in which PM control devices are needed to achieve compliance with PM/Opacity standards. In accordance with 40 CFR 64, Compliance Assurance Monitoring for Major Stationary Sources, the source is required to propose a CAM Plan for PM, based on current process and

The owner or operator shall maintain monthly records of the results of each visual inspection. The records shall include the date of the inspection, the name of the person that performed the inspection, identification and description of any equipment defects observed, and the date of repair or replacement of defective components.

iv. The owner or operator shall, at least annually, clean the multi-cyclones C4, C5, and C6 and baghouses C10, C11, and C12. (40 CFR 64)

The owner or operator shall maintain annual records for cleaning. The records shall include the date of the cleaning and the name of the person (or persons) that perform the cleaning.

v. The owner or operator shall monitor and record the pressure drop across baghouses C10, C11, and C12 at least every 2 hours. The normal pressure drop range is 3 to 6 inches water column. The owner or operator shall take corrective action if the pressure drop across the baghouse is out of normal range. (40 CFR 64)

vi. The owner or operator shall maintain daily records of any periods of time where Boiler #4, #5, or #6 were combusting coal and their baghouses C10, C11, or C12 were not operating or a declaration that the baghouses were operated at all times that day when the boilers were combusting coal.

vii. If there is any time that the baghouses C10, C11, or C12 are bypassed or not in operation when the boiler is combusting coal, then the owner or operator shall keep a record of the following for each bypass event:

1) Date;
2) Start time and stop time;
3) Identification of the control device and process equipment;
4) The PM emission, in lb/MMBtu, based on 30 day averaging period. The 30 day averaging period shall include the day when the bypass occurred and 29 consecutive days prior to the bypass day.
5) Summary of the cause or reason for each bypass event;
6) Corrective action taken to minimize the extent or duration of the bypass event; and
7) Measures implemented to prevent reoccurrence of the situation that resulted in the bypass event.

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control device operating requirements and practices. The initial CAM Plan was received on July 15, 2004 and a revised CAM Plan was received on January 6, 2015.

d. **Opacity**

i. For each boiler when combusting natural gas, there are no monitoring and record keeping requirements for opacity compliance[20].

ii. For each boiler when combusting coal:

1) The owner or operator shall conduct a daily six minute visible emissions survey during normal process operation. No more than four emission points shall be observed simultaneously.

2) At emission points where visible emissions are observed, the owner or operator shall initiate corrective action within eight hours of the initial observation. If the visible emissions persist, the owner or operator shall perform or cause to be performed a Method 9, in accordance with 40 CFR Part 60, Appendix A, within 24 hours of the initial observation.

3) The owner or operator shall conduct a visible emission survey of the emission points during building a new fire, cleaning the fire box, blowing soot, or startup operation. At emission points where visible emissions are observed, the owner or operator shall perform or cause to be performed a Method 9.

4) The owner or operator shall maintain records, monthly, of the results of all visible emissions surveys and tests. Records of the results of any visible emissions survey shall include the date of the survey, the name of the person conducting the survey, whether or not visible emissions were observed, and what if any corrective action was performed. If an emission point is not being operated during a given month, then no visible emission survey needs to be performed and a negative declaration shall be entered in the record.

e. **TAC**

i. See Plant-wide STAR Requirements Specific Condition S2.a.

ii. The owner or operator shall monthly calculate and record TAC emissions for Boiler #4, #5, and #6, while combusting coal.

iii. If there is any time that the baghouses C10, C11, or C12 are bypassed or not in operation when the boiler is combusting coal, then the owner or operator shall keep a record of the following for each bypass event:

[20] The District has determined that using a natural gas fired boiler will inherently meet the 20% opacity standard. Therefore, the company is not required to perform periodic monitoring to demonstrate compliance with the opacity standard.

1) Date;
2) Start time and stop time;
3) Identification of the control device and process equipment;
4) TAC emissions during the bypass, in lb/hr and lb/yr;
5) Summary of the cause or reason for each bypass event;
6) Corrective action taken to minimize the extent or duration of the bypass event; and
7) Measures implemented to prevent reoccurrence of the situation that resulted in the bypass event.

f. **HAP** (40 CFR 63, Subpart DDDDD)

The owner or operator shall comply with all monitoring and record keeping requirements in 40 CFR 63, Subpart DDDDD (See Attachment B).

S3. **Reporting** (Regulation 2.16, section 4.1.9.3)

a. **NO_x**

i. The owner or operator shall identify all periods of exceeding a NO_x emission standard during a reporting period. The report shall include the following:

1) Emission Unit ID number and emission point ID number;
2) Identification of all periods during which a deviation occurred;
3) A description of the deviation, including actual emissions and the magnitude of the deviation;
4) If known, the cause of the deviation;
5) A description of all corrective actions taken to abate the deviation; and
6) If no deviations occur during a semi-annual reporting period, the report shall contain a negative declaration.

ii. The owner or operator shall report any exceedance of the daily 418 MMBtu/hr total plant-wide heat input capacity from Boilers #1, #2, #3, #4, #5, and #6. A negative declaration shall be stated if no exceedance occurred.

b. **SO_2**

The owner or operator shall identify and report any periods of combusting coal with sulfur content in excess of the standard of 0.85% by weight sulfur. If no exceedance occurs during a semi-annual reporting period, the report shall contain a negative declaration.

c. **PM**

i. For multi-cyclone C4, C5, and C6 and baghouses C10, C11, and C12 the number and type of repairs made and/or replacement of equipment components during the reporting period and a description of any corrective action taken. If no actions are taken during a semi-annual reporting period, the report shall contain a negative declaration. The owner or operator shall report any deviation from the requirement to perform visual inspection of the structural and mechanical integrity of the multi-cyclones C4, C5, and C6 and baghouses C10, C11, and C12.

ii. The owner or operator shall identify all periods of the pressure drop across the baghouse C10, C11, and C12 outside the normal range and any corrective action taken for each exceedance.

iii. The owner or operator shall report the following information regarding PM Bypass Activity in the semi-annual compliance reports.

1) Number of times the PM vent stream bypasses baghouses C10, C11, or C12 and is vented to the atmosphere when Boiler #4, #5, or #6 was combusting coal;
2) Duration of each bypass to the atmosphere;
3) Calculated PM emissions, in lb/MMBtu for each bypass and identification of any exceedance of the PM standards; or
4) A negative declaration if no bypasses occurred.

iv. The owner or operator shall identify and report any periods of combusting coal with ash content in excess of the standard of 8.0% by weight. If no exceedance occurs during a semi-annual reporting period, the report shall contain a negative declaration.

d. **Opacity**

i. Any deviation from the requirement to perform daily visible emission surveys or Method 9 tests;
ii. Any deviation from the requirement to record the results of each VE survey and Method 9 test performed;
iii. The number, date, and time of each VE Survey where visible emissions were observed and the results of the Method 9 test performed;
iv. Identification of all periods of exceeding an opacity standard; and
v. Description of any corrective action taken for each exceedance of the opacity standard.
vi. If no deviations occur during a semi-annual reporting period, the report shall contain a negative declaration.

e. **TAC**

i. See Plant-wide STAR Requirements Specific Condition S3.a.

ii. The owner or operator shall report the following information regarding bypass activity in the semi-annual compliance reports.

1) Number of times the vent stream bypasses the baghouses C10, C11, or C12 and is vented to the atmosphere when Boiler #4, #5, or #6 was combusting coal;
2) Duration of each bypass to the atmosphere;
3) Calculated TAC emissions, in lb/hr and lb/yr, for each bypass and identification of any exceedance of the TAC standards; or
4) A negative declaration if no bypasses occurred.

f. **HAP** (40 CFR 63, Subpart DDDDD)

The owner or operator shall comply with all reporting requirements in 40 CFR 63, Subpart DDDDD (See Attachment B).

S4. **Testing**[21] **(**Regulation 2.16, section 4.1.9.1**)**

a. **NO_x**

The owner or operator shall conduct compliance testing in accordance with District regulation 6.42 and the NOx RACT Plan in Attachment A of this permit.

b. **HAP**

The owner or operator shall comply with testing requirements in 40 CFR 63, Subpart DDDDD (See Attachment B).

U2 Comments

1. The TAC emission limits determined by de minimis values shall be updated each time when the District revises the BAC/de minimis values for these TACs. The current de minimis values per TAC list revised on 10/14/2013 are as the following:

[21] In January, 2014, the source performed Method 5 and Method 9 on coal-fired boiler #4 and #6 to determine the emission rate and control efficiency of the new baghouses according to construction permit C-0148-1003-15-V.

TAC Name	CAS #	De minimis values	
		(lb/hr)	(lb/yr)
Cadmium compounds	7440-43-9	0.00030	0.269
Chromium III	16065-83-1	0.10	109.5
Lead compounds	7439-92-1	0.043	38.4
Manganese compounds	7439-96-5	0.027	24.0

Emission Unit U3: Ash handling and transfer equipment

U3 Applicable Regulations:

FEDERALLY ENFORCEABLE REGULATIONS		
Regulation	**Title**	**Applicable Sections**
6.09	Standards of Performance for Existing Process Operations	1, 2, 3, 5

DISTRICT ONLY ENFORCEABLE REGULATIONS		
Regulation	**Title**	**Applicable Sections**
5.00	Definitions	1, 2
5.01	General Provisions	1 through 2
5.02	Adoption of National Emission Standards for Hazardous Air Pollutants	1, 3.95 and 4
5.14	Hazardous Air Pollutants and Source Categories	1, 2
5.20	Methodology for Determining Benchmark Ambient Concentration of a Toxic Air Contaminant	1 through 6
5.21	Environmental Acceptability for Toxic Air Contaminants	1 through 5
5.22	Procedures for Determining the Maximum Ambient Concentration of a Toxic Air Contaminant	1 through 5
5.23	Categories of Toxic Air Contaminants	1 through 6

U3 Equipment:

Emission Point	Description	Applicable Regulation	Control ID	Stack ID
E7-a	One (1) bottom ash hopper, make Lacle de. (1969) [22]	STAR* 6.09	N/A	N/A
E7-b	One (1) ash grinder, make United Conveyor. (1969) [22]		N/A	N/A
E7-c	One (1) sifter hopper, make United Conveyor. (1969) [22]		N/A	N/A
E7-d	One (1) ash silo, make United Conveyor, model 176B. (1969) [22]		C8, C16	N/A

[22] This is an insignificant activity per PTE.

Emission Point	Description	Applicable Regulation	Control ID	Stack ID
E7-e	One (1) truck loading operation, make United Conveyor. (1969) [22]		N/A	N/A
* STAR rules consist of Regulation 5.00, 5.01, 5.20, 5.21, 5.22, and 5.23.				

U3 Control Devices:

ID	Description	Performance Indicator	Stack ID
C8	One (1) three bag bin vent filter, make Beaumont Birch, model 176B. (1969)	N/A[23]	N/A
C16	One (1) baghouse, make Ultra Industries, model CB-42-84-IIIG. (2015) [24]	N/A	N/A

[23] It has been demonstrated the PM emissions for this unit cannot exceed the PM standards specified in Regulation 6.09 uncontrolled. Therefore performance indicators for control devices are not required.

[24] This baghouse replaces the existing air washer (C9).

U3 Specific Conditions

S1. **Standards** (Regulation 2.16, section 4.1.1)

a. **PM**

The owner or operator shall not allow PM emissions to exceed 5.95 lb/hr for each piece of equipment.[25] (Regulation 6.09, section 3.2)

b. **Opacity**

The owner or operator shall not allow visible emissions to equal or exceed 20% opacity. (Regulation 6.09, section 3.1)

c. **TAC**

See Plant-wide STAR Requirements Specific Condition S1.a. [26]

S2. **Monitoring and Record Keeping** (Regulation 2.16, sections 4.1.9.1 and 4.1.9.2)

The owner or operator shall maintain the required records for a minimum of 5 years and make the records readily available to the District upon request.

a. **PM**

There are no routine monitoring and record keeping requirements for this pollutant.

b. **Opacity**

i. The owner or operator shall conduct a monthly one-minute visible emissions survey, during normal operation, of the emission points. No more than four emission points shall be observed simultaneously. The opacity surveys can be performed on the building exhaust points if the process is inside an enclosure.

ii. At emission points where visible emissions are observed, the owner or operator shall initiate corrective action within eight hours of the initial observation. If correction actions are taken then a follow-up visible emission survey shall be made. If the visible emissions persist, the owner or operator shall perform or cause to be performed a Method 9, in accordance with 40 CFR Part 60, Appendix A, within 24 hours of the

[25] It has been demonstrated the PM emissions for this unit cannot exceed the PM standards specified in Regulation 6.09 uncontrolled. Therefore there are no monitoring, record keeping, and reporting requirements for PM compliance.

[26] Insignificant activities are de minimis per Regulation 5.21, section 2.3.

initial observation.

iii. The owner or operator shall maintain records, monthly, of the results of all visible emissions surveys and tests. Records of the results of any visible emissions survey shall include the date of the survey, the name of the person conducting the survey, whether or not visible emissions were observed, and what if any corrective action was performed. If an emission point is not being operated during a given month, then no visible emission survey needs to be performed and a negative declaration shall be entered in the record.

c. **TAC**

See Plant-wide STAR Requirements Specific Condition S2.a.

S3. **Reporting** (Regulation 2.16, section 4.1.9.3)

The owner or operator shall submit semiannually compliance reports that include the information in this section.

a. **PM**

There are no routine reporting requirements for this pollutant.

b. **Opacity**

The owner or operator shall identify all periods of exceeding an opacity standard during a quarterly reporting period. The report shall include the following:

i. Any deviation from the requirement to perform monthly visible emission surveys or Method 9 tests;
ii. Any deviation from the requirement to record the results of each VE survey and Method 9 test performed;
iii. The date and time of each VE Survey where visible emissions were observed and the results of any Method 9 test performed;
iv. The date, time and results of follow-up VE survey;
v. The date, time, and results of any Method 9 test performed;
vi. Identification of all periods of exceeding an opacity standard; and
vii. If no deviations occur during a quarterly reporting period, the report shall contain a negative declaration.

c. **TAC**

See Plant-wide STAR Requirements Specific Condition S3.a.

Emission Unit U4: Emergency Generators

U4 Applicable Regulations: [27]

FEDERALLY ENFORCEABLE REGULATIONS		
Regulation	**Title**	**Applicable Sections**
40 CFR 63, Subpart ZZZZ	National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines	63.6603, 6604, 6605, 6625, 6640, 6645, 6655

DISTRICT ONLY ENFORCEABLE REGULATIONS		
Regulation	**Title**	**Applicable Sections**
5.00	Definitions	1, 2
5.01	General Provisions	1 through 2
5.02	Adoption of National Emission Standards for Hazardous Air Pollutants	1, 3.95 and 4
5.14	Hazardous Air Pollutants and Source Categories	1, 2
5.20	Methodology for Determining Benchmark Ambient Concentration of a Toxic Air Contaminant	1 through 6
5.21	Environmental Acceptability for Toxic Air Contaminants	1 through 5
5.22	Procedures for Determining the Maximum Ambient Concentration of a Toxic Air Contaminant	1 through 5
5.23	Categories of Toxic Air Contaminants	1 through 6

U4 Equipment:

Emission Point	Description	Applicable Regulation	Control ID	Stack ID
E9	One (1) diesel fueled emergency generator rated at 1,200 HP, make Caterpillar, model 339, equipped with a 1,000 gallon diesel tank.[28] (1969)	STAR* 40CFR63 Subpart ZZZZ	N/A	N/A

[27] These two engines are subject to 40 CFR 63, Subpart ZZZZ because it involves a stationary reciprocating internal combustion engine (RICE) located at a major source of HAP emissions. E9 and E11 are existing engines since they were originally manufactured before 12/19/2002. These two engines are not subject to 40 CFR 60, Subpart IIII since they are manufactured before 4/1/2006.

[28] The associated 1,000 diesel storage tank is an insignificant activity in accordance with Appendix A to Regulation 1.02, section 3.9.2.

Emission Point	Description	Applicable Regulation	Control ID	Stack ID
E11	One (1) diesel fueled emergency generator rated at 2,220 HP, make Onan, model KTTA50, equipped with a 7,000 gallon diesel tank.[29] (model 1995, installed 2013)	STAR* 40CFR63 Subpart ZZZZ	N/A	N/A
* STAR rules consist of Regulation 5.00, 5.01, 5.20, 5.21, 5.22, and 5.23.				

U4 Control Devices:

There are no control devices associated with this unit.

[29] The associated 7,000 diesel storage tank is an insignificant activity in accordance with Appendix A to Regulation 1.02, section 3.9.2.

U4 Specific Conditions

S1. **Standards** (Regulation 2.16, section 4.1.1)

a. **HAP**

i. An existing emergency stationary RICE with a site rating of more than 500 brake horsepower located at a major source of HAP emissions that does not operate or is not contractually obligated to be available for more than fifteen (15) hours per calendar year for the purposes specified in 40 CFR §63.6640(f)(2)(ii) and §63.6640(f)(2)(iii) does not have to meet the requirements of 40 CFR 63, subpart ZZZZ, including the initial notification requirements. (40 CFR §63.6590(b)(3)(iii))

1) The owner or operator shall not operate the emergency stationary RICE for emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-03, Capacity and Energy Emergencies (incorporated by reference, see 40 CFR §63.14), or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP-002-3. (40 CFR §63.6640(f)(2)(ii))

2) The owner or operator shall not operate the emergency stationary RICE for periods where there is a deviation of voltage or frequency of five (5) percent or greater below standard voltage or frequency. (40 CFR §63.6640(f)(2)(iii))

ii. In order for the engine to be considered an emergency stationary RICE, any operation other than emergency operation, maintenance, and testing, emergency demand response, and operation in non-emergency situations for fifty (50) hours per year, as described in 40 CFR §63.6640(f)(2)-(3), is prohibited. The owner or operator shall operate the engine according to the requirements in 40 CFR §63.6640(f)(2)-(3). (40 CFR §63.6640(f))[30]

1) The owner or operator may operate the emergency stationary RICE for a maximum of one hundred (100) hours per calendar year for maintenance checks and readiness testing, provided that the tests are recommended by federal, state, or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The owner or

[30] Federal Regulation 40 CFR §63.6640(f)(1) states that there is no operational time limit for the emergency stationary RICE during emergency situations. However, in order for stationary RICE to be in compliance with the STAR program, the stationary RICE is limited to 122 total hours of operation per year.

operator may petition the District for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required in the owner or operator maintains records indicating that the federal, state, or local standards require maintenance and testing of the emergency RICE beyond one hundred (100) hours per calendar year. (40 CFR 63.6640(f)(2)(i))

2) The owner or operator may operate the emergency stationary RICE for up to fifty (50) hours per calendar year in non-emergency situations. The fifty (50) hours of operation in non-emergency situations are counted as part of the one hundred (100) hours per calendar year for maintenance and testing and emergency demand response provided in Specific Condition 0. The fifty (50) hours per year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity. (40 CFR §63.6640(f)(3))

b. **TAC**

i. For the 2,220 HP emergency generator (E11): The owner or operator shall not operate the emergency stationary RICE for more than 122 hours during any 12 consecutive month period. The 122 hours of operation includes time operated during emergency and non-emergency situations. (Regulation 5.21, section 4.3) (Permit C-0148-1000-14)

ii. See Plant-wide STAR Requirements Specific Condition S1.a.

S2. **Monitoring and Record Keeping** (Regulation 2.16, sections 4.1.9.1 and 4.1.9.2)

The owner or operator shall maintain the required records for a minimum of 5 years and make the records readily available to the District upon request.

a. **HAP**

i. The owner or operator shall record, on the first working day after the end of each month, the engine's running time meter reading, and calculate (by difference) and record, the engine's operating time for the previous month and the total operating hours for the calendar year, to the nearest tenth of an hour.

ii. As a back-up to Specific Condition S2.a.i, the owner or operator shall, when needed, manually record, monthly, the number of hours the unit was operated during that month. For days during the month on which the unit

was not operated, a monthly record shall be made of each day that the unit did not run (DNR).

iii. The owner or operator shall record the hours of operation of each unit during an emergency and record the situation that classified the hours of operation to be an emergency.

b. **TAC**

i. For the 2,220 HP emergency generator (E11): The owner or operator shall record, on the first working day after the end of each month, the engine's running time meter reading, and calculate (by difference) and record, the engine's operating time and the 12 month rolling total for the previous month, to the nearest tenth of an hour

ii. See Plant-wide STAR Requirements Specific Condition S2.a.

S3. **Reporting** (Regulation 2.16, section 4.1.9.3)

The owner or operator shall submit semi-annual compliance reports that include the information in this section.

a. **HAP**

The owner or operator shall report any exceedances of the hours of operation limits for every month in the reporting period in which the total annual hours of operation exceeded the limits. If there are no exceedances during the reporting period, the owner or operator shall submit a negative declaration stating that there were no exceedances.

b. **TAC**

i. For the 2,220 HP emergency generator (E11): The owner or operator shall report any exceedances of the hours of operation limits for every month in the reporting period in which the 12 month rolling total hours of operation exceeded the limits. If there are no exceedances during the reporting period, the owner or operator shall submit a negative declaration stating that there were no exceedances.

ii. See Plant-wide STAR Requirements Specific Condition S3.a.

Emission Unit U5: Coal handling and transfer equipment

U5 Applicable Regulations:

FEDERALLY ENFORCEABLE REGULATIONS		
Regulation	**Title**	**Applicable Sections**
6.09	Standards of Performance for Existing Process Operations	1, 2, 3, 4, 5

DISTRICT ONLY ENFORCEABLE REGULATIONS		
Regulation	**Title**	**Applicable Sections**
5.00	Definitions	1, 2
5.01	General Provisions	1 through 2
5.02	Adoption of National Emission Standards for Hazardous Air Pollutants	1, 3.95 and 4
5.14	Hazardous Air Pollutants and Source Categories	1, 2
5.20	Methodology for Determining Benchmark Ambient Concentration of a Toxic Air Contaminant	1 through 6
5.21	Environmental Acceptability for Toxic Air Contaminants	1 through 5
5.22	Procedures for Determining the Maximum Ambient Concentration of a Toxic Air Contaminant	1 through 5
5.23	Categories of Toxic Air Contaminants	1 through 6

U5 Equipment:

Emission Point	Description	Applicable Regulation[31]	Control ID	Stack ID
E10-a	One (1) truck unloading operation. (1969) [32]	STAR* 6.09	N/A	N/A
E10-b	One (1) conveyor used to transfer coals from truck hopper to receiver. (1969) [32]			
E10-c	One (1) receiver. (1969) [32]			
E10-d	One (1) bucket elevator. (1969) [32]			
E10-e	One (1) conveyor used to transfer coals from bucket elevator to bunker. (1969) [32]	STAR* 6.09	N/A	N/A

[31] The coal handling and transfer facilities at this plant are installed before October 27, 1974. Therefore they are not subject to 40 CFR 60, Subpart Y – Standards of Performance for Coal Preparation and Processing Plants.

[32] This is an insignificant activity per PTE.

Emission Point	Description	Applicable Regulation[31]	Control ID	Stack ID
E10-f	One (1) coal storage bunker. (1969) [32]			
E10-g	One (1) moving scale. (1969) [32]			
E10-h	One (1) stoker hopper. (1969) [32]			
* STAR rules consist of Regulation 5.00, 5.01, 5.20, 5.21, 5.22, and 5.23.				

U5 Control Devices:

There is no control device associated with this unit.

U5 Specific Conditions

S1. **Standards** (Regulation 2.16, section 4.1.1)

a. **PM**

The owner or operator shall not allow PM emissions to exceed 30.33 lb/hr for each piece of equipment.[33] (Regulation 6.09, section 3.2)

b. **Opacity**

The owner or operator shall not allow visible emissions to equal or exceed 20% opacity. (Regulation 6.09, section 3.1)

c. **TAC**

See Plant-wide STAR Requirements Specific Condition S1.a. [34]

S2. **Monitoring and Record Keeping** (Regulation 2.16, sections 4.1.9.1 and 4.1.9.2)

The owner or operator shall maintain the required records for a minimum of 5 years and make the records readily available to the District upon request.

a. **PM**

The owner or operator shall keep monthly records of coal throughput.

b. **Opacity**

i. The owner or operator shall conduct a monthly one-minute visible emissions survey, during normal operation, of the emission points. No more than four emission points shall be observed simultaneously. The opacity surveys can be performed on the building exhaust points if the process is inside an enclosure.

ii. At emission points where visible emissions are observed, the owner or operator shall initiate corrective action within eight hours of the initial observation. If correction actions are taken then a follow-up visible emission survey shall be made. If the visible emissions persist, the owner or operator shall perform or cause to be performed a Method 9, in accordance with 40 CFR Part 60, Appendix A, within 24 hours of the initial observation.

[33] It has been demonstrated that the PM emissions cannot exceed the PM standards specified in Regulation 6.09 uncontrolled. Therefore there are no monitoring, record keeping, and reporting requirements with respect to the PM lb/hr emission standards.

[34] Insignificant activities are de minimis per Regulation 5.21, section 2.3.

iii. The owner or operator shall maintain records, monthly, of the results of all visible emissions surveys and tests. Records of the results of any visible emissions survey shall include the date of the survey, the name of the person conducting the survey, whether or not visible emissions were observed, and what if any corrective action was performed. If an emission point is not being operated during a given month, then no visible emission survey needs to be performed and a negative declaration shall be entered in the record.

c. **TAC**

See Plant-wide STAR Requirements Specific Condition S2.a.

S3. **Reporting** (Regulation 2.16, section 4.1.9.3)

The owner or operator shall submit quarterly compliance reports that include the information in this section.

a. **PM**

There are no routine reporting requirements for this pollutant.

b. **Opacity**

The owner or operator shall identify all periods of exceeding an opacity standard during a quarterly reporting period. The report shall include the following:

i. Any deviation from the requirement to perform and record the results of visible emission surveys or Method 9 tests;
ii. The number, date, and time of each Method 22 where visible emissions were observed and the results of the Method 9 test performed;
iii. Identification of all periods of exceeding the opacity standard; and
iv. Description of any corrective action taken for each exceedance of the opacity standard.

c. **TAC**

See Plant-wide STAR Requirements Specific Condition S3.a.

Permit Shield

The owner or operator is hereby granted a permit shield that shall apply as long as the owner or operator demonstrates ongoing compliance with all conditions of this permit. Compliance with the conditions of this permit shall be deemed compliance with all applicable requirements of the regulations cited in this permit as of the date of issuance, pursuant to Regulation 2.16, section 4.6.1.

Off-Permit Documents

There are no off permit documents associated with this Title V permit.

Alternative Operating Scenario

The company requested no alternative operating scenario in its Title V application.

Insignificant Activities

Equipment	Quan.	PTE (tpy)	Regulation Basis
Cooling Towers for Unit 2 and Unit 3	6	0.68 PM_{10}	Regulation 2.16, section 1.23
1,000 gallon diesel fuel storage tank used for 1,200 HP emergency generator U4-E9	1	0.01 VOC	Regulation 1.02, Appendix A
7,000 gallon diesel fuel storage tank used for 2220 HP emergency generator U4-E11	1	0.01 VOC	Regulation 1.02, Appendix A

1) Insignificant activities identified in District Regulation 1.02, Appendix A, may be subject to size or production rate disclosure requirements pursuant to Regulation 2.16 section 3.5.4.1.4.

2) Insignificant activities identified in District Regulation 1.02, Appendix A shall comply with generally applicable requirements as required by Regulation 2.16 section 4.1.9.4.

3) The Insignificant Activities Table is correct as of the date the permit was proposed for review by U.S. EPA, Region 4.

4) Emissions from Insignificant Activities shall be reported in conjunction with the reporting of annual emissions of the facility as required by the District.

5) The owner or operator shall submit an updated list of insignificant activities that occurred during the preceding year pursuant to Regulation 2.16 section 4.3.5.3.6.

6) The owner or operator may elect to monitor actual throughputs for each of the insignificant activities and calculate actual annual emissions, or use Potential to Emit (PTE) to be reported on the annual emission inventory.

7) The District has determined pursuant to Regulation 2.16 section 4.1.9.4 that no monitoring, record keeping, or reporting requirements apply to the insignificant activities listed, except for the equipment that has an applicable regulation and permitted under an insignificant activity (IA) unit.

Attachment A - NOx RACT Plan (Amendment 3)

1. The oxides of nitrogen (NO_x, expressed as NO_2) emission from each of Boiler #2, Boiler #3, Boiler #4, and Boiler #5 while natural gas is combusted shall not exceed 0.20 pound per million Btu of heat input, based on a 30 day rolling average period.

2. The NO_x (expressed as NO_2) emission from Boiler #1 while natural gas is combusted shall not exceed 0.10 pound per million Btu of heat input, based on a 30 day rolling average period.

3. The NO_x (expressed as NO_2) emission from Boiler #4, Boiler #5, and Boiler #6 while coal is combusted shall not exceed 0.50 pound per million Btu of heat input, based on a 30 day rolling average period.

4. The Louisville Medical Center Steam Plant shall conduct an annual performance test for NO_x for each of the following: Boiler #1, Boiler #2, Boiler #3, Boiler #4, Boiler #5, and Boiler #6. If the requirements of Regulation 6.42 *Reasonably Available Control Technology Requirements for Major Volatile Organic Compound- and Nitrogen Oxides-Emitting Facilities*, section 5.1 are met, and subject to the annual performance test schedule reinstitution provision, performance testing may be done on a biennial schedule. Performance testing shall meet the following requirements:

   A. Emissions concentrations and the mass determinations shall be obtained using Reference Methods of 40 CFR Part 60 Appendix A. The following methods shall be used:
      (1) Method 1 or 1A, which furnishes guidance in site and traverse selection for sampling velocity at traverse points in stationary sources,
      (2) Method 2, 2A, 2B, 2C, 2D, 2E, 2F, 2G, or 2H, which applies to measurements of gas volumetric flow rates,
      (3) Method 3, 3A, 3B, or 3C, which is applicable for determining the concentrations of one or more of the following gases: carbon dioxide, oxygen, carbon monoxide, nitrogen, and methane,
      (4) Method 4, which determines the moisture content in stack gases, and
      (5) Method 7, 7A, 7B, 7C, 7D, or 7E, which provides the analytical method for determining the concentration of NO_x emissions from stationary sources.

   B. The use of other Reference Methods that are added to 40 CFR 60 Appendix A, alternative tests, or modifications to the Reference Methods listed in NO_x RACT Plan Element (Element) No. 3.A. may be proposed by the Louisville Medical Center Steam Plant as part of the testing plan required by Element No. 3.D. Such methods may be used if approved in writing by the Louisville Metro Air Pollution Control District (District).

   C. Performance testing shall meet the requirements of Regulation 1.04, *Performance Tests*, which are not addressed in this Element. All testing shall be conducted at 90% or greater of the maximum rated heat input capacity of the boiler.

D. A notification of intent to conduct a performance test shall be submitted to the District at least 25 working days in advance of the projected starting date for the performance test. The notification shall include the proposed test methods to be used.

E. If a pre-test conference to discuss the proposed test methods is deemed necessary by the District, a pre-test conference shall be arranged by District personnel.

F. At least 10 working days' prior notice of the scheduled starting date for the performance test shall be provided to the District.

G. A performance test report shall be submitted to the District within 60 days of completion of performance testing. The report shall include the quantity and type of fuel combusted during each 1-hr test run and calculations used to determine emissions. The NO_x emission rate shall be expressed in both pounds per hour and pounds per million Btu formats. The raw data shall be retained by the Louisville Medical Center Steam Plant for a minimum of 5 years and made available to the District upon request. Selected portions of the raw data used to calculate the emissions shall be included in the report in a format provided by the District.

5. The Louisville Medical Center Steam Plant shall, each year prior to April 1, perform and make a record of the following non-routine boiler maintenance activities for Boiler #1, Boiler #2, Boiler #3, Boiler #4, Boiler #5, and Boiler #6:

A. Inspect the fuel combustion system and, as needed, clean or replace the components of the fuel combustion system.

B. Inspect the flame pattern for the boiler and make any needed adjustments to the fuel combustion system to optimize the flame pattern to minimize total emissions of NO_x and carbon monoxide,

C. Inspect the combustion control system to determine whether the combustion control system is operating properly and the air-to-fuel ratio is correctly calibrated and make any needed system adjustments or replacements,

D. Adjust the air-to-fuel ratio to minimize excess air and maximize boiler efficiency, and

E. Inspect all other components of the boiler and make any needed adjustments or repairs to improve boiler efficiency.

6. The Louisville Medical Center Steam Plant shall include in each report pursuant to Element No. 7 a summary of the boiler maintenance activities required by Element No. 5 that occurred during the preceding semi-annual period.

7. The Louisville Medical Center Steam Plant shall keep a record identifying all deviations from the requirements of this NO_x RACT Plan and shall submit to the District a written report of all deviations that occurred during the preceding semi-annual period. Semi-annual periods shall run from January 1 to June 30 and July 1 to December 31. The report shall contain the following information:

A. The boiler number,

B. The beginning and ending date of the reporting period,

C. Identification of all periods during which a deviation occurred,
D. A description, including the magnitude, of the deviation,
E. If known, the cause of the deviation, and
F. A description of all corrective actions taken to abate the deviation.

If no deviation occurred during the semi-annual period, the report shall contain a negative declaration. Each report shall be submitted within 60 days following the end of the semi-annual period.

8. In lieu of the requirements in this NO_x RACT Plan, the Louisville Medical Center Steam Plant may comply with alternative requirements regarding emission limitations, equipment operation, test methods, monitoring, recordkeeping, or reporting, provided the following conditions are met:

A. The alternative requirements are established and incorporated into an operating permit pursuant to a Title V Operating Permit issuance, renewal, or significant permit revision process as established in Regulation 2.16,
B. The alternative requirements are consistent with the streamlining procedures and guidelines set forth in section II.A. of *White Paper Number 2 for Improved Implementation of the Part 70 Operating Permits Program*, March 5, 1996, U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards. The overall effect of compliance with alternative requirements shall consider the effect on an intrinsic basis, such as pounds per million Btu of heat input. However, alternative requirements that are developed based upon revisions to the applicable requirements contained in 40 CFR Part 60 or Part 75 shall be approvable pursuant to this NO_x RACT Plan Element,
C. The U.S. Environmental Protection Agency (EPA) has not objected to the issuance, renewal, or revision of the Title V Operating Permit, and either
D. If the public comment period preceded the EPA review period, then the District transmitted any public comments concerning the alternative requirements to EPA with the proposed permit, or
E. If the EPA and public comment periods ran concurrently, then the District transmitted any public comments concerning the alternative requirements to EPA no later than 5 working days after the end of the public comment period. The District's determination of approval of any alternative requirements is not binding on EPA. Noncompliance with any alternative requirement established pursuant to the Title V Operating Permit process constitutes a violation of this NO_x RACT Plan.

The District’s determination of approval of any alternative requirements is not binding on EPA. Noncompliance with any alternative requirement established pursuant to the Title V Operating Permit process constitutes a violation of this NO_x RACT Plan.

History: Approved 11-8-99, effective 1-1-00; amended a1/2-21-01, effective 4-1-01; amended a2/3-19-08, effective 3-24-08; amended a3/08-17-13, effective 08-21-13

Attachment B - 40 CFR 63, Subpart DDDDD (MACT)
National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters

The owner or operator shall comply with the following requirements unless there are more current promulgated regulations:

Specific Conditions

S1. **Standards** (Regulation 2.16, section 4.1.1)

a. **Compliance date (40 CFR 63.7495)**

i. For the new boiler (Boiler #3)[35], the owner or operator shall comply with this subpart by January 31, 2013, or upon startup of your boiler or process heater, whichever is later. (40 CFR 63.7495(a))

ii. For the existing boilers (Boiler #1, 2, 4, 5, 6)[35], the owner or operator shall comply with this subpart no later than January 31, 2016, except as provided in §63.6(i) (*Extension of compliance with emission standards*). (40 CFR 63.7495(b))

iii. The owner or operator shall meet the notification requirements in §63.7545 according to the schedule in §63.7545 and in subpart A of this part. Some of the notifications must be submitted before you are required to comply with the emission limits and work practice standards in this subpart. (40 CFR 63.7495(d))

b. **Emission limitations, work practice standards, and operating limits (40 CFR 63.7500)**

i. The owner or operator shall meet the requirements in paragraphs (a)(1) through (3) of this section (40 CFR 63.7500), except as provided in paragraphs (b), through (e) of this section. The owner or operator shall meet these requirements at all times the affected unit is operating, except as provided in paragraph (f) of this section. (40 CFR 63.7500(a))

1) The owner or operator shall meet each emission limit and work practice standard in Tables 2 and 3 to this subpart that applies to the boilers at this plant[36], except as provided under §63.7522 (*Use emission averaging to comply with this subpart*). The output-based emission limits, in units of pounds per million Btu of steam output, in Tables 1 or 2 to this subpart are an alternative applicable only to

[35] Boilers #1, 2, 4, 5, 6 are existing sources and Boiler #3 is new source according to § 63.7490.

[36] Table 1 and Table 11 through 13 have emission limits or alternative emission limits for new boilers. However, there are no applicable emission limitations for a new natural gas-fired boiler (Boiler #3) in those tables.

boilers and process heaters that generate steam. (40 CFR 63.7500(a)(1))

Table 2 to Subpart DDDDD of Part 63 —Emission Limits for Existing Boilers and Process Heaters [37]

If your boiler or process heater is in this subcategory	For the following pollutants	Emission limits, except during startup and shutdown	Alternative output-based limits, except during startup and shutdown	Using this specified sampling volume or test run duration
1. Units in all subcategories designed to burn solid fuel (*Boiler # 4, 5, 6 while firing coal*)	a. HCl	2.2E-02 lb per MMBtu of heat input	2.5E-02 lb per MMBtu of steam output or 0.27 lb per MWh	For M26A, Collect a minimum of 1 dscm per run; for M26, collect a minimum of 120 liters per run.
	b. Mercury	5.7E-06 lb per MMBtu of heat input	6.4E-06 lb per MMBtu of steam output or 7.3E-05 lb per MWh	For M29, collect a minimum of 3 dscm per run; for M30A or M30B, collect a minimum sample as specified in the method; for ASTM D6784 [b] collect a minimum of 3 dscm.
2. Units design to burn coal/solid fossil fuel (*Boiler # 4, 5, 6 while firing coal*)	a. Filterable PM (or TSM)	4.0E-02 lb per MMBtu of heat input; or (5.3E-05 lb per MMBtu of heat input)	4.2E-02 lb per MMBtu of steam output or 4.9E-01 lb per MWh; or (5.6E-05 lb per MMBtu of steam output or 6.5E-04 lb per MWh)	Collect a minimum of 2 dscm per run.
4. Stokers designed to burn coal/solid fossil fuel (*Boiler # 4, 5, 6 while firing coal*)	a. CO (or CEMS)	160 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (340 ppm by volume on a dry basis corrected to 3 percent oxygen, 30-day rolling average)	0.14 lb per MMBtu of steam output or 1.7 lb per MWh; 3-run average	1 hr minimum sampling time.

a If you are conducting stack tests to demonstrate compliance and your performance tests for this pollutant for at least 2 consecutive years show that your emissions are at or below this limit, you can skip testing according to §63.7515 if all of the other provisions of §63.7515 are met. For all other pollutants

[37] In construction permit 34050-12-C, Boiler #3 has a 400 ppm emission standard for CO according to the old version of 40 CFR 63, Subpart DDDDD (final date 3/21/2011). However, according to the new 40 CFR 63, Subpart DDDDD (final date 1/31/2013), there is no CO emission limit for natural gas-fired boilers.

that do not contain a footnote a, your performance tests for this pollutant for at least 2 consecutive years must show that your emissions are at or below 75 percent of this limit in order to qualify for skip testing
b Incorporated by reference, see §63.14.

Table 3 to Subpart DDDDD of Part 63 —Work Practice Standards

If your unit is ...	The owner or operator shall meet the following ...
1. A new or existing boiler or process heater with a continuous oxygen trim system that maintains an optimum air to fuel ratio, or a heat input capacity of less than or equal to 5 million Btu per hour in any of the following subcategories: unit designed to burn gas 1; unit designed to burn gas 2 (other); or unit designed to burn light liquid, or a limited use boiler or process heater (*Boiler #1 through #6*)	Conduct a tune-up of the boiler or process heater every 5 years as specified in §63.7540.
3. A new or existing boiler or process heater without a continuous oxygen trim system and with heat input capacity of 10 million Btu per hour or greater (*Boiler #1 through #6)*	Conduct a tune-up of the boiler or process heater annually as specified in §63.7540. Units in either the Gas 1 or Metal Process Furnace subcategories will conduct this tune-up as a work practice for all regulated emissions under this subpart. Units in all other subcategories will conduct this tune-up as a work practice for dioxins/furans.
4. An existing boiler or process heater located at a major source facility, not including limited use units (*Boiler #1, 2, 4, 5, and 6*)	Must have a one-time energy assessment performed by a qualified energy assessor. An energy assessment completed on or after January 1, 2008, that meets or is amended to meet the energy assessment requirements in this table, satisfies the energy assessment requirement. A facility that operates under an energy management program compatible with ISO 50001 that includes the affected units also satisfies the energy assessment requirement. The energy assessment must include the following with extent of the evaluation for items a. to e. appropriate for the on-site technical hours listed in §63.7575:
	a. A visual inspection of the boiler or process heater system.
	b. An evaluation of operating characteristics of the boiler or process heater systems, specifications of energy using systems, operating and maintenance procedures, and unusual operating constraints.
	c. An inventory of major energy use systems consuming energy from affected boilers and process heaters and which are under the control of the boiler/process heater owner/operator.
	d. A review of available architectural and engineering plans, facility operation and maintenance procedures and logs, and fuel usage.
	e. A review of the facility's energy management practices and

	provide recommendations for improvements consistent with the definition of energy management practices, if identified.
	f. A list of cost-effective energy conservation measures that are within the facility's control.
	g. A list of the energy savings potential of the energy conservation measures identified.
	h. A comprehensive report detailing the ways to improve efficiency, the cost of specific improvements, benefits, and the time frame for recouping those investments.
5. An existing or new boiler or process heater subject to emission limits in Table 1 or 2 or 11 through 13 to this subpart during startup (*Boiler # 4, 5, 6 while firing coal*)	The owner or operator shall operate all CMS during startup. For startup of a boiler or process heater, the owner or operator shall use one or a combination of the following clean fuels: natural gas, synthetic natural gas, propane, distillate oil, syngas, ultra-low sulfur diesel, fuel oil-soaked rags, kerosene, hydrogen, paper, cardboard, refinery gas, and liquefied petroleum gas.
	If you start firing coal/solid fossil fuel, biomass/bio-based solids, heavy liquid fuel, or gas 2 (other) gases, the owner or operator shall vent emissions to the main stack(s) and engage all of the applicable control devices except limestone injection in fluidized bed combustion (FBC) boilers, dry scrubber, fabric filter, selective non-catalytic reduction (SNCR), and selective catalytic reduction (SCR). The owner or operator shall start your limestone injection in FBC boilers, dry scrubber, fabric filter, SNCR, and SCR systems as expeditiously as possible. Startup ends when steam or heat is supplied for any purpose.
	The owner or operator shall comply with all applicable emission limits at all times except for startup or shutdown periods conforming with this work practice. The owner or operator shall collect monitoring data during periods of startup, as specified in §63.7535(b). The owner or operator shall keep records during periods of startup. The owner or operator shall provide reports concerning activities and periods of startup, as specified in §63.7555.
6. An existing or new boiler or process heater subject to emission limits in Tables 1 or 2 or 11 through 13 to this subpart during shutdown (*Boiler # 4, 5, 6 while firing coal*)	The owner or operator shall operate all CMS during shutdown. While firing coal/solid fossil fuel, biomass/bio-based solids, heavy liquid fuel, or gas 2 (other) gases during shutdown, the owner or operator shall vent emissions to the main stack(s) and operate all applicable control devices, except limestone injection in FBC boilers, dry scrubber, fabric filter, SNCR, and SCR.
	The owner or operator shall comply with all applicable emissions limits at all times except for startup or shutdown periods conforming with this work practice. The owner or operator shall collect monitoring data during periods of shutdown, as specified in §63.7535(b). The owner or operator

	shall keep records during periods of shutdown. The owner or operator shall provide reports concerning activities and periods of shutdown, as specified in §63.7555.

2) The owner or operator shall meet each operating limit in Table 4 to this subpart that applies to your boiler or process heater. If you use a control device or combination of control devices not covered in Table 4 to this subpart, or you wish to establish and monitor an alternative operating limit or an alternative monitoring parameter, the owner or operator shall apply to the EPA Administrator for approval of alternative monitoring under §63.8(f). (40 CFR 63.7500(a)(2))

Table 4 to Subpart DDDDD of Part 63 —Operating Limits for Boilers and Process Heaters

When complying with a Table 1, 2, 11, 12, or 13 numerical emission limit using ...	The owner or operator shall meet these operating limits ...
3. Fabric filter control on units not using a PM CPMS	a. Maintain opacity to less than or equal to 10 percent opacity (daily block average); or
	b. Install and operate a bag leak detection system according to §63.7525 and operate the fabric filter such that the bag leak detection system alert is not activated more than 5 percent of the operating time during each 6-month period.
5. Dry scrubber or carbon injection control on a boiler not using a mercury CEMS	Maintain the minimum sorbent or carbon injection rate as defined in §63.7575 of this subpart.
7. Fuel analysis	Maintain the fuel type or fuel mixture such that the applicable emission rates calculated according to §63.7530(c)(1), (2) and/or (3) is less than the applicable emission limits.
8. Performance testing	For boilers and process heaters that demonstrate compliance with a performance test, maintain the operating load of each unit such that it does not exceed 110 percent of the highest hourly average operating load recorded during the most recent performance test.
9. Oxygen analyzer system	For boilers and process heaters subject to a CO emission limit that demonstrate compliance with an O_2 analyzer system as specified in §63.7525(a), maintain the 30-day rolling average oxygen content at or above the lowest hourly average oxygen concentration measured during the most recent CO performance test, as specified in Table 8. This requirement does not apply to units that install an oxygen trim system since these units will set the trim system to the level specified in §63.7525(a).

3) At all times, the owner or operator shall operate and maintain any affected source (as defined in §63.7490), including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator [38] that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. (40 CFR 63.7500(a)(3))

ii. As provided in §63.6(g) (*Use of an alternative non-opacity emission standard*), EPA may approve use of an alternative to the work practice standards in this section. (40 CFR 63.7500(b))

iii. These standards apply at all times the affected unit is operating, except during periods of startup and shutdown during which time the owner or operator shall comply only with Table 3 to this subpart. (40 CFR 63.7500(f))

c. **General requirements for complying with this subpart (40 CFR 63.7505)**

i. The owner or operator shall be in compliance with the emission limits, work practice standards, and operating limits in this subpart. These limits apply to you at all times the affected unit is operating except for the periods noted in §63.7500(f). (40 CFR 63.7505(a))

ii. The owner or operator shall demonstrate compliance with all applicable emission limits using performance stack testing, fuel analysis, or continuous monitoring systems (CMS), including a continuous emission monitoring system (CEMS), continuous opacity monitoring system (COMS), continuous parameter monitoring system (CPMS), or particulate matter continuous parameter monitoring system (PM CPMS), where applicable. <u>You may demonstrate compliance with the applicable emission limit for hydrogen chloride (HCl), mercury, or total selected metals (TSM) using fuel analysis if the emission rate calculated according to §63.7530(c) is less than the applicable emission limit</u>**.** (For gaseous fuels, you may not use fuel analyses to comply with the TSM alternative standard or the HCl standard.) Otherwise, the owner or operator shall demonstrate compliance for HCl, mercury, or TSM using performance testing, if subject to an applicable emission limit listed in Tables 1, 2, or 11 through 13 to this subpart. (40 CFR 63.7505(c))

[38] Unless otherwise specified, "the Administrator" means the Air Pollution Control District (APCD) of Louisville Metro.

iii. If you demonstrate compliance with any applicable emission limit through performance testing and subsequent compliance with operating limits (including the use of CPMS), or with a CEMS, or COMS, the owner or operator shall develop a site-specific monitoring plan according to the requirements in paragraphs (d)(1) through (4) of this section for the use of any CEMS, COMS, or CPMS. This requirement also applies to you if you petition the EPA Administrator for alternative monitoring parameters under §63.8(f). (40 CFR 63.7505(d))

1) For each CMS required in this section (including CEMS, COMS, or CPMS), the owner or operator shall develop, and submit to the Administrator for approval upon request, a site-specific monitoring plan that addresses design, data collection, and the quality assurance and quality control elements outlined in §63.8(d) and the elements described in paragraphs (d)(1)(i) through (iii) of this section. The owner or operator shall submit this site-specific monitoring plan, if requested, at least 60 days before your initial performance evaluation of your CMS. This requirement to develop and submit a site specific monitoring plan does not apply to affected sources with existing CEMS or COMS operated according to the performance specifications under appendix B to part 60 of this chapter and that meet the requirements of §63.7525. Using the process described in §63.8(f)(4), you may request approval of alternative monitoring system quality assurance and quality control procedures in place of those specified in this paragraph and, if approved, include the alternatives in your site-specific monitoring plan. (40 CFR 63.7505(d)(1))

(a) Installation of the CMS sampling probe or other interface at a measurement location relative to each affected process unit such that the measurement is representative of control of the exhaust emissions (e.g., on or downstream of the last control device); (40 CFR 63.7505(d)(1)(i))

(b) Performance and equipment specifications for the sample interface, the pollutant concentration or parametric signal analyzer, and the data collection and reduction systems; and (40 CFR 63.7505(d)(1)(ii))

(c) Performance evaluation procedures and acceptance criteria (e.g., calibrations, accuracy audits, analytical drift). (40 CFR 63.7505(d)(1)(iii))

2) In your site-specific monitoring plan, the owner or operator shall also address paragraphs (d)(2)(i) through (iii) of this section. (40 CFR 63.7505(d)(2))

(a) Ongoing operation and maintenance procedures in accordance with the general requirements of §63.8(c)(1)(ii), (c)(3), and (c)(4)(ii); (40 CFR 63.7505(d)(2)(i))

(b) Ongoing data quality assurance procedures in accordance with the general requirements of §63.8(d); and (40 CFR 63.7505(d)(2)(ii))

(c) Ongoing recordkeeping and reporting procedures in accordance with the general requirements of §63.10(c) (as applicable in Table 10 to this subpart), (e)(1), and (e)(2)(i). (40 CFR 63.7505(d)(2)(iii))

3) The owner or operator shall conduct a performance evaluation of each CMS in accordance with your site-specific monitoring plan. (40 CFR 63.7505(d)(3))

4) The owner or operator shall operate and maintain the CMS in continuous operation according to the site-specific monitoring plan. (40 CFR 63.7505(d)(4))

d. **General Provisions (40 CFR 63.7565)**

Table 10 to this subpart shows which parts of the General Provisions in §§63.1 through 63.15 apply to the owner or operator.

Table 10 to Subpart DDDDD of Part 63 —Applicability of General Provisions to Subpart DDDDD

Citation	Subject	Applies to subpart DDDDD
§63.1	Applicability	Yes.
§63.2	Definitions	Yes. Additional terms defined in §63.7575
§63.3	Units and Abbreviations	Yes.
§63.4	Prohibited Activities and Circumvention	Yes.
§63.5	Preconstruction Review and Notification Requirements	Yes.
§63.6(a), (b)(1)-(b)(5), (b)(7), (c)	Compliance with Standards and Maintenance Requirements	Yes.
§63.6(e)(1)(i)	General duty to minimize emissions.	No. See §63.7500(a)(3) for the general duty requirement.
§63.6(e)(1)(ii)	Requirement to correct malfunctions as soon as practicable.	No.

§63.6(e)(3)	Startup, shutdown, and malfunction plan requirements.	No.
§63.6(f)(1)	Startup, shutdown, and malfunction exemptions for compliance with non-opacity emission standards.	No.
§63.6(f)(2) and (3)	Compliance with non-opacity emission standards.	Yes.
§63.6(g)	Use of alternative standards	Yes.
§63.6(h)(1)	Startup, shutdown, and malfunction exemptions to opacity standards.	No. See §63.7500(a).
§63.6(h)(2) to (h)(9)	Determining compliance with opacity emission standards	Yes.
§63.6(i)	Extension of compliance	Yes. Note: Facilities may also request extensions of compliance for the installation of combined heat and power, waste heat recovery, or gas pipeline or fuel feeding infrastructure as a means of complying with this subpart.
§63.6(j)	Presidential exemption.	Yes.
§63.7(a), (b), (c), and (d)	Performance Testing Requirements	Yes.
§63.7(e)(1)	Conditions for conducting performance tests	No. Subpart DDDDD specifies conditions for conducting performance tests at §63.7520(a) to (c).
§63.7(e)(2)-(e)(9), (f), (g), and (h)	Performance Testing Requirements	Yes.
§63.8(a) and (b)	Applicability and Conduct of Monitoring	Yes.
§63.8(c)(1)	Operation and maintenance of CMS	Yes.
§63.8(c)(1)(i)	General duty to minimize emissions and CMS operation	No. See §63.7500(a)(3).
§63.8(c)(1)(ii)	Operation and maintenance of CMS	Yes.
§63.8(c)(1)(iii)	Startup, shutdown, and malfunction plans for CMS	No.
§63.8(c)(2) to (c)(9)	Operation and maintenance of CMS	Yes.
§63.8(d)(1) and (2)	Monitoring Requirements, Quality Control Program	Yes.
§63.8(d)(3)	Written procedures for CMS	Yes, except for the last sentence, which refers to a startup,

		shutdown, and malfunction plan. Startup, shutdown, and malfunction plans are not required.
§63.8(e)	Performance evaluation of a CMS	Yes.
§63.8(f)	Use of an alternative monitoring method.	Yes.
§63.8(g)	Reduction of monitoring data	Yes.
§63.9	Notification Requirements	Yes.
§63.10(a), (b)(1)	Recordkeeping and Reporting Requirements	Yes.
§63.10(b)(2)(i)	Recordkeeping of occurrence and duration of startups or shutdowns	Yes.
§63.10(b)(2)(ii)	Recordkeeping of malfunctions	No. See §63.7555(d)(7) for recordkeeping of occurrence and duration and §63.7555(d)(8) for actions taken during malfunctions.
§63.10(b)(2)(iii)	Maintenance records	Yes.
§63.10(b)(2)(iv) and (v)	Actions taken to minimize emissions during startup, shutdown, or malfunction	No.
§63.10(b)(2)(vi)	Recordkeeping for CMS malfunctions	Yes.
§63.10(b)(2)(vii) to (xiv)	Other CMS requirements	Yes.
§63.10(b)(3)	Recordkeeping requirements for applicability determinations	No.
§63.10(c)(1) to (9)	Recordkeeping for sources with CMS	Yes.
§63.10(c)(10) and (11)	Recording nature and cause of malfunctions, and corrective actions	No. See §63.7555(d)(7) for recordkeeping of occurrence and duration and §63.7555(d)(8) for actions taken during malfunctions.
§63.10(c)(12) and (13)	Recordkeeping for sources with CMS	Yes.
§63.10(c)(15)	Use of startup, shutdown, and malfunction plan	No.
§63.10(d)(1) and (2)	General reporting requirements	Yes.
§63.10(d)(3)	Reporting opacity or visible emission observation results	No.
§63.10(d)(4)	Progress reports under an extension of compliance	Yes.
§63.10(d)(5)	Startup, shutdown, and malfunction reports	No. See §63.7550(c)(11) for malfunction reporting

		requirements.
§63.10(e)	Additional reporting requirements for sources with CMS	Yes.
§63.10(f)	Waiver of recordkeeping or reporting requirements	Yes.
§63.11	Control Device Requirements	No.
§63.12	State Authority and Delegation	Yes.
§63.13-63.16	Addresses, Incorporation by Reference, Availability of Information, Performance Track Provisions	Yes.
§63.1(a)(5),(a)(7)-(a)(9), (b)(2), (c)(3)-(4), (d), 63.6(b)(6), (c)(3), (c)(4), (d), (e)(2), (e)(3)(ii), (h)(3), (h)(5)(iv), 63.8(a)(3), 63.9(b)(3), (h)(4), 63.10(c)(2)-(4), (c)(9).	Reserved	No.

S2. **Monitoring and Record Keeping** (Regulation 2.16, sections 4.1.9.1 and 4.1.9.2)

a. **Initial compliance requirements and by what date shall the owner or operator conduct them (40 CFR 63.7510)**

i. For each boiler or process heater that is required or that you elect to demonstrate compliance with any of the applicable emission limits in Tables 2 of this subpart through performance testing, your initial compliance requirements include all the following: (40 CFR 63.7510(a))

1) Conduct performance tests according to §63.7520 and Table 5 to this subpart. (40 CFR 63.7510(a)(1))

Table 5 to Subpart DDDDD of Part 63 —Performance Testing Requirements (*use if applicable*)

To conduct a performance test for the following pollutant . . .	The owner or operator shall ...	Using ...
1. Filterable PM	a. Select sampling ports location and the number of traverse points	Method 1 at 40 CFR part 60, appendix A-1 of this chapter.
	b. Determine velocity and volumetric flow-rate of the stack gas	Method 2, 2F, or 2G at 40 CFR part 60, appendix A-1 or A-2 to part 60 of this chapter.
	c. Determine oxygen or carbon dioxide concentration of the stack gas	Method 3A or 3B at40 CFR part 60, appendix A-2 to part 60 of this chapter, or ANSI/ASME PTC

		19.10-1981.[a]
	d. Measure the moisture content of the stack gas	Method 4 at 40 CFR part 60, appendix A-3 of this chapter.
	e. Measure the PM emission concentration	Method 5 or 17 (positive pressure fabric filters must use Method 5D) at 40 CFR part 60, appendix A-3 or A-6 of this chapter.
	f. Convert emissions concentration to lb per MMBtu emission rates	Method 19 F-factor methodology at 40 CFR part 60, appendix A-7 of this chapter.
2. TSM	a. Select sampling ports location and the number of traverse points	Method 1 at 40 CFR part 60, appendix A-1 of this chapter.
	b. Determine velocity and volumetric flow-rate of the stack gas	Method 2, 2F, or 2G at 40 CFR part 60, appendix A-1 or A-2 of this chapter.
	c. Determine oxygen or carbon dioxide concentration of the stack gas	Method 3A or 3B at 40 CFR part 60, appendix A-1 of this chapter, or ANSI/ASME PTC 19.10-1981.[a]
	d. Measure the moisture content of the stack gas	Method 4 at 40 CFR part 60, appendix A-3 of this chapter.
	e. Measure the TSM emission concentration	Method 29 at 40 CFR part 60, appendix A-8 of this chapter
	f. Convert emissions concentration to lb per MMBtu emission rates	Method 19 F-factor methodology at 40 CFR part 60, appendix A-7 of this chapter.
3. HCl	a. Select sampling ports location and the number of traverse points	Method 1 at 40 CFR part 60, appendix A-1 of this chapter.
	b. Determine velocity and volumetric flow-rate of the stack gas	Method 2, 2F, or 2G at 40 CFR part 60, appendix A-2 of this chapter.
	c. Determine oxygen or carbon dioxide concentration of the stack gas	Method 3A or 3B at 40 CFR part 60, appendix A-2 of this chapter, or ANSI/ASME PTC 19.10-1981.[a]
	d. Measure the moisture content of the stack gas	Method 4 at 40 CFR part 60, appendix A-3 of this chapter.
	e. Measure the HCl emission concentration	Method 26 or 26A (M26 or M26A) at 40 CFR part 60, appendix A-8 of this chapter.
	f. Convert emissions concentration to lb per MMBtu emission rates	Method 19 F-factor methodology at 40 CFR part 60, appendix A-7 of this chapter.
4. Mercury	a. Select sampling ports location and the number of traverse points	Method 1 at 40 CFR part 60, appendix A-1 of this chapter.

	b. Determine velocity and volumetric flow-rate of the stack gas	Method 2, 2F, or 2G at 40 CFR part 60, appendix A-1 or A-2 of this chapter.
	c. Determine oxygen or carbon dioxide concentration of the stack gas	Method 3A or 3B at 40 CFR part 60, appendix A-1 of this chapter, or ANSI/ASME PTC 19.10-1981.[a]
	d. Measure the moisture content of the stack gas	Method 4 at 40 CFR part 60, appendix A-3 of this chapter.
	e. Measure the mercury emission concentration	Method 29, 30A, or 30B (M29, M30A, or M30B) at 40 CFR part 60, appendix A-8 of this chapter or Method 101A at 40 CFR part 61, appendix B of this chapter, or ASTM Method D6784.[a]
	f. Convert emissions concentration to lb per MMBtu emission rates	Method 19 F-factor methodology at 40 CFR part 60, appendix A-7 of this chapter.
5. CO	a. Select the sampling ports location and the number of traverse points	Method 1 at 40 CFR part 60, appendix A-1 of this chapter.
	b. Determine oxygen concentration of the stack gas	Method 3A or 3B at 40 CFR part 60, appendix A-3 of this chapter, or ASTM D6522-00 (Reapproved 2005), or ANSI/ASME PTC 19.10-1981.[a]
	c. Measure the moisture content of the stack gas	Method 4 at 40 CFR part 60, appendix A-3 of this chapter.
	d. Measure the CO emission concentration	Method 10 at 40 CFR part 60, appendix A-4 of this chapter. Use a measurement span value of 2 times the concentration of the applicable emission limit.

[a] Incorporated by reference, see §63.14.

2) Conduct a fuel analysis for each type of fuel burned in your boiler or process heater according to §63.7521 and Table 6 to this subpart, except as specified in paragraphs (a)(2)(i) through (iii) of this section. (40 CFR 63.7510(a)(2))

<u>Table 6</u> to Subpart DDDDD of Part 63 —Fuel Analysis Requirements (*use if applicable*)

To conduct a fuel analysis for the following pollutant ...	The owner or operator shall ...	Using ...
1. Mercury	a. Collect fuel samples	Procedure in §63.7521(c) or ASTM D5192[a], or ASTM D7430 [a], or ASTM D6883 [a], or ASTM D2234/D2234M [a](for

		coal) or EPA 1631 or EPA 1631E or ASTM D6323 [a] (for solid), or EPA 821-R-01-013 (for liquid or solid), or ASTM D4177 [a] (for liquid), or ASTM D4057 [a] (for liquid), or equivalent.
	b. Composite fuel samples	Procedure in §63.7521(d) or equivalent.
	c. Prepare composited fuel samples	EPA SW-846-3050B [a] (for solid samples), EPA SW-846-3020A [a] (for liquid samples), ASTM D2013/D2013M [a] (for coal), ASTM D5198 [a] (for biomass), or EPA 3050 [a] (for solid fuel), or EPA 821-R-01-013 [a] (for liquid or solid), or equivalent.
	d. Determine heat content of the fuel type	ASTM D5865 [a] (for coal) or ASTM E711 [a] (for biomass), or ASTM D5864 [a] for liquids and other solids, or ASTM D240 [a] or equivalent.
	e. Determine moisture content of the fuel type	ASTM D3173 [a], ASTM E871 [a], or ASTM D5864 [a], or ASTM D240, or ASTM D95 [a] (for liquid fuels), or ASTM D4006 [a] (for liquid fuels), or ASTM D4177 [a] (for liquid fuels) or ASTM D4057 [a] (for liquid fuels), or equivalent.
	f. Measure mercury concentration in fuel sample	ASTM D6722 [a] (for coal), EPA SW-846-7471B [a] (for solid samples), or EPA SW-846-7470A [a] (for liquid samples), or equivalent.
	g. Convert concentration into units of pounds of mercury per MMBtu of heat content	Equation 8 in §63.7530.
	h. Calculate the mercury emission rate from the boiler or process heater in units of pounds per million Btu	Equations 10 and 12 in §63.7530.
2. HCl	a. Collect fuel samples	Procedure in §63.7521(c) or ASTM D5192 [a], or ASTM D7430 [a], or ASTM D6883 [a], or ASTM D2234/D2234M [a] (for coal) or ASTM D6323 [a] (for coal or biomass), ASTM D4177 [a] (for

		liquid fuels) or ASTM D4057 [a] (for liquid fuels), or equivalent.
	b. Composite fuel samples	Procedure in §63.7521(d) or equivalent.
	c. Prepare composited fuel samples	EPA SW-846-3050B [a] (for solid samples), EPA SW-846-3020A [a] (for liquid samples), ASTM D2013/D2013M §[a] (for coal), or ASTM D5198 §[a] (for biomass), or EPA 3050 [a] or equivalent.
	d. Determine heat content of the fuel type	ASTM D5865 [a] (for coal) or ASTM E711 [a] (for biomass), ASTM D5864, ASTM D240 [a] or equivalent.
	e. Determine moisture content of the fuel type	ASTM D3173 [a] or ASTM E871 [a], or D5864 [a], or ASTM D240 [a], or ASTM D95[a] (for liquid fuels), or ASTM D4006 [a] (for liquid fuels), or ASTM D4177 [a] (for liquid fuels) or ASTM D4057 [a] (for liquid fuels) or equivalent.
	f. Measure chlorine concentration in fuel sample	EPA SW-846-9250[a], ASTM D6721 [a], ASTM D4208 [a] (for coal), or EPA SW-846-5050 [a] or ASTM E776 [a] (for solid fuel), or EPA SW-846-9056 [a] or SW-846-9076 [a] (for solids or liquids) or equivalent.
	g. Convert concentrations into units of pounds of HCl per MMBtu of heat content	Equation 7 in §63.7530.
	h. Calculate the HCl emission rate from the boiler or process heater in units of pounds per million Btu	Equations 10 and 11 in §63.7530.
3. Mercury Fuel Specification for other gas 1 fuels	a. Measure mercury concentration in the fuel sample and convert to units of micrograms per cubic meter	Method 30B (M30B) at 40 CFR part 60, appendix A-8 of this chapter or ASTM D5954 [a], ASTM D6350 [a], ISO 6978-1:2003(E) [a], or ISO 6978-2:2003(E) [a], or EPA-1631 [a] or equivalent.
	b. Measure mercury concentration in the exhaust gas when firing only the other gas 1 fuel is fired in the boiler or process heater	Method 29, 30A, or 30B (M29, M30A, or M30B) at 40 CFR part 60, appendix A-8 of this chapter or Method 101A or Method 102 at 40 CFR part 61, appendix B of this chapter, or ASTM

		Method D6784 [a] or equivalent.
4. TSM for solid fuels	a. Collect fuel samples	Procedure in §63.7521(c) or ASTM D5192 [a], or ASTM D7430 [a], or ASTM D6883 [a], or ASTM D2234/D2234M [a] (for coal) or ASTM D6323 [a] (for coal or biomass), or ASTM D4177 [a],(for liquid fuels)or ASTM D4057 [a] (for liquid fuels),or equivalent.
	b. Composite fuel samples	Procedure in §63.7521(d) or equivalent.
	c. Prepare composited fuel samples	EPA SW-846-3050B [a] (for solid samples), EPA SW-846-3020A [a] (for liquid samples), ASTM D2013/D2013M [a] (for coal), ASTM D5198 [a] or TAPPI T266 [a] (for biomass), or EPA 3050 [a] or equivalent.
	d. Determine heat content of the fuel type	ASTM D5865 [a] (for coal) or ASTM E711 [a] (for biomass), or ASTM D5864 [a] for liquids and other solids, or ASTM D240 [a] or equivalent.
	e. Determine moisture content of the fuel type	ASTM D3173 [a] or ASTM E871 [a], or D5864, or ASTM D240 [a], or ASTM D95 [a] (for liquid fuels), or ASTM D4006[a] (for liquid fuels), or ASTM D4177 [a] (for liquid fuels) or ASTM D4057 [a] (for liquid fuels), or equivalent.
	f. Measure TSM concentration in fuel sample	ASTM D3683 [a], or ASTM D4606[a], or ASTM D6357 [a] or EPA 200.8 [a] or EPA SW-846-6020 [a], or EPA SW-846-6020A [a], or EPA SW-846-6010C [a], EPA 7060 [a] or EPA 7060A [a] (for arsenic only), or EPA SW-846-7740 [a] (for selenium only).
	g. Convert concentrations into units of pounds of TSM per MMBtu of heat content	Equation 9 in §63.7530.
	h. Calculate the TSM emission rate from the boiler or process heater in units of pounds per million Btu	Equations 10 and 13 in §63.7530.

[a] Incorporated by reference, see §63.14.

(a) For each boiler or process heater that burns a single type of fuel, you are not required to conduct a fuel analysis for each type of fuel burned in your boiler or process heater according to §63.7521 and Table 6 to this subpart. For purposes of this subpart, units that use a supplemental fuel only for startup, unit shutdown, and transient flame stability purposes still qualify as units that burn a single type of fuel, and the supplemental fuel is not subject to the fuel analysis requirements under §63.7521 and Table 6 to this subpart. (40 CFR 63.7510(a)(2)(i))

(b) When natural gas, refinery gas, or other gas 1 fuels are co-fired with other fuels, you are not required to conduct a fuel analysis of those fuels according to §63.7521 and Table 6 to this subpart. If gaseous fuels other than natural gas, refinery gas, or other gas 1 fuels are co-fired with other fuels and those gaseous fuels are subject to another subpart of this part, part 60, part 61, or part 65, you are not required to conduct a fuel analysis of those fuels according to §63.7521 and Table 6 to this subpart. (40 CFR 63.7510(a)(2)(ii))

(c) You are not required to conduct a chlorine fuel analysis for any gaseous fuels. The owner or operator shall conduct a fuel analysis for mercury on gaseous fuels unless the fuel is exempted in paragraphs (a)(2)(i) and (ii) of this section. (40 CFR 63.7510(a)(2)(iii))

3) Establish operating limits according to §63.7530 and Table 7 to this subpart. (40 CFR 63.7510(a)(3))

Table 7 to Subpart DDDDD of Part 63 —Establishing Operating Limits (*use if applicable*)

If you have an applicable emission limit for	**And your operating limits are based on ...**	**The owner or operator shall ...**	**Using ...**	**According to the following requirements**
2. HCl	b. Dry scrubber operating parameters	i. Establish a site-specific minimum sorbent injection rate operating limit according to §63.7530(b). If different acid gas sorbents are used during the HCl	(1) Data from the sorbent injection rate monitors and HCl or mercury performance test	(a) The owner or operator shall collect sorbent injection rate data every 15 minutes during the entire period of the performance tests.
				(b) Determine the hourly average sorbent injection rate by computing the hourly averages using all of the 15-minute readings taken during

		performance test, the average value for each sorbent becomes the site-specific operating limit for that sorbent		each performance test.
				(c) Determine the lowest hourly average of the three test run averages established during the performance test as your operating limit. When your unit operates at lower loads, multiply your sorbent injection rate by the load fraction (e.g., for 50 percent load, multiply the injection rate operating limit by 0.5) to determine the required injection rate.
4. Carbon monoxide	a. Oxygen	i. Establish a unit-specific limit for minimum oxygen level according to §63.7520	(1) Data from the oxygen analyzer system specified in §63.7525(a)	(a) The owner or operator shall collect oxygen data every 15 minutes during the entire period of the performance tests.
				(b) Determine the hourly average oxygen concentration by computing the hourly averages using all of the 15-minute readings taken during each performance test.
				(c) Determine the lowest hourly average established during the performance test as your minimum operating limit.
5. Any pollutant for which compliance is demonstrated by a performance test	a. Boiler or process heater operating load	i. Establish a unit specific limit for maximum operating load according to §63.7520(c)	(1) Data from the operating load monitors or from steam generation monitors	(a) The owner or operator shall collect operating load or steam generation data every 15 minutes during the entire period of the performance test.
				(b) Determine the average operating load by computing the hourly averages using all of the 15-minute readings taken during each performance test.
				(c) Determine the average of the three test run averages during the performance test, and multiply this by 1.1 (110 percent) as your operating limit.

4) Conduct CMS performance evaluations according to § 63.7525. (40 CFR 63.7510(a)(4))

ii. For each boiler or process heater that you elect to demonstrate compliance with the applicable emission limits in Tables 2 to this subpart for HCl, mercury, or TSM through fuel analysis, your initial compliance requirement is to conduct a fuel analysis for each type of fuel burned in your boiler or process heater according to §63.7521 and Table 6 to this subpart and establish operating limits according to §63.7530 and Table 7 to this subpart. The fuels described in paragraph (a)(2)(i) and (ii) of this section are exempt from these fuel analysis and operating limit requirements. The fuels described in paragraph (a)(2)(ii) of this section are exempt from the chloride fuel analysis and operating limit requirements. Boilers and process heaters that use a CEMS for mercury or HCl are exempt from the performance testing and operating limit requirements specified in paragraph (a) of this section for the HAP for which CEMS are used. (40 CFR 63.7510(b))

iii. If your boiler or process heater is subject to a carbon monoxide (CO) limit, your initial compliance demonstration for CO is to conduct a performance test for CO according to Table 5 to this subpart or conduct a performance evaluation of your continuous CO monitor, if applicable, according to §63.7525(a). Boilers and process heaters that use a CO CEMS to comply with the applicable alternative CO CEMS emission standard listed in Tables 12, or 11 through 13 to this subpart, as specified in §63.7525(a), are exempt from the initial CO performance testing and oxygen concentration operating limit requirements specified in paragraph (a) of this section. (40 CFR 63.7510(c))

iv. If your boiler or process heater is subject to a PM limit, your initial compliance demonstration for PM is to conduct a performance test in accordance with §63.7520 and Table 5 to this subpart. (40 CFR 63.7510(d))

v. For existing affected sources (as defined in §63.7490), the owner or operator shall complete the initial compliance demonstration, as specified in paragraphs (a) through (d) of this section, no later than 180 days after the compliance date that is specified for your source in §63.7495 and according to the applicable provisions in §63.7(a)(2) as cited in Table 10 to this subpart, except as specified in paragraph (j) of this section. The owner or operator shall complete an initial tune-up by following the procedures described in §63.7540(a)(10)(i) through (vi) no later than the compliance date specified in §63.7495, except as specified in paragraph (j) of this section. The owner or operator shall complete the one-time energy assessment specified in Table 3 to this subpart no later than the compliance date specified in §63.7495, except as specified in paragraph (j) of this section. (40 CFR 63.7510(e))

vi. For new or reconstructed affected sources (as defined in § 63.7490), you must complete the initial compliance demonstration with the emission limits no later than July 30, 2013 or within 180 days after startup of the source, whichever is later. If you are demonstrating compliance with an emission limit in Tables 11 through 13 to this subpart that is less stringent (that is, higher) than the applicable emission limit in Table 1 to this subpart, you must demonstrate compliance with the applicable emission limit in Table 1 no later than July 29, 2016. (40 CFR 63.7510(f))

vii. For new or reconstructed affected sources (as defined in § 63.7490), you must demonstrate initial compliance with the applicable work practice standards in Table 3 to this subpart within the applicable annual, biennial, or 5-year schedule as specified in § 63.7540(a) following the initial compliance date specified in § 63.7495(a). Thereafter, you are required to complete the applicable annual, biennial, or 5-year tune-up as specified in § 63.7540(a). (40 CFR 63.7510(g))

viii. For existing affected sources (as defined in §63.7490) that have not operated between the effective date of the rule and the compliance date that is specified for your source in §63.7495, the owner or operator shall complete the initial compliance demonstration, if subject to the emission limits in Table 2 to this subpart, as specified in paragraphs (a) through (d) of this section, no later than 180 days after the re-start of the affected source and according to the applicable provisions in §63.7(a)(2) as cited in Table 10 to this subpart. The owner or operator shall complete an initial tune-up by following the procedures described in §63.7540(a)(10)(i) through (vi) no later than 30 days after the re-start of the affected source and, if applicable, complete the one-time energy assessment specified in Table 3 to this subpart, no later than the compliance date specified in §63.7495. (40 CFR 63.7510(j))

b. **Subsequent performance tests, fuel analyses, or tune-ups (40 CFR 63.7515)**

i. The owner or operator shall conduct all applicable performance tests according to §63.7520 on an annual basis, except as specified in paragraphs (b) through (e), (g), and (h) of this section. Annual performance tests must be completed no more than 13 months after the previous performance test, except as specified in paragraphs (b) through (e), (g), and (h) of this section. (40 CFR 63.7515(a))

ii. If your performance tests for a given pollutant for at least 2 consecutive years show that your emissions are at or below 75 percent of the emission limit (or, in limited instances as specified in Tables 1 and 2 or 11 through 13 to this subpart, at or below the emission limit) for the pollutant, and if there are no changes in the operation of the individual boiler or process heater or air pollution control equipment that could increase emissions,

you may choose to conduct performance tests for the pollutant every third year. Each such performance test must be conducted no more than 37 months after the previous performance test. If you elect to demonstrate compliance using emission averaging under §63.7522, the owner or operator shall continue to conduct performance tests annually. The requirement to test at maximum chloride input level is waived unless the stack test is conducted for HCl. The requirement to test at maximum mercury input level is waived unless the stack test is conducted for mercury. The requirement to test at maximum TSM input level is waived unless the stack test is conducted for TSM. (40 CFR 63.7515(b))

iii. If a performance test shows emissions exceeded the emission limit or 75 percent of the emission limit (as specified in Tables 1 and 2 or 11 through 13 to this subpart) for a pollutant, the owner or operator shall conduct annual performance tests for that pollutant until all performance tests over a consecutive 2-year period meet the required level (at or below 75 percent of the emission limit, as specified in Tables 1 and 2 or 11 through 13 to this subpart). (40 CFR 63.7515(c))

iv. If you are required to meet an applicable tune-up work practice standard, the owner or operator shall conduct an annual, biennial, or 5-year performance tune-up according to §63.7540(a)(10), (11), or (12), respectively. Each annual tune-up specified in §63.7540(a)(10) must be no more than 13 months after the previous tune-up. Each biennial tune-up specified in §63.7540(a)(11) must be conducted no more than 25 months after the previous tune-up. Each 5-year tune-up specified in §63.7540(a)(12) must be conducted no more than 61 months after the previous tune-up. For a new or reconstructed affected source (as defined in §63.7490), the first annual, biennial, or 5-year tune-up must be no later than 13 months, 25 months, or 61 months, respectively, after the initial startup of the new or reconstructed affected source. (40 CFR 63.7515(d))

v. If you demonstrate compliance with the mercury, HCl, or TSM based on fuel analysis, the owner or operator shall conduct a monthly fuel analysis according to §63.7521 for each type of fuel burned that is subject to an emission limit in Tables 1, 2, or 11 through 13 to this subpart. You may comply with this monthly requirement by completing the fuel analysis any time within the calendar month as long as the analysis is separated from the previous analysis by at least 14 calendar days. If you burn a new type of fuel, the owner or operator shall conduct a fuel analysis before burning the new type of fuel in your boiler or process heater. The owner or operator shall still meet all applicable continuous compliance requirements in §63.7540. If each of 12 consecutive monthly fuel analyses demonstrates 75 percent or less of the compliance level, you may decrease the fuel analysis frequency to quarterly for that fuel. If any quarterly sample exceeds 75 percent of the compliance level or you begin burning a new

type of fuel, the owner or operator shall return to monthly monitoring for that fuel, until 12 months of fuel analyses are again less than 75 percent of the compliance level. (40 CFR 63.7515(e))

vi. The owner or operator shall report the results of performance tests and the associated fuel analyses within 60 days after the completion of the performance tests. This report must also verify that the operating limits for each boiler or process heater have not changed or provide documentation of revised operating limits established according to §63.7530 and Table 7 to this subpart, as applicable. The reports for all subsequent performance tests must include all applicable information required in §63.7550. (40 CFR 63.7515(f))

vii. For affected sources (as defined in §63.7490) that have not operated since the previous compliance demonstration and more than one year has passed since the previous compliance demonstration, the owner or operator shall complete the subsequent compliance demonstration, if subject to the emission limits in Tables 1, 2, or 11 through 13 to this subpart, no later than 180 days after the re-start of the affected source and according to the applicable provisions in §63.7(a)(2) as cited in Table 10 to this subpart. The owner or operator shall complete a subsequent tune-up by following the procedures described in §63.7540(a)(10)(i) through (vi) and the schedule described in §63.7540(a)(13) for units that are not operating at the time of their scheduled tune-up. (40 CFR 63.7515(g))

c. **Stack tests and procedures (40 CFR 63.7520)**

i. The owner or operator shall conduct all performance tests according to §63.7(c), (d), (f), and (h). The owner or operator shall also develop a site-specific stack test plan according to the requirements in §63.7(c). You shall conduct all performance tests under such conditions as the Administrator specifies to you based on the representative performance of each boiler or process heater for the period being tested. Upon request, you shall make available to the Administrator such records as may be necessary to determine the conditions of the performance tests. (40 CFR 63.7520(a))

ii. The owner or operator shall conduct each performance test according to the requirements in Table 5 to this subpart. (40 CFR 63.7520(b))

iii. The owner or operator shall conduct each performance test under the specific conditions listed in Tables 5 and 7 to this subpart. The owner or operator shall conduct performance tests at representative operating load conditions while burning the type of fuel or mixture of fuels that has the highest content of chlorine and mercury, and TSM if you are opting to comply with the TSM alternative standard and the owner or operator shall

demonstrate initial compliance and establish your operating limits based on these performance tests. These requirements could result in the need to conduct more than one performance test. Following each performance test and until the next performance test, the owner or operator shall comply with the operating limit for operating load conditions specified in Table 4 to this subpart. (40 CFR 63.7520(c))

iv. The owner or operator shall conduct a minimum of three separate test runs for each performance test required in this section, as specified in §63.7(e)(3). Each test run must comply with the minimum applicable sampling times or volumes specified in Tables 1 and 2 or 11 through 13 to this subpart. (40 CFR 63.7520(d))

v. To determine compliance with the emission limits, the owner or operator shall use the F-Factor methodology and equations in sections 12.2 and 12.3 of EPA Method 19 at 40 CFR part 60, appendix A-7 of this chapter to convert the measured particulate matter (PM) concentrations, the measured HCl concentrations, the measured mercury concentrations, and the measured TSM concentrations that result from the performance test to pounds per million Btu heat input emission rates. (40 CFR 63.7520(e))

vi. Except for a 30-day rolling average based on CEMS (or sorbent trap monitoring system) data, if measurement results for any pollutant are reported as below the method detection level (e.g., laboratory analytical results for one or more sample components are below the method defined analytical detection level), the owner or operator shall use the method detection level as the measured emissions level for that pollutant in calculating compliance. The measured result for a multiple component analysis (e.g., analytical values for multiple Method 29 fractions both for individual HAP metals and for total HAP metals) may include a combination of method detection level data and analytical data reported above the method detection level. (40 CFR 63.7520(f))

d. **Fuel analyses, fuel specification, and procedures (40 CFR 63.7521)**

i. For solid and liquid fuels, the owner or operator shall conduct fuel analyses for chloride and mercury according to the procedures in paragraphs (b) through (e) of this section and Table 6 to this subpart, as applicable. For solid fuels and liquid fuels, the owner or operator shall also conduct fuel analyses for TSM if you are opting to comply with the TSM alternative standard. For gas 2 (other) fuels, the owner or operator shall conduct fuel analyses for mercury according to the procedures in paragraphs (b) through (e) of this section and Table 6 to this subpart, as applicable. (For gaseous fuels, you may not use fuel analyses to comply with the TSM alternative standard or the HCl standard.) For purposes of complying with this section, a fuel gas system that consists of multiple

gaseous fuels collected and mixed with each other is considered a single fuel type and sampling and analysis is only required on the combined fuel gas system that will feed the boiler or process heater. Sampling and analysis of the individual gaseous streams prior to combining is not required. You are not required to conduct fuel analyses for fuels used for only startup, unit shut down, and transient flame stability purposes. You are required to conduct fuel analyses only for fuels and units that are subject to emission limits for mercury, HCl, or TSM in Tables 1 and 2 or 11 through 13 to this subpart. Gaseous and liquid fuels are exempt from the sampling requirements in paragraphs (c) and (d) of this section and Table 6 to this subpart. (40 CFR 63.7521(a))

ii. The owner or operator shall develop a site-specific fuel monitoring plan according to the following procedures and requirements in paragraphs (b)(1) and (2) of this section, if you are required to conduct fuel analyses as specified in §63.7510. (40 CFR 63.7521(b))

1) If you intend to use an alternative analytical method other than those required by Table 6 to this subpart, the owner or operator shall submit the fuel analysis plan to the Administrator for review and approval no later than 60 days before the date that you intend to conduct the initial compliance demonstration described in §63.7510. (40 CFR 63.7521(b)(1))

2) The owner or operator shall include the information contained in paragraphs (b)(2)(i) through (vi) of this section in your fuel analysis plan. (40 CFR 63.7521(b)(2))

(a) The identification of all fuel types anticipated to be burned in each boiler or process heater. (40 CFR 63.7521(b)(2)(i))

(b) For each anticipated fuel type, the notification of whether you or a fuel supplier will be conducting the fuel analysis. (40 CFR 63.7521(b)(2)(ii))

(c) For each anticipated fuel type, a detailed description of the sample location and specific procedures to be used for collecting and preparing the composite samples if your procedures are different from paragraph (c) or (d) of this section. Samples should be collected at a location that most accurately represents the fuel type, where possible, at a point prior to mixing with other dissimilar fuel types. (40 CFR 63.7521(b)(2)(iii))

(d) For each anticipated fuel type, the analytical methods from Table 6, with the expected minimum detection levels, to be

used for the measurement of chlorine or mercury. (40 CFR 63.7521(b)(2)(iv))

(e) If you request to use an alternative analytical method other than those required by Table 6 to this subpart, the owner or operator shall also include a detailed description of the methods and procedures that you are proposing to use. Methods in Table 6 shall be used until the requested alternative is approved. (40 CFR 63.7521(b)(2)(v))

(f) If you will be using fuel analysis from a fuel supplier in lieu of site-specific sampling and analysis, the fuel supplier must use the analytical methods required by Table 6 to this subpart. (40 CFR 63.7521(b)(2)(vi))

iii. At a minimum, the owner or operator shall obtain three composite fuel samples for each fuel type according to the procedures in paragraph (c)(1) or (2) of this section, or the methods listed in Table 6 to this subpart, or use an automated sampling mechanism that provides representative composite fuel samples for each fuel type that includes both coarse and fine material. (40 CFR 63.7521(c))

1) If sampling from a belt (or screw) feeder, collect fuel samples according to paragraphs (c)(1)(i) and (ii) of this section. (40 CFR 63.7521(c)(1))

(a) Stop the belt and withdraw a 6-inch wide sample from the full cross-section of the stopped belt to obtain a minimum two pounds of sample. The owner or operator shall collect all the material (fines and coarse) in the full cross-section. The owner or operator shall transfer the sample to a clean plastic bag. (40 CFR 63.7521(c)(1)(i))

(b) Each composite sample will consist of a minimum of three samples collected at approximately equal one-hour intervals during the testing period for sampling during performance stack testing. For monthly sampling, each composite sample shall be collected at approximately equal 10-day intervals during the month. (40 CFR 63.7521(c)(1)(ii))

2) If sampling from a fuel pile or truck, the owner or operator shall collect fuel samples according to paragraphs (c)(2)(i) through (iii) of this section. (40 CFR 63.7521(c)(2))

(a) For each composite sample, the owner or operator shall select a minimum of five sampling locations uniformly spaced over the surface of the pile. (40 CFR 63.7521(c)(2)(i))

(b) At each sampling site, the owner or operator shall dig into the pile to a uniform depth of approximately 18 inches. The owner or operator shall insert a clean shovel into the hole and withdraw a sample, making sure that large pieces do not fall off during sampling; use the same shovel to collect all samples. (40 CFR 63.7521(c)(2)(ii))

(c) The owner or operator shall transfer all samples to a clean plastic bag for further processing. (40 CFR 63.7521(c)(2)(iii))

iv. The owner or operator shall prepare each composite sample according to the procedures in paragraphs (d)(1) through (7) of this section. (40 CFR 63.7521(d))

1) The owner or operator shall thoroughly mix and pour the entire composite sample over a clean plastic sheet. (40 CFR 63.7521(d)(1))

2) The owner or operator shall break large sample pieces (e.g., larger than 3 inches) into smaller sizes. (40 CFR 63.7521(d)(2))

3) The owner or operator shall make a pie shape with the entire composite sample and subdivide it into four equal parts. (40 CFR 63.7521(d)(3))

4) The owner or operator shall separate one of the quarter samples as the first subset. (40 CFR 63.7521(d)(4))

5) If this subset is too large for grinding, the owner or operator shall repeat the procedure in paragraph (d)(3) of this section with the quarter sample and obtain a one-quarter subset from this sample. (40 CFR 63.7521(d)(5))

6) The owner or operator shall grind the sample in a mill. (40 CFR 63.7521(d)(6))

7) The owner or operator shall use the procedure in paragraph (d)(3) of this section to obtain a one-quarter subsample for analysis. If the quarter sample is too large, subdivide it further using the same procedure. (40 CFR 63.7521(d)(7))

v. The owner or operator shall determine the concentration of pollutants in the fuel (mercury and/or chlorine and/or TSM) in units of pounds per million Btu of each composite sample for each fuel type according to the procedures in Table 6 to this subpart, for use in Equations 7, 8, and 9 of this subpart. (40 CFR 63.7521(e))

vi. The owner or operator shall obtain a single fuel sample for each fuel type according to the sampling procedures listed in Table 6 for fuel specification of gaseous fuels. (40 CFR 63.7521(h))

e. **Using emissions averaging to comply with this subpart (40 CFR 63.7522)**

i. As an alternative to meeting the requirements of §63.7500 for PM (or TSM), HCl, or mercury on a boiler or process heater-specific basis, if you have more than one existing boiler or process heater in any subcategories located at your facility, you may demonstrate compliance by emissions averaging, if your averaged emissions are not more than 90 percent of the applicable emission limit, according to the procedures in this section. You may not include new boilers or process heaters in an emissions average. (40 CFR 63.7522(a))

ii. For a group of two or more existing boilers or process heaters in the same subcategory that each vent to a separate stack, you may average PM (or TSM), HCl, or mercury emissions among existing units to demonstrate compliance with the limits in Table 2 to this subpart as specified in paragraph (b)(1) through (3) of this section, if you satisfy the requirements in paragraphs (c) through (g) of this section. (40 CFR 63.7522(b))

1) You may average units using a CEMS or PM CPMS for demonstrating compliance. (40 CFR 63.7522(b)(1))

2) For mercury and HCl, averaging is allowed as follows: (40 CFR 63.7522(b)(2))

(a) You may average among units in any of the solid fuel subcategories. (40 CFR 63.7522(b)(2)(i))

(b) You may average among units in any of the liquid fuel subcategories. (40 CFR 63.7522(b)(2)(ii))

(c) You may average among units in a subcategory of units designed to burn gas 2 (other) fuels. (40 CFR 63.7522(b)(2)(iii))

(d) You may not average across the units designed to burn liquid, units designed to burn solid fuel, and units designed to burn gas 2 (other) subcategories. (40 CFR 63.7522(b)(2)(iv))

3) For PM (or TSM), averaging is only allowed between units within each of the following subcategories and you may not average across subcategories: (40 CFR 63.7522(b)(3))

(a) Units designed to burn coal/solid fossil fuel. (40 CFR 63.7522(b)(3)(i))

iii. For each existing boiler or process heater in the averaging group, the emission rate achieved during the initial compliance test for the HAP being averaged must not exceed the emission level that was being achieved on January 31, 2013 or the control technology employed during the initial compliance test must not be less effective for the HAP being averaged than the control technology employed on January 31, 2013. (40 CFR 63.7522(c))

iv. The averaged emissions rate from the existing boilers and process heaters participating in the emissions averaging option must not exceed 90 percent of the limits in Table 2 to this subpart at all times the affected units are operating following the compliance date specified in §63.7495. (40 CFR 63.7522(d))

v. The owner or operator shall demonstrate initial compliance according to paragraph (e)(1) or (2) of this section using the maximum rated heat input capacity or maximum steam generation capacity of each unit and the results of the initial performance tests or fuel analysis. (40 CFR 63.7522(e))

1) The owner or operator shall use Equation 1a or 1b or 1c of this section to demonstrate that the PM (or TSM), HCl, or mercury emissions from all existing units participating in the emissions averaging option for that pollutant do not exceed the emission limits in Table 2 to this subpart. Use Equation 1a if you are complying with the emission limits on a heat input basis, use Equation 1b if you are complying with the emission limits on a steam generation (output) basis, and use Equation 1c if you are complying with the emission limits on a electric generation (output) basis. (40 CFR 63.7522(e)(1))

$$AveWeightedEmissions = 1.1 \times \sum_{i=1}^{n} (Er \times Hm) \div \sum_{i=1}^{n} Hm \qquad (Eq.1a)$$

Where:

AveWeightedEmissions = Average weighted emissions for PM (or TSM), HCl, or mercury, in units of pounds per million Btu of heat input.
Er = Emission rate (as determined during the initial compliance demonstration) of PM (or TSM), HCl, or mercury from unit, i, in units of pounds per million Btu of heat input. Determine the emission rate for PM (or TSM), HCl, or mercury by performance testing according to Table 5 to this subpart, or by fuel analysis for HCl or mercury or TSM using the applicable equation in §63.7530(c).
Hm = Maximum rated heat input capacity of unit, i, in units of million Btu per hour.
n = Number of units participating in the emissions averaging option.
1.1 = Required discount factor.

$$AveWeightedEmissions = 1.1 \times \sum_{i=1}^{n} (Er \times So) \div \sum_{i=1}^{n} So \qquad (Eq.1b)$$

Where:

AveWeightedEmissions = Average weighted emissions for PM (or TSM), HCl, or mercury, in units of pounds per million Btu of steam output.
Er = Emission rate (as determined during the initial compliance demonstration) of PM (or TSM), HCl, or mercury from unit, i, in units of pounds per million Btu of steam output. Determine the emission rate for PM (or TSM), HCl, or mercury by performance testing according to Table 5 to this subpart, or by fuel analysis for HCl or mercury or TSM using the applicable equation in §63.7530(c). If you are taking credit for energy conservation measures from a unit according to §63.7533, use the adjusted emission level for that unit, Eadj, determined according to §63.7533 for that unit.
So = Maximum steam output capacity of unit, i, in units of million Btu per hour, as defined in §63.7575.
n = Number of units participating in the emissions averaging option.
1.1 = Required discount factor.

$$AveWeightedEmissions = 1.1 \times \sum_{i=1}^{n} (Er \times Eo) \div \sum_{i=1}^{n} Eo \qquad (Eq.1c)$$

Where:

AveWeightedEmissions = Average weighted emissions for PM (or TSM), HCl, or mercury, in units of pounds per megawatt hour.
Er = Emission rate (as determined during the initial compliance demonstration) of PM (or TSM), HCl, or mercury from unit, i, in units of pounds per megawatt hour. Determine the emission rate for PM (or TSM), HCl, or mercury by performance testing according to Table 5 to this subpart, or by fuel analysis for HCl or mercury or TSM using the applicable equation in §63.7530(c). If you are taking credit for energy conservation measures from a unit according to §63.7533, use the adjusted emission level for that unit, Eadj, determined according to §63.7533 for that unit.
Eo = Maximum electric generating output capacity of unit, i, in units of megawatt hour, as defined in §63.7575.
n = Number of units participating in the emissions averaging option.
1.1 = Required discount factor.

2) If you are not capable of determining the maximum rated heat input capacity of one or more boilers that generate steam, you may use Equation 2 of this section as an alternative to using Equation 1a of this section to demonstrate that the PM (or TSM), HCl, or mercury emissions from all existing units participating in the emissions averaging option do not exceed the emission limits for that pollutant in Table 2 to this subpart that are in pounds per million Btu of heat input. (40 CFR 63.7522(e)(2))

$$AveWeightedEmissions = 1.1 \times \sum_{i=1}^{n}(Er \times Sm \times Cfi) \div \sum_{i=1}^{n}(Sm \times Cfi) \qquad (Eq.2)$$

Where:

AveWeightedEmissions = Average weighted emission level for PM (or TSM), HCl, or mercury, in units of pounds per million Btu of heat input.
Er = Emission rate (as determined during the most recent compliance demonstration) of PM (or TSM), HCl, or mercury from unit, i, in units of pounds per million Btu of heat input. Determine the emission rate for PM (or TSM), HCl, or mercury by performance testing according to Table 5 to this subpart, or by fuel analysis for HCl or mercury or TSM using the applicable equation in §63.7530(c).
Sm = Maximum steam generation capacity by unit, i, in units of pounds per hour.
Cfi = Conversion factor, calculated from the most recent compliance test, in units of million Btu of heat input per pounds of

steam generated for unit, i.
1.1 = Required discount factor.

vi. After the initial compliance demonstration described in paragraph (e) of this section, the owner or operator shall demonstrate compliance on a monthly basis determined at the end of every month (12 times per year) according to paragraphs (f)(1) through (3) of this section. The first monthly period begins on the compliance date specified in §63.7495. If the affected source elects to collect monthly data for up the 11 months preceding the first monthly period, these additional data points can be used to compute the 12-month rolling average in paragraph (f)(3) of this section. (40 CFR 63.7522(f))

1) For each calendar month, the owner or operator shall use Equation 3a or 3b or 3c of this section to calculate the average weighted emission rate for that month. Use Equation 3a and the actual heat input for the month for each existing unit participating in the emissions averaging option if you are complying with emission limits on a heat input basis. Use Equation 3b and the actual steam generation for the month if you are complying with the emission limits on a steam generation (output) basis. Use Equation 3c and the actual steam generation for the month if you are complying with the emission limits on a electrical generation (output) basis. (40 CFR 63.7522(f)(1))

$$AveWeightedEmissions = 1.1 \times \sum_{i=1}^{n} (Er \times Hb) \div \sum_{i=1}^{n} Hb \qquad (Eq.3a)$$

Where:

AveWeightedEmissions = Average weighted emission level for PM (or TSM), HCl, or mercury, in units of pounds per million Btu of heat input, for that calendar month.
Er = Emission rate (as determined during the most recent compliance demonstration) of PM (or TSM), HCl, or mercury from unit, i, in units of pounds per million Btu of heat input. Determine the emission rate for PM (or TSM), HCl, or mercury by performance testing according to Table 5 to this subpart, or by fuel analysis for HCl or mercury or TSM according to Table 6 to this subpart.
Hb = The heat input for that calendar month to unit, i, in units of million Btu.
n = Number of units participating in the emissions averaging option.
1.1 = Required discount factor.

$$AveWeightedEmissions = 1.1 \times \sum_{i=1}^{n} (Er \times So) \div \sum_{i=1}^{n} So \quad (Eq. 3b)$$

Where:

AveWeightedEmissions = Average weighted emission level for PM (or TSM), HCl, or mercury, in units of pounds per million Btu of steam output, for that calendar month.
Er = Emission rate (as determined during the most recent compliance demonstration) of PM (or TSM), HCl, or mercury from unit, i, in units of pounds per million Btu of steam output. Determine the emission rate for PM (or TSM), HCl, or mercury by performance testing according to Table 5 to this subpart, or by fuel analysis for HCl or mercury or TSM according to Table 6 to this subpart. If you are taking credit for energy conservation measures from a unit according to §63.7533, use the adjusted emission level for that unit, E_{adj} , determined according to §63.7533 for that unit.
So = The steam output for that calendar month from unit, i, in units of million Btu, as defined in §63.7575.
n = Number of units participating in the emissions averaging option.
1.1 = Required discount factor.

$$AveWeightedEmissions = 1.1 \times \sum_{i=1}^{n} (Er \times Eo) \div \sum_{i=1}^{n} Eo \quad (Eq. 3c)$$

Where:

AveWeightedEmissions = Average weighted emission level for PM (or TSM), HCl, or mercury, in units of pounds per megawatt hour, for that calendar month.
Er = Emission rate (as determined during the most recent compliance demonstration) of PM (or TSM), HCl, or mercury from unit, i, in units of pounds per megawatt hour. Determine the emission rate for PM (or TSM), HCl, or mercury by performance testing according to Table 5 to this subpart, or by fuel analysis for HCl or mercury or TSM according to Table 6 to this subpart. If you are taking credit for energy conservation measures from a unit according to §63.7533, use the adjusted emission level for that unit, E_{adj} , determined according to §63.7533 for that unit.
Eo = The electric generating output for that calendar month from unit, i, in units of megawatt hour, as defined in §63.7575.
n = Number of units participating in the emissions averaging option.
1.1 = Required discount factor.

2) If you are not capable of monitoring heat input, you may use Equation 4 of this section as an alternative to using Equation 3a of this section to calculate the average weighted emission rate using the actual steam generation from the boilers participating in the emissions averaging option. (40 CFR 63.7522(f)(2))

$$AveWeightedEmissions = 1.1 \times \sum_{i=1}^{n}(Er \times Sa \times Cfi) \div \sum_{i=1}^{n}(Sa \times Cfi) \qquad (Eq.4)$$

Where:

AveWeightedEmissions = average weighted emission level for PM (or TSM), HCl, or mercury, in units of pounds per millionBtu of heat input for that calendar month.
Er = Emission rate (as determined during the most recent compliance demonstration of PM (or TSM), HCl, or mercury from unit, i, in units of pounds per million Btu of heat input. Determine the emission rate for PM (or TSM), HCl, or mercury by performance testing according to Table 5 to this subpart, or by fuel analysis for HCl or mercury or TSM according to Table 6 to this subpart.
Sa = Actual steam generation for that calendar month by boiler, i, in units of pounds.
Cfi = Conversion factor, as calculated during the most recent compliance test, in units of million Btu of heat input per pounds of steam generated for boiler, i.
1.1 = Required discount factor.

3) Until 12 monthly weighted average emission rates have been accumulated, calculate and report only the average weighted emission rate determined under paragraph (f)(1) or (2) of this section for each calendar month. After 12 monthly weighted average emission rates have been accumulated, for each subsequent calendar month, use Equation 5 of this section to calculate the 12-month rolling average of the monthly weighted average emission rates for the current calendar month and the previous 11 calendar months. (40 CFR 63.7522(f)(3))

$$Eavg = \sum_{i=1}^{n} ERi \div 12 \qquad (Eq.5)$$

Where:

Eavg = 12-month rolling average emission rate, (pounds per

million Btu heat input)
ERi = Monthly weighted average, for calendar month "i" (pounds per million Btu heat input), as calculated by paragraph (f)(1) or (2) of this section.

vii. The owner or operator shall develop, and submit upon request to the applicable Administrator for review and approval, an implementation plan for emission averaging according to the following procedures and requirements in paragraphs (g)(1) through (4) of this section. (40 CFR 63.7522(g))

1) The owner or operator shall submit the implementation plan no later than 180 days before the date that the facility intends to demonstrate compliance using the emission averaging option. (40 CFR 63.7522(g)(1))

2) The owner or operator shall include the information contained in paragraphs (g)(2)(i) through (vii) of this section in your implementation plan for all emission sources included in an emissions average: (40 CFR 63.7522(g)(2))

(a) The identification of all existing boilers and process heaters in the averaging group, including for each either the applicable HAP emission level or the control technology installed as of January 31, 2013 and the date on which you are requesting emission averaging to commence; (40 CFR 63.7522(g)(2)(i))

(b) The process parameter (heat input or steam generated) that will be monitored for each averaging group; (40 CFR 63.7522(g)(2)(ii))

(c) The specific control technology or pollution prevention measure to be used for each emission boiler or process heater in the averaging group and the date of its installation or application. If the pollution prevention measure reduces or eliminates emissions from multiple boilers or process heaters, the owner or operator must identify each boiler or process heater; (40 CFR 63.7522(g)(2)(iii))

(d) The test plan for the measurement of PM (or TSM), HCl, or mercury emissions in accordance with the requirements in §63.7520; (40 CFR 63.7522(g)(2)(iv))

(e) The operating parameters to be monitored for each control system or device consistent with §63.7500 and Table 4, and

a description of how the operating limits will be determined; (40 CFR 63.7522(g)(2)(v))

(f) If you request to monitor an alternative operating parameter pursuant to §63.7525, the owner or operator shall also include: (40 CFR 63.7522(g)(2)(vi))

(i) A description of the parameter(s) to be monitored and an explanation of the criteria used to select the parameter(s); and (40 CFR 63.7522(g)(2)(vi)(A))

(ii) A description of the methods and procedures that will be used to demonstrate that the parameter indicates proper operation of the control device; the frequency and content of monitoring, reporting, and recordkeeping requirements; and a demonstration, to the satisfaction of the Administrator, that the proposed monitoring frequency is sufficient to represent control device operating conditions; and (40 CFR 63.7522(g)(2)(vi)(B))

(g) A demonstration that compliance with each of the applicable emission limit(s) will be achieved under representative operating load conditions. Following each compliance demonstration and until the next compliance demonstration, the owner or operator shall comply with the operating limit for operating load conditions specified in Table 4 to this subpart. (40 CFR 63.7522(g)(2)(vii))

3) The Administrator shall review and approve or disapprove the plan according to the following criteria: (40 CFR 63.7522(g)(3))

(a) Whether the content of the plan includes all of the information specified in paragraph (g)(2) of this section; and (40 CFR 63.7522(g)(3)(i))

(b) Whether the plan presents sufficient information to determine that compliance will be achieved and maintained. (40 CFR 63.7522(g)(3)(ii))

4) The applicable Administrator shall not approve an emission averaging implementation plan containing any of the following provisions: (40 CFR 63.7522(g)(4))

(a) Any averaging between emissions of differing pollutants or between differing sources; or (40 CFR 63.7522(g)(4)(i))

(b) The inclusion of any emission source other than an existing unit in the same subcategories. (40 CFR 63.7522(g)(4)(ii))

viii. For a group of two or more existing affected units, each of which vents through a single common stack, you may average PM (or TSM), HCl, or mercury emissions to demonstrate compliance with the limits for that pollutant in Table 2 to this subpart if you satisfy the requirements in paragraph (i) or (j) of this section. (40 CFR 63.7522(h))

ix. For a group of two or more existing units in the same subcategories, each of which vents through a common emissions control system to a common stack, that does not receive emissions from units in other subcategories or categories, you may treat such averaging group as a single existing unit for purposes of this subpart and comply with the requirements of this subpart as if the group were a single unit. (40 CFR 63.7522(i))

x. For all other groups of units subject to the common stack requirements of paragraph (h) of this section, including situations where the exhaust of affected units are each individually controlled and then sent to a common stack, the owner or operator may elect to: (40 CFR 63.7522(j))

1) Conduct performance tests according to procedures specified in §63.7520 in the common stack if affected units from other subcategories vent to the common stack. The emission limits that the group must comply with are determined by the use of Equation 6 of this section. (40 CFR 63.7522(j)(1))

$$En = \sum_{i=1}^{n} (ELi \times Hi) \div \sum_{i=1}^{n} Hi \qquad (Eq.6)$$

Where:

En = HAP emission limit, pounds per million British thermal units (lb/MMBtu), parts per million (ppm), or nanograms per dry standard cubic meter (ng/dscm).
ELi = Appropriate emission limit from Table 2 to this subpart for unit i, in units of lb/MMBtu, ppm or ng/dscm.
Hi = Heat input from unit i, MMBtu.

2) Conduct performance tests according to procedures specified in §63.7520 in the common stack. If affected units and non-affected units vent to the common stack, the non-affected units must be shut down or vented to a different stack during the performance test unless the facility determines to demonstrate compliance with the non-affected units venting to the stack; and (40 CFR 63.7522(j)(2))

3) Meet the applicable operating limit specified in §63.7540 and Table 8 to this subpart for each emissions control system (except that, if each unit venting to the common stack has an applicable opacity operating limit, then a single continuous opacity monitoring system may be located in the common stack instead of in each duct to the common stack). (40 CFR 63.7522(j)(3))

Table 8 to Subpart DDDDD of Part 63 —Demonstrating Continuous Compliance (*use if applicable*)

If the owner or operator shall meet the following operating limits or work practice standards ...	The owner or operator shall demonstrate continuous compliance by ...
1. Opacity	a. Collecting the opacity monitoring system data according to §63.7525(c) and §63.7535; and
	b. Reducing the opacity monitoring data to 6-minute averages; and
	c. Maintaining opacity to less than or equal to 10 percent (daily block average).
2. PM CPMS	a. Collecting the PM CPMS output data according to §63.7525;
	b. Reducing the data to 30-day rolling averages; and
	c. Maintaining the 30-day rolling average PM CPMS output data to less than the operating limit established during the performance test according to §63.7530(b)(4).
3. Fabric Filter Bag Leak Detection Operation	Installing and operating a bag leak detection system according to §63.7525 and operating the fabric filter such that the requirements in §63.7540(a)(9) are met.
6. Dry Scrubber Sorbent or Carbon Injection Rate	a. Collecting the sorbent or carbon injection rate monitoring system data for the dry scrubber according to § §63.7525 and 63.7535; and
	b. Reducing the data to 30-day rolling averages; and
	c. Maintaining the 30-day rolling average sorbent or carbon injection rate at or above the minimum sorbent or carbon injection rate as defined in §63.7575.
8. Emission limits using fuel analysis	a. Conduct monthly fuel analysis for HCl or mercury or TSM according to Table 6 to this subpart; and
	b. Reduce the data to 12-month rolling averages; and
	c. Maintain the 12-month rolling average at or

	below the applicable emission limit for HCl or mercury or TSM in Tables 1 and 2 or 11 through 13 to this subpart.
9. Oxygen content	a. Continuously monitor the oxygen content using an oxygen analyzer system according to §63.7525(a). This requirement does not apply to units that install an oxygen trim system since these units will set the trim system to the level specified in §63.7525(a)(2).
	b. Reducing the data to 30-day rolling averages; and
	c. Maintain the 30-day rolling average oxygen content at or above the lowest hourly average oxygen level measured during the most recent CO performance test.
10. Boiler or process heater operating load	a. Collecting operating load data or steam generation data every 15 minutes.
	b. Maintaining the operating load such that it does not exceed 110 percent of the highest hourly average operating load recorded during the most recent performance test according to §63.7520(c).

xi. The common stack of a group of two or more existing boilers or process heaters in the same subcategories subject to paragraph (h) of this section may be treated as a separate stack for purposes of paragraph (b) of this section and included in an emissions averaging group subject to paragraph (b) of this section. (40 CFR 63.7522(k))

f. **Monitoring, installation, operation, and maintenance requirements (40 CFR 63.7525)**

i. If your boiler or process heater is subject to a CO emission limit in Tables 1, 2, or 11 through 13 to this subpart, the owner or operator shall install, operate, and maintain an oxygen analyzer system, as defined in §63.7575, or install, certify, operate and maintain continuous emission monitoring systems for CO and oxygen according to the procedures in paragraphs (a)(1) through (7) of this section. (40 CFR 63.7525(a))

1) Install the CO CEMS and oxygen analyzer by the compliance date specified in §63.7495. The CO and oxygen levels shall be monitored at the same location at the outlet of the boiler or process heater. (40 CFR 63.7525(a)(1))

2) To demonstrate compliance with the applicable alternative CO CEMS emission standard listed in Tables 1, 2, or 11 through 13 to this subpart, the owner or operator shall install, certify, operate, and maintain a CO CEMS and an oxygen analyzer according to the

applicable procedures under Performance Specification 4, 4A, or 4B at 40 CFR part 60, appendix B, the site-specific monitoring plan developed according to §63.7505(d), and the requirements in §63.7540(a)(8) and paragraph (a) of this section. Any boiler or process heater that has a CO CEMS that is compliant with Performance Specification 4, 4A, or 4B at 40 CFR part 60, appendix B, a site-specific monitoring plan developed according to §63.7505(d), and the requirements in §63.7540(a)(8) and paragraph (a) of this section must use the CO CEMS to comply with the applicable alternative CO CEMS emission standard listed in Tables 1, 2, or 11 through 13 to this subpart. (40 CFR 63.7525(a)(2))

(a) The owner or operator shall conduct a performance evaluation of each CO CEMS according to the requirements in §63.8(e) and according to Performance Specification 4, 4A, or 4B at 40 CFR part 60, appendix B. (40 CFR 63.7525(a)(2)(i))

(b) During each relative accuracy test run of the CO CEMS, the owner or operator shall be collect emission data for CO concurrently (or within a 30- to 60-minute period) by both the CO CEMS and by Method 10, 10A, or 10B at 40 CFR part 60, appendix A-4. The relative accuracy testing must be at representative operating conditions. (40 CFR 63.7525(a)(2)(ii))

(c) The owner or operator shall follow the quality assurance procedures (e.g., quarterly accuracy determinations and daily calibration drift tests) of Procedure 1 of appendix F to part 60. The measurement span value of the CO CEMS must be two times the applicable CO emission limit, expressed as a concentration. (40 CFR 63.7525(a)(2)(iii))

(d) Any CO CEMS that does not comply with §63.7525(a) cannot be used to meet any requirement in this subpart to demonstrate compliance with a CO emission limit listed in Tables 1, 2, or 11 through 13 to this subpart. (40 CFR 63.7525(a)(2)(iv))

(e) For a new unit, complete the initial performance evaluation no later than July 30, 2013, or 180 days after the date of initial startup, whichever is later. For an existing unit, complete the initial performance evaluation no later than July 29, 2016. (40 CFR 63.7525(a)(2)(v))

3) Complete a minimum of one cycle of CO and oxygen CEMS operation (sampling, analyzing, and data recording) for each successive 15-minute period. Collect CO and oxygen data concurrently. Collect at least four CO and oxygen CEMS data values representing the four 15-minute periods in an hour, or at least two 15-minute data values during an hour when CEMS calibration, quality assurance, or maintenance activities are being performed. (40 CFR 63.7525(a)(3))

4) Reduce the CO CEMS data as specified in §63.8(g)(2). (40 CFR 63.7525(a)(4))

5) Calculate one-hour arithmetic averages, corrected to 3 percent oxygen from each hour of CO CEMS data in parts per million CO concentration. The one-hour arithmetic averages required shall be used to calculate the 30-day or 10-day rolling average emissions. Use Equation 19-19 in section 12.4.1 of Method 19 of 40 CFR part 60, appendix A-7 for calculating the average CO concentration from the hourly values. (40 CFR 63.7525(a)(5))

6) For purposes of collecting CO data, operate the CO CEMS as specified in §63.7535(b). The owner or operator shall use all the data collected during all periods in calculating data averages and assessing compliance, except that the owner or operator shall exclude certain data as specified in §63.7535(c). Periods when CO data are unavailable may constitute monitoring deviations as specified in §63.7535(d). (40 CFR 63.7525(a)(6))

7) Operate an oxygen trim system with the oxygen level set no lower than the lowest hourly average oxygen concentration measured during the most recent CO performance test as the operating limit for oxygen according to Table 7 to this subpart. (40 CFR 63.7525(a)(7))

ii. If you have an applicable opacity operating limit in this rule, and are not otherwise required or elect to install and operate a PM CPMS, PM CEMS, or a bag leak detection system, the owner or operator shall install, operate, certify and maintain each COMS according to the procedures in paragraphs (c)(1) through (7) of this section by the compliance date specified in §63.7495. (40 CFR 63.7525(c))

1) Each COMS must be installed, operated, and maintained according to Performance Specification 1 at appendix B to part 60 of this chapter. (40 CFR 63.7525(c)(1))

2) The owner or operator shall conduct a performance evaluation of each COMS according to the requirements in §63.8(e) and according to Performance Specification 1 at appendix B to part 60 of this chapter. (40 CFR 63.7525(c)(2))

3) As specified in §63.8(c)(4)(i), each COMS must 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. (40 CFR 63.7525(c)(3))

4) The COMS data must be reduced as specified in §63.8(g)(2). (40 CFR 63.7525(c)(4))

5) The owner or operator shall include in your site-specific monitoring plan procedures and acceptance criteria for operating and maintaining each COMS according to the requirements in §63.8(d). At a minimum, the monitoring plan must include a daily calibration drift assessment, a quarterly performance audit, and an annual zero alignment audit of each COMS. (40 CFR 63.7525(c)(5))

6) The owner or operator shall operate and maintain each COMS according to the requirements in the monitoring plan and the requirements of §63.8(e). The owner or operator shall identify periods the COMS is out of control including any periods that the COMS fails to pass a daily calibration drift assessment, a quarterly performance audit, or an annual zero alignment audit. Any 6-minute period for which the monitoring system is out of control and data are not available for a required calculation constitutes a deviation from the monitoring requirements. (40 CFR 63.7525(c)(6))

7) The owner or operator shall determine and record all the 6-minute averages (and daily block averages as applicable) collected for periods during which the COMS is not out of control. (40 CFR 63.7525(c)(7))

iii. If you have an operating limit that requires the use of a CMS other than a PM CPMS or COMS, the owner or operator shall install, operate, and maintain each CMS according to the procedures in paragraphs (d)(1) through (5) of this section by the compliance date specified in §63.7495. (40 CFR 63.7525(d))

1) The CPMS must complete a minimum of one cycle of operation every 15-minutes. The owner or operator shall have a minimum of four successive cycles of operation, one representing each of the

four 15-minute periods in an hour, to have a valid hour of data. (40 CFR 63.7525(d)(1))

2) The owner or operator shall operate the monitoring system as specified in §63.7535(b), and comply with the data calculation requirements specified in §63.7535(c). (40 CFR 63.7525(d)(2))

3) Any 15-minute period for which the monitoring system is out-of-control and data are not available for a required calculation constitutes a deviation from the monitoring requirements. Other situations that constitute a monitoring deviation are specified in §63.7535(d). (40 CFR 63.7525(d)(3))

4) The owner or operator shall determine the 30-day rolling average of all recorded readings, except as provided in §63.7535(c). (40 CFR 63.7525(d)(4))

5) The owner or operator shall record the results of each inspection, calibration, and validation check. (40 CFR 63.7525(d)(5))

iv. If you have an operating limit that requires the use of a flow monitoring system, the owner or operator shall meet the requirements in paragraphs (d) and (e)(1) through (4) of this section. (40 CFR 63.7525(e))

1) The owner or operator shall install the flow sensor and other necessary equipment in a position that provides a representative flow. (40 CFR 63.7525(e)(1))

2) The owner or operator shall use a flow sensor with a measurement sensitivity of no greater than 2 percent of the design flow rate. (40 CFR 63.7525(e)(2))

3) The owner or operator shall minimize, consistent with good engineering practices, the effects of swirling flow or abnormal velocity distributions due to upstream and downstream disturbances. (40 CFR 63.7525(e)(3))

4) The owner or operator shall conduct a flow monitoring system performance evaluation in accordance with your monitoring plan at the time of each performance test but no less frequently than annually. (40 CFR 63.7525(e)(4))

v. If you have an operating limit that requires the use of a pressure monitoring system, the owner or operator shall meet the requirements in paragraphs (d) and (f)(1) through (6) of this section. (40 CFR 63.7525(f))

1) Install the pressure sensor(s) in a position that provides a representative measurement of the pressure (*e.g.*, PM scrubber pressure drop). (40 CFR 63.7525(f)(1))

2) Minimize or eliminate pulsating pressure, vibration, and internal and external corrosion consistent with good engineering practices. (40 CFR 63.7525(f)(2))

3) Use a pressure sensor with a minimum tolerance of 1.27 centimeters of water or a minimum tolerance of 1 percent of the pressure monitoring system operating range, whichever is less. (40 CFR 63.7525(f)(3))

4) Perform checks at least once each process operating day to ensure pressure measurements are not obstructed (*e.g.*, check for pressure tap pluggage daily). (40 CFR 63.7525(f)(4))

5) Conduct a performance evaluation of the pressure monitoring system in accordance with your monitoring plan at the time of each performance test but no less frequently than annually. (40 CFR 63.7525(f)(5))

6) If at any time the measured pressure exceeds the manufacturer's specified maximum operating pressure range, conduct a performance evaluation of the pressure monitoring system in accordance with your monitoring plan and confirm that the pressure monitoring system continues to meet the performance requirements in you monitoring plan. Alternatively, install and verify the operation of a new pressure sensor. (40 CFR 63.7525(f)(6))

vi. If you have an operating limit that requires the use of a monitoring system to measure sorbent injection rate (e.g., weigh belt, weigh hopper, or hopper flow measurement device), the owner or operator shall meet the requirements in paragraphs (d) and (i)(1) through (2) of this section. (40 CFR 63.7525(i))

1) Install the system in a position(s) that provides a representative measurement of the total sorbent injection rate. (40 CFR 63.7525(i)(1))

2) Conduct a performance evaluation of the sorbent injection rate monitoring system in accordance with your monitoring plan at the time of each performance test but no less frequently than annually. (40 CFR 63.7525(i)(2))

vii. If you are not required to use a PM CPMS and elect to use a fabric filter bag leak detection system to comply with the requirements of this subpart, the owner or operator shall install, calibrate, maintain, and continuously operate the bag leak detection system as specified in paragraphs (j)(1) through (6) of this section. (40 CFR 63.7525(j))

1) The owner or operator shall install a bag leak detection sensor(s) in a position(s) that will be representative of the relative or absolute PM loadings for each exhaust stack, roof vent, or compartment (e.g., for a positive pressure fabric filter) of the fabric filter. (40 CFR 63.7525(j)(1))

2) Conduct a performance evaluation of the bag leak detection system in accordance with your monitoring plan and consistent with the guidance provided in EPA-454/R-98-015 (incorporated by reference, see §63.14). (40 CFR 63.7525(j)(2))

3) Use a bag leak detection system certified by the manufacturer to be capable of detecting PM emissions at concentrations of 10 milligrams per actual cubic meter or less. (40 CFR 63.7525(j)(3))

4) Use a bag leak detection system equipped with a device to record continuously the output signal from the sensor. (40 CFR 63.7525(j)(4))

5) Use a bag leak detection system equipped with a system that will alert plant operating personnel when an increase in relative PM emissions over a preset level is detected. The alert must easily recognizable (e.g., heard or seen) by plant operating personnel. (40 CFR 63.7525(j)(5))

6) Where multiple bag leak detectors are required, the system's instrumentation and alert may be shared among detectors. (40 CFR 63.7525(j)(6))

viii. For each unit for which you decide to demonstrate compliance with the mercury or HCl emissions limits in Tables 1 or 2 or 11 through 13 of this subpart by use of a CEMS for mercury or HCl, the owner or operator shall install, certify, maintain, and operate a CEMS measuring emissions discharged to the atmosphere and record the output of the system as specified in paragraphs (l)(1) through (8) of this section. For HCl, this option for an affected unit takes effect on the date a final performance specification for a HCl CEMS is published in the *Federal Register* or the date of approval of a site-specific monitoring plan. (40 CFR 63.7525(l))

1) Notify the Administrator one month before starting use of the CEMS, and notify the Administrator one month before stopping use of the CEMS. (40 CFR 63.7525(l)(1))

2) Each CEMS shall be installed, certified, operated, and maintained according to the requirements in §63.7540(a)(14) for a mercury CEMS and §63.7540(a)(15) for a HCl CEMS. (40 CFR 63.7525(l)(2))

3) For a new unit, the owner or operator shall complete the initial performance evaluation of the CEMS by the latest of the dates specified in paragraph (l)(3)(i) through (iii) of this section. (40 CFR 63.7525(l)(3))

   (a) No later than July 30, 2013. (40 CFR 63.7525(l)(3)(i))

   (b) No later 180 days after the date of initial startup. (40 CFR 63.7525(l)(3)(ii))

   (c) No later 180 days after notifying the Administrator before starting to use the CEMS in place of performance testing or fuel analysis to demonstrate compliance. (40 CFR 63.7525(l)(3)(iii))

4) For an existing unit, the owner or operator shall complete the initial performance evaluation by the latter of the two dates specified in paragraph (l)(4)(i) and (ii) of this section. (40 CFR 63.7525(l)(4))

   (a) No later than July 29, 2016. (40 CFR 63.7525(l)(4)(i))

   (b) No later 180 days after notifying the Administrator before starting to use the CEMS in place of performance testing or fuel analysis to demonstrate compliance. (40 CFR 63.7525(l)(4)(ii))

5) Compliance with the applicable emissions limit shall be determined based on the 30-day rolling average of the hourly arithmetic average emissions rates using the continuous monitoring system outlet data. The 30-day rolling arithmetic average emission rate (lb/MMBtu) shall be calculated using the equations in EPA Reference Method 19 at 40 CFR part 60, appendix A-7, but substituting the mercury or HCl concentration for the pollutant concentrations normally used in Method 19. (40 CFR 63.7525(l)(5))

6) Collect CEMS hourly averages for all operating hours on a 30-day rolling average basis. Collect at least four CMS data values representing the four 15-minute periods in an hour, or at least two 15-minute data values during an hour when CMS calibration, quality assurance, or maintenance activities are being performed. (40 CFR 63.7525(l)(6))

7) The one-hour arithmetic averages required shall be expressed in lb/MMBtu and shall be used to calculate the boiler 30-day and 10-day rolling average emissions. (40 CFR 63.7525(l)(7))

8) You are allowed to substitute the use of the PM, mercury or HCl CEMS for the applicable fuel analysis, annual performance test, and operating limits specified in Table 4 to this subpart to demonstrate compliance with the PM, mercury or HCl emissions limit, and if you are using an acid gas wet scrubber or dry sorbent injection control technology to comply with the HCl emission limit, you are allowed to substitute the use of a sulfur dioxide (SO_2) CEMS for the applicable fuel analysis, annual performance test, and operating limits specified in Table 4 to this subpart to demonstrate compliance with HCl emissions limit. (40 CFR 63.7525(l)(8))

g. **How does the owner or operator demonstrate initial compliance with the emission limitations, fuel specifications and work practice standards (40 CFR 63.7530)**

i. The owner or operator shall demonstrate initial compliance with each emission limit that applies to you by conducting initial performance tests and fuel analyses and establishing operating limits, as applicable, according to §63.7520, paragraphs (b) and (c) of this section, and Tables 5 and 7 to this subpart. The requirement to conduct a fuel analysis is not applicable for units that burn a single type of fuel, as specified by §63.7510(a)(2)(i). If applicable, the owner or operator shall also install, operate, and maintain all applicable CMS (including CEMS, COMS, and CPMS) according to §63.7525. (40 CFR 63.7530(a))

ii. If you demonstrate compliance through performance testing, the owner or operator shall establish each site-specific operating limit in Table 4 to this subpart that applies to you according to the requirements in §63.7520, Table 7 to this subpart, and paragraph (b)(4) of this section, as applicable. The owner or operator shall also conduct fuel analyses according to §63.7521 and establish maximum fuel pollutant input levels according to paragraphs (b)(1) through (3) of this section, as applicable, and as specified in §63.7510(a)(2). (Note that §63.7510(a)(2) exempts certain fuels from the fuel analysis requirements.) However, if you switch fuel(s)

and cannot show that the new fuel(s) does (do) not increase the chlorine, mercury, or TSM input into the unit through the results of fuel analysis, then the owner or operator shall repeat the performance test to demonstrate compliance while burning the new fuel(s). (40 CFR 63.7530(b))

1) The owner or operator shall establish the maximum chlorine fuel input (Clinput) during the initial fuel analysis according to the procedures in paragraphs (b)(1)(i) through (iii) of this section. (40 CFR 63.7530(b)(1))

(a) The owner or operator shall determine the fuel type or fuel mixture that you could burn in your boiler or process heater that has the highest content of chlorine. (40 CFR 63.7530(b)(1)(i))

(b) During the fuel analysis for hydrogen chloride, the owner or operator shall determine the fraction of the total heat input for each fuel type burned (Qi) based on the fuel mixture that has the highest content of chlorine, and the average chlorine concentration of each fuel type burned (Ci). (40 CFR 63.7530(b)(1)(ii))

(c) The owner or operator shall establish a maximum chlorine input level using Equation 7 of this section. (40 CFR 63.7530(b)(1)(iii))

$$Clinput = \sum_{i=1}^{n} (Ci \times Qi) \qquad (Eq.7)$$

Where:

Clinput = Maximum amount of chlorine entering the boiler or process heater through fuels burned in units of pounds per million Btu.
Ci = Arithmetic average concentration of chlorine in fuel type, i, analyzed according to §63.7521, in units of pounds per million Btu.
Qi = Fraction of total heat input from fuel type, i, based on the fuel mixture that has the highest content of chlorine. If you do not burn multiple fuel types during the performance testing, it is not necessary to determine the value of this term. Insert a value of “1” for Qi.
n = Number of different fuel types burned in your boiler or process heater for the mixture that has the highest content of chlorine.

2) The owner or operator shall establish the maximum mercury fuel input level (Mercuryinput) during the initial fuel analysis using the procedures in paragraphs (b)(2)(i) through (iii) of this section. (40 CFR 63.7530(b)(2))

(a) The owner or operator shall determine the fuel type or fuel mixture that you could burn in your boiler or process heater that has the highest content of mercury. (40 CFR 63.7530(b)(2)(i))

(b) During the compliance demonstration for mercury, the owner or operator shall determine the fraction of total heat input for each fuel burned (Qi) based on the fuel mixture that has the highest content of mercury, and the average mercury concentration of each fuel type burned (HGi). (40 CFR 63.7530(b)(2)(ii))

(c) The owner or operator shall establish a maximum mercury input level using Equation 8 of this section. (40 CFR 63.7530(b)(2)(iii))

$$Mercuryinput = \sum_{i=1}^{n} (HGi \times Qi) \qquad (Eq. 8)$$

Where:

Mercuryinput = Maximum amount of mercury entering the boiler or process heater through fuels burned in units of pounds per million Btu.
HGi = Arithmetic average concentration of mercury in fuel type, i, analyzed according to §63.7521, in units of pounds per million Btu.
Qi = Fraction of total heat input from fuel type, i, based on the fuel mixture that has the highest mercury content. If you do not burn multiple fuel types during the performance test, it is not necessary to determine the value of this term. Insert a value of "1" for Qi.
n = Number of different fuel types burned in your boiler or process heater for the mixture that has the highest content of mercury.

3) If you opt to comply with the alternative TSM limit, the owner or operator shall establish the maximum TSM fuel input (TSMinput) for solid or liquid fuels during the initial fuel analysis according to

the procedures in paragraphs (b)(3)(i) through (iii) of this section. (40 CFR 63.7530(b)(3))

(a) The owner or operator shall determine the fuel type or fuel mixture that you could burn in your boiler or process heater that has the highest content of TSM. (40 CFR 63.7530(b)(3)(i))

(b) During the fuel analysis for TSM, the owner or operator shall determine the fraction of the total heat input for each fuel type burned (Qi) based on the fuel mixture that has the highest content of TSM, and the average TSM concentration of each fuel type burned (TSMi). (40 CFR 63.7530(b)(3)(ii))

(c) The owner or operator shall establish a maximum TSM input level using Equation 9 of this section. (40 CFR 63.7530(b)(3)(iii))

$$TSMinput = \sum_{i=1}^{n} (TSMi \times Qi) \qquad (Eq. 9)$$

Where:

TSMinput = Maximum amount of TSM entering the boiler or process heater through fuels burned in units of pounds per million Btu.
TSMi = Arithmetic average concentration of TSM in fuel type, i, analyzed according to §63.7521, in units of pounds per million Btu.
Qi = Fraction of total heat input from fuel type, i, based on the fuel mixture that has the highest content of TSM. If you do not burn multiple fuel types during the performance testing, it is not necessary to determine the value of this term. Insert a value of "1" for Qi.
n = Number of different fuel types burned in your boiler or process heater for the mixture that has the highest content of TSM.

4) The owner or operator shall establish parameter operating limits according to paragraphs (b)(4)(i) through (ix) of this section. As indicated in Table 4 to this subpart, you are not required to establish and comply with the operating parameter limits when you are using a CEMS to monitor and demonstrate compliance with the applicable emission limit for that control device parameter. (40 CFR 63.7530(b)(4))

(a) For a wet acid gas scrubber, you must establish the minimum scrubber effluent pH and liquid flow rate as defined in § 63.7575, as your operating limits during the performance test during which you demonstrate compliance with your applicable limit. If you use a wet scrubber and you conduct separate performance tests for HCl and mercury emissions, you must establish one set of minimum scrubber effluent pH, liquid flow rate, and pressure drop operating limits. The minimum scrubber effluent pH operating limit must be established during the HCl performance test. If you conduct multiple performance tests, you must set the minimum liquid flow rate operating limit at the higher of the minimum values established during the performance tests. (40 CFR 63.7530(b)(4)(i))

(b) For any particulate control device (e.g., ESP, particulate wet scrubber, fabric filter) for which you use a PM CPMS, the owner or operator shall establish your PM CPMS operating limit and determine compliance with it according to paragraphs (b)(4)(ii)(A) through (F) of this section. (40 CFR 63.7530(b)(4)(ii))

(i) Determine your operating limit as the average PM CPMS output value recorded during the most recent performance test run demonstrating compliance with the filterable PM emission limit or at the PM CPMS output value corresponding to 75 percent of the emission limit if your PM performance test demonstrates compliance below 75 percent of the emission limit. The owner or operator shall verify an existing or establish a new operating limit after each repeated performance test. The owner or operator shall repeat the performance test annually and reassess and adjust the site-specific operating limit in accordance with the results of the performance test. (40 CFR 63.7530(b)(4)(ii)(A))

(A) Your PM CPMS must provide a 4-20 milliamp output and the establishment of its relationship to manual reference method measurements must be determined in units of milliamps. (40 CFR 63.7530(b)(4)(ii)(A)(1))

(B) Your PM CPMS operating range must be capable of reading PM concentrations from zero to a level equivalent to at least two times your allowable emission limit. If your PM CPMS is an auto-ranging instrument capable of multiple scales, the primary range of the instrument must be capable of reading PM concentration from zero to a level equivalent to two times your allowable emission limit. (40 CFR 63.7530(b)(4)(ii)(A)(2))

(C) During the initial performance test or any such subsequent performance test that demonstrates compliance with the PM limit, record and average all milliamp output values from the PM CPMS for the periods corresponding to the compliance test runs (e.g., average all your PM CPMS output values for three corresponding 2-hour Method 5I test runs). (40 CFR 63.7530(b)(4)(ii)(A)(3))

(ii) If the average of your three PM performance test runs are below 75 percent of your PM emission limit, the owner or operator shall calculate an operating limit by establishing a relationship of PM CPMS signal to PM concentration using the PM CPMS instrument zero, the average PM CPMS values corresponding to the three compliance test runs, and the average PM concentration from the Method 5 or performance test with the procedures in paragraphs (b)(4)(ii)(B)(*1*) through (*4*) of this section. (40 CFR 63.7530(b)(4)(ii)(B))

(A) Determine your instrument zero output with one of the following procedures: (40 CFR 63.7530(b)(4)(ii)(B)(1))

Zero point data for *in-situ* instruments should be obtained by removing the instrument from the stack and monitoring ambient air on a test bench. (40 CFR 63.7530(b)(4)(ii)(B)(1)(i))

Zero point data for *extractive* instruments should be obtained by removing the extractive probe from the stack and drawing in clean ambient air. (40 CFR 63.7530(b)(4)(ii)(B)(1)(ii))

The zero point may also be established by performing manual reference method measurements when the flue gas is free of PM emissions or contains very low PM concentrations (*e.g.*, when your process is not operating, but the fans are operating or your source is combusting only natural gas) and plotting these with the compliance data to find the zero intercept. (40 CFR 63.7530(b)(4)(ii)(B)(1)(iiii))

If none of the steps in paragraphs (b)(4)(ii)(B)(*1*)(*i*) through (*iii*) of this section are possible, the owner or operator shall use a zero output value provided by the manufacturer. (40 CFR 63.7530(b)(4)(ii)(B)(1)(iv))

(B) Determine your PM CPMS instrument average in milliamps, and the average of your corresponding three PM compliance test runs, using equation 10. (40 CFR 63.7530(b)(4)(ii)(B)(2))

$$\overline{x} = \frac{1}{n}\sum_{i=1}^{n} X_1 \,, \overline{y} = \frac{1}{n}\sum_{i=1}^{n} Y_1 \qquad \text{(Eq. 10)}$$

Where:

X_1 = the PM CPMS data points for the three runs constituting the performance test,
Y_1 = the PM concentration value for the three runs constituting the performance test, and
n = the number of data points.

(C) With your instrument zero expressed in milliamps, your three run average PM

CPMS milliamp value, and your three run average PM concentration from your three compliance tests, determine a relationship of lb/MMBtu per milliamp with equation 11. (40 CFR 63.7530(b)(4)(ii)(B)(3))

$$R = \frac{Y_1}{(X_1 - z)} \qquad (Eq. 11)$$

Where:

R = the relative lb/MMBtu per milliamp for your PM CPMS,
Y_1 = the three run average lb/MMBtu PM concentration,
X_1 = the three run average milliamp output from you PM CPMS, and
z = the milliamp equivalent of your instrument zero determined from (B)(i).

(D) Determine your source specific 30-day rolling average operating limit using the lb/MMBtu per milliamp value from Equation 11 in equation 12, below. This sets your operating limit at the PM CPMS output value corresponding to 75 percent of your emission limit. (40 CFR 63.7530(b)(4)(ii)(B)(4))

$$O_l = z + \frac{0.75(L)}{R} \qquad (\text{Eq. } 12)$$

Where:

O_l = the operating limit for your PM CPMS on a 30-day rolling average, in milliamps.
L = your source emission limit expressed in lb/MMBtu,
z = your instrument zero in milliamps, determined from (B)(i), and
R = the relative lb/MMBtu per milliamp for your PM CPMS, from Equation 11.

(iii) If the average of your three PM compliance test runs is at or above 75 percent of your PM emission limit the owner or operator shall determine your 30-

day rolling average operating limit by averaging the PM CPMS milliamp output corresponding to your three PM performance test runs that demonstrate compliance with the emission limit using equation 13 and the owner or operator shall submit all compliance test and PM CPMS data according to the reporting requirements in paragraph (b)(4)(ii)(F) of this section. (40 CFR 63.7530(b)(4)(ii)(C))

$$O_h = \frac{1}{n}\sum_{i=1}^{n} X_1 \qquad \text{(Eq. 13)}$$

Where:

X_1 = the PM CPMS data points for all runs i,
n = the number of data points, and
O_h = your site specific operating limit, in milliamps.

(iv) To determine continuous compliance, the owner or operator shall record the PM CPMS output data for all periods when the process is operating and the PM CPMS is not out-of-control. The owner or operator shall demonstrate continuous compliance by using all quality-assured hourly average data collected by the PM CPMS for all operating hours to calculate the arithmetic average operating parameter in units of the operating limit (milliamps) on a 30-day rolling average basis, updated at the end of each new operating hour. Use Equation 14 to determine the 30-day rolling average. (40 CFR 63.7530(b)(4)(ii)(D))

$$30 - day = (\sum_{i=1}^{n} Hpvi)/n \qquad (Eq. 14)$$

Where:

30-day = 30-day average.
Hpvi = is the hourly parameter value for hour i
n = is the number of valid hourly parameter values collected over the previous 720 operating hours.

(v) Use EPA Method 5 of appendix A to part 60 of this chapter to determine PM emissions. For each performance test, conduct three separate runs under

the conditions that exist when the affected source is operating at the highest load or capacity level reasonably expected to occur. Conduct each test run to collect a minimum sample volume specified in Tables 1, 2, or 11 through 13 to this subpart, as applicable, for determining compliance with a new source limit or an existing source limit. Calculate the average of the results from three runs to determine compliance. You need not determine the PM collected in the impingers ("back half") of the Method 5 particulate sampling train to demonstrate compliance with the PM standards of this subpart. This shall not preclude the permitting authority from requiring a determination of the "back half" for other purposes. (40 CFR 63.7530(b)(4)(ii)(E))

(vi) For PM performance test reports used to set a PM CPMS operating limit, the electronic submission of the test report must also include the make and model of the PM CPMS instrument, serial number of the instrument, analytical principle of the instrument (e.g. beta attenuation), span of the instruments primary analytical range, milliamp value equivalent to the instrument zero output, technique by which this zero value was determined, and the average milliamp signals corresponding to each PM compliance test run. (iii) For a particulate wet scrubber, the owner or operator shall establish the minimum pressure drop and liquid flow rate as defined in §63.7575, as your operating limits during the three-run performance test during which you demonstrate compliance with your applicable limit. If you use a wet scrubber and you conduct separate performance tests for PM and TSM emissions, the owner or operator shall establish one set of minimum scrubber liquid flow rate and pressure drop operating limits. The minimum scrubber effluent pH operating limit must be established during the HCl performance test. If you conduct multiple performance tests, the owner or operator shall set the minimum liquid flow rate and pressure drop operating limits at the higher of the minimum values established during the performance tests. (40 CFR 63.7530(b)(4)(ii)(F))

(c) For a dry scrubber, you must establish the minimum sorbent injection rate for each sorbent, as defined in § 63.7575, as your operating limit during the three-run performance test during which you demonstrate compliance with your applicable limit. (40 CFR 63.7530(b)(4)(iv))

(d) For activated carbon injection, the owner or operator shall establish the minimum activated carbon injection rate, as defined in §63.7575, as your operating limit during the three-run performance test during which you demonstrate compliance with your applicable limit. (40 CFR 63.7530(b)(4)(v))

(e) The operating limit for boilers or process heaters with fabric filters that demonstrate continuous compliance through bag leak detection systems is that a bag leak detection system be installed according to the requirements in §63.7525, and that each fabric filter must be operated such that the bag leak detection system alert is not activated more than 5 percent of the operating time during a 6-month period. (40 CFR 63.7530(b)(4)(vi))

(f) For a minimum oxygen level, if you conduct multiple performance tests, the owner or operator shall set the minimum oxygen level at the lower of the minimum values established during the performance tests. (40 CFR 63.7530(b)(4)(vii))

(g) The operating limit for boilers or process heaters that demonstrate continuous compliance with the HCl emission limit using a SO_2 CEMS is to install and operate the SO_2 according to the requirements in §63.7525(m) establish a maximum SO_2 emission rate equal to the highest hourly average SO_2 measurement during the most recent three-run performance test for HCl. (40 CFR 63.7530(b)(4)(viii))

iii. If you elect to demonstrate compliance with an applicable emission limit through fuel analysis, the owner or operator shall conduct fuel analyses according to §63.7521 and follow the procedures in paragraphs (c)(1) through (5) of this section. (40 CFR 63.7530(c))

1) If you burn more than one fuel type, the owner or operator shall determine the fuel mixture you could burn in your boiler or process heater that would result in the maximum emission rates of the pollutants that you elect to demonstrate compliance through fuel analysis. (40 CFR 63.7530(c)(1))

2) The owner or operator shall determine the 90th percentile confidence level fuel pollutant concentration of the composite samples analyzed for each fuel type using the one-sided t-statistic test described in Equation 15 of this section. (40 CFR 63.7530(c)(2))

$$P90 = mean + (SD \times t) \qquad (Eq. 15)$$

Where:

P90 = 90th percentile confidence level pollutant concentration, in pounds per million Btu.
Mean = Arithmetic average of the fuel pollutant concentration in the fuel samples analyzed according to §63.7521, in units of pounds per million Btu.
SD = Standard deviation of the mean of pollutant concentration in the fuel samples analyzed according to §63.7521, in units of pounds per million Btu. SD is calculated as the sample standarddeviation divided by the square root of the number of samples.
t = t distribution critical value for 90th percentile ($t_{0.1}$) probability for the appropriate degrees of freedom (number of samples minus one) as obtained from a t-Distribution Critical Value Table.

3) To demonstrate compliance with the applicable emission limit for HCl, the HCl emission rate that you calculate for your boiler or process heater using Equation 16 of this section must not exceed the applicable emission limit for HCl. (40 CFR 63.7530(c)(3))

$$HCl = \sum_{i=1}^{n} (C_i 90 \times Q_i \times 1.028) \qquad (Eq. 16)$$

Where:

HCl = HCl emission rate from the boiler or process heater in units of pounds per million Btu.
Ci90 = 90th percentile confidence level concentration of chlorine in fuel type, i, in units of pounds per million Btu as calculated according to Equation 11 of this section.
Qi = Fraction of total heat input from fuel type, i, based on the fuel mixture that has the highest content of chlorine. If you do not burn multiple fuel types, it is not necessary to determine the value of this term. Insert a value of “1” for Qi.
n = Number of different fuel types burned in your boiler or process heater for the mixture that has the highest content of chlorine.
1.028 = Molecular weight ratio of HCl to chlorine.

4) To demonstrate compliance with the applicable emission limit for mercury, the mercury emission rate that you calculate for your boiler or process heater using Equation 17 of this section must not exceed the applicable emission limit for mercury. (40 CFR 63.7530(c)(4))

$$Mercury = \sum_{i=1}^{n} (Hgi90 \times Qi) \qquad (Eq. 17)$$

Where:

Mercury = Mercury emission rate from the boiler or process heater in units of pounds per million Btu.
Hgi90 = 90th percentile confidence level concentration of mercury in fuel, i, in units of pounds per million Btu as calculated according to Equation 11 of this section.
Qi = Fraction of total heat input from fuel type, i, based on the fuel mixture that has the highest mercury content. If you do not burn multiple fuel types, it is not necessary to determine the value of this term. Insert a value of "1" for Qi.
n = Number of different fuel types burned in your boiler or process heater for the mixture that has the highest mercury content.

5) To demonstrate compliance with the applicable emission limit for TSM for solid or liquid fuels, the TSM emission rate that you calculate for your boiler or process heater from solid fuels using Equation 18 of this section must not exceed the applicable emission limit for TSM. (40 CFR 63.7530(c)(5))

$$Metals = \sum_{i=1}^{n} (TSM90i \times Qi) \qquad (Eq. 18)$$

Where:

Metals = TSM emission rate from the boiler or process heater in units of pounds per million Btu.
TSMi90 = 90th percentile confidence level concentration of TSM in fuel, i, in units of pounds per million Btu as calculated according to Equation 11 of this section.
Qi = Fraction of total heat input from fuel type, i, based on the fuel mixture that has the highest TSM content. If you do not burn multiple fuel types, it is not necessary to determine the value of this term. Insert a value of "1" for Qi.
n = Number of different fuel types burned in your boiler or process

heater for the mixture that has the highest TSM content.

iv. If you own or operate an existing unit with a heat input capacity of less than 10 million Btu per hour or a unit in the unit designed to burn gas 1 subcategory, the owner or operator shall submit a signed statement in the Notification of Compliance Status report that indicates that you conducted a tune-up of the unit. (40 CFR 63.7530(d))

v. The owner or operator shall include with the Notification of Compliance Status a signed certification that the energy assessment was completed according to Table 3 to this subpart and is an accurate depiction of your facility at the time of the assessment. (40 CFR 63.7530(e))

vi. The owner or operator shall submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in §63.7545(e). (40 CFR 63.7530(f))

vii. If you own or operate a unit subject to emission limits in Tables 1 or 2 or 11 through 13 to this subpart, the owner or operator shall meet the work practice standard according to Table 3 of this subpart. During startup and shutdown, the owner or operator shall only follow the work practice standards according to item 5 of Table 3 of this subpart. (40 CFR 63.7530(h))

h. **Can the owner or operator use efficiency credits earned from implementation of energy conservation measures to comply with this subpart (40 CFR 63.7533)**

i. If you elect to comply with the alternative equivalent output-based emission limits, instead of the heat input-based limits listed in Table 2 to this subpart, and you want to take credit for implementing energy conservation measures identified in an energy assessment, you may demonstrate compliance using efficiency credits according to the procedures in this section. You may use this compliance approach for an existing affected boiler for demonstrating initial compliance according to §63.7522(e) and for demonstrating monthly compliance according to §63.7522(f). Owners or operators using this compliance approach must establish an emissions benchmark, calculate and document the efficiency credits, develop an Implementation Plan, comply with the general reporting requirements, and apply the efficiency credit according to the procedures in paragraphs (b) through (f) of this section. You cannot use this compliance approach for a new or reconstructed affected boiler. Additional guidance from the Department of Energy on efficiency credits is available at: *http://www.epa.gov/ttn/atw/boiler/boilerpg.html*. (40 CFR 63.7533(a))

ii. For each existing affected boiler for which you intend to apply emissions credits, establish a benchmark from which emission reduction credits may be generated by determining the actual annual fuel heat input to the affected boiler before initiation of an energy conservation activity to reduce energy demand (*i.e.*, fuel usage) according to paragraphs (b)(1) through (4) of this section. The benchmark shall be expressed in trillion Btu per year heat input. (40 CFR 63.7533(b))

1) The benchmark from which efficiency credits may be generated shall be determined by using the most representative, accurate, and reliable process available for the source. The benchmark shall be established for a one-year period before the date that an energy demand reduction occurs, unless it can be demonstrated that a different time period is more representative of historical operations. (40 CFR 63.7533(b)(1))

2) Determine the starting point from which to measure progress. Inventory all fuel purchased and generated on-site (off-gases, residues) in physical units (MMBtu, million cubic feet, etc.). (40 CFR 63.7533(b)(2))

3) Document all uses of energy from the affected boiler. Use the most recent data available. (40 CFR 63.7533(b)(3))

4) Collect non-energy related facility and operational data to normalize, if necessary, the benchmark to current operations, such as building size, operating hours, etc. If possible, use actual data that are current and timely rather than estimated data. (40 CFR 63.7533(b)(4))

iii. Efficiency credits can be generated if the energy conservation measures were implemented after January 1, 2008 and if sufficient information is available to determine the appropriate value of credits. (40 CFR 63.7533(c))

1) The following emission points cannot be used to generate efficiency credits: (40 CFR 63.7533(c)(1))

(a) Energy conservation measures implemented on or before January 1, 2008, unless the level of energy demand reduction is increased after January 1, 2008, in which case credit will be allowed only for change in demand reduction achieved after January 1, 2008. (40 CFR 63.7533(c)(1)(i))

(b) Efficiency credits on shut-down boilers. Boilers that are shut down cannot be used to generate credits unless the

facility provides documentation linking the permanent shutdown to energy conservation measures identified in the energy assessment. In this case, the bench established for the affected boiler to which the credits from the shutdown will be applied must be revised to include the benchmark established for the shutdown boiler. (40 CFR 63.7533(c)(1)(ii))

2) For all points included in calculating emissions credits, the owner or operator shall: (40 CFR 63.7533(c)(2))

(a) Calculate annual credits for all energy demand points. Use Equation 19 to calculate credits. Energy conservation measures that meet the criteria of paragraph (c)(1) of this section shall not be included, except as specified in paragraph (c)(1)(i) of this section. (40 CFR 63.7533(c)(2)(i))

3) Credits are generated by the difference between the benchmark that is established for each affected boiler, and the actual energy demand reductions from energy conservation measures implemented after January 1, 2008. Credits shall be calculated using Equation 19 of this section as follows: (40 CFR 63.7533(c)(3))

(a) The overall equation for calculating credits is: (40 CFR 63.7533(c)(3)(i))

$$ECredits = (\sum_{i=1}^{n}(EIS_{iactual}) \div EI_{baseline} \quad (Eq.9)$$

Where:

ECredits = Energy Input Savings for all energy conservation measures implemented for an affected boiler, expressed as a decimal fraction of the baseline energy input.
$EIS_{iactual}$ = Energy Input Savings for each energy conservation measure, i, implemented for an affected boiler, million Btu per year.
$EI_{baseline}$ = Energy Input baseline for the affected boiler, million Btu per year.
n = Number of energy conservation measures included in the efficiency credit for the affected boiler.

iv. The owner or operator shall develop, and submit for approval upon request

by the Administrator, an Implementation Plan containing all of the information required in this paragraph for all boilers to be included in an efficiency credit approach. The Implementation Plan shall identify all existing affected boilers to be included in applying the efficiency credits. The Implementation Plan shall include a description of the energy conservation measures implemented and the energy savings generated from each measure and an explanation of the criteria used for determining that savings. If requested, the owner or operator shall submit the implementation plan for efficiency credits to the Administrator for review and approval no later than 180 days before the date on which the facility intends to demonstrate compliance using the efficiency credit approach. (40 CFR 63.7533(d))

v. The emissions rate as calculated using Equation 20 of this section from each existing boiler participating in the efficiency credit option must be in compliance with the limits in Table 2 to this subpart at all times the affected unit is operating, following the compliance date specified in §63.7495. (40 CFR 63.7533(e))

vi. The owner or operator shall use Equation 20 of this section to demonstrate initial compliance by demonstrating that the emissions from the affected boiler participating in the efficiency credit compliance approach do not exceed the emission limits in Table 2 to this subpart. (40 CFR 63.7533(f))

$$E_{adj} = E_m \times (1 - ECredits) \qquad (Eq. 20)$$

Where:

E_{adj} = Emission level adjusted by applying the efficiency credits earned, lb per million Btu steam output (or lb per MWh) for the affected boiler.
E_m = Emissions measured during the performance test, lb per million Btu steam output (or lb per MWh) for the affected boiler.
ECredits = Efficiency credits from Equation 19 for the affected boiler.

vii. As part of each compliance report submitted as required under §63.7550, the owner or operator shall include documentation that the energy conservation measures implemented continue to generate the credit for use in demonstrating compliance with the emission limits. (40 CFR 63.7533(g))

i. **Minimum amount of monitoring data required (40 CFR 63.7535)**

i. The owner or operator shall monitor and collect data according to this section and the site-specific monitoring plan required by §63.7505(d). (40 CFR 63.7535(a))

ii. The owner or operator shall operate the monitoring system and collect data at all required intervals at all times that each boiler or process heater is operating and compliance is required, except for periods of monitoring system malfunctions or out of control periods (see §63.8(c)(7) of this part), and required monitoring system quality assurance or control activities, including, as applicable, calibration checks, required zero and span adjustments, and scheduled CMS maintenance as defined in your site-specific monitoring plan. A monitoring system malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring system to provide valid data. Monitoring system failures that are caused in part by poor maintenance or careless operation are not malfunctions. You are required to complete monitoring system repairs in response to monitoring system malfunctions or out-of-control periods and to return the monitoring system to operation as expeditiously as practicable. (40 CFR 63.7535(b))

iii. You may not use data recorded during monitoring system malfunctions or out-of-control periods, repairs associated with monitoring system malfunctions or out-of-control periods, or required monitoring system quality assurance or control activities in data averages and calculations used to report emissions or operating levels. The owner or operator shall record and make available upon request results of CMS performance audits and dates and duration of periods when the CMS is out of control to completion of the corrective actions necessary to return the CMS to operation consistent with your site-specific monitoring plan. The owner or operator shall use all the data collected during all other periods in assessing compliance and the operation of the control device and associated control system. (40 CFR 63.7535(c))

iv. Except for periods of monitoring system malfunctions, repairs associated with monitoring system malfunctions, and required monitoring system quality assurance or quality control activities (including, as applicable, system accuracy audits, calibration checks, and required zero and span adjustments), failure to collect required data is a deviation of the monitoring requirements. In calculating monitoring results, do not use any data collected during periods when the monitoring system is out of control as specified in your site-specific monitoring plan, while conducting repairs associated with periods when the monitoring system is out of control, or while conducting required monitoring system quality assurance or quality control activities. The owner or operator shall calculate monitoring results using all other monitoring data collected while the process is operating. The owner or operator shall report all periods when the monitoring system is out of control in your annual report. (40 CFR 63.7535(d))

j. **Demonstrate continuous compliance with the emission limitations, fuel specifications and work practice standards (40 CFR 63.7540)**

i. The owner or operator shall demonstrate continuous compliance with each emission limit in Tables 2 to this subpart, the work practice standards in Table 3 to this subpart, and the operating limits in Table 4 to this subpart that applies to you according to the methods specified in Table 8 to this subpart and paragraphs (a)(1) through (19) of this section. (40 CFR 63.7540(a))

1) Following the date on which the initial compliance demonstration is completed or is required to be completed under §§63.7 and 63.7510, whichever date comes first, operation above the established maximum or below the established minimum operating limits shall constitute a deviation of established operating limits listed in Table 4 of this subpart except during performance tests conducted to determine compliance with the emission limits or to establish new operating limits. Operating limits must be confirmed or reestablished during performance tests. (40 CFR 63.7540(a)(1))

2) As specified in §63.7550(c), the owner or operator shall keep records of the type and amount of all fuels burned in each boiler or process heater during the reporting period to demonstrate that all fuel types and mixtures of fuels burned would result in either of the following: (40 CFR 63.7540(a)(2))

(a) Lower emissions of HCl, mercury, and TSM than the applicable emission limit for each pollutant, if you demonstrate compliance through fuel analysis. (40 CFR 63.7540(a)(2)(i))

(b) Lower fuel input of chlorine, mercury, and TSM than the maximum values calculated during the last performance test, if you demonstrate compliance through performance testing. (40 CFR 63.7540(a)(2)(ii))

3) If you demonstrate compliance with an applicable HCl emission limit through fuel analysis for a solid or liquid fuel and you plan to burn a new type of solid or liquid fuel, the owner or operator shall recalculate the HCl emission rate using Equation 12 of §63.7530 according to paragraphs (a)(3)(i) through (iii) of this section. You are not required to conduct fuel analyses for the fuels described in §63.7510(a)(2)(i) through (iii). You may exclude the fuels described in §63.7510(a)(2)(i) through (iii) when recalculating the HCl emission rate. (40 CFR 63.7540(a)(3))

(a) The owner or operator shall determine the chlorine concentration for any new fuel type in units of pounds per million Btu, based on supplier data or your own fuel analysis, according to the provisions in your site-specific fuel analysis plan developed according to §63.7521(b). (40 CFR 63.7540(a)(3)(i))

(b) The owner or operator shall determine the new mixture of fuels that will have the highest content of chlorine. (40 CFR 63.7540(a)(3)(ii))

(c) Recalculate the HCl emission rate from your boiler or process heater under these new conditions using Equation 12 of §63.7530. The recalculated HCl emission rate must be less than the applicable emission limit. (40 CFR 63.7540(a)(3)(iii))

4) If you demonstrate compliance with an applicable HCl emission limit through performance testing and you plan to burn a new type of fuel or a new mixture of fuels, the owner or operator shall recalculate the maximum chlorine input using Equation 7 of §63.7530. If the results of recalculating the maximum chlorine input using Equation 7 of §63.7530 are greater than the maximum chlorine input level established during the previous performance test, then the owner or operator shall conduct a new performance test within 60 days of burning the new fuel type or fuel mixture according to theprocedures in §63.7520 to demonstrate that the HCl emissions do not exceed the emission limit. The owner or operator shall also establish new operating limits based on this performance test according to the procedures in §63.7530(b). In recalculating the maximum chlorine input and establishing the new operating limits, you are not required to conduct fuel analyses for and include the fuels described in §63.7510(a)(2)(i) through (iii). (40 CFR 63.7540(a)(4))

5) If you demonstrate compliance with an applicable mercury emission limit through fuel analysis, and you plan to burn a new type of fuel, the owner or operator shall recalculate the mercury emission rate using Equation 13 of §63.7530 according to the procedures specified in paragraphs (a)(5)(i) through (iii) of this section. You are not required to conduct fuel analyses for the fuels described in §63.7510(a)(2)(i) through (iii). You may exclude the fuels described in §63.7510(a)(2)(i) through (iii) when recalculating the mercury emission rate. (40 CFR 63.7540(a)(5))

(a) The owner or operator shall determine the mercury concentration for any new fuel type in units of pounds per million Btu, based on supplier data or your own fuel analysis, according to the provisions in your site-specific fuel analysis plan developed according to §63.7521(b). (40 CFR 63.7540(a)(5)(i))

(b) The owner or operator shall determine the new mixture of fuels that will have the highest content of mercury. (40 CFR 63.7540(a)(5)(ii))

(c) Recalculate the mercury emission rate from your boiler or process heater under these new conditions using Equation 13 of §63.7530. The recalculated mercury emission rate must be less than the applicable emission limit. (40 CFR 63.7540(a)(5)(iii))

6) If you demonstrate compliance with an applicable mercury emission limit through performance testing, and you plan to burn a new type of fuel or a new mixture of fuels, the owner or operator shall recalculate the maximum mercury input using Equation 8 of §63.7530. If the results of recalculating the maximum mercury input using Equation 8 of §63.7530 are higher than the maximum mercury input level established during the previous performance test, then the owner or operator shall conduct a new performance test within 60 days of burning the new fuel type or fuel mixture according to the procedures in §63.7520 to demonstrate that the mercury emissions do not exceed the emission limit. The owner or operator shall also establish new operating limits based on this performance test according to the procedures in §63.7530(b). You are not required to conduct fuel analyses for the fuels described in §63.7510(a)(2)(i) through (iii). You may exclude the fuels described in §63.7510(a)(2)(i) through (iii) when recalculating the mercury emission rate. (40 CFR 63.7540(a)(6))

7) If your unit is controlled with a fabric filter, and you demonstrate continuous compliance using a bag leak detection system, the owner or operator shall initiate corrective action within 1 hour of a bag leak detection system alert and complete corrective actions as soon as practical, and operate and maintain the fabric filter system such that the periods which would cause an alert are no more than 5 percent of the operating time during a 6-month period. The owner or operator shall also keep records of the date, time, and duration of each alert, the time corrective action was initiated and completed, and a brief description of the cause of the alert and the corrective action taken. The owner or operator shall also record the

percent of the operating time during each 6-month period that the conditions exist for an alert. In calculating this operating time percentage, if inspection of the fabric filter demonstrates that no corrective action is required, no alert time is counted. If corrective action is required, each alert shall be counted as a minimum of 1 hour. If you take longer than 1 hour to initiate corrective action, the alert time shall be counted as the actual amount of time taken to initiate corrective action. (40 CFR 63.7540(a)(7))

8) To demonstrate compliance with the applicable alternative CO CEMS emission limit listed in Tables 1, 2, or 11 through 13 to this subpart, the owner or operator shall meet the requirements in paragraphs (a)(8)(i) through (iv) of this section. (40 CFR 63.7540(a)(8))

(a) Continuously monitor CO according to §§63.7525(a) and 63.7535. (40 CFR 63.7540(a)(8)(i))

(b) Maintain a CO emission level below or at your applicable alternative CO CEMS-based standard in Tables 1 or 2 or 11 through 13 to this subpart at all times the affected unit is operating. (40 CFR 63.7540(a)(8)(ii))

(c) Keep records of CO levels according to §63.7555(b). (40 CFR 63.7540(a)(8)(iii))

(d) The owner or operator shall record and make available upon request results of CO CEMS performance audits, dates and duration of periods when the CO CEMS is out of control to completion of the corrective actions necessary to return the CO CEMS to operation consistent with your site-specific monitoring plan. (40 CFR 63.7540(a)(8)(iv))

9) The owner or operator of a boiler or process heater using a PM CPMS or a PM CEMS to meet requirements of this subpart shall install, certify, operate, and maintain the PM CPMS or PM CEMS in accordance with your site-specific monitoring plan as required in §63.7505(d). (40 CFR 63.7540(a)(9))

10) If your boiler or process heater has a heat input capacity of 10 million Btu per hour or greater, the owner or operator shall conduct an annual tune-up of the boiler or process heater to demonstrate continuous compliance as specified in paragraphs (a)(10)(i) through (vi) of this section. This frequency does not apply to limited-use boilers and process heaters, as defined in § 63.7575, or

units with continuous oxygen trim systems that maintain an optimum air to fuel ratio. (40 CFR 63.7540(a)(10))

(a) As applicable, inspect the burner, and clean or replace any components of the burner as necessary (you may delay the burner inspection until the next scheduled unit shutdown). Units that produce electricity for sale may delay the burner inspection until the first outage, not to exceed 36 months from the previous inspection. At units where entry into a piece of process equipment or into a storage vessel is required to complete the tune-up inspections, inspections are required only during planned entries into the storage vessel or process equipment; (40 CFR 63.7540(a)(10)(i))

(b) Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available; (40 CFR 63.7540(a)(10)(ii))

(c) Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly (you may delay the inspection until the next scheduled unit shutdown). Units that produce electricity for sale may delay the inspection until the first outage, not to exceed 36 months from the previous inspection; (40 CFR 63.7540(a)(10)(iii))

(d) Optimize total emissions of CO. This optimization should be consistent with the manufacturer's specifications, if available, and with any NO_X requirement to which the unit is subject; (40 CFR 63.7540(a)(10)(iv))

(e) Measure the concentrations in the effluent stream of CO in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer; and (40 CFR 63.7540(a)(10)(v))

(f) Maintain on-site and submit, if requested by the Administrator, an annual report containing the information in paragraphs (a)(10)(vi)(A) through (C) of this section, (40 CFR 63.7540(a)(10)(vi))

(i) The concentrations of CO in the effluent stream in parts per million by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of the boiler or process heater; (40 CFR 63.7540(a)(10)(vi)(A))

(ii) A description of any corrective actions taken as a part of the tune-up; and (40 CFR 63.7540(a)(10)(vi)(B))

(iii) The type and amount of fuel used over the 12 months prior to the tune-up, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel used by each unit. (40 CFR 63.7540(a)(10)(vi)(C))

11) If your boiler or process heater has a continuous oxygen trim system that maintains an optimum air to fuel ratio, or a heat input capacity of less than or equal to 5 million Btu per hour and the unit is in the units designed to burn gas 1; units designed to burn gas 2 (other); or units designed to burn light liquid subcategories, or meets the definition of limited-use boiler or process heater in §63.7575, the owner or operator shall conduct a tune-up of the boiler or process heater every 5 years as specified in paragraphs (a)(10)(i) through (vi) of this section to demonstrate continuous compliance. You may delay the burner inspection specified in paragraph (a)(10)(i) of this section until the next scheduled or unscheduled unit shutdown, but the owner or operator shall inspect each burner at least once every 72 months. (40 CFR 63.7540(a)(12))

12) If the unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 calendar days of startup. (40 CFR 63.7540(a)(13))

13) If you demonstrate compliance with an applicable TSM emission limit through performance testing, and you plan to burn a new type of fuel or a new mixture of fuels, the owner or operator shall recalculate the maximum TSM input using Equation 9 of §63.7530. If the results of recalculating the maximum TSM input using Equation 9 of §63.7530 are higher than the maximum total selected input level established during the previous performance test, then the owner or operator shall conduct a new performance test within 60 days of burning the new fuel type or fuel mixture according to the procedures in §63.7520 to demonstrate that the

TSM emissions do not exceed the emission limit. The owner or operator shall also establish new operating limits based on this performance test according to the procedures in §63.7530(b). You are not required to conduct fuel analyses for the fuels described in §63.7510(a)(2)(i) through (iii). You may exclude the fuels described in §63.7510(a)(2)(i) through (iii) when recalculating the TSM emission rate. (40 CFR 63.7540(a)(16))

14) If you demonstrate compliance with an applicable TSM emission limit through fuel analysis for solid or liquid fuels, and you plan to burn a new type of fuel, the owner or operator shall recalculate the TSM emission rate using Equation 14 of §63.7530 according to the procedures specified in paragraphs (a)(5)(i) through (iii) of this section. You are not required to conduct fuel analyses for the fuels described in §63.7510(a)(2)(i) through (iii). You may exclude the fuels described in §63.7510(a)(2)(i) through (iii) when recalculating the TSM emission rate. (40 CFR 63.7540(a)(17))

(a) The owner or operator shall determine the TSM concentration for any new fuel type in units of pounds per million Btu, based on supplier data or your own fuel analysis, according to the provisions in your site-specific fuel analysis plan developed according to §63.7521(b). (40 CFR 63.7540(a)(17)(i))

(b) The owner or operator shall determine the new mixture of fuels that will have the highest content of TSM. (40 CFR 63.7540(a)(17)(ii))

(c) Recalculate the TSM emission rate from your boiler or process heater under these new conditions using Equation 14 of §63.7530. The recalculated TSM emission rate must be less than the applicable emission limit. (40 CFR 63.7540(a)(17)(iii))

15) If you demonstrate continuous PM emissions compliance with a PM CPMS you will use a PM CPMS to establish a site-specific operating limit corresponding to the results of the performance test demonstrating compliance with the PM limit. You will conduct your performance test using the test method criteria in Table 5 of this subpart. You will use the PM CPMS to demonstrate continuous compliance with this operating limit. The owner or operator shall repeat the performance test annually and reassess and adjust the site-specific operating limit in accordance with the results of the performance test. (40 CFR 63.7540(a)(18))

(a) To determine continuous compliance, the owner or operator shall record the PM CPMS output data for all periods when the process is operating and the PM CPMS is not out-of-control. The owner or operator shall demonstrate continuous compliance by using all quality-assured hourly average data collected by the PM CPMS for all operating hours to calculate the arithmetic average operating parameter in units of the operating limit (milliamps) on a 30-day rolling average basis, updated at the end of each new boiler or process heater operating hour. (40 CFR 63.7540(a)(18)(i))

(b) For any deviation of the 30-day rolling PM CPMS average value from the established operating parameter limit, the owner or operator shall: (40 CFR 63.7540(a)(18)(ii))

(i) Within 48 hours of the deviation, visually inspect the air pollution control device (APCD); (40 CFR 63.7540(a)(18)(ii)(A))

(ii) If inspection of the APCD identifies the cause of the deviation, take corrective action as soon as possible and return the PM CPMS measurement to within the established value; and (40 CFR 63.7540(a)(18)(ii)(B))

(iii) Within 30 days of the deviation or at the time of the annual compliance test, whichever comes first, conduct a PM emissions compliance test to determine compliance with the PM emissions limit and to verify or re-establish the CPMS operating limit. You are not required to conduct additional testing for any deviations that occur between the time of the original deviation and the PM emissions compliance test required under this paragraph. (40 CFR 63.7540(a)(18)(ii)(C))

(c) PM CPMS deviations from the operating limit leading to more than four required performance tests in a 12-month operating period constitute a separate violation of this subpart. (40 CFR 63.7540(a)(18)(iii))

ii. The owner or operator shall report each instance in which you did not meet each emission limit and operating limit in Tables 1 through 4 or 11 through 13 to this subpart that apply to you. These instances are deviations from the emission limits or operating limits, respectively, in this subpart.

These deviations must be reported according to the requirements in §63.7550. (40 CFR 63.7540(b))

iii. If you elected to demonstrate that the unit meets the specification for mercury for the unit designed to burn gas 1 subcategory, the owner or operator shall follow the sampling frequency specified in paragraphs (c)(1) through (4) of this section and conduct this sampling according to the procedures in §63.7521(f) through (i). (40 CFR 63.7540(c))

1) If the initial mercury constituents in the gaseous fuels are measured to be equal to or less than half of the mercury specification as defined in §63.7575, you do not need to conduct further sampling. (40 CFR 63.7540(c)(1))

2) If the initial mercury constituents are greater than half but equal to or less than 75 percent of the mercury specification as defined in §63.7575, you will conduct semi-annual sampling. If 6 consecutive semi-annual fuel analyses demonstrate 50 percent or less of the mercury specification, you do not need to conduct further sampling. If any semi-annual sample exceeds 75 percent of the mercury specification, the owner or operator shall return to monthly sampling for that fuel, until 12 months of fuel analyses again are less than 75 percent of the compliance level. (40 CFR 63.7540(c)(2))

3) If the initial mercury constituents are greater than 75 percent of the mercury specification as defined in §63.7575, you will conduct monthly sampling. If 12 consecutive monthly fuel analyses demonstrate 75 percent or less of the mercury specification, you may decrease the fuel analysis frequency to semi-annual for that fuel. (40 CFR 63.7540(c)(3))

4) If the initial sample exceeds the mercury specification as defined in §63.7575, each affected boiler or process heater combusting this fuel is not part of the unit designed to burn gas 1 subcategory and must be in compliance with the emission and operating limits for the appropriate subcategory. You may elect to conduct additional monthly sampling while complying with these emissions and operating limits to demonstrate that the fuel qualifies as another gas 1 fuel. If 12 consecutive monthly fuel analyses samples are at or below the mercury specification as defined in §63.7575, each affected boiler or process heater combusting the fuel can elect to switch back into the unit designed to burn gas 1 subcategory until the mercury specification is exceeded. (40 CFR 63.7540(c)(4))

iv. For startup and shutdown, the owner or operator shall meet the work

practice standards according to item 5 of Table 3 of this subpart. (40 CFR 63.7540(d))

k. **Demonstrate continuous compliance under the emissions averaging provision (40 CFR 63.7541)**

i. Following the compliance date, the owner or operator must demonstrate compliance with this subpart on a continuous basis by meeting the requirements of paragraphs (a)(1) through (5) of this section. (40 CFR 63.7541(a))

1) For each calendar month, demonstrate compliance with the average weighted emissions limit for the existing units participating in the emissions averaging option as determined in §63.7522(f) and (g). (40 CFR 63.7541(a)(1))

2) The owner or operator shall maintain the applicable opacity limit according to paragraphs (a)(2)(i) and (ii) of this section. (40 CFR 63.7541(a)(2))

(a) For each existing unit participating in the emissions averaging option that is equipped with a dry control system and not vented to a common stack, maintain opacity at or below the applicable limit. (40 CFR 63.7541(a)(2)(i))

(b) For each group of units participating in the emissions averaging option where each unit in the group is equipped with a dry control system and vented to a common stack that does not receive emissions from non-affected units, maintain opacity at or below the applicable limit at the common stack. (40 CFR 63.7541(a)(2)(ii))

3) For each existing unit participating in the emissions averaging option that is equipped with a wet scrubber, maintain the 30-day rolling average parameter values at or above the operating limits established during the most recent performance test. (40 CFR 63.7541(a)(3))

4) For each existing unit participating in the emissions averaging option that has an approved alternative operating parameter, maintain the 30-day rolling average parameter values consistent with the approved monitoring plan. (40 CFR 63.7541(a)(4))

5) For each existing unit participating in the emissions averaging option venting to a common stack configuration containing affected units from other subcategories, maintain the appropriate

operating limit for each unit as specified in Table 4 to this subpart that applies. (40 CFR 63.7541(a)(5))

ii. Any instance where the owner or operator fails to comply with the continuous monitoring requirements in paragraphs (a)(1) through (5) of this section is a deviation. (40 CFR 63.7541(b))

l. **Records that required to keep (40 CFR 63.7555)**

i. The owner or operator shall keep records according to paragraphs (a)(1) and (2) of this section. (40 CFR 63.7555(a))

1) A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status or semiannual compliance report that you submitted, according to the requirements in §63.10(b)(2)(xiv). (40 CFR 63.7555(a)(1))

2) Records of performance tests, fuel analyses, or other compliance demonstrations and performance evaluations as required in §63.10(b)(2)(viii). (40 CFR 63.7555(a)(2))

ii. For each CEMS, COMS, and continuous monitoring system the owner or operator shall keep records according to paragraphs (b)(1) through (5) of this section. (40 CFR 63.7555(b))

1) Records described in §63.10(b)(2)(vii) through (xi). (40 CFR 63.7555(b)(1))

2) Monitoring data for continuous opacity monitoring system during a performance evaluation as required in §63.6(h)(7)(i) and (ii). (40 CFR 63.7555(b)(2))

3) Previous (*i.e.*, superseded) versions of the performance evaluation plan as required in §63.8(d)(3). (40 CFR 63.7555(b)(3))

4) Request for alternatives to relative accuracy test for CEMS as required in §63.8(f)(6)(i). (40 CFR 63.7555(b)(4))

5) Records of the date and time that each deviation started and stopped. (40 CFR 63.7555(b)(5))

iii. The owner or operator shall keep the records required in Table 8 to this subpart including records of all monitoring data and calculated averages for applicable operating limits, such as opacity, pressure drop, pH, and operating load, to show continuous compliance with each emission limit

and operating limit that applies to you. (40 CFR 63.7555(c))

iv. For each boiler or process heater subject to an emission limit in Tables 1, 2, or 11 through 13 to this subpart, the owner or operator shall also keep the applicable records in paragraphs (d)(1) through (11) of this section. (40 CFR 63.7555(d))

1) The owner or operator shall keep records of monthly fuel use by each boiler or process heater, including the type(s) of fuel and amount(s) used. (40 CFR 63.7555(d)(1))

2) If you combust non-hazardous secondary materials that have been determined not to be solid waste pursuant to §241.3(b)(1) and (2) of this chapter, the owner or operator shall keep a record that documents how the secondary material meets each of the legitimacy criteria under §241.3(d)(1) of this chapter. If you combust a fuel that has been processed from a discarded non-hazardous secondary material pursuant to §241.3(b)(4) of this chapter, the owner or operator shall keep records as to how the operations that produced the fuel satisfy the definition of processing in §241.2 of this chapter. If the fuel received a non-waste determination pursuant to the petition process submitted under §241.3(c) of this chapter, the owner or operator shall keep a record that documents how the fuel satisfies the requirements of the petition process. For operating units that combust non-hazardous secondary materials as fuel per §241.4 of this chapter, the owner or operator shall keep records documenting that the material is listed as a non-waste under §241.4(a) of this chapter. Units exempt from the incinerator standards under section 129(g)(1) of the Clean Air Act because they are qualifying facilities burning a homogeneous waste stream do not need to maintain the records described in this paragraph (d)(2). (40 CFR 63.7555(d)(2))

3) For units in the limited use subcategory, the owner or operator shall keep a copy of the federally enforceable permit that limits the annual capacity factor to less than or equal to 10 percent and fuel use records for the days the boiler or process heater was operating. (40 CFR 63.7555(d)(3))

4) A copy of all calculations and supporting documentation of maximum chlorine fuel input, using Equation 7 of §63.7530, that were done to demonstrate continuous compliance with the HCl emission limit, for sources that demonstrate compliance through performance testing. For sources that demonstrate compliance through fuel analysis, a copy of all calculations and supporting

documentation of HCl emission rates, using Equation 12 of §63.7530, that were done to demonstrate compliance with the HCl emission limit. Supporting documentation should include results of any fuel analyses and basis for the estimates of maximum chlorine fuel input or HCl emission rates. You can use the results from one fuel analysis for multiple boilers and process heaters provided they are all burning the same fuel type. However, the owner or operator shall calculate chlorine fuel input, or HCl emission rate, for each boiler and process heater. (40 CFR 63.7555(d)(4))

5) A copy of all calculations and supporting documentation of maximum mercury fuel input, using Equation 8 of §63.7530, that were done to demonstrate continuous compliance with the mercury emission limit for sources that demonstrate compliance through performance testing. For sources that demonstrate compliance through fuel analysis, a copy of all calculations and supporting documentation of mercury emission rates, using Equation 13 of §63.7530, that were done to demonstrate compliance with the mercury emission limit. Supporting documentation should include results of any fuel analyses and basis for the estimates of maximum mercury fuel input or mercury emission rates. You can use the results from one fuel analysis for multiple boilers and process heaters provided they are all burning the same fuel type. However, the owner or operator shall calculate mercury fuel input, or mercury emission rates, for each boiler and process heater. (40 CFR 63.7555(d)(5))

6) If, consistent with §63.7515(b), you choose to stack test less frequently than annually, the owner or operator shall keep a record that documents that your emissions in the previous stack test(s) were less than 75 percent of the applicable emission limit (or, in specific instances noted in Tables 1 and 2 or 11 through 13 to this subpart, less than the applicable emission limit), and document that there was no change in source operations including fuel composition and operation of air pollution control equipment that would cause emissions of the relevant pollutant to increase within the past year. (40 CFR 63.7555(d)(6))

7) Records of the occurrence and duration of each malfunction of the boiler or process heater, or of the associated air pollution control and monitoring equipment. (40 CFR 63.7555(d)(7))

8) Records of actions taken during periods of malfunction to minimize emissions in accordance with the general duty to minimize emissions in §63.7500(a)(3), including corrective actions to restore the malfunctioning boiler or process heater, air pollution

control, or monitoring equipment to its normal or usual manner of operation. (40 CFR 63.7555(d)(8))

9) A copy of all calculations and supporting documentation of maximum TSM fuel input, using Equation 9 of §63.7530, that were done to demonstrate continuous compliance with the TSM emission limit for sources that demonstrate compliance through performance testing. For sources that demonstrate compliance through fuel analysis, a copy of all calculations and supporting documentation of TSM emission rates, using Equation 14 of §63.7530, that were done to demonstrate compliance with the TSM emission limit. Supporting documentation should include results of any fuel analyses and basis for the estimates of maximum TSM fuel input or TSM emission rates. You can use the results from one fuel analysis for multiple boilers and process heaters provided they are all burning the same fuel type. However, the owner or operator shall calculate TSM fuel input, or TSM emission rates, for each boiler and process heater. (40 CFR 63.7555(d)(9))

10) The owner or operator shall maintain records of the calendar date, time, occurrence and duration of each startup and shutdown. (40 CFR 63.7555(d)(10))

11) The owner or operator shall maintain records of the type(s) and amount(s) of fuels used during each startup and shutdown. (40 CFR 63.7555(d)(11))

v. If you elect to average emissions consistent with §63.7522, the owner or operator shall additionally keep a copy of the emission averaging implementation plan required in §63.7522(g), all calculations required under §63.7522, including monthly records of heat input or steam generation, as applicable, and monitoring records consistent with §63.7541. (40 CFR 63.7555(e))

vi. If you elect to use efficiency credits from energy conservation measures to demonstrate compliance according to §63.7533, the owner or operator shall keep a copy of the Implementation Plan required in §63.7533(d) and copies of all data and calculations used to establish credits according to §63.7533(b), (c), and (f). (40 CFR 63.7555(f))

vii. If you elected to demonstrate that the unit meets the specification for mercury for the unit designed to burn gas 1 subcategory, the owner or operator shall maintain monthly records (or at the frequency required by §63.7540(c)) of the calculations and results of the fuel specification for mercury in Table 6. (40 CFR 63.7555(g))

viii. If you operate a unit in the unit designed to burn gas 1 subcategory that is subject to this subpart, and you use an alternative fuel other than natural gas, refinery gas, gaseous fuel subject to another subpart under this part, other gas 1 fuel, or gaseous fuel subject to another subpart of this part or part 60, 61, or 65, the owner or operator shall keep records of the total hours per calendar year that alternative fuel is burned and the total hours per calendar year that the unit operated during periods of gas curtailment or gas supply emergencies. (40 CFR 63.7555(h))

ix. The owner or operator shall maintain records of the calendar date, time, occurrence and duration of each startup and shutdown. (40 CFR 63.7555(i))

x. The owner or operator shall maintain records of the type(s) and amount(s) of fuels used during each startup and shutdown. (40 CFR 63.7555(j))

m. **Form of the records and how long to keep the records (40 CFR 63.7560)**

i. Your records must be in a form suitable and readily available for expeditious review, according to §63.10(b)(1). (40 CFR 63.7560(a))

ii. As specified in §63.10(b)(1), the owner or operator shall keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. (40 CFR 63.7560(b))

iii. The owner or operator shall keep each record on site, or they must be accessible from onsite (for example, through a computer network), for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to §63.10(b)(1). You can keep the records off site for the remaining 3 years. (40 CFR 63.7560(c))

S3. **Reporting** (Regulation 2.16, section 4.1.9.3)

a. **Notifications and the date to submit the notifications (40 CFR 63.7545)**

i. The owner or operator shall submit to the Administrator all of the notifications in §§63.7(b) and (c), 63.8(e), (f)(4) and (6), and 63.9(b) through (h) that apply to you by the dates specified. (40 CFR 63.7545(a))

ii. As specified in §63.9(b)(2), if you startup your affected source before January 31, 2013, the owner or operator shall submit an Initial Notification not later than 120 days after January 31, 2013. (40 CFR 63.7545(b))

iii. As specified in §63.9(b)(4) and (5), if you startup your new or

reconstructed affected source on or after January 31, 2013, the owner or operator shall submit an Initial Notification not later than 15 days after the actual date of startup of the affected source. (40 CFR 63.7545(c))

iv. If you are required to conduct a performance test the owner or operator shall submit a Notification of Intent to conduct a performance test at least 60 days before the performance test is scheduled to begin. (40 CFR 63.7545(d))

v. If you are required to conduct an initial compliance demonstration as specified in §63.7530, the owner or operator shall submit a Notification of Compliance Status according to §63.9(h)(2)(ii). For the initial compliance demonstration for each boiler or process heater, the owner or operator shall submit the Notification of Compliance Status, including all performance test results and fuel analyses, before the close of business on the 60th day following the completion of all performance test and/or other initial compliance demonstrations for all boiler or process heaters at the facility according to §63.10(d)(2). The Notification of Compliance Status report must contain all the information specified in paragraphs (e)(1) through (8), as applicable. If you are not required to conduct an initial compliance demonstration as specified in §63.7530(a), the Notification of Compliance Status must only contain the information specified in paragraphs (e)(1) and (8). (40 CFR 63.7545(e))

1) A description of the affected unit(s) including identification of which subcategories the unit is in, the design heat input capacity of the unit, a description of the add-on controls used on the unit to comply with this subpart, description of the fuel(s) burned, including whether the fuel(s) were a secondary material determined by you or the EPA through a petition process to be a non-waste under §241.3 of this chapter, whether the fuel(s) were a secondary material processed from discarded non-hazardous secondary materials within the meaning of §241.3 of this chapter, and justification for the selection of fuel(s) burned during the compliance demonstration. (40 CFR 63.7545(e)(1))

2) Summary of the results of all performance tests and fuel analyses, and calculations conducted to demonstrate initial compliance including all established operating limits, and including: (40 CFR 63.7545(e)(2))

(a) Identification of whether you are complying with the PM emission limit or the alternative TSM emission limit. (40 CFR 63.7545(e)(2)(i))

(b) Identification of whether you are complying with the output-based emission limits or the heat input-based (i.e., lb/MMBtu or ppm) emission limits, (40 CFR 63.7545(e)(2)(ii))

3) A summary of the maximum CO emission levels recorded during the performance test to show that you have met any applicable emission standard in Tables 1, 2, or 11 through 13 to this subpart, if you are not using a CO CEMS to demonstrate compliance. (40 CFR 63.7545(e)(3))

4) Identification of whether you plan to demonstrate compliance with each applicable emission limit through performance testing, a CEMS, or fuel analysis. (40 CFR 63.7545(e)(4))

5) Identification of whether you plan to demonstrate compliance by emissions averaging and identification of whether you plan to demonstrate compliance by using efficiency credits through energy conservation: (40 CFR 63.7545(e)(5))

(a) If you plan to demonstrate compliance by emission averaging, report the emission level that was being achieved or the control technology employed on January 31, 2013. (40 CFR 63.7545(e)(5)(i))

6) A signed certification that you have met all applicable emission limits and work practice standards. (40 CFR 63.7545(e)(6))

7) If you had a deviation from any emission limit, work practice standard, or operating limit, the owner or operator shall also submit a description of the deviation, the duration of the deviation, and the corrective action taken in the Notification of Compliance Status report. (40 CFR 63.7545(e)(7))

8) In addition to the information required in §63.9(h)(2), your notification of compliance status must include the following certification(s) of compliance, as applicable, and signed by a responsible official: (40 CFR 63.7545(e)(8))

(a) "This facility complies with the required initial tune-up according to the procedures in §63.7540(a)(10)(i) through (vi)." (40 CFR 63.7545(e)(8)(i))

(b) "This facility has had an energy assessment performed according to §63.7530(e)." (40 CFR 63.7545(e)(8)(ii))

(c) Except for units that burn only natural gas, refinery gas, or other gas 1 fuel, or units that qualify for a statutory exemption as provided in section 129(g)(1) of the Clean Air Act, include the following: "No secondary materials that are solid waste were combusted in any affected unit." (40 CFR 63.7545(e)(8)(iii))

vi. If you operate a unit designed to burn natural gas, refinery gas, or other gas 1 fuels that is subject to this subpart, and you intend to use a fuel other than natural gas, refinery gas, gaseous fuel subject to another subpart of this part, part 60, 61, or 65, or other gas 1 fuel to fire the affected unit during a period of natural gas curtailment or supply interruption, as defined in §63.7575, the owner or operator shall submit a notification of alternative fuel use within 48 hours of the declaration of each period of natural gas curtailment or supply interruption, as defined in §63.7575. The notification must include the information specified in paragraphs (f)(1) through (5) of this section. (40 CFR 63.7545(f))

1) Company name and address. (40 CFR 63.7545(f)(1))

2) Identification of the affected unit. (40 CFR 63.7545(f)(2))

3) Reason you are unable to use natural gas or equivalent fuel, including the date when the natural gas curtailment was declared or the natural gas supply interruption began. (40 CFR 63.7545(f)(3))

4) Type of alternative fuel that you intend to use. (40 CFR 63.7545(f)(4))

5) Dates when the alternative fuel use is expected to begin and end. (40 CFR 63.7545(f)(5))

vii. If you have switched fuels or made a physical change to the boiler and the fuel switch or physical change resulted in the applicability of a different subcategory, the owner or operator shall provide notice of the date upon which you switched fuels or made the physical change within 30 days of the switch/change. The notification must identify: (40 CFR 63.7545(h))

1) The name of the owner or operator of the affected source, as defined in §63.7490, the location of the source, the boiler(s) and process heater(s) that have switched fuels, were physically changed, and the date of the notice. (40 CFR 63.7545(h)(1))

2) The currently applicable subcategory under this subpart. (40 CFR 63.7545(h)(2))

3) The date upon which the fuel switch or physical change occurred. (40 CFR 63.7545(h)(3))

b. **Reports and the date to submit the reports (CFR 63.7550)**

i. The owner or operator shall submit each report in Table 9 to this subpart that applies to you. (40 CFR 63.7550(a))

Table 9 to Subpart DDDDD of Part 63 —Reporting Requirements

The owner or operator shall submit a(n)	**The report must contain ...**	**The owner or operator shall submit the report ...**
1. Compliance report	a. Information required in §63.7550(c)(1) through (5); and	Semiannually, annually, biennially, or every 5 years according to the requirements in §63.7550(b).
	b. If there are no deviations from any emission limitation (emission limit and operating limit) that applies to you and there are no deviations from the requirements for work practice standards in Table 3 to this subpart that apply to you, a statement that there were no deviations from the emission limitations and work practice standards during the reporting period. If there were no periods during which the CMSs, including continuous emissions monitoring system, continuous opacity monitoring system, and operating parameter monitoring systems, were out-of-control as specified in §63.8(c)(7), a statement that there were no periods during which the CMSs were out-of-control during the reporting period; and	
	c. If you have a deviation from any emission limitation (emission limit and operating limit) where you are not using a CMS to comply with that emission limit or operating limit, or a deviation from a work practice standard during the reporting period, the report must contain the information in §63.7550(d); and	
	d. If there were periods during which the CMSs, including continuous emissions monitoring system, continuous opacity monitoring system, and operating parameter monitoring systems, were out-of-control as specified in §63.8(c)(7), or otherwise not operating, the report must contain the information in §63.7550(e)	

ii. Unless the EPA Administrator has approved a different schedule for submission of reports under §63.10(a), the owner or operator shall submit each report, according to paragraph (h) of this section, by the date in Table 9 to this subpart and according to the requirements in paragraphs (b)(1) through (4) of this section. For units that are subject only to a requirement to conduct an annual, biennial, or 5-year tune-up according to §63.7540(a)(10), (11), or (12), respectively, and not subject to emission limits or operating limits, you may submit only an annual, biennial, or 5-

year compliance report, as applicable, as specified in paragraphs (b)(1) through(4) of this section, instead of a semi-annual compliance report. (40 CFR 63.7550(b))

1) The first compliance report must cover the period beginning on the compliance date that is specified for each boiler or process heater in §63.7495 and ending on July 31 or January 31, whichever date is the first date that occurs at least 180 days (or 1, 2, or 5 years, as applicable, if submitting an annual, biennial, or 5-year compliance report) after the compliance date that is specified for your source in §63.7495. (40 CFR 63.7550(b)(1))

2) The first compliance report must be postmarked or submitted no later than July 31 or January 31, whichever date is the first date following the end of the first calendar half after the compliance date that is specified for each boiler or process heater in §63.7495. The first annual, biennial, or 5-year compliance report must be postmarked or submitted no later than January 31. (40 CFR 63.7550(b)(2))

3) Each subsequent compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31. Annual, biennial, and 5-year compliance reports must cover the applicable 1-, 2-, or 5-year periods from January 1 to December 31. (40 CFR 63.7550(b)(3))

4) Each subsequent compliance report must be postmarked or submitted no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period. Annual, biennial, and 5-year compliance reports must be postmarked or submitted no later than January 31. (40 CFR 63.7550(b)(4))

iii. A compliance report must contain the following information depending on how the facility chooses to comply with the limits set in this rule. (40 CFR 63.7550(c))

1) If the facility is subject to a the requirements of a tune up they must submit a compliance report with the information in paragraphs (c)(5)(i) through (iv) and (xiv) of this section. (40 CFR 63.7550(c)(1))

2) If a facility is complying with the fuel analysis they must submit a compliance report with the information in paragraphs (c)(5)(i)

through (iv), (vi), (x), (xi), (xiii), (xv) and paragraph (d) of this section. (40 CFR 63.7550(c)(2))

3) If a facility is complying with the applicable emissions limit with performance testing they must submit a compliance report with the information in (c)(5)(i) through (iv), (vi), (vii), (ix), (xi), (xiii), (xv) and paragraph (d) of this section. (40 CFR 63.7550(c)(3))

4) If a facility is complying with an emissions limit using a CMS the compliance report must contain the information required in paragraphs (c)(5)(i) through (vi), (xi), (xiii), (xv) through (xvii), and paragraph (e) of this section. (40 CFR 63.7550(c)(4))

(a) Company and Facility name and address. (40 CFR 63.7550(c)(5)(i))

(b) Process unit information, emissions limitations, and operating parameter limitations. (40 CFR 63.7550(c)(5)(ii))

(c) Date of report and beginning and ending dates of the reporting period. (40 CFR 63.7550(c)(5)(iii))

(d) The total operating time during the reporting period. (40 CFR 63.7550(c)(5)(iv))

(e) If you use a CMS, including CEMS, COMS, or CPMS, the owner or operator shall include the monitoring equipment manufacturer(s) and model numbers and the date of the last CMS certification or audit. (40 CFR 63.7550(c)(5)(v))

(f) The total fuel use by each individual boiler or process heater subject to an emission limit within the reporting period, including, but not limited to, a description of the fuel, whether the fuel has received a non-waste determination by the EPA or your basis for concluding that the fuel is not a waste, and the total fuel usage amount with units of measure. (40 CFR 63.7550(c)(5)(vi))

(g) If you are conducting performance tests once every 3 years consistent with §63.7515(b) or (c), the date of the last 2 performance tests and a statement as to whether there have been any operational changes since the last performance test that could increase emissions. (40 CFR 63.7550(c)(5)(vii))

(h) A statement indicating that you burned no new types of fuel in an individual boiler or process heater subject to an emission limit. Or, if you did burn a new type of fuel and are subject to a HCl emission limit, the owner or operator shall submit the calculation of chlorine input, using Equation 7 of §63.7530, that demonstrates that your source is still within its maximum chlorine input level established during the previous performance testing (for sources that demonstrate compliance through performance testing) or the owner or operator shall submit the calculation of HCl emission rate using Equation 12 of §63.7530 that demonstrates that your source is still meeting the emission limit for HCl emissions (for boilers or process heaters that demonstrate compliance through fuel analysis). If you burned a new type of fuel and are subject to a mercury emission limit, the owner or operator shall submit the calculation of mercury input, using Equation 8 of §63.7530, that demonstrates that your source is still within its maximum mercury input level established during the previous performance testing (for sources that demonstrate compliance through performance testing), or the owner or operator shall submit the calculation of mercury emission rate using Equation 13 of §63.7530 that demonstrates that your source is still meeting the emission limit for mercury emissions (for boilers or process heaters that demonstrate compliance through fuel analysis). If you burned a new type of fuel and are subject to a TSM emission limit, the owner or operator shall submit the calculation of TSM input, using Equation 9 of §63.7530, that demonstrates that your source is still within its maximum TSM input level established during the previous performance testing (for sources that demonstrate compliance through performance testing), or the owner or operator shall submit the calculation of TSM emission rate, using Equation 14 of §63.7530, that demonstrates that your source is still meeting the emission limit for TSM emissions (for boilers or process heaters that demonstrate compliance through fuel analysis). (40 CFR 63.7550(c)(5)(viii))

(i) If you wish to burn a new type of fuel in an individual boiler or process heater subject to an emission limit and you cannot demonstrate compliance with the maximum chlorine input operating limit using Equation 7 of §63.7530 or the maximum mercury input operating limit using Equation 8 of §63.7530, or the maximum TSM input operating limit using Equation 9 of §63.7530 the owner or

operator shall include in the compliance report a statement indicating the intent to conduct a new performance test within 60 days of starting to burn the new fuel. (40 CFR 63.7550(c)(5)(ix))

(j) A summary of any monthly fuel analyses conducted to demonstrate compliance according to §§63.7521 and 63.7530 for individual boilers or process heaters subject to emission limits, and any fuel specification analyses conducted according to §§63.7521(f) and 63.7530(g). (40 CFR 63.7550(c)(5)(x))

(k) If there are no deviations from any emission limits or operating limits in this subpart that apply to you, a statement that there were no deviations from the emission limits or operating limits during the reporting period. (40 CFR 63.7550(c)(5)(xi))

(l) If there were no deviations from the monitoring requirements including no periods during which the CMSs, including CEMS, COMS, and CPMS, were out of control as specified in §63.8(c)(7), a statement that there were no deviations and no periods during which the CMS were out of control during the reporting period. (40 CFR 63.7550(c)(5)(xii))

(m) If a malfunction occurred during the reporting period, the report must include the number, duration, and a brief description for each type of malfunction which occurred during the reporting period and which caused ormay have caused any applicable emission limitation to be exceeded. The report must also include a description of actions taken by you during a malfunction of a boiler, process heater, or associated air pollution control device or CMS to minimize emissions in accordance with §63.7500(a)(3), including actions taken to correct the malfunction. (40 CFR 63.7550(c)(5)(xiii))

(n) Include the date of the most recent tune-up for each unit subject to only the requirement to conduct an annual, biennial, or 5-year tune-up according to §63.7540(a)(10), (11), or (12) respectively. Include the date of the most recent burner inspection if it was not done annually, biennially, or on a 5-year period and was delayed until the next scheduled or unscheduled unit shutdown. (40 CFR 63.7550(c)(5)(xiv))

(o) If you plan to demonstrate compliance by emission averaging, certify the emission level achieved or the control technology employed is no less stringent than the level or control technology contained in the notification of compliance status in §63.7545(e)(5)(i). (40 CFR 63.7550(c)(5)(xv))

(p) For each reporting period, the compliance reports must include all of the calculated 30 day rolling average values based on the daily CEMS (CO and mercury) and CPMS (PM CPMS output, scrubber pH, scrubber liquid flow rate, scrubber pressure drop) data. (40 CFR 63.7550(c)(5)(xvi))

(q) Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report. (40 CFR 63.7550(c)(5)(xvii))

iv. For each deviation from an emission limit or operating limit in this subpart that occurs at an individual boiler or process heater where you are not using a CMS to comply with that emission limit or operating limit, the compliance report must additionally contain the information required in paragraphs (d)(1) through (3) of this section. (40 CFR 63.7550(d))

1) A description of the deviation and which emission limit or operating limit from which you deviated. (40 CFR 63.7550(d)(1))

2) Information on the number, duration, and cause of deviations (including unknown cause), as applicable, and the corrective action taken. (40 CFR 63.7550(d)(2))

3) If the deviation occurred during an annual performance test, provide the date the annual performance test was completed. (40 CFR 63.7550(d)(3))

v. For each deviation from an emission limit, operating limit, and monitoring requirement in this subpart occurring at an individual boiler or process heater where you are using a CMS to comply with that emission limit or operating limit, the compliance report must additionally contain the information required in paragraphs (e)(1) through (9) of this section. This includes any deviations from your site-specific monitoring plan as required in §63.7505(d). (40 CFR 63.7550(e))

1) The date and time that each deviation started and stopped and description of the nature of the deviation (i.e., what you deviated from). (40 CFR 63.7550(e)(1))

2) The date and time that each CMS was inoperative, except for zero (low-level) and high-level checks. (40 CFR 63.7550(e)(2))

3) The date, time, and duration that each CMS was out of control, including the information in §63.8(c)(8). (40 CFR 63.7550(e)(3))

4) The date and time that each deviation started and stopped. (40 CFR 63.7550(e)(4))

5) A summary of the total duration of the deviation during the reporting period and the total duration as a percent of the total source operating time during that reporting period. (40 CFR 63.7550(e)(5))

6) A characterization of the total duration of the deviations during the reporting period into those that are due to control equipment problems, process problems, other known causes, and other unknown causes. (40 CFR 63.7550(e)(6))

7) A summary of the total duration of CMS's downtime during the reporting period and the total duration of CMS downtime as a percent of the total source operating time during that reporting period. (40 CFR 63.7550(e)(7))

8) A brief description of the source for which there was a deviation. (40 CFR 63.7550(e)(8))

9) A description of any changes in CMSs, processes, or controls since the last reporting period for the source for which there was a deviation. (40 CFR 63.7550(e)(9))

vi. The owner or operator shall submit the reports according to the procedures specified in paragraphs (h)(1) through (3) of this section. (40 CFR 63.7550(h))

1) Within 60 days after the date of completing each performance test (defined in §63.2) as required by this subpart the owner or operator shall submit the results of the performance tests, including any associated fuel analyses, required by this subpart and the compliance reports required in §63.7550(b) to the EPA's WebFIRE database by using the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through the EPA's Central Data

Exchange (CDX) (*www.epa.gov/cdx*). Performance test data must be submitted in the file format generated through use of the EPA's Electronic Reporting Tool (ERT) (see *http://www.epa.gov/ttn/chief/ert/index.html*). Only data collected using test methods on the ERT Web site are subject to this requirement for submitting reports electronically to WebFIRE. Owners or operators who claim that some of the information being submitted for performance tests is confidential business information (CBI) must submit a complete ERT file including information claimed to be CBI on a compact disk or other commonly used electronic storage media (including, but not limited to, flash drives) to the EPA. The electronic media must be clearly marked as CBI and mailed to U.S. EPA/OAPQS/CORE CBI Office, Attention: WebFIRE Administrator, MD C404-02, 4930 Old Page Rd., Durham, NC 27703. The same ERT file with the CBI omitted must be submitted to the EPA via CDX as described earlier in this paragraph. At the discretion of the Administrator, the owner or operator shall also submit these reports, including the confidential business information, to the Administrator in the format specified by the Administrator. For any performance test conducted using test methods that are not listed on the ERT Web site, the owner or operator shall submit the results of the performance test in paper submissions to the Administrator. (40 CFR 63.7550(h)(1))

2) Within 60 days after the date of completing each CEMS performance evaluation test (defined in 63.2) the owner or operator shall submit the relative accuracy test audit (RATA) data to the EPA's Central Data Exchange by using CEDRI as mentioned in paragraph (h)(1) of this section. Only RATA pollutants that can be documented with the ERT (as listed on the ERT Web site) are subject to this requirement. For any performance evaluations with no corresponding RATA pollutants listed on the ERT Web site, the owner or operator shall submit the results of the performance evaluation in paper submissions to the Administrator. (40 CFR 63.7550(h)(2))

3) The owner or operator shall submit all reports required by Table 9 of this subpart electronically using CEDRI that is accessed through the EPA's Central Data Exchange (CDX) (*www.epa.gov/cdx*). However, if the reporting form specific to this subpart is not available in CEDRI at the time that the report is due the report the owner or operator shall submit the report to the Administrator at the appropriate address listed in §63.13. At the discretion of the Administrator, the owner or operator shall also submit these

reports, to the Administrator in the format specified by the Administrator. (40 CFR 63.7550(h)(3))

Attachment C - Control Device Efficiencies and Determination Methods

Unit ID	Control ID	Description	Pollutant Controlled	Control Efficiency	Controlled Emission Factor	Control Efficiency Determination Methods [1, 2]
U1-E2	C2	Multi-cyclone	PM		0.27 lb/MMBtu	Option 3: Stack test 9/14/2011
U2-E4	C4	Multi-cyclone	PM		0.006 lb/MMBtu	Option 3: Stack test 3/13/2014
	C10	Baghouse	PM			
U2-E5	C5	Multi-cyclone	PM		0.006 lb/MMBtu	Option 3: Stack test 3/13/2014
	C11	Baghouse	PM			
U2-E6	C6	Multi-cyclone	PM		0.016 lb/MMBtu	Option 3: Stack test 3/13/2014
	C12	Baghouse	PM			
U3-E7d	C8	Bag bin vent filter	PM	95%		Option 1
	C9	Air washer	PM			

Note:

1. Options for control efficiency/emission factor determination:
   Option 1: Use District pre-approved control efficiency
   Option 2: Submit a signature guarantee from the control device manufacture stating the control device efficiency
   Option 3: Perform stack test. See Note 3 for general testing requirements.

2. Until the District receives a signature guarantee from the control device manufacturer stating the control device efficiency is higher (Option 2), or an approved stack test (Option 3), the pre-approved efficiency (Option 1) will be used in all calculations to demonstrate compliance with applicable standards and calculations for emission inventory.

3. General Testing Requirements (Regulation 2.16, section 4.1.9.1)

   If testing is not required by the regulation but stack test results are used for emission calculations (Option 3), plant-wide the owner or operator shall retest the control devices within ten (10) years since the most recent District accepted performance test or within 180 days after the effective date of the permit if no previous test has been performed. For equipment which has been tested but not within ten years prior to the effective date of this permit the Company may submit within 90 days of the effective date of this permit, contingent on approval by the District, a schedule which shall at a minimum propose testing for all affected equipment within this permit cycle. Thereafter the Company shall retest each affected device at least once every 10 years. Devices of adequately similar design and filter media may be represented by a common performance test contingent upon review and approval by the District of the testing protocol. In lieu of the control efficiency testing, unless required by a Federal Regulation, the owner or operator may use the District pre-approved control efficiency (Option 1) or submit a signature guarantee from the control device manufacture stating the control device efficiency (Option 2).

   The owner or operator shall construct all equipment in such a manner that the following testing requirements can be performed.

i. The owner or operator shall perform an EPA Reference Method (or equivalent methods that approved by the District) performance test. The test shall be performed at 90% or higher of maximum capacity, or allowable/permitted capacity, or at a level of capacity which results in the greatest emissions and is representative of the operations. Failure to perform the test, at maximum capacity, allowable/permitted capacity, or at a level of capacity which resulted in the greatest emissions, may necessitate a re-test or necessitate a revision of the allowable/permitted capacity of the process equipment depending upon the difference between the testing results and the limit.

ii. The owner or operator shall perform a capture efficiency test using EPA guidelines. In lieu of performing a capture efficiency test, the owner or operator may submit a reasonable estimate of capture efficiency with thorough justification subject to approval by the District.

iii. The owner or operator shall submit written compliance test plans (protocol) for the control efficiency and capture efficiency. They shall include the EPA test methods that will be used for compliance testing, the process operating parameters that will be monitored during the performance test, and the control device performance indicators (e.g. pressure drop, minimum combustion chamber temperature) that will be monitored during the performance test. The compliance test plans shall be furnished to the District at least 30 days prior to the actual date of the performance test. Attached to the permit is a Protocol Checklist for Performance Test for the information to be submitted in the protocol.

iv. The owner or operator shall be responsible for obtaining and analyzing audit samples when the EPA Reference Method is used to analyze samples to demonstrate compliance with the source's emission regulation. The audit samples shall be available for verification by the District during the onsite testing.

v. The owner or operator shall provide the District at least 10 days prior notice of any performance test to afford the District the opportunity to have an observer present.

vi. The owner or operator shall furnish the District with a written report of the results of the performance test within 60 days following the actual date of completion of the performance test.

vii. The owner or operator shall provide written notification to the District of the actual date of initial startup (only required for new equipment). The written notification shall be postmarked within 15 days after the effective date of the permit.

Attachment D - Calculation Methodology and Emission Factors

For the coal-fired and natural gas-fired boilers, emission factors or control efficiencies determined by the performance tests shall be used for emission calculations. Emission factors from AP-42, 1.1 and 1.4 may be utilized if performance test are not available. Metal emission factors for coal-fired boilers were determined per equations in AP-42, 1.1-16 using PM emissions from stack tests and metal concentrations per coal samplings or flyash samplings, or directly came from AP-42, 1.1-18 if sampling data are not available. The following emission factors shall be used to calculate metal emissions for coal-fired boilers unless newer emission factors are approved in writing by the District:

Metal Emissions for Coal-fired Boilers	CAS No.	Uncontrolled (lb/ton)	Controlled (lb/ton)	Emission Factor Sources
Antimony compounds	7440-36-0	3.31E-04	1.39E-05	AP-42, 1.1-16
Arsenic compounds	7440-38-2	2.76E-03	3.84E-05	AP-42, 1.1-16
Beryllium compounds	7440-41-7	4.67E-03	2.12E-05	AP-42, 1.1-16
Cadmium compounds	7440-43-9	2.76E-04	1.80E-06	Ash Samplings
Chromium VI	7440-47-3	1.02E-03	5.35E-05	AP-42, 1.1-16
Chromium III	16065-83-1	2.79E-03	1.47E-04	AP-42, 1.1-16
Cobalt compounds	7440-48-4	7.30E-04	3.18E-05	AP-42, 1.1-16
Lead compounds	7439-92-1	4.29E-03	6.74E-05	AP-42, 1.1-16
Manganese compounds	7439-96-5	2.77E-03	1.81E-05	Ash Samplings
Mercury compounds	7439-97-6	8.30E-05	8.30E-05	AP-42, 1.1-18
Nickel compounds	7440-02-0	2.25E-03	1.89E-04	AP-42, 1.1-16
Selenium compounds	7782-49-2	1.30E-03	1.30E-03	AP-42, 1.1-18

Emission factors for flyash silos are derived from the emission factor for cement supplement uploading to elevated storage silo pneumatically (3-05-011-17) from AP-42, 11.12, Concrete Batching, Table 2, PM = 3.14 lbs/ton, PM10 = PM2.5 = 1.10 lbs/ton (uncontrolled). The emission factors for flyash are adjusted per moisture content, per AP-42, 13.2.4, equation (1). The adjusted emission factor for silos and transfer bins are PM = 0.3493 lbs/ton; PM10 = PM2.5 = 0.1224 lbs/ton

Emission factors from AP-42, 11.19 shall be used for coal emission calculations for handling facilities.

Attachment E - Protocol Checklist for a Performance Test

A completed protocol should include the following information:

- ☐ 1. Facility name, location, and ID #;
- ☐ 2. Responsible Official and environmental contact names;
- ☐ 3. Permit numbers that are requiring the test to be conducted;
- ☐ 4. Test methods to be used (i.e. EPA Method 1, 2, 3, 4, and 5);
- ☐ 5. Alternative test methods or description of modifications to the test methods to be used;
- ☐ 6. Purpose of the test including equipment and pollutant to be tested; the purpose may be described in the permit that requires the test to be conducted or may be to show compliance with a federal regulation or emission standard;
- ☐ 7. Tentative test dates (These may change but the District will need final notice at least 10 days in advance of the actual test dates in order to arrange for observation.);
- ☐ 8. Maximum rated production capacity of the system;
- ☐ 9. Production-rate goal planned during the performance test for demonstration of compliance (if appropriate, based on limits);
- ☐ 10.Method to be used for determining rate of production during the performance test;
- ☐ 11. Method to be used for determining rate of production during subsequent operations of the process equipment to demonstrate compliance;
- ☐ 12. Description of normal operation cycles;
- ☐ 13. Discussion of operating conditions that tend to cause worse case emissions; it is especially important to clarify this if worst case emissions do not come from the maximum production rate;
- ☐ 14. Process flow diagram;
- ☐ 15. The type and manufacturer of the control equipment, if any;
- ☐ 16. The control equipment (baghouse, scrubber, condenser, etc.) parameter to be monitored and recorded during the performance test. Note that this data will be used to ensure representative operation during subsequent operations. These parameters can include pressure drops, flow rates, pH, and temperature. The values achieved during the test may be required during subsequent operations to describe what pressure drops, etcetera, are indicative of good operating performance; and
- ☐ 17. How quality assurance and accuracy of the data will be maintained, including;
    - Sample identification and chain-of-custody procedures
    - If audit samples are required for this test method, audit sample provider and number of audit samples to be used
- ☐ 18. Pipe, duct, stack, or flue diameter to be tested;
- ☐ 19. Distances from the testing sample ports to the nearest upstream and downstream flow disturbances such as bends, valves, constrictions, expansions, and exit points for outlet and additionally for inlet;
- ☐ 20. Determine number of traverse points to be tested for outlet and additionally for inlet if required using Appendix A-1 to 40 CFR Part 60;
    - Method 1 if stack diameter is >12"
    - Method 1a if stack diameter is greater than or equal to 4" and less than 12"
    - Alternate method of determination for <4"
    - If a sample location at least two stack or duct diameters downstream and half a diameter upstream from any flow disturbance is not available then an alternative procedure is available for determining the acceptability of a measurement location. This procedure described in Method 1, Section 11.5 allows for the determination of gas flow angles at the sampling points and comparison of the measured results with acceptability criteria.
- ☐ 21. The Stack Test Review fee shall be submitted with each stack test protocol.