Louisville Metro Air Pollution Control District
701 West Ormsby Avenue, Suite 303
Louisville, Kentucky 40203-3137

Title V Operating Permit

Permit No.: O-0148-15-V (R4) Plant ID: 148

Effective Date: 10/6/2015 Expiration Date: 10/31/2020

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:

Source:	Louisville Medical Center Steam Plant 235 Abraham Flexner Way Louisville, Kentucky 40202-1817	Owner:	Louisville Medical Center, Inc. 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.: See **Application and Related Documents** table.

Administratively Complete: 5/29/2014
Date of Public Notice: 08/20/2015; 04/26/2018; 12/20/2018
Date of Proposed Permit: 08/20/2015, 04/26/2018; 12/20/2018

Permit writer: Yiqiu Lin

Air Pollution Control Officer
1/4/2019

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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 Add NOx limit for Boiler #1 and add average period for NOx limits).
N/A	O-0148-15-V	10/06/2015	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: Remove 10% seasonal capacity factor for Boiler #3 since a low NOx natural gas burner replaced the coal stoker.).
R1	O-0148-15-V (R1)	3/29/2016	N/A	Admin. Revision	Page 56	Incorporation of Construction Permit C-0148-1003-15-V (R1) to extend compliance date for HCl.
R2	O-0148-15-V (R2)	02/16/2017	N/A	Admin. Revision	Page 18, 21, 29, 30, and 54	Correct risk numbers in the Comment section of the Plantwide emission unit. Incorporate the newest amendment to NO_X-RACT plan (Additions of modified annual NOx emission limit for Boiler #1 and Boiler #3. Addition of ozone season NOx emission limit for Boiler #1 and Boiler #3.). Corrected PM and SO_2 emission limits for boilers 2, 4 and 5
R3	O-0148-15-V(R3)	06/18/2018	04/26/2018	Significant Revision	Page 23, 24, 30, 31, and 34	Incorporation of minimum lime injection rates for each Boiler and an MMBtu/hr limit for Boiler #4 Corrected PM and SO_2 emission limits for boilers #1 and #3.
				Admin Revision		Addition of calculation methodology for all equipment and pollutants, Updates to testing requirements, Addition of Attachment E for determination of benchmark ambient TAC concentration. Changing control device efficiencies in Attachment C as described in the Admin Change Document. Also,

Revision No.	Permit No.	Issue Date	Public Notice Date	Change Type	Change Scope	Description
						changing the minimum lime injection rate for Boiler #6 based on the December 2017 stack test. This test was not reviewed at the time of public notice and therefore the new lime injection rate was not included in the public comment version of the permit.
R4	O-0148-15-V (R4)	2/04/2019	12/20/2018	Significant Revision	Unit U2 Unit U4	Reword total heat input requirement for NOx; Clarify that Boiler 4 heat input limit and lime injection limits are for coal combustion only; Revise Cr (III) limits for U2; Remove 7.12 requirements for U4.

Construction Permit History since Last Title V Permit Renewal

Permit No.	Effective Date	Description
244-08-C	7/24/2008	Modification to allow plantwide heat input capacity from 362 to 418 MMBtu/hr
34050-12-C	2/15/2012	Boiler #3: Installation of a natural gas burner to replace existing coal stoker
35728-12-C	11/6/2012	Installation of three (3) new baghouses one for each Boiler #4, 5, and 6
C-0148-1000-14	1/23/2015	Installation of one (1) 1,500 kW diesel emergency generator
C-0148-1003-15-V	8/5/2015	Installation of three (3) lime injection systems and modification of permit 244-08-C and 35728-12-C
C-0148-1003-15-V (R1)	3/29/2016	Installation of three (3) lime injection systems and modification of permit 244-08-C and 35728-12-C. Incorporation of approval of compliance date extension for HCl.

Application and Related Documents

Document Number	Date Received	Description
80752	12/06/2016	Email: Updated NOx RACT plan
80755	12/07/2016	Email: Re Updated NOx RACT plan
80827	12/13/2016	Email: Legal notice
80830	12/13/2016	Email: Public Notice on NOx RACT Plan
80826	12/14/2016	Hardcopy: NOx RACT 1st Legal Notice
80827	12/13/2016	Email: NOx RACT 1st Legal Notice
80828	12/14/2016	Hardcopy: Agreed Board order NOx RACT amendment 4 Louisville Medical Center
80829	12/14/2016	Hardcopy: Agreed Board order NOx RACT amendment 4 Louisville Medical Center
80803	12/14/2016	Hardcopy: NOx RACT 1st Legal Notice
81082	01/03/2017	Email: 2nd Legal Notice
81081	01/03/2017	Hardcopy: NOx RACT 2nd Legal Notice
81232	01/10/2017	Email: NOx RACT Plan
81264	01/11/2017	Email: LMV Amendment 4 NOx January 11 2017
81332	01/18/2017	Hardcopy: Board Order – Amendment 4-148
81615	01/31/2017	Email: Operating parameters for Boilers 4, 5, 6 and the data they were derived from

Document Number	Date Received	Description
81608	02/02/2017	Hardcopy: 100A application for permit modification to include stack test results
81710	02/03/2017	Email: Notice of draft revision to include Administrative changes
81951	02/05/2017	Email: Initial corrections to draft permit O-0148-17-V
81820	02/13/2017	Email: The official copy of the boiler MACT test scheduled for January 2017
87699	04/05/2017	Email: Pressure drop monitoring to establish appropriate range for coal-fired boilers
87731, 87812, 87813, 88025, 88301, 88343	10/04/2017 - 10/19/2017	Emails: Boiler MACT NOCS correspondences
89855, 90262, 90435, 90437, 90662	1/2/2018 – 2/9/2018	Emails: Correspondences for supplementary information request for MACT requirements
90957, 91334	3/2/2018, 3/29/2018	Emails: Site-specific monitoring plan correspondences
91877, 92003	5/9/2018, 5/15/2018	Emails: Minimum lime injection rate for boiler #6 correspondences

Abbreviations and Acronyms

AP-42 - AP-42, *Compilation of Air Pollutant Emission Factors*, published by U.S.EPA
APCD - Louisville Metro Air Pollution Control District
BAC - Benchmark Ambient Concentration
BACT - Best Available Control Technology
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
Hg - Mercury
hr - Hour
in. - Inches
lbs - Pounds
l - Liter
LMAPCD - Louisville Metro Air Pollution Control District
mmHg - 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
RACT - Reasonably Available Control Technology
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
   701 W. Ormsby Avenue, Suite 303
   Louisville, Kentucky 40203-3137

   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 12.3. 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 12.2.4]

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
701 West Ormsby Avenue, Suite 303
Louisville, Kentucky 40203-3137

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
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

Regulation	Title
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
5.14	Hazardous Air Pollutants and Source Categories
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]

Plantwide Requirements

Facility Description:

The source provides steam and chilled water services to the downtown hospital complex. The steam generated is utilized for medical sterilization and climate control for buildings.

Plantwide Applicable Regulations:

DISTRICT ONLY ENFORCEABLE REGULATIONS		
Regulation	**Title**	**Applicable Sections**
5.00	Definitions	1, 2
5.01	General Provisions	1 through 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

Plantwide 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) (See Plantwide Comment 1)

ii. When submitting an application for construction of any new or modified process/process equipment, the owner or operator shall also submit a STAR EA Demonstration for all Category 1 through Category 4 TACs emitted. (Regulation 5.21, section 4.22.1)

iii. For any conditions outside the environmental acceptability analysis, including if a new TAC is introduced or the content of a TAC in a raw material increases above *de minimis*, the owner or operator shall verify and document the environmental acceptability of the revised emissions, at the time of the change. This includes, but is not limited to, control device upset conditions. Prior approval by the District is not required for a change pursuant to Regulation 5.21 section 4.22.3 if the requirements of 4.23.1 through 4.23.4 are met. 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, section 4)

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 in Attachment E - Determination of Benchmark Ambient Concentration (BAC), may be used for determining BAC and de minimis values. (Regulation 5.20, sections 3 and 4)

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/SDS, analysis of emissions, and/or modeling results.

ii. If there is a change in a process or process equipment, including a new TAC being emitted or the content of a TAC in a raw material increases above *de minimis*, the owner or operator shall verify and document the environmental acceptability of the revised emissions, at the time of the change.

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

The owner or operator shall report the following information, as required by General Condition 14:

a. **TAC**

i. 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. If there is a change in a process or process equipment, including a new TAC being emitted or the content of a TAC in a raw material increases above *de minimis*, the re-evaluated EA demonstration shall be submitted to the District within 6 months after the change of a raw material.

Comments for Plantwide Requirements

1. 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 tables demonstrate that the carcinogen risk and non-carcinogen risk values, calculated using the District approved controlled 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.

Table 1: Plantwide Risk Summary

Plantwide Summary	All existing & new		All new P/PE	
Industrial Total R_C	**3.01**	< 75	**0.997**	< 38
Non-Ind. Total R_C	**3.01**	< 7.5	**0.997**	< 3.8
Industrial Max. R_{NC}	**0.035**	< 3.0		
Non-Ind. Max. R_{NC}	**0.035**	< 1.0		

Table 2: Individual Risk Values

		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}		**0.035**	0	**0.674**		**0.674**		**0.661**		**0.997**	
Arsenic	7440-38-2	0.01	<3.0/1.0	0.13	0	0.13	0	0.13	0	0	0
Chromium hexavalent	7440-47-3	0.02	<3.0/1.0	0.5	0.005	0.5	0.005	0.49	0.01	0	0
Nickel	7440-02-0	0.03	<3.0/1.0	0.04	0.01	0.04	0.01	0.04	0.01	0	0
Diesel PM		0.00	<3.0/1.0	0	0	0	0	0	0	0.997	0.001

Emission Unit U1: Steam boilers - Boiler #1, Boiler #2, and Boiler #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
5.20	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
7.02	Adoption of Federal New Source Performance Standards	Section 3

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,	N/A	S1

Emission Point	Description	Applicable Regulation	Control ID	Stack ID
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	S1
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,	N/A	S1
* 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. This cyclone is associated with Boiler E2 (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, SO_2, and NO_X 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. **HAP** (40 CFR 63, Subpart DDDDD)

i. 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).

b. **NOx**

i. The owner or operator shall comply with the NOx emission standards specified in the NO_X RACT Plan (Amendment 4). [3] (See Attachment A)

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

c. **Opacity**

i. The owner or operator shall not cause to be discharged into the atmosphere from any affected facility (Boiler #1, #2, and #3) particulate matter emissions which exhibit greater than 20% opacity. (Regulation 6.07, section 3.2) (Regulation 7.06, section 4.2)

d. **PM**

i. The owner or operator shall not allow or cause the PM emissions to exceed the emission standards in the table "Unit 1 PM Emission Standards". [5] (Regulation 6.07, section 3.1 and Regulation 7.06, section 4.1)

[3] On 1/18/2017, the Louisville Metro Air Pollution Control Board approved the source's amendment to the NOx RACT plan. The company has agreed to annual and ozone season NOx emission limits for Boiler #1 and Boiler #3.

[4] 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 NO_X natural gas burner per construction permit 34050-12-C. 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 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.

Table 3: Unit 1 PM Emission Standards

P/PE	Capacity (MMBtu/hr)	Fuel Types	PM Emission Limit (lb/MMBtu, based on 30 day averaging period)
Boiler #1	56	Natural Gas	0.13 [6]
Boiler #2	56	Natural Gas	0.288
Boiler #3	56	Natural Gas	0.11

e. **SO_2**

i. The owner or operator shall not allow or cause the SO_2 emissions to exceed the emission standards in the table "Unit 1 SO_2 Emission Standards". [7] (Regulation 6.07, section 4 and Regulation 7.06, section 5)

Table 4: Unit 1 SO_2 Emission Standards

P/PE	Capacity (MMBtu/hr)	Fuel Types	SO_2 Emission Limit (lb/MMBtu, based on 30 day averaging period)
Boiler #1	56	Natural Gas	0.97 [8]
Boiler #2	56	Natural Gas	0.94
Boiler #3	56	Natural Gas	0.86

f. **TAC**

i. See Plantwide Requirements.[9]

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

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

b. **NO_x**

[6] The emission limits are calculated based on the total heat input, in MMBtu/hr, applied at the time the equipment was installed or modified.

[7] It has been demonstrated that the SO_2 standards for natural gas-fired boilers cannot be exceeded uncontrolled.

[8] The emission limits are calculated based on the total heat input, in MMBtu/hr, applied at the time the equipment was installed or modified.

[9] The TAC emissions from the combustion of natural gas, liquefied petroleum gas, methane (including landfill gas), or propane are considered to be "de minimis emissions" by the District. (Regulation 5.21, section 2.7)

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, actual total plantwide heat input, in MMBtu/hr, from Boiler #1, Boiler #2, Boiler #3, Boiler #4, Boiler #5, and Boiler #6. [10]

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

c. **Opacity**

i. There are no monitoring and record keeping requirements for opacity compliance. [11]

d. **PM**

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.

e. **SO_2**

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

f. **TAC**

i. See Plantwide Monitoring and Record Keeping Requirements.

[10] 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 plantwide heat input in order to demonstrate compliance with the 418 MMBtu/hr limit.

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

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

The owner or operator shall report the following information, as required by General Condition 14:

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

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

b. **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.

ii. The owner or operator shall report any exceedance of the 418 MMBtu/hr actual total plantwide heat input from Boiler #1, Boiler #2, Boiler #3, Boiler #4, Boiler #5, and Boiler #6.

c. **Opacity**

i. There are no routine reporting requirements for this equipment.

d. **PM**

i. There are no routine reporting requirements for this equipment.

e. **SO_2**

i. There are no routine reporting requirements for this equipment.

f. **TAC**

i. See Plantwide Reporting Requirements.

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

a. **HAP**

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

b. **NO_x**

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

Emission Unit U2: Steam boilers - Boiler #4, Boiler #5, and Boiler #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
5.20	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[12], 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	S2
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	S2
E12 (IA)	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. (2015) [13]	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. This cyclone is associated with Boiler E4. (1977)	N/A	S2
C5	One (1) multi-cyclone dust collector with 48 tubes, make Universal Oil Products, model BWHS-48. This cyclone is associated with Boiler E5. (1977)	N/A	S2
C6	One (1) multi-cyclone dust collector with 48 tubes, make Universal Oil Products, model BWHS-48. This cyclone is associated with Boiler E6. (1977)	N/A	S2
C10	One (1) baghouse, make MAC Process, model 168MCF494. This baghouse is associated with Boiler E4. (2013)	Pressure drop range 1" to 6" water column [14] Bag leak detection alert system	S2

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

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

[14] The normal pressure drop range for baghouse C10, C11, and C12 are updated per monitored pressure drop data during October, 2016 through March, 2017, submitted by LMCSP on April 5, 2017.

Control ID	Description	Performance Indicator	Stack ID
C11	One (1) baghouse, make MAC Process, model 168MCF494. This baghouse is associated with Boiler E5. (2013)	Pressure drop range 1" to 6" water column [14] Bag leak detection alert system	S2
C12	One (1) baghouse, make MAC Process, model 168MCF494. This baghouse is associated with Boiler E6. (2013)	Pressure drop range 1" to 6" water column [14] Bag leak detection alert system	S2
C13	One (1) lime injection system, make Schenk Process, model 520. This system is associated with Boiler E4. (2015)	See Table "Unit 2 Operating Limits for HCl Compliance" [15]	N/A
C14	One (1) lime injection system, make Schenk Process, model 520. This system is associated with Boiler E5. (2015)		N/A
C15	One (1) lime injection system, make Schenk Process, model 520. This system is associated with Boiler E6. (2015)		N/A

[15] Minimum lime injection rate established according to Table 7 to 40 CFR 63, Subpart DDDDD (See Attachment B).

U2 Specific Conditions

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

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

i. 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).

ii. When combusting coal, the owner or operator shall not operate Boiler #4 at equal or greater than 72 MMBtu/hr heat input based on a 24 hour averaging period. [16]

iii. When combusting coal, the owner or operator shall operate the lime injection systems according to the standards in the table "Unit 2 Operating Limits for HCl Compliance". [17]

Table 5: Unit 2 Operating Limits for HCl Compliance

P/PE	**Minimum Lime Injection Rates** (lb/1000 steam output)
Boiler #4	3.55 [18]
Boiler #5	2.14
Boiler #6	2.23 [19]

b. **NO_X**

i. The owner or operator shall comply with the NO_X emission standards specified in the NO_X RACT Plan (Amendment 4) (See Attachment A).

ii. The owner or operator shall not allow or cause the actual total plantwide heat input from Boiler #1, Boiler #2, Boiler #3, Boiler #4, Boiler #5, and Boiler #6 combined to exceed 418 MMBtu/hr. [20] (Regulation 2.04) (Permit C-0148-1003-15-V)

c. **Opacity**

[16] The heat input in MMBtu/hr limit is based on emissions test results performed on the boiler January 17, 2017.

[17] It has been demonstrated that the hydrochloric acid standards for the coal-fired boilers can be meet when the minimum injection rate is used.

[18] The injection rate standards are based on empirical data from stack testing performed on the boilers January 17, 2017.

[19] In a letter dated May 14, 2018, the source requested the minimum lime injection for Boiler #6 to be updated to 2.23 lb/100 steam output according to a stack test performed on December 5, 2017.

[20] 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 plantwide heat input in order to demonstrate compliance with the 418 MMBtu/hr limit.

i. For indirect heat exchangers subject to Regulation 6.07 (Boiler #4 and Boiler #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;

(1) 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
Next 2.5 hours - 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)

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;

(1) 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

(2) 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)

d. **PM**

i. The owner or operator shall not allow or cause the PM emissions to

exceed the emission standards in the table "Unit 2 PM Emission Standards". [21] (Regulation 6.07, section 3.1 and Regulation 7.06, section 4.1)

Table 6: Unit 2 PM Emission Standards

P/PE	Fuel Types	PM Limit (lb/MMBtu, 30 day averaging period)	PM Limit (per 40 CFR 63, DDDDD)
Boiler #4	Natural Gas or Coal	0.239 [22]	0.04 lb/MMBtu
Boiler #5	Natural Gas or Coal	0.239	
Boiler #6	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, Boiler #5, and Boiler #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.[23] (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 based on actual operating hours in a calendar day.[24] (Regulation 7.08, section 3.1.2)

e. **SO_2**

i. The owner or operator shall not allow or cause the SO_2 emissions to exceed the emission standards in the table "Unit 2 SO_2 Emission Standards". [25] (Regulation 6.07, section 4 and Regulation 7.06, section 5)

[21] According to Table 2 to 40 CFR 63, Subpart DDDDD, filterable PM (or TSM) limit for coal-fired boilers (Boiler #4, Boiler #5, Boiler #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.

[22] The emission limits are calculated based on the total heat input, in MMBtu/hr, applied at the time the equipment was installed or modified.

[23] 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.

[24] A one-time PM compliance demonstration has been performed 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.

[25] 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 of 0.85% by weight.

Table 7: Unit 2 SO_2 Emission Standards

P/PE	Fuel Types	SO_2 Emission Limit (lb/MMBtu, based on 30 day averaging period)
Boiler #4	Natural Gas or Coal	0.80 (Gas) 1.20 (Coal) [22]
Boiler #5	Natural Gas or Coal	0.80 (Gas) 1.20 (Coal)
Boiler #6	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)

f. **TAC**

i. The owner or operator shall not allow TAC emissions for Boiler #4, Boiler #5, and Boiler #6, while combusting coal, to exceed the TAC emission standards listed in the table "Unit 2 TAC Emission Standards". [26] (Regulation 5.21, section 4.2 and section 4.3)

Table 8: Unit 2 TAC Emissions Standards [27]

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
Nickel compounds	7440-02-0	6.27	Controlled PTE
Cadmium compounds	7440-43-9	De minimis values (See U2 Comment 1)	De Minimis
Chromium III	16065-83-1		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
Nickel compounds	7440-02-0	6.27	Controlled PTE
Cadmium compounds	7440-43-9	De minimis values (See U2 Comment 1)	De Minimis
Chromium III	16065-83-1		De Minimis

[26] 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.

[27] Per Reg. 5.21, section 4.14, the source may exclude Category 2 TAC that did not report to 2006 TRI. Since this company never reported to TRI Category 2 TACs: sulfuric acid, cobalt, lead, and manganese are excluded from this table.

TAC Name	CAS #	TAC Limits Determination	
		(lbs/12 consecutive month period)	Basis of Limits
TAC limits for Boiler #6			
Arsenic compounds	7440-38-2	1.25	Controlled PTE
Chromium VI	7440-47-3	1.73	Controlled PTE
Nickel compounds	7440-02-0	6.14	Controlled PTE
Cadmium compounds	7440-43-9	De minimis values (See U2 Comment 1)	De Minimis
Chromium III	16065-83-1		De Minimis

ii. The owner or operator shall operate and maintain the baghouses C10, C11, and C12 at all times when Boiler #4, Boiler #5, and Boiler #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.[28] (Regulation 5.21, section 4.2 and section 4.3)

iii. See Plantwide Standards Requirements.

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

i. The owner or operator shall comply with all monitoring and record keeping requirements in 40 CFR 63, Subpart DDDDD. [29] (See Attachment B)

ii. When combusting coal, the owner or operator shall daily monitor and record the operating heat input rate, in MMBtu/hr, for Boiler #4 based on a 24 hour averaging period.

b. **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.

[28] 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.

[29] The monitoring and recordkeeping requirements for the lime injections are contained in the MACT (Attachment B).

iii. The owner or operator shall calculate and maintain records of the daily, averaged over a 24-hour period, actual total plantwide heat input, in MMBtu/hr, from Boiler #1, Boiler #2, Boiler #3, Boiler #4, Boiler #5, and Boiler #6. [30]

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

c. **Opacity**

i. For each boiler when combusting natural gas, there are no monitoring and record keeping requirements for opacity compliance. [31]

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.

[30] 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 plantwide heat input in order to demonstrate compliance with the 418 MMBtu/hr limit.

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

d. **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.[32] (40 CFR 64)

(1) 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)

(1) 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 1 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, Boiler #5, or Boiler #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.

[32] The source is potentially major for PM_{10}, NO_X, SO_2, 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 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.

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.

e. **SO_2**

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

f. **TAC**

i. See Plantwide Monitoring and Record Keeping Requirements.

ii. The owner or operator shall monthly calculate and record TAC emissions for Boiler #4, Boiler #5, and Boiler #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:

(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.

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

The owner or operator shall report the following information, as required by General Condition 14:

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

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

ii. When combusting coal, the owner or operator shall identify any all period of exceeding the standard of operating heat input rate for Boiler #4.

iii. When combusting coal, the owner or operator shall identify any all period of not meeting the minimum lime injection rates for Boiler #4, Boiler #5, and Boiler #6.

b. **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

ii. The owner or operator shall report any exceedance of the 418 MMBtu/hr actual total plantwide heat input from Boiler #1, Boiler #2, Boiler #3, Boiler #4, Boiler #5, and Boiler #6.

c. **Opacity**

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

(1) Any deviation from the requirement to perform and record the results of visible emission surveys or Method 9 tests;
(2) The number, date, and time of each Method 22 where visible emissions were observed and the results of the Method 9 test performed;
(3) Emission Unit number and Emission Point number;
(4) Identification of all periods of exceeding the opacity standard; and
(5) Description of any corrective action taken for each exceedance of the opacity standard.

d. **PM**

i. For multi-cyclones 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. 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, Boiler #5, or Boiler #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.

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.

e. **SO_2**

i. 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.

f. **TAC**

i. See Plantwide Reporting Requirements.

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, Boiler #5, or Boiler #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.

S4. **Testing** [33] **(**Regulation 2.16, section 4.1.9.1**)**

a. **HAP**

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

b. **NO_x**

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

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 10/13/2016 are as follows:

Table 9: Unit 2 TAC Emissions Limits

TAC Name	CAS#	De minimis values		
		lb/hr	lb/averaging period	lb/yr
Cadmium compounds	7440-43-9	0.00030	N/A	0.269
Chromium III	16065-83-1	0.10	0.10 [34]	N/A

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

[34] The averaging period for Chromium III is 8 hours.

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
5.20	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 (IA)	One (1) bottom ash hopper, make Lacle de. (1969)	STAR* 6.09	N/A	N/A
E7-b (IA)	One (1) ash grinder, make United Conveyor. (1969)		N/A	N/A
E7-c (IA)	One (1) sifter hopper, make United Conveyor. (1969)		N/A	N/A
E7-d (IA)	One (1) ash silo, make United Conveyor, model 176B. (1969)		C8, C16	N/A
E7-e (IA)	One (1) truck loading operation, make United Conveyor. (1969)		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 [35]	N/A
C16	One (1) baghouse, make Ultra Industries, model CB-42-84-IIIG. (2015) [36]	N/A	N/A

[35] 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.

[36] This baghouse replaces an existing air washer (C9).

U3 Specific Conditions

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

a. **Opacity**

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

b. **PM**

i. The owner or operator shall not allow PM emissions to exceed 5.95 lb/hr for each piece of equipment based on actual operating hours in a calendar day. [37] (Regulation 6.09, section 3.2)

c. **TAC**

i. See Plantwide Standards Requirements. [38]

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. **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.

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

[37] 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 lb/hr compliance.

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

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.

b. **PM**

i. There are no monitoring or record keeping requirements for this equipment with respect to the lb/hr PM emission standard.

c. **TAC**

i. See Plantwide Monitoring and Record Keeping Requirements.

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

The owner or operator shall report the following information, as required by General Condition 14:

a. **Opacity**

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

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

b. **PM**

i. There are no routine reporting requirements for this equipment.

c. **TAC**

i. See Plantwide Reporting Requirements.

Emission Unit U4: Emergency Generators

U4 Applicable Regulations: [39]

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
5.20	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. [40] (1969)	STAR*, 40CFR63 Subpart ZZZZ	N/A	N/A
E11	One (1) diesel fueled emergency generator rated at 2,220 HP, make Onan, model KTTA50, equipped with a 7,000 gallon diesel tank.[41] (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.				

[39] 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.

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

[41] 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 Control Devices:

There are no control devices associated with this unit.

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). [42] (40 CFR §63.6640(f))

(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

[42] 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 paragraph (f)(2) of this section. 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.[43] (Regulation 5.21, section 4.3) (Permit C-0148-1000-14)

ii. See Plantwide Standards Requirements.

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.

[43] TAC emissions from the 2,200 HP emergency generator (E11) meet STAR EA goals with the hours of operation limit. TAC emissions from the 1,200 HP emergency generator (E9) are de minimis per uncontrolled PTE.

ii. As a back-up to the condition above, 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. The owner or operator shall, monthly, calculate and record the individual TAC emissions from this Emission Unit for each month in the recording period as well as the consecutive 12-month rolling total TAC emissions in accordance with Attachment F.

iii. See Plantwide Monitoring and Record Keeping Requirements.

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

The owner or operator shall report the following information, as required by General Condition 14:

a. **HAP**

i. 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.

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.

ii. See Plantwide Reporting Requirements.

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
5.20	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 [44]	Control ID	Stack ID
E10-a (IA)	One (1) truck unloading operation. [45] (1969)	STAR* 6.09	N/A	N/A
E10-b (IA)	One (1) conveyor used to transfer coals from truck hopper to receiver.[45] (1969)			
E10-c (IA)	One (1) receiver.[45] (1969)			
E10-d (IA)	One (1) bucket elevator.[45] (1969)			
E10-e (IA)	One (1) conveyor used to transfer coals from bucket elevator to bunker.[45] (1969)	STAR* 6.09	N/A	N/A
E10-f (IA)	One (1) coal storage bunker. (1969)			
E10-g (IA)	One (1) moving scale.[45] (1969)			
E10-h (IA)	One (1) stoker hopper.[45] (1969)			
* STAR rules consist of Regulation 5.00, 5.01, 5.20, 5.21, 5.22, and 5.23.				

[44] 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.

[45] This is an insignificant activity per PTE.

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. **Opacity**

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

b. **PM**

i. The owner or operator shall not allow PM emissions to exceed 30.33 lb/hr for each piece of equipment based on actual operating hours in a calendar day.[46] (Regulation 6.09, section 3.2)

c. **TAC**

i. See Plantwide Standards Requirements. [47]

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. **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.

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

[46] 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.

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

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.

b. **PM**

i. There are no monitoring or record keeping requirements for this equipment with respect to the lb/hr PM emission standard.

c. **TAC**

i. See Plantwide Monitoring and Record Keeping Requirements.

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

The owner or operator shall report the following information, as required by General Condition 14:

a. **Opacity**

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

(1) Any deviation from the requirement to perform and record the results of visible emission surveys or Method 9 tests;

(2) The number, date, and time of each Method 22 where visible emissions were observed and the results of the Method 9 test performed;

(3) Identification of all periods of exceeding the opacity standard; and

(4) Description of any corrective action taken for each exceedance of the opacity standard.

b. **PM**

i. There are no routine reporting requirements for this equipment.

c. **TAC**

i. See Plantwide Reporting Requirements.

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
Imperial Industries lime storage silo with vent filter (2015) (See Emission Unit U2 – E12).	1	PM_{10} = 0.22	Regulation 1.02, Appendix A
Imperial Industries lime storage silo feeder surge hopper with vent filter (2015) (See Emission Unit U2 – E12)	3		Regulation 1.02, Appendix A
Imperial Industries lime storage silo feeder conveyor (2015) (See Emission Unit U2 – E12)	3		Regulation 1.02, Appendix A
Lacle de bottom ash hopper (1969) (See Emission Unit U3 – E7-a)	1	PM_{10} = 0.011	Regulation 1.02, Appendix A
United Conveyor ash grinder (1969) (See Emission Unit U3 – E7-b)	1	PM_{10} = 0.068	Regulation 1.02, Appendix A
United Conveyor sifter hopper (1969) (See Emission Unit U3 – E7-c)	1	PM_{10} = 0.013	Regulation 1.02, Appendix A
United Conveyor model 176B ash silo (1969) (See Emission Unit U3 – E7-d)	1	PM_{10} = 0.483	Regulation 1.02, Appendix A
United Conveyor truck loading operation (1969) (See Emission Unit U3 – E7-e)	1	PM_{10} = 0.136	Regulation 1.02, Appendix A
Cooling Towers for Unit 1 and Unit 2 (See IA-1 Emission Unit)	6	PM_{10} = 0.68	Regulation 2.16, section 1.23
1,000 gallon diesel fuel storage tank used for 1,200 HP emergency generator (See Emission Unit U4-E9)	1	VOC = 0.01	Regulation 1.02, Appendix A
7,000 gallon diesel fuel storage tank used for 2220 HP emergency generator (See Emission Unit U4-E11)	1	VOC = 0.01	Regulation 1.02, Appendix A
Coal handling truck unloading operation. (1969) (See	1	PM_{10} = 0.163	Regulation 1.02, Appendix A

Equipment	Quan.	PTE (tpy)	Regulation Basis
Emission Unit U5 – E10-a)			
Coal handling conveyor used to transfer coals from truck hopper to receiver. (1969) (See Emission Unit U5 – E10-b)	1	PM_{10} = 0.163	Regulation 1.02, Appendix A
Coal handling receiver. (1969) (See Emission Unit U5 – E10-c)	1	PM_{10} = 0.163	Regulation 1.02, Appendix A
Coal handling bucket elevator. (1969) (See Emission Unit U5 – E10-d)	1	PM_{10} = 0.163	Regulation 1.02, Appendix A
Coal handling conveyor used to transfer coals from bucket elevator to bunker. (1969) (See Emission Unit U5 – E10-e)	1	PM_{10} = 0.163	Regulation 1.02, Appendix A
Coal handling coal storage bunker. (1969) (See Emission Unit U5 – E10-f)	1	PM_{10} = 0.163	Regulation 1.02, Appendix A
Coal handling moving scale. (1969) (See Emission Unit U5 – E10-g)	1	PM_{10} = 0.163	Regulation 1.02, Appendix A
Coal handling stoker hopper. (1969) (See Emission Unit U5 – E10-h)	1	PM_{10} = 0.163	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.

Emission Unit IA-1: Cooling Towers for Unit 1 and Unit 2

IA-1 Applicable Regulations:[48]

FEDERALLY ENFORCEABLE REGULATIONS		
Regulation	**Title**	**Applicable Sections**
7.08	Standards of Performance for New Process Operations	3.11, 3.12

IA-1 Equipment:

Emission Point	Description	Applicable Regulation	Control ID	Stack ID	Installation Date
IE-1	Four (4) Marley cooling towers model 86-54CS/874CS.	6.09	NA	NA	1954
IE-2	One (1) Marley cooling tower model F457-6.0-01.	6.09	NA	NA	1969
IE-3	One (1) Baltimore Air Coil by Composite Cooling Solutions, model 2FT-2636-150-P6.	7.08	NA	NA	1981

IA-1 Control Devices:

There is no control device associated with this unit.

[48] This unit does not have any STAR requirements since there are no TAC emissions from this equipment.

IA-1 Specific Conditions

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

a. **Opacity**

i. The owner or operator of the above listed equipment shall not allow or cause visible emissions to exceed twenty percent (20%) opacity. (Regulation 6.09, section 3.1) (Regulation 7.08, section 3.1.1)

b. **PM**

i. The owner or operator shall not allow PM emissions to exceed 85.1 lb/hr for each piece of equipment IE-1 and 88.6 lb/hr for equipment IE-2 based on actual operating hours in a calendar day.[49] (Regulation 6.09, section 3.2)

ii. The owner or operator shall not allow or cause the PM emissions to exceed 64.6 lb./hr equipment IE-3 based on actual operating hours in a calendar day. [50] (Regulation 7.08, section 3.1.2)

S2. **Monitoring and Record Keeping** (Regulation 2.16, section 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. **Opacity**

i. There are no opacity compliance monitoring or record keeping requirements for the above listed equipment. [51]

b. **PM**

i. There are no monitoring or record keeping requirements for this equipment with respect to the lb/hr PM emission standard.

[49] 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.

[50] The potential uncontrolled hourly PM emissions cannot exceed the applicable PM emission standard; therefore, no monitoring, record keeping, or reporting is required for purposes of demonstrating ongoing compliance with the PM lb/hr emission standard from Regulation 7.08.

[51] The District has determined that because of a high moisture content the cooling towers cannot exceed the 20% opacity standard. Therefore, the company is not required to perform periodic monitoring to demonstrate compliance with the opacity standard.

S3. **Reporting** (Regulation 2.16, section 4.1.1)

The owner or operator shall report the following information, as required by General Condition 14:

a. **Opacity**

i. There are no routine compliance reporting requirements for this equipment.

b. **PM**

i. This equipment has no routine compliance reporting requirements for this equipment.

Attachment A - NOx RACT Plan (Amendment 4)

1. The NO_x (expressed as NO_2) emission from Boilers #1 and #3 shall not exceed 32.8 tons per year per boiler, based on a 30 day rolling average period.

2. The owner or operator shall comply with a 4 ton limit for NO_X (Expressed as NO_2) during ozone season (May through September) for each Boiler #1 and Boiler #3.

3. The oxides of nitrogen (NO_x, expressed as NO_2) emission from each of Boiler #2, 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.

4. 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.

5. The Louisville Medical Center, Inc. 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. 5.A. may be proposed by the Louisville Medical Center Steam Plant as part of the testing plan required by Element No. 5.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, Inc. 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.

6. The Louisville Medical Center, Inc. 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.

7. The Louisville Medical Center, Inc. shall include in each report pursuant to Element No. 8 a summary of the boiler maintenance activities required by Element No. 6 that occurred during the preceding semi-annual period.

8. The Louisville Medical Center, Inc. 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.

9. In lieu of the requirements in this NO_x RACT Plan, the Louisville Medical Center, Inc. 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.

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 08-17-13, amended a4/01-18-17, effective 01-18-17

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)[52], 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)[52], 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. For the existing boilers (Boiler #4, 5, 6), the owner or operator shall comply with the emission standards for hydrogen chloride (HCl) no later than January 31, 2017. [53] (40 CFR 63.6(i))

iv. 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))

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

[53] On January 27, 2016, Medical Center Steam Plant submitted a request for extension of compliance date for 40 CFR 63, Subpart DDDDD associated with the coal-fired boilers 4, 5, and 6. The District approved the one year extension for compliance date for HCl according to 40 CFR 63.6(i)(8)-(14).

(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,[54] 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 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 [55]

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.

[54] 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.

[55] 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.

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 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.

If your unit is ...	The owner or operator shall meet the following ...
	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 ...	The owner or operator has established these operating limits…
3. Fabric filter control on a boiler or process heater not using a PM CPMS		
	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 or process heater not using a mercury CEMS	Maintain the minimum sorbent or carbon injection rate as defined in §63.7575 of this subpart.	Minimum sorbent injection rate based on January 17, 2017 stack test: Boiler 4 – 3.55 lb/1000 steam output Boiler 5 – 2.14 lb/1000 steam output Boiler 6 – 2.48 lb/1000 steam output
7. Performance testing	For boilers and process heaters that demonstrate compliance with a performance test, maintain the 30-day rolling average operating load of each unit such that it does not exceed 110 percent of the highest hourly average operating load recorded during the performance test.	Highest hourly average operating load recorded during December 2017 stack test:[56] Boiler 4 – 66,330 lb/hr steam output Boiler 5 – 68,330 lb/hr steam output Boiler 6 – 74,000 lb/hr steam output
8. 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 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).	Lowest hourly average oxygen (O_2) concentration measured during December 2017 stack test:[57] Boiler 4 – 5.2% Boiler 5 – 4.77% Boiler 6 – 4.03%

(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

[56] These highest hourly average operating loads may be updated with more recent performance test.

[57] These Lowest hourly average oxygen (O_2) concentrations may be updated with more recent performance test.

on information available to the Administrator [58] 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. 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**.** (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))

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

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

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	No. See §63.7500(a).

Citation	Subject	Applies to subpart DDDDD
	exemptions to opacity standards.	
§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.

Citation	Subject	Applies to subpart DDDDD
§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.
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	Method 2, 2F, or 2G at 40 CFR part 60, appendix A-1 or A-2 of this

To conduct a performance test for the following pollutant . . .	The owner or operator shall ...	Using ...
	gas	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) 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 performance test,	(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 each performance test.

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
		the average value for each sorbent becomes the site-specific operating limit for that sorbent		(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.

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

ii. 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))

iii. 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))

iv. 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))

v. 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))

vi. 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))

vii. 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. 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))

vi. 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))

(1)

d. **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. (40 CFR 63.7525(a))

(1) 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 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))

iii. 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))

iv. 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))

e. **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.

(1) 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 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))

(b) 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))

(c) 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))

iii. 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.[59] (40 CFR 63.7530(d))

iv. 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.[59] (40 CFR 63.7530(e))

v. 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))

vi. 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))

f. **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

[59] The source submitted the Notification of Compliance Status on 10/19/2017 and indicated that the tune-up and energy assessment for each boiler were completed as required.

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))

g. **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))

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).
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)(7) 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).

(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 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))

(4) 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))

(5) 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))

(6) 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))

(7) 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))

(8) 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))

(9) 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))

(a)

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. 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))

h. **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) 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))

(3) 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))

(4) 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))

(5) 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))

(6) 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))

(7) 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))

(8) 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.

vi. 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))

vii. 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))

i. **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.[60] (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.[60] (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

[60] The source submitted the Initial Notification for boiler 1 through 6 on October 19, 2017.

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).[61] (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

[61] The source submitted the Notification of Compliance Status (NOCS) for boiler 1 through 6 on October 19, 2017.

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) A signed certification that you have met all applicable emission limits and work practice standards. (40 CFR 63.7545(e)(6))

(6) 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))

(7) 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	Filterable PM	90% (Opt 1)	0.27 lb/MMBtu (Opt 1)	Option 1
U2-E4	C4	Multi-cyclone	Filterable PM	90% (Opt 1)	0.006 lb/MMBtu (Opt 2)	Option 1 for natural gas combustion Option 2: Stack test 3/13/2014
	C10	Baghouse	Filterable PM	98% (Opt 1)		
U2-E5	C5	Multi-cyclone	Filterable PM	90% (Opt 1)	0.006 lb/MMBtu (Opt 2)	Option 1 for natural gas combustion Option 2: Stack test 3/13/2014
	C11	Baghouse	Filterable PM	98% (Opt 1)		
U2-E6	C6	Multi-cyclone	Filterable PM	NA	0.016 lb/MMBtu (Opt 2)	Option 2: Stack test 3/13/2014
	C12	Baghouse	Filterable PM	NA		
U3-E7d	C8	Bag bin vent filter	Filterable PM	98%		Option 1
	C9	Air washer	Filterable PM			

Note:
1. Options for control efficiency/emission factor determination:
   Option 1: Use District pre-approved control efficiency
   Option 2: Perform stack test. See Note 3 for general testing requirements.

2. Until the District receives an approved stack test (Option 2), the pre-approved efficiency (Option 1) will be used in all calculations to demonstrate compliance with applicable standards and calculations for emission inventory.

3. Testing Requirements (Regulation 2.16, section 4.3.1)

   a. **General Requirements**

   (Applies for all testing unless superseded by requirements listed in the individual emission Unit)

   i. Devices of adequately similar design may be represented by a common performance test contingent upon review and approval of the testing protocol by the District.

   ii. The owner or operator shall use the most recent District-accepted performance test results to demonstrate compliance with the emission limits and in the annual emission inventory reporting.

   iii. The District may require retesting if there is reasonable belief that currently-used emission factors or control efficiencies do not accurately

reflect the actual performance of the device. If performance testing is not completed by the required date, then the company may be subject to enforcement and shall calculate emissions using expired test result data, methods such as EPA-approved emission factors and guidance documents such as EIIP and AP-42, or other methods upon written approval by the District, whichever results in the greater (more conservative) emissions.

iv. For control devices not hard piped to the process equipment, 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 in the written test plan (stack test protocol).

v. Before conducting a performance test, the owner or operator shall submit a written test plan (protocol). The plan shall include the EPA test methods that will be used for testing, the process operating parameters that will be monitored during the performance test, and the control device performance indicators that will be monitored during the performance test. The test plans shall be furnished to the District at least 30 days prior to the actual date of the performance test. Attachment D of this permit provides information that must be submitted in the protocol.

vi. 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 on-site testing.[62]

vii. 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.

viii. 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.

[62] Per an EPA rule change ("Restructuring of the Stationary Source Audit Program" Federal Register 75:176 (September 13,2010) pp 55636-55657), source became responsible for obtaining the audit samples directly from accredited audit sample suppliers, not the regulatory agencies.

Attachment D - 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.

Attachment E - Determination of Benchmark Ambient Concentration (BAC)

Determination of Benchmark Ambient Concentration (BAC) **Category _____ No. _____**

TAC _____ **CAS No.** _____-_____-____

_____ **Mol. Wt. _____**

BAC_C = _____ µg/m³ Annual **BAC_{NC} = _____ µg/m³ _____ Averaging Period**

De Minimis_____ lb/hour; _____ lb/_____; _____ lb/year

I. Carcinogen Risk - BAC_C [Annual Averaging Period] Carcinogen . . . . ☐ yes ☐ no

1. ☐ IRIS ☐ no 10^{-6} risk = _____ µg/m³ URE _____ $(µg/m^3)^{-1}$ ___-___-___
2. ☐ Cal ☐ no 10^{-6} risk = _____ µg/m³ IUR _____ $(µg/m^3)^{-1}$ ___-___-___
3. ☐ MI ☐ no 10^{-6} risk = _____ µg/m³ ___-___-___
4. ☐ NTP Part A ☐ yes ☐ no Part B ☐ yes ☐ no
5. ☐ IARC Group 1 ☐ yes ☐ no Group 2A ☐ yes ☐ no Group 2B ☐ yes ☐ no
6. ☐ ATSDR ☐ no
7. ☐ Sec. 3.3.4 method _____☐ no 10^{-6} risk = _____ µg/m³ ___-___-___
8. ☐ Default 0.0004 µg/m³

II. Chronic Noncancer Risk - BAC_{NC} [Averaging Period as Specified]

1. ☐ IRIS ☐ no RfC = _____ µg/m³ Annual ___-___-___
2. ☐ Cal ☐ no REL = _____ µg/m³ Annual ___-___-___
3. ☐ IRIS[1] ☐ no RfD = _____µg/kg/day ⊗ 70/20 =_____µg/m³ Annual ___-___-___
4. ☐ MI ☐ no ITSL = _____ µg/m³_____ Averaging Period ___-___-___
5. ☐ TLV ☐ NIOSH _____ µg/m³ ⊗ 0.01 = _____ µg/m³ 8-Hr ___-___-___
6. ☐ RTECS[1] _____ _____ = _____ µg/m³ Annual
7. ☐ Default 0.04 µg/m³ Annual

III. De Minimis

1. ☐ Carcinogen (BAC_C) _____ µg/m³ ⊗ 0.54 = _____ lb/hour
   (BAC_C) _____ µg/m³ ⊗ 480 = _____ lb/year
2. ☐ Chronic Noncancer Risk _____ Averaging Period
   (BAC_{NC}) _____ µg/m³ ⊗ _____ = _____ lb/hour
   (BAC_{NC}) _____ µg/m³ ⊗ _____ = _____ lb/_____
   _____ lb/_____ ⊗ _____ _____ = _____ lb/year

[1] To use data based upon an oral route of exposure, the District must make an affirmative determination that data are not available to indicate that oral-route to inhalation-route extrapolation is inappropriate.

Prepared by _____ ___-___-___

Attachment F - Calculation Methodology and Emission Factors

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

Unit 1 Natural Gas Combustion Emission Factors for Boiler #1 and Boiler #3

Emission Source	Pollutant	Natural Gas Emission Factor ($lb/10^6$ scf natural gas combusted)		Emission Factor Source
		Uncontrolled	Controlled	
E1 E3	CO	84	84	AP-42 Table 1.4-1
	NH_3	3.2	3.2	WebFIRE, EPA
	NO_X	100	50 [63]	AP-42 Table 1.4-1
	PM total	0.52	0.52	Roy Huntley, EPA [64]
	PM condensable	0.32	0.32	Roy Huntley, EPA
	PM_{10} filterable	0.2	0.2	Roy Huntley, EPA
	$PM_{2.5}$ filterable	0.11	0.11	Roy Huntley, EPA
	SO_2	0.6	0.6	AP-42 Table 1.4-2
	VOC	5.5	5.5	AP-42 Table 1.4-2

The owner or operator shall calculate emissions from natural gas combustion based on fuel throughput and emission factors stated in the table above unless another method is approved in writing by the District.

$E = (X)(EF\ lb/10^6\ scf)(1\ ton/2000\ lb.)$

Where: E = emissions (tons)

X = the amount of natural gas combusted (10^6 scf)

Unit 1 Natural Gas Combustion HAP/TAC Emission Factors for Boiler #1 and Boiler #3

Emission Source	Individual HAP/TAC		Natural Gas Emission Factor ($lb/10^6$ scf natural gas combusted)	Emission Factor Source
E1 E3	2-Methylnaphthalene	(91-57-6)	2.4E-05	AP-42, 1.4-3
	3-Methylchloranthrene	(56-49-5)	1.8E-06	AP-42, 1.4-3
	DMBA	(57-97-6)	1.6E-05	AP-42, 1.4-3
	Acenaphthene	(83-32-9)	1.8E-06	AP-42, 1.4-3
	Acenaphthylene	(208-96-8)	1.8E-06	AP-42, 1.4-3
	Anthracene	(120-12-7)	2.4E-06	AP-42, 1.4-3

[63] NOx emissions in E1 and E3 are controlled through low-NOx burners. Both the uncontrolled and controlled NO_X emission factors reference AP-42, 1.4-4.

[64] The revised PM emission factors are from: "EPA's Emission Inventory and Analysis Group guidance 3/30/2012".

Emission Source	Individual HAP/TAC	Natural Gas Emission Factor (lb/10^6 scf natural gas combusted)	Emission Factor Source
	Benz(a)anthracene (56-55-3)	1.8E-06	AP-42, 1.4-3
	Benzene (71-43-2)	2.1E-03	AP-42, 1.4-3
	Benzo(a)pyrene (50-32-8)	1.2E-06	AP-42, 1.4-3
	Benzo(b)fluoranthene (205-99-2)	1.8E-06	AP-42, 1.4-3
	Benzo(g,h,i)perylene (191-24-2)	1.2E-06	AP-42, 1.4-3
	Benzo(k)fluoranthene (205-82-3)	1.8E-06	AP-42, 1.4-3
	Chrysene (218-01-9)	1.8E-06	AP-42, 1.4-3
	Dibenzo(a,h)anthracene (53-70-3)	1.2E-06	AP-42, 1.4-3
	Dichlorobenzene (25321-22-6)	1.2E-03	AP-42, 1.4-3
	Fluoranthene (206-44-0)	3.0E-06	AP-42, 1.4-3
	Fluorene (86-73-7)	2.8E-06	AP-42, 1.4-3
	Formaldehyde (50-00-0)	7.5E-02	AP-42, 1.4-3
	Hexane (110-54-3)	1.80	AP-42, 1.4-3
	Indeno(1,2,3-cd)pyrene (193-39-5)	1.8E-06	AP-42, 1.4-3
	Naphthalene (91-20-3)	6.1E-04	AP-42, 1.4-3
	Phenanathrene (83-01-8)	1.7E-05	AP-42, 1.4-3
	Pyrene (129-00-0)	5.0E-06	AP-42, 1.4-3
	Toluene (108-88-3)	3.4E-03	AP-42, 1.4-3
	Arsenic (7440-38-2)	2.0E-04	AP-42, 1.4-4
	Beryllium (7440-41-7)	1.2E-05	AP-42, 1.4-4
	Cadmium (7440-43-9)	1.1E-03	AP-42, 1.4-4
	Chromium VI (7440-47-3)	1.4E-03	AP-42, 1.4-4
	Cobalt (7440-48-4)	8.4E-05	AP-42, 1.4-4
	Lead (7439-92-1)	5.0E-04	AP-42, 1.4-2
	Manganese (7439-96-5)	3.8E-04	AP-42, 1.4-4
	Mercury (7439-97-6)	2.6E-04	AP-42, 1.4-4
	Nickel (7440-02-0)	2.1E-03	AP-42, 1.4-4
	Selenium (7782-49-2)	2.4E-05	AP-42, 1.4-4

The owner or operator shall calculate emissions from natural gas combustion based on fuel throughput and emission factors stated in the table above unless another method is approved in writing by the District.

$E = (X)(EF\ lb/10^6\ scf)(1\ ton/2000\ lb.)$

Where: E = emissions (tons)

X = the amount of natural gas combusted (10^6 scf)

Unit 1 Natural Gas Combustion Emission Factors for Boiler #2

Emission Source	Pollutant	Natural Gas Emission Factor ($lb/10^6$ scf natural gas combusted)		Emission Factor Source
		Uncontrolled	Controlled	
E2	CO	84	84	AP-42 Table 1.4-1
	NH_3	3.2	3.2	WebFIRE, EPA
	NO_X	100	100	AP-42 Table 1.4-1
	PM total	0.52	0.05 [65]	Roy Huntley, EPA [64]
	PM condensable	0.32	0.03	Roy Huntley, EPA
	PM_{10} filterable	0.2	0.02	Roy Huntley, EPA
	$PM_{2.5}$ filterable	0.11	0.01	Roy Huntley, EPA
	SO_2	0.6	0.6	AP-42 Table 1.4-2
	VOC	5.5	5.5	AP-42 Table 1.4-2

The owner or operator shall calculate emissions from natural gas combustion based on fuel throughput and emission factors stated in the table above unless another method is approved in writing by the District.

$E = (X)(EF\ lb/10^6\ scf)(1\ ton/2000\ lb.)$

Where: E = emissions (tons)

X = the amount of natural gas combusted (10^6 scf)

Unit 1 Natural Gas Combustion HAP/TAC Emission Factors for Boiler #2

Emission Source	Individual HAP/TAC		Natural Gas Emission Factor ($lb/10^6$ scf natural gas combusted)		Emission Factor Source
			Uncontrolled	Controlled	
E2	2-Methylnaphthalene	(91-57-6)	2.4E-05	2.4E-05	AP-42, 1.4-3
	3-Methylchloranthrene	(56-49-5)	1.8E-06	1.8E-06	AP-42, 1.4-3
	DMBA	(57-97-6)	1.6E-05	1.6E-05	AP-42, 1.4-3
	Acenaphthene	(83-32-9)	1.8E-06	1.8E-06	AP-42, 1.4-3
	Acenaphthylene	(208-96-8)	1.8E-06	1.8E-06	AP-42, 1.4-3
	Anthracene	(120-12-7)	2.4E-06	2.4E-06	AP-42, 1.4-3
	Benz(a)anthracene	(56-55-3)	1.8E-06	1.8E-06	AP-42, 1.4-3
	Benzene	(71-43-2)	2.1E-03	2.1E-03	AP-42, 1.4-3
	Benzo(a)pyrene	(50-32-8)	1.2E-06	1.2E-06	AP-42, 1.4-3
	Benzo(b)fluoranthene	(205-99-2)	1.8E-06	1.8E-06	AP-42, 1.4-3

[65] Boiler E2 has an associated multi-cyclone collector (C2) with a District pre-approved control efficiency of 90% for PM..

Emission Source	Individual HAP/TAC	Natural Gas Emission Factor (lb/10^6 scf natural gas combusted)		Emission Factor Source
		Uncontrolled	Controlled	
	Benzo(g,h,i)perylene (191-24-2)	1.2E-06	1.2E-06	AP-42, 1.4-3
	Benzo(k)fluoranthene (205-82-3)	1.8E-06	1.8E-06	AP-42, 1.4-3
	Chrysene (218-01-9)	1.8E-06	1.8E-06	AP-42, 1.4-3
	Dibenzo(a,h)anthracene (53-70-3)	1.2E-06	1.2E-06	AP-42, 1.4-3
	Dichlorobenzene (25321-22-6)	1.2E-03	1.2E-03	AP-42, 1.4-3
	Fluoranthene (206-44-0)	3.0E-06	3.0E-06	AP-42, 1.4-3
	Fluorene (86-73-7)	2.8E-06	2.8E-06	AP-42, 1.4-3
	Formaldehyde (50-00-0)	7.5E-02	7.5E-02	AP-42, 1.4-3
	Hexane (110-54-3)	1.80	1.80	AP-42, 1.4-3
	Indeno(1,2,3-cd)pyrene (193-39-5)	1.8E-06	1.8E-06	AP-42, 1.4-3
	Naphthalene (91-20-3)	6.1E-04	6.1E-04	AP-42, 1.4-3
	Phenanathrene (83-01-8)	1.7E-05	1.7E-05	AP-42, 1.4-3
	Pyrene (129-00-0)	5.0E-06	5.0E-06	AP-42, 1.4-3
	Toluene (108-88-3)	3.4E-03	3.4E-03	AP-42, 1.4-3
	Arsenic (7440-38-2)	2.0E-04	2.0E-5 [66]	AP-42, 1.4-4
	Beryllium (7440-41-7)	1.2E-05	1.2E-6	AP-42, 1.4-4
	Cadmium (7440-43-9)	1.1E-03	1.2E-04	AP-42, 1.4-4
	Chromium VI (7440-47-3)	1.4E-03	1.4E-04	AP-42, 1.4-4
	Cobalt (7440-48-4)	8.4E-05	8.4E-06	AP-42, 1.4-4
	Lead (7439-92-1)	5.0E-04	5.0E-05	AP-42, 1.4-2
	Manganese (7439-96-5)	3.8E-04	3.8E-05	AP-42, 1.4-4
	Mercury (7439-97-6)	2.6E-04	2.6E-04 [67]	AP-42, 1.4-4
	Nickel (7440-02-0)	2.1E-03	2.1E-04	AP-42, 1.4-4
	Selenium (7782-49-2)	2.4E-05	2.4E-05 [68]	AP-42, 1.4-4

The owner or operator shall calculate emissions from natural gas combustion based on fuel throughput and emission factors stated in the table above unless another method is approved in writing by the District.

$$E = (X)(EF\ lb/10^6\ scf)(1\ ton/2000\ lb.)$$

Where: E = emissions (tons)

X = the amount of natural gas combusted (10^6 scf)

[66] Boiler E2 has an associated multi-cyclone collector (C2) with a District pre-approved control efficiency of 90% for metal HAPs

[67] Mercury is not a solid and would not be controlled by the multi-cyclone.

[68] Selenium is mostly a gas at high temperatures and would not be controlled by the multi-cyclone.

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

Unit 2 Natural Gas Combustion Emission Factors for Boiler #4 and Boiler #5

Emission Source	Pollutant	Natural Gas Emission Factor ($lb/10^6$ scf natural gas combusted)		Emission Factor Source
		Uncontrolled	Controlled	
E4 E5	CO	84	84	AP-42, 1.4-1
	NH_3	3.2	3.2	WebFIRE, EPA
	NO_X	100	100	AP-42, 1.4-1
	PM total	0.52	2.60E-03 [69]	Roy Huntley, EPA [64]
	PM condensable	0.32	1.60E-03	Roy Huntley, EPA
	PM_{10} filterable	0.2	1.00E-03	Roy Huntley, EPA
	$PM_{2.5}$ filterable	0.11	5.50E-04	Roy Huntley, EPA
	SO_2	0.6	0.6	AP-42, 1.4-2
	VOC	5.5	5.5	AP-42, 1.4-2

The owner or operator shall calculate emissions from natural gas combustion based on fuel throughput and emission factors stated in the table above unless another method is approved in writing by the District.

$E = (X)(EF\ lb/10^6\ scf)(1\ ton/2000\ lb.)$

Where: E = emissions (tons)

X = the amount of natural gas combusted (10^6 scf)

Unit 2 Natural Gas Combustion HAP/TAC Emission Factors for Boiler #4 and Boiler #5

Emission Source	Individual HAP/TAC		Natural Gas Emission Factor ($lb/10^6$ scf natural gas combusted)		Emission Factor Source
			Uncontrolled	Controlled	
E4 E5	2-Methylnaphthalene	(91-57-6)	2.4E-05	2.4E-05	AP-42, 1.4-3
	3-Methylchloranthrene	(56-49-5)	1.8E-06	1.8E-06	AP-42, 1.4-3
	DMBA	(57-97-6)	1.6E-05	1.6E-05	AP-42, 1.4-3
	Acenaphthene	(83-32-9)	1.8E-06	1.8E-06	AP-42, 1.4-3
	Acenaphthylene	(208-96-8)	1.8E-06	1.8E-06	AP-42, 1.4-3
	Anthracene	(120-12-7)	2.4E-06	2.4E-06	AP-42, 1.4-3
	Benz(a)anthracene	(56-55-3)	1.8E-06	1.8E-06	AP-42, 1.4-3
	Benzene	(71-43-2)	2.1E-03	2.1E-03	AP-42, 1.4-3

[69] Boilers E4, E5, and E6 are each associated with a multi-cyclone collector (C4, C5, C6) and a baghouse (C10, C11, C12) with a combined control efficiency of 99.8% for PM.

Emission Source	Individual HAP/TAC	Natural Gas Emission Factor (lb/10^6 scf natural gas combusted)		Emission Factor Source
		Uncontrolled	Controlled	
	Benzo(a)pyrene (50-32-8)	1.2E-06	1.2E-06	AP-42, 1.4-3
	Benzo(b)fluoranthene (205-99-2)	1.8E-06	1.8E-06	AP-42, 1.4-3
	Benzo(g,h,i)perylene (191-24-2)	1.2E-06	1.2E-06	AP-42, 1.4-3
	Benzo(k)fluoranthene (205-82-3)	1.8E-06	1.8E-06	AP-42, 1.4-3
	Chrysene (218-01-9)	1.8E-06	1.8E-06	AP-42, 1.4-3
	Dibenzo(a,h)anthracene (53-70-3)	1.2E-06	1.2E-06	AP-42, 1.4-3
	Dichlorobenzene (25321-22-6)	1.2E-03	1.2E-03	AP-42, 1.4-3
	Fluoranthene (206-44-0)	3.0E-06	3.0E-06	AP-42, 1.4-3
	Fluorene (86-73-7)	2.8E-06	2.8E-06	AP-42, 1.4-3
	Formaldehyde (50-00-0)	7.5E-02	7.5E-02	AP-42, 1.4-3
	Hexane (110-54-3)	1.80	1.80	AP-42, 1.4-3
	Indeno(1,2,3-cd)pyrene (193-39-5)	1.8E-06	1.8E-06	AP-42, 1.4-3
	Naphthalene (91-20-3)	6.1E-04	6.1E-04	AP-42, 1.4-3
	Phenanathrene (83-01-8)	1.7E-05	1.7E-05	AP-42, 1.4-3
	Pyrene (129-00-0)	5.0E-06	5.0E-06	AP-42, 1.4-3
	Toluene (108-88-3)	3.4E-03	3.4E-03	AP-42, 1.4-3
	Arsenic (7440-38-2)	2.0E-04	1.0E-06 [70]	AP-42, 1.4-4
	Beryllium (7440-41-7)	1.2E-05	6.0E-08	AP-42, 1.4-4
	Cadmium (7440-43-9)	1.1E-03	5.5E-06	AP-42, 1.4-4
	Chromium VI (7440-47-3)	1.4E-03	7.0E-06	AP-42, 1.4-4
	Cobalt (7440-48-4)	8.4E-05	4.2E-07	AP-42, 1.4-4
	Lead (7439-92-1)	5.0E-04	2.5E-06	AP-42, 1.4-2
	Manganese (7439-96-5)	3.8E-04	1.9E-06	AP-42, 1.4-4
	Mercury (7439-97-6)	2.6E-04	2.6E-04 [67]	AP-42, 1.4-4
	Nickel (7440-02-0)	2.1E-03	1.1E-05	AP-42, 1.4-4
	Selenium (7782-49-2)	2.4E-05	2.4E-05 [68]	AP-42, 1.4-4

The owner or operator shall calculate emissions from natural gas combustion based on fuel throughput and emission factors stated in the table above unless another method is approved in writing by the District.

$E = (X)(EF\ lb/10^6\ scf)(1\ ton/2000\ lb.)$

Where: E = emissions (tons)

X = the amount of natural gas combusted (10^6 scf)

[70] Boilers E4, E5, and E6 are each associated with a multi-cyclone collector (C4, C5, C6) and a baghouse (C10, C11, C12) with a combined control efficiency of 99.8% for metal HAPs.

Unit 2 Coal Combustion Emission Factors for Boiler #4, Boiler #5, and Boiler #6

Emission Source	Pollutant	Coal Emission Factor (lb/ton coal combusted)		Emission Factor Source
		Uncontrolled	Controlled	
E4 E5 E6	CO	5	5	AP-42, 1.1-3
	NO_X	11	11	AP-42, 1.1-3
	PM total	66.54 [71]	0.97 [72]	AP-42, 1.1-4,5
	PM condensable	0.54	0.54	AP-42, 1.1-5
	PM_{10} total	13.74	0.63	AP-42, 1.1-4
	$PM_{2.5}$ total	13.74	0.63	AP-42, 1.1-4
	SO_2	38S [73]	38S	AP-42, 1.1-3
	VOC	0.05	0.05	AP-42, 1.1-19

The owner or operator shall calculate the emissions from coal combustion based on fuel throughput and emission factors stated in the table above unless another method is approved in writing by the District.

E = (X)(EF lb/ton)(1 ton/2000 lb.)
Where: E = emissions (tons)
X = the amount of coal burned (tons)

Unit 2 Coal Combustion HAP/TAC Emission Factors for Boiler #4, Boiler #5, and Boiler #6

Emission Source	Individual HAP/TAC	Coal Emission Factor (lb/ton coal combusted)		Emission Factor Source
		Uncontrolled	Controlled	
E4 E5 E6	Acetaldehyde (75-07-0)	5.7E-04	5.7E-04	AP-42, 1.1-14
	Acetophenone (98-86-2)	1.5E-05	1.5E-05	AP-42, 1.1-14
	Acrolein (Propenal) (107-02-8)	2.9E-04	2.9E-04	AP-42, 1.1-14
	Benzene (71-43-2)	1.3E-03	1.3E-03	AP-42, 1.1-14
	Benzyl Chloride (100-44-7)	7.0E-04	7.0E-04	AP-42, 1.1-14
	Biphenyl (92-52-4)	1.7E-06	1.7E-06	AP-42, 1.1-13
	Bis(2-ethylhexyl)phtha late (DEHP) (DOP) (117-81-7)	7.3E-05	7.3E-05	AP-42, 1.1-14
	Bromoform (75-25-2)	3.9E-05	3.9E-05	AP-42, 1.1-14
	Carbon disulfide (75-15-0)	1.3E-04	1.3E-04	AP-42, 1.1-14
	2-Chloroacetophenone (532-27-4)	7.0E-06	7.0E-06	AP-42, 1.1-14

[71] The uncontrolled emission factor for PM condensable was calculated from AP-42, 1.1-5 emission factor for 'All pulverized coal-fired boilers' and a coal heat content of 27 MMBtu/ton as reported by the company. PM total, PM_{10} total, and $PM_{2.5}$ total emission factors are the sum of PM filterable and PM condensable values.

[72] A controlled emission factor of 0.016 lb/MMBtu for PM and metallic TAC are based on a stack test performed 3/13/2014 (DM 63125). PM condensable was not included in stack testing results it is assumed to be uncontrolled. PM total, PM_{10} total, and $PM_{2.5}$ total emission factors are the sum of PM filterable and PM condensable values.

[73] Emission factor would be calculated by multiplying the weight percent sulfur in the coal by the numerical value preceding S.

Emission Source	Individual HAP/TAC		Coal Emission Factor (lb/ton coal combusted)		Emission Factor Source
			Uncontrolled	Controlled	
	Chlorobenzene	(108-90-7)	2.2E-05	2.2E-05	AP-42, 1.1-14
	Chloroform	(67-66-3)	5.9E-05	5.9E-05	AP-42, 1.1-14
	Chlorine	(7782-50-5)	3.27E-02	3.27E-02	AP-42, 1.1-14
	Cumene	(98-82-8)	5.6E-06	5.6E-06	AP-42, 1.1-14
	Dimethyl sulfate	(77-78-1)	4.8E-05	4.8E-05	AP-42, 1.1-14
	2,4-Dinitrotoluene	(121-14-2)	2.8E-07	2.8E-07	AP-42, 1.1-14
	Ethyl benzene	(100-41-4)	9.4E-05	9.4E-05	AP-42, 1.1-14
	Ethyl chloride	(75-00-3)	4.2E-05	4.2E-05	AP-42, 1.1-14
	Ethylene dichloride	(107-06-2)	4.0E-05	4.0E-05	AP-42, 1.1-14
	Ethylene dibromide	(106-93-4)	1.2E-06	1.2E-06	AP-42, 1.1-14
	Formaldehyde	(50-00-0)	2.4E-04	2.4E-04	AP-42, 1.1-14
	Hexane	(110-54-3)	6.7E-05	6.7E-05	AP-42, 1.1-14
	Isophorone	(78-59-1)	5.8E-04	5.8E-04	AP-42, 1.1-14
	Hydrochloric acid	(7647-01-0)	1.2	0.3 [74]	AP-42, 1.1-15
	Hydrogen fluoride	(7664-39-3)	1.5E-01	1.5E-01	AP-42, 1.1-15
	Methyl bromide	(74-83-9)	1.6E-04	1.6E-04	AP-42, 1.1-14
	Methyl chloride	(74-87-3)	5.3E-04	5.3E-04	AP-42, 1.1-14
	Methyl hydrazine	(60-34-4)	1.7E-04	1.7E-04	AP-42, 1.1-14
	Methyl methacrylate	(80-62-6)	2.0E-05	2.0E-05	AP-42, 1.1-14
	Methyl-tert-butylether	(1634-04-4)	3.5E-05	3.5E-05	AP-42, 1.1-14
	Methylene chloride	(75-09-2)	2.9E-04	2.9E-04	AP-42, 1.1-14
	Naphthalene	(91-20-3)	1.3E-05	1.3E-05	AP-42, 1.1-13
	Phenol	(108-95-2)	1.6E-05	1.6E-05	AP-42, 1.1-14
	Propionaldehyde	(123-38-6)	3.8E-04	3.8E-04	AP-42, 1.1-14
	Styrene	(100-42-5)	2.5E-05	2.5E-05	AP-42, 1.1-14
	Sulfuric Acid		0.43S	0.43S	TRI Report [75]
E4	Tetrachloroethylene	(127-18-4)	4.3E-05	4.3E-05	AP-42, 1.1-14
E5	Toluene	(108-88-3)	2.4E-04	2.4E-04	AP-42, 1.1-14
	Xylene	(1330-20-7)	3.7E-05	3.7E-05	AP-42, 1.1-14
E6	Vinyl Acetate	(108-05-4)	7.6E-06	7.6E-06	AP-42, 1.1-14
	Antimony compounds	(7440-36-0)	3.31E-04	1.39E-05	AP-42, 1.1-16; Coal Analysis [76]
	Arsenic compounds	(7440-38-2)	2.76E-03	3.84E-05	AP-42, 1.1-16; Coal Analysis

[74] The controlled emission factor for Hydrochloric Acid (HCL) is based on the average controlled value for Boiler 4, 5, and 6 of 75% removal from stack test performed 1/18/2017 (DM 84093).

[75] Emission factor would be calculated by multiplying the weight percent sulfur in the coal by the numerical value preceding S.

[76] Metallic HAP/TAC content of the coal is derived from Louisville Medical Steam Plant's coal sample testing performed 4/22/2014, 1/23/2014, 10/17/2014, 1/15/2015, and 4/14/2015 (DM 84410). PPM content averages calculated 6/6/2017 (DM 84571).

Emission Source	Individual HAP/TAC	Coal Emission Factor (lb/ton coal combusted)		Emission Factor Source
		Uncontrolled	Controlled	
	Beryllium compounds (7440-41-7)	5.36E-03	2.12E-05	AP-42, 1.1-16; Coal Analysis
	Cadmium compounds (7440-43-9)	2.78E-04	1.82E-06	Ash Analysis
	Chromium VI (18540-29-9)	2.61E-09	1.71E-11	AP-42, 1.1-18; Coal Analysis
	Chromium III (7440-47-3)	8.58E-07	5.62E-09	AP-42, 1.1-18; Coal Analysis
	Cobalt compounds (7440-48-4)	1.86E-03	3.07E-05	AP-42, 1.1-16; Coal Analysis
	Cyanide compounds (57-12-5)	2.50E-03	2.50E-03	AP-42, 1.1-14
	Lead compounds (7439-92-1)	3.77E-03	6.74E-05	AP-42, 1.1-16; Coal Analysis
	Manganese compounds (7439-96-5)	4.9E-02	4.09E-04	AP-42, 1.1-14; AP-42, 1.1-16
	Mercury compounds (7439-97-6)	1.85E-06	1.85E-06 [67]	Coal Analysis
	Nickel compounds (7440-02-0)	2.21E-03	1.89E-04	AP-42, 1.1-16; Coal Analysis
	Selenium compounds (7782-49-2)	1.32E-04	1.32E-04 [68]	Coal Analysis

The owner or operator shall calculate the emissions from coal combustion based on fuel throughput and emission factors stated in the table above unless another method is approved in writing by the District.

E = (X)(EF lb/ton)(1 ton/2000 lb.)
Where: E = emissions (tons)
X = the amount of coal burned (tons)

Unit U3: Ash handling and transfer equipment

Unit 3 Ash Handling and Transfer PM Emission Factors

Emission Source	PM	Emission Factor (lb/ton ash throughput)		Emission Factor Source
		Uncontrolled	Controlled	
E7-a	PM [77]	0.0048	0.0048	AP-42, 11.12-2
	PM_{10}	0.0028	0.0028	
	$PM_{2.5}$	0.0028	0.0028	
E7-b	PM	0.064	0.064	AP-42, 11.12-2
	PM_{10}	0.017	0.017	
	$PM_{2.5}$	0.02	0.02	
E7-c	PM	0.0069	0.0069	AP-42, 11.12-2

[77] PM total, PM10 total, and PM2.5 total emission factors are the sum of PM and PM condensable values.

Emission Source	PM	Emission Factor (lb/ton ash throughput)		Emission Factor Source
		Uncontrolled	Controlled	
	PM_{10}	0.0033	0.0033	
	$PM_{2.5}$	0.0033	0.0033	
E7-d	PM	0.349	0.002 [78]	AP-42, 11.12-2
	PM_{10}	0.122	0.001	
	$PM_{2.5}$	0.122	0.001	
E7-e	PM	0.124	0.124	AP-42, 11.12-2
	PM_{10}	0.034	0.034	
	$PM_{2.5}$	0.034	0.034	

The owner or operator shall calculate the emissions from ash handling and transfer operations based on throughput and emission factors stated in the table above unless another method is approved in writing by the District. [79]

E = (X)(EF lb/ton Ash)(1 ton/2000 lb.)
Where: E = emissions (tons)
X = the amount of ash handled (tons)

The owner or operator shall account for the insignificant activity $PM/PM_{10}/PM_{2.5}$ emissions from ash handling when totaling the annual plant-wide emissions. Since the emissions are minor the owner or operator may use the potential $PM/PM_{10}/PM_{2.5}$ emissions as the annual emissions. District approved PTE is as follows:

U3 PTE Emissions	Uncontrolled (ton/year)	Controlled (ton/year)
PM	0.217	0.79
PM 10	0.71	0.23
PM 2.5	0.71	0.23

[78] Emission point E7-d, Ash Silo, is controlled by bin vent filters and a baghouse with a combined control efficiency of 99.8% for PM.

[79] District calculated plantwide PTE from 6/5/2015 (DM 67590) assumes ash content to be 8% of coal combusted.

Unit 3 Ash Handling and Transfer HAP/TAC Emission Factors

Emission Source	Individual HAP/TAC	Emission Factor (lb/ton ash)		Emission Factor Source
		Uncontrolled	Controlled	
E7-a	Antimony (7440-36-0)	1.37E-04	8.94E-07	Ash Analysis [80]
E7-b	Arsenic compounds (7440-38-2)	1.17E-02	7.36E-05	Ash Analysis
E7-c	Beryllium (7440-41-7)	2.90E-04	1.90E-06	Ash Analysis
E7-d	Cadmium compounds (7440-43-9)	2.78E-04	1.82E-06	Ash Analysis
E7-e	Chromium VI (7440-47-3)	1.01E-03	6.64E-06	Ash Analysis
	Chromium III (16065-83-1)	6.53E-03	4.28E-05	Ash Analysis
	Cobalt (7440-48-4)	8.12E-04	5.31E-06	Ash Analysis
	Lead (7439-92-1)	2.09E-03	1.37E-05	Ash Analysis
	Manganese (7439-96-5)	2.77E-03	1.81E-05	Ash Analysis
	Mercury (7439-97-6)	1.32E-05	1.32E-05	Ash Analysis
	Nickel compounds (7440-02-0)	2.24E-02	1.47E-04	Ash analysis
	Selenium (7782-49-2)	4.36E-04	4.36E-04	Ash Analysis

The owner or operator shall calculate the emissions from ash handling and transfer operations based on throughput and emission factors stated in the table above unless another method is approved in writing by the District.

E = (X)(EF lb/ton Ash)(1 ton/2000 lb)
Where: E = emissions (tons)
X = the amount of ash handled (tons)

The owner or operator shall account for the insignificant activity HAP/TAC emissions from bottom ash handling operations E7a, E7b, E7c when totaling the annual plant-wide emissions. Since the emissions are minor the owner or operator may use the potential HAP/TAC emissions as the annual emissions. District approved PTE is as follows:

[80] Metallic HAP/TAC content of the ash is derived from Louisville Medical Steam Plant's ash sample testing performed 12/4/2012, 1/21/2013, and 10/20/2012 (DM 84410) and District-approved plantwide PTE from 6/8/2015 (71996) .

U3 PTE Emissions	Uncontrolled (ton/year)	Controlled (ton/year)
Antimony	4.5E-06	1.6E-06
Arsenic	3.8E-04	1.4E-04
Beryllium	9.5E-06	3.5E-06
Cadmium	9.1E-06	3.4E-06
Chromium VI	3.3E-05	1.2E-05
Chromium III	2.1E-04	7.9E-05
Cobalt	2.7E-05	9.8E-06
Lead	6.9E-05	2.5E-05
Manganese	9.1E-05	3.3E-05
Mercury	4.3E-07	1.6E-07
Nickel	7.4E-04	2.7E-04
Selenium	1.4E-05	5.2E-06

Unit U4: Emergency Generators

Unit 4 Diesel Fuel Combustion Emission Factors

Emission Source	Pollutant	Diesel Fuel Emission Factor (lb/gallon diesel fuel combusted)	Emission Factor Source
E9 E11	CO	1.16E-01	AP-42, 3.4-1
	NO_X	4.38E-01	AP-42, 3.4-1
	PM	1.37E-02	AP-42, 3.4-2
	PM_{10}	7.85E-03	AP-42, 3.4-2
	$PM_{2.5}$	7.85E-03	AP-42, 3.4-2
	SO_2	6.9E-03	AP-42, 3.4-1
	VOC	1.23E-02	AP-42, 3.4-1

The owner or operator shall calculate the emissions from diesel generators based on fuel throughput and emission factors stated in the table above unless another method is approved in writing by the District.

E = (X)(EF lb/gallon)(1 ton/2,000 lb)

Where: E = emissions (tons) annually

X = the amount of diesel fuel (gallons) combusted annually

Unit 4 Diesel Fuel Combustion HAP/TAC Emission Factors

Emission Source	Individual HAP/TAC		Diesel Fuel Emission Factor (lb/gallon diesel fuel combusted)	Emission Factor Source
E9 E11	Benzene	(71-43-2)	1.06E-04	AP 42, 3.4-3
	Toluene	(108-88-3)	3.85E-05	AP 42, 3.4-3

Emission Source	Individual HAP/TAC	Diesel Fuel Emission Factor (lb/gallon diesel fuel combusted)	Emission Factor Source
	Xylenes (1330-20-7)	2.64E-05	AP 42, 3.4-3
	Formaldehyde (50-00-0)	1.08E-05	AP 42, 3.4-3
	Acetaldehyde (75-07-0)	3.45E-06	AP 42, 3.4-3
	Acrolein (107-02-8)	1.08E-06	AP 42, 3.4-3
	Naphthalene (91-20-3)	1.78E-05	AP 42, 3.4-4
	Benzo(a)anthracene (56-55-3)	8.52E-08	AP 42, 3.3-2
	Chrysene (218-01-9)	2.10E-07	AP 42, 3.3-2
	Benzo(b)fluoranthene (205-99-2)	1.52E-07	AP 42, 3.3-2
	Benzo(k)fluoranthene (207-08-9)	2.99E-08	AP 42, 3.3-2
	Benzo(a)pyrene (50-32-8)	3.52E-08	AP 42, 3.3-2
	Indeno(1,2,3-cd)pyrene (193-39-5)	5.6E-08	AP 42, 3.3-2
	Dibenz(a,h)anthracene (53-70-3)	4.74E-08	AP 42, 3.3-2

E_{HAP} = (X)(EF lb/gallon)(1 ton/2,000 lb)

Where: E_{HAP} = HAP emissions (tons) annually

X = the amount of diesel fuel (gallons) combusted annually

Unit 4 Diesel Fuel Tank Emission Factors

Emission Source	Pollutant	Diesel Fuel Emission Factor (lb/gallon)	Emission Factor Source
E9 E11	VOC	4.52E-05	TANKS 4.0.9d

E_{VOC} = (EF lb/gallon)(X)(1 ton/2,000 lb)

Where: E_{VOC} = VOC emissions (tons) annually

X = the amount of diesel fuel (gallons) throughput annually

Unit U5: Coal handling and transfer equipment

Unit 5 Coal Handling and Transfer Emission Factors

Emission Source	Pollutant	Emission Factor (lb/ton coal throughput)	Emission Factor Source
E10-a, E10-b, E10-c,	PM	0.0069	AP-42 Table 11.12-2
	PM_{10}	0.0033	AP-42 Table 11.19.2-2
	$PM_{2.5}$	0.0033	AP-42 Table 11.19.2-2
	Antimony compounds (7440-36-0)	3.31E-04	Coal Analysis [81]
	Arsenic compounds (7440-38-2)	2.76E-03	Coal Analysis

[81] Metallic HAP/TAC content of the coal is derived from Louisville Medical Steam Plant's coal sample testing performed 4/22/2014, 1/23/2014, 10/17/2014, 1/15/2015, and 4/14/2015 (DM 84410). PPM content averages calculated 6/6/2017 (DM 84571) and District-approved plantwide PTE from 6/8/2015 (71996) .

Emission Source	Pollutant	Emission Factor (lb/ton coal throughput)	Emission Factor Source
E10-d, E10-e, E10-f, E10-g, E10-h	Beryllium compounds (7440-41-7)	5.3E-03	Coal Analysis
	Cadmium compounds (7440-43-9)	2.78E-04	Ash Analysis
	Chromium VI (18540-29-9)	3.54E-03	Ash Analysis
	Chromium III (7440-47-3)	6.53E-03	Ash Analysis
	Cobalt compounds (7440-48-4)	1.86E-03	Coal Analysis
	Lead compounds (7439-92-1)	3.77E-03	Coal Analysis
	Manganese compounds (7439-96-5)	7.52E-03	Ash Analysis
	Mercury compounds (7439-97-6)	1.85E-06	Coal Analysis
	Nickel compounds (7440-02-0)	2.12E-03	Coal Analysis
	Selenium compounds (7782-49-2)	1.32E-04	Coal Analysis

The owner or operator shall calculate the emissions from coal handling and transfer based on coal throughput and emission factors stated in the table above unless another method is approved in writing by the District.

E = (X)(EF lb/ton)(1 ton/2000 lb.)
Where: E = emissions (tons)
X = the amount of coal throughput (tons)

The owner or operator shall account for the minor emissions from coal handling and transfer equipment (E10-a through E10-h) when totaling the annual plant-wide emissions. Since the emissions are minor the owner or operator may use the sum of potential emissions as the annual emissions. District approved PTE is as follows: [82]

U5 PTE Emissions	Uncontrolled (ton/year)
PM	2.7
PM_{10}	1.3
$PM_{2.5}$	1.3
Antimony	5.44E-06
Arsenic	5.44E-06
Beryllium	9.26E-06
Cadmium	1.15E-05
Chromium VI	4.18E-05

[82] District calculated total coal processed is based on the sum of estimated maximum coal usage from each boiler operating at permit capacity with coal heat content of 27 MMBtu/hr.

U5 PTE Emissions	Uncontrolled (ton/year)
Chromium III	2.69E-04
Cobalt	1.91E-05
Lead	9.26E-06
Manganese	1.14E-04
Mercury	7.62E-08
Nickel	3.59E-05
Selenium	5.44E-04

Unit I.A.-1: Cooling Tower for Unit 1 and Unit 2

Unit I.A.-1 Cooling Tower PM Emission Factors

Emission Source	Pollutant	Flow rate (gal/min)	Drift (%)	TDS (ppm)	Emission Factor Source
IE-1	$PM/PM_{10}/PM_{2.5}$	7,000 each	0.001%	1388	AP-42, 13.4
IE-2	$PM/PM_{10}/PM_{2.5}$	9,000	0.001%	1388	AP-42, 13.4
IE-3	$PM/PM_{10}/PM_{2.5}$	15,000	0.002%	1388	AP-42, 13.4

The owner or operator shall annual calculate the PM/PM_{10} emissions from the cooling towers based on recirculating water throughput (1000 gallon/yr) and emission factors stated in the table below unless another method is approved in writing by the District.

$E_{PM/PM10}$ = (X)(water flow rate, gal/min)(60 min/hr)(8.34 lb/gal water)(TDS/10^6 ppm)(drift %)(1 ton/2000 lb)

Where: E_{PM} = PM/PM_{10} emissions (ton) during a year

X = operating time (hr/yr)

TDS = total dissolved solids (ppm)

The owner or operator shall account for the insignificant activity PM/PM_{10} emissions from the cooling towers when totaling the annual plant-wide emissions. Since the emissions are minor the owner or operator may use the potential PM/PM_{10} emissions as the annual emissions. District approved PTE is as follows:

IA-1 PTE Emissions	Uncontrolled (ton/year)
$PM/PM_{10}/PM_{2.5}$	1.81