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

Title V Operating Permit

Permit No.: 145-97-TV (R2) Plant ID: 127

Effective Date: 7/31/2014 Expiration Date: 7/31/2019

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:

Owner: Louisville Gas & Electric Company
Source: Mill Creek Generating Station
14460 Dixie Highway
Louisville, KY 40272

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 one-hundred eighty (180) days prior to the expiration date.

Application No.:	65329 & 65330; 52426; 54494; 54933; 57168; 58437; 60778; 62614; 64614; 66136	Application Received: 11/30/2007; 12/14/2012; 3/5/2013; 3/25/2013; 7/10/2013; 8/14/2013; 11/15/2013; 2/21/2014; 4/30/2014; 7/21/2014
Permit Writer:	Yiqiu Lin	
Administratively Complete:	1/29/2008	
Date of Public Notice:	06/05/2014	
Date of proposed permit:	06/05/2014	

Paul G. and
Signed by Pa
on Behalf of with as

Air Pollution Control Officer
March 16, 2016

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Title V Permit Revisions/Changes

Revision No.	Issue Date	Public Notice Date	Type	Attachment No./Page No.	Description
Initial	6/1/2003	1/19/2003	Initial	Entire Permit	Initial Issuance
R1	7/31/2014	6/05/2014	Permit renewal	Entire Permit	Permit renewal and incorporate construction permit 215-01, 216-01, 225-01, 142-05, 143-05, 144-05, 145-05, 37-07, 38-07, 426-07, 30399-11, 34595-12, 34658-12, 35668-12, 35673-12
R2	3/16/2016	N/A	Administrative revision	Page 19, 22, 23, 30, 35 Page 40, 43, 44, 48, 53 Page 59, 63-64, 76-77, 82, 83, 84 Page 89, 93-94, 102, 103, 108, 109, 111 Page 120, 123, 340	Update Hg control requirements. Update U4-C30 control efficiencies per stack test report. Added normal pressure range for U9 baghouses. Revised TAC emission standards to exclude Category 3 and 4 TACs for existing sources and use “de minimis values”, as emission standards. Added BART requirements.

Abbreviations and Acronyms

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

Preamble

Title V of the Clean Air Act Amendments of 1990 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) 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 which 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 source's Title V permit may include a current table of "insignificant activities."

Insignificant activities are defined in District Regulation 2.16 section 1.22, as of the date the permit was proposed for review by U.S. EPA, Region 4.

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.

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.

General Conditions

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

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

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

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

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

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

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

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

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

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

5. **Emergency Provision**

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

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

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

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

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

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

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

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

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

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

9. **Enforcement Action Defense**

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

    d. Noncompliance with Regulation 1.07, section 4.2; or

    e. Noncompliance with KRS Chapter 77.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

District Only Enforceable Regulations:

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

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

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

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

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

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

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

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

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

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

Emission Unit U1: Electric Utility Steam Generating Unit (EGU) – Unit 1

U1 Applicable Regulations:

FEDERALLY ENFORCEABLE REGULATIONS		
Regulation	**Title**	**Applicable Sections**
6.02	Emission Monitoring for Existing Sources	1, 2, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18
6.07	Standards of Performance for Existing Indirect Heat Exchangers	1, 2, 3, 4
6.09	Standards of Performance for Existing Process Operations	1, 2, 3, 5
6.42	Reasonably Available Control Technology Requirements for Major Volatile Organic Compound- and Nitrogen Oxides-Emitting Facilities	1, 2, 3, 4, 5
6.47	Federal Acid Rain Program for Existing Sources Incorporated by Reference	1, 2, 3, 4, 5
40 CFR 64	Compliance Assurance Monitoring for Major Stationary Sources	64.1 through 64.10
40 CFR 72	Permits Regulation	Subparts A, B, C, D, E, F, G, H, I
40 CFR 73	Sulfur Dioxide Allowance System	Subparts A, B, C, D, E, F, G
40 CFR 75	Continuous Emission Monitoring	Subparts A, B, C, D, E, F, G
40 CFR 76	Acid Rain Nitrogen Oxides Emission Reduction Program	76.1, 76.2, 76.3, 76.4, 76.5, 76.7, 76.8, 76.9, 76.11, 76.13, 76.14, 76.15, Appendix A, Appendix B
40 CFR 77	Excess Emissions	77.1, 77.2, 77.3, 77.4, 77.5, 77.6
40 CFR 78	Appeals Procedures for Acid Rain Program	78.1, 78.2, 78.3, 78.4, 78.5, 78.6, 78.8, 78.9, 78.10, 78.11, 78.13, 78.14, 78.15, 78.16, 78.17, 78.18, 78.19, 78.20
40 CFR 63, Subpart UUUUU	National Emission Standards for Hazardous Air Pollutants: Coal- and Oil-Fired Electric Utility Steam Generating Units (EGU MACT)	63.9980 through 63.10042

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

U1 Equipment:

Emission Point	Description	Applicable Regulation	Control ID	Stack ID
E1	One (1) tangentially fired boiler, nominal rating 3,085 MMBtu/hr, make Combustion Engineering, using pulverized coal as a primary fuel and natural gas as secondary fuel.	5.00, 5.01, 5.02, 5.14, 5.20, 5.21, 5.22, 5.23, 6.02, 6.07, 6.42, 6.47, 40 CFR 64, 40 CFR 72-73, 40 CFR 75-78, 40 CFR 63, UUUUU	C1, C2[a]	S1[a]
			C1, C26[b], C27[b]	S33[b]
E2	Four (4) coal silos, make Fisher-Klosterman, controlled by a centrifugal dust collector and equipped with four (4) coal mills, make Combustion Engineering Raymond Bowl Mills.	5.00, 5.01, 5.02, 5.14, 5.20, 5.21, 5.22, 5.23, 6.09	C3	S5

Note a: The existing FGD (C2, S1) will shut down prior to April 16, 2016, which is the compliance date when this unit has to comply with 40 CFR 63, Subpart UUUUU.

Note b: The new FGD and HAP PM control (C26, C27, and S33) will replace C2 and S1. These new control devices need to be in full operation no later than April 16, 2016, which is the compliance date when this unit has to comply with 40 CFR 63, Subpart UUUUU.

U1 Control Devices:

Prior to compliance with 40 CFR 63, Subpart UUUUU, Unit 1 has following control devices:

ID	Description	Performance Indicator	Stack ID
C1	One (1) custom-built electrostatic precipitator (ESP) for PM control, make Western Precipitator Division	PM emission data from PM CEMS (if PM CEMS is not used to demonstrate compliance)	S1
C2	One (1) Flue Gas Desulfurization (FGD) unit for SO_2 control using limestone scrubbing liquor, make Combustion Engineering	N/A (See Comment 12)	
C3	One (1) centrifugal dust collector, make Fisher-Klosterman	N/A (See Comment 4)	S5

After compliance with 40 CFR 63, Subpart UUUUU, Unit 1 has following control devices:

ID	Description	Performance Indicator	Stack ID
C1	One (1) custom-built electrostatic precipitator (ESP) for PM control, make Western Precipitator Division	N/A (See Comment 12)	S33
C26	One (1) HAP particulate matter control system, consists of: one (1) powdered activated carbon (PAC) injection system; one (1) dry sorbent injection system; liquid additive system(s); and one (1) pulse-jet fabric filter (PJFF) baghouse used for collecting PM from the boiler and PAC and dry sorbent injection system. PJFF baghouse make Clyde Bergemann Power Group, model Structural Pulse Jet	PM Control: PM emission data from PM CEMS (if PM CEMS is not used to demonstrate compliance) Hg control: (1) Minimum PAC injection rate; (2) pH of reactant in FGD; (3) Hg emission data from Sorbent Traps	
C27	One (1) combined Flue Gas desulfurization (FGD) unit for SO_2 control using limestone scrubbing liquor, make Babcock Power Environmental	N/A (See Comment 12)	
C3	One (1) centrifugal dust collector, make Fisher-Klosterman	N/A (See Comment 4)	S5

U1 Specific Conditions

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

a. **NO_x**

i. The owner or operator shall not allow the average NO_x emissions to exceed the alternate contemporaneous emission limitation of 0.40 lb/MMBtu of heat input on an annual average basis, as specified in Acid Rain Permit No.176-97-AR (R4) which is attached and considered part of the Title V Operating Permit. (Regulation 6.47, section 3.5 referencing 40 CFR Part 76) (See Comment 1)

ii. The owner or operator shall not exceed the NOx RACT emissions standard of 0.47 lb/MMBtu of heat input based on a rolling 30-day average. (See NOx RACT, Attachment C) (Regulation 6.42, section 4.3)

iii. The owner or operator shall install, maintain, calibrate and operate a continuous emission monitoring system (CEMS) for the measurement or calculation of nitrogen oxides in the flue gas. (Regulation 6.02, section 6.1.3) (NO_x RACT Plan) (Regulation 6.47, section 3.4 referencing 40 CFR 75.10(a)(2))

b. **SO_2**

i. The owner or operator shall not exceed 1.2 lb/MMBtu per hour heat input based on a three hour rolling average. (Regulation 6.07, section 4.1)

ii. The owner or operator shall comply with the SO_2 emission allowances specified in Acid Rain Permit No.176-97-AR (R4). (See Acid Rain Permit Attachment) (Regulation 6.47, section 3.2 referencing 40 CFR Part 73)

iii. The owner or operator shall operate and maintain the FGD, as recommended by the manufacturer, at all times the respective boiler is in normal operation and shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. (Permit 34595-12-C, effective date: June 15, 2012) (See Comment 3)

iv. The owner or operator shall install, maintain, calibrate and operate a continuous emission monitoring system (CEMS) for the measurement of sulfur dioxide in the flue gas. (Regulation 6.02, section 6.1.2) (Regulation 6.47, section 3.4 referencing 40 CFR 75.10(a)(1))

c. **PM**

i. The owner or operator shall not exceed an allowable particulate emission rate of 0.11 lbs/MMBtu heat input based on a three hour rolling average. (Regulation 6.07, section 3.1)

ii. The owner or operator shall operate and maintain the PM control devices, as recommended by the manufacturer, at all times the respective boiler is in operation and shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Following commissioning of the PJFF baghouses, the owner or operator may elect to operate, turn down, or turn off the ESP to ensure the efficient operation of the PJFF baghouse. (Permit 34595-12-C, effective date: June 15, 2012) (See Comment 3)

iii. The company shall follow one of the two options below to demonstrate compliance with PM standards:

Compliance Options	PM	Opacity	Control Device Performance indication
Option 1	Certified PM CEMS	VE/Method 9, or Certified COMS	N/A (See Comment 12)
Option 2	Annual testing	Certified COMS	PM CEMS

iv. <u>For coal silos (E2)</u>, the owner or operator shall not exceed an allowable particulate emission rate of 82.95 lbs/hr from four coal silos combined. (Regulation 6.09, section 3.2) (See Comment 4)

d. **Opacity**

i. The owner or operator shall not cause the emission into the open air of particulate matter from any indirect heat exchanger which is greater than 20% opacity, except 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. (Regulation 6.07, section 3.2 and 3.3)

ii. The company shall follow one of the two options in the table under Specific Condition S1.c.iii to demonstrate compliance with opacity standards.

iii. For the coal silos (E2), the owner or operator shall not allow visible emissions to equal or exceed 20% opacity. (Regulation 6.09, section 3.1)

e. **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 Comment 6)

ii. The owner or operator shall not allow TAC emissions from boiler E1 to exceed the TAC emission standards determined based upon the EA Demonstration provided to the District.[1] (Regulation 5.21, section 4.2 and section 4.3) (See Comment 10)

TAC Name	CAS #	TAC Limits Determination	
		(lbs/yr)	Basis of Limits
Naphthalene	91-20-3	16.6	Controlled PTE
Formaldehyde	50-00-0	70.3	Controlled PTE
Hydrogen fluoride	7664-39-3	13,385	Controlled PTE
Arsenic compounds	7440-38-2	266	Controlled PTE
Cadmium compounds	7440-43-9	42.1	Controlled PTE
Chromium VI	7440-47-3	94.5	Controlled PTE
Chromium III	16065-83-1	216	Controlled PTE
Cobalt compounds	7440-48-4	56.2	Controlled PTE
Lead compounds	7439-92-1	332	Controlled PTE
Manganese compounds	7439-96-5	424	Controlled PTE
Nickel compounds	7440-02-0	307	Controlled PTE
Benzene	71-43-2	De minimis values (See Comment 10)	De Minimis
Bromoform	75-25-2		De Minimis
Chloroform	67-66-3		De Minimis
Methylene chloride	75-09-2		De Minimis
Tetrachloroethylene (Perc)	127-18-4		De Minimis
Toluene	108-88-3		De Minimis
Xylene	1330-20-7		De Minimis
Hydrochloric acid	7647-01-0		De Minimis

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

The owner or operator shall comply with 40 CFR 63, Subpart UUUUU (See Attachment A) no later than April 16, 2016. (See Comment 8)

[1] This table for TAC emission standards has been revised to exclude Category 3 and 4 TACs for existing sources and use "de minimis values", instead of actual numbers for current de minimis levels, as emission standards.

g. **BART** (40 CFR 52, Subpart S)

The owner or operator shall continue to utilize PJFF baghouse and/or existing ESP to control PM emissions for this unit.[2] (40 CFR 52.920(e) refer to Kentucky Regional Haze SIP)

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

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

a. **NO_x**

i. The owner or operator shall demonstrate compliance with NO_x RACT Plan limits by continuous emissions monitors (CEMs) as specified in the NO_x RACT Plan. (See NO_x RACT Attachment) (Regulation 6.42, section 4.3)

ii. The owner or operator shall keep a record identifying all deviations from the requirements of the NO_x RACT Plan.

iii. The owner or operator shall comply with the NO_x compliance plan requirements specified in the attached Acid Rain Permit, No.176-97-AR (R4). These record keeping requirements shall be determined in accordance with the Title IV Phase II Acid Rain Permit and are specified in 40 CFR Part 75 Subpart F. (See Appendix A to NOx RACT Plan) (Regulation 6.47, section 3.4 and 3.5 referencing 40 CFR Parts 75 and 76)

iv. The owner or operator shall record on an hourly basis all NO_x emission data specified in 40 CFR Part 75, section 75.57(d). For each NO_x emission rate (in lb/mmBtu) measured by a NO_x-diluent monitoring system, or, if applicable, for each NO_x concentration (in ppm) measured by a NO_x concentration monitoring system used to calculate NO_x mass emissions under 40 CFR 75.71(a)(2), record the following data as measured and reported from the certified primary monitor, certified back-up monitor, or other approved method of emissions determination:

1) Component-system identification code, as provided in 40 CFR 75.53 (including identification code for the moisture monitoring system, if applicable); (40 CFR 75.57(d)(1))

2) Date and hour; (40 CFR 75.57(d)(2))

[2] On March 30, 2012, EPA finalized a limited approval and a limited disapproval of the Kentucky state implementation plan submitted on June 25, 2008 and May 28, 2010. According to 40 CFR 52.920(e), the owner or operator shall meet BART requirements summarized in Table 7.5.3-2 of the Commonwealth's May 28, 2010 submittal.

3) Hourly average NO_x concentration (ppm, rounded to the nearest tenth) and hourly average NO_x concentration (ppm, rounded to the nearest tenth) adjusted for bias if bias adjustment factor required, as provided in 40 CFR 75.24(d); (40 CFR 75.57(d)(3))

4) Hourly average diluent gas concentration (for NO_x -diluent monitoring systems, only, in units of percent O_2 or percent CO_2, rounded to the nearest tenth); (40 CFR 75.57(d)(4))

5) If applicable, the hourly average moisture content of the stack gas (percent H_2O, rounded to the nearest tenth). If the continuous moisture monitoring system consists of wet- and dry-basis oxygen analyzers, also record both the hourly wet- and dry-basis oxygen readings (in percent O2, rounded to the nearest tenth); (40 CFR 75.57(d)(5))

6) Hourly average NO_x emission rate (for NO_x -diluent monitoring systems only, in units of lb/mmBtu, rounded to the nearest thousandth); (40 CFR 75.57(d)(6))

7) Hourly average NO_x emission rate (for NO_x -diluent monitoring systems only, in units of lb/mmBtu, rounded to the nearest thousandth), adjusted for bias if bias adjustment factor is required, as provided in 40 CFR 75.24(d). The requirement to report hourly NO_x emission rates to the nearest thousandth shall not affect NO_x compliance determinations under part 76 of this chapter; compliance with each applicable emission limit under part 76 shall be determined to the nearest hundredth pound per million Btu; (40 CFR 75.57(d)(7))

8) Percent monitoring system data availability (recorded to the nearest tenth of a percent), for the NO_x -diluent or NO_x concentration monitoring system, and, if applicable, for the moisture monitoring system, calculated pursuant to 40 CFR 75.32; (40 CFR 75.57(d)(8))

9) Method of determination for hourly average NO_x emission rate or NO_x concentration and (if applicable) for the hourly average moisture percentage, using Codes 1–55 in Table 4a of 40 CFR 75.57; and (40 CFR 75.57(d)(9))

10) Identification codes for emissions formulas used to derive hourly average NO_x emission rate and total NO_x mass emissions, as provided in 40 CFR 75.53, and (if applicable) the F-factor used to convert NO_x concentrations into emission rates. (40 CFR 75.57(d)(10))

v. A CEMS for measuring either oxygen (O_2) or carbon dioxide (CO_2) in the flue gases shall be installed, calibrated, maintained, and operated by the owner or operator. (Regulation 6.02, section 6.1.3) (NO_x RACT Plan)

vi. The owner or operator shall monitor the NO_x emissions, the NO_x allowances, as specified in the Clean Air Interstate Rule or the applicable NO_x cap and trade program(s) in effect.

b. **SO_2**

i. The owner or operator shall maintain hourly records of SO_2 emissions as specified in Regulation 6.02, section 6.1.2.

ii. The owner or operator shall record on an hourly basis all SO_2 emission data specified in 40 CFR 75.57(c):

1) For SO_2 concentration during unit operation, as measured and reported from each certified primary monitor, certified back-up monitor, or other approved method of emissions determination: (40 CFR 75.57(c)(1))

(a) Component-system identification code, as provided in 40 CFR 75.53; (40 CFR 75.57(c)(1)(i))

(b) Date and hour; (40 CFR 75.57(c)(1)(ii))

(c) Hourly average SO_2 concentration (ppm, rounded to the nearest tenth); (40 CFR 75.57(c)(1)(iii))

(d) Hourly average SO_2 concentration (ppm, rounded to the nearest tenth), adjusted for bias if bias adjustment factor is required, as provided in 40 CFR 75.24(d); (40 CFR 75.57(c)(1)(iv))

(e) Percent monitor data availability (recorded to the nearest tenth of a percent), calculated pursuant to 40 CFR 75.32; and (40 CFR 75.57(c)(1)(v))

(f) Method of determination for hourly average SO_2 concentration using Codes 1–55 in Table 4a of 40 CFR 75.57. (40 CFR 75.57(c)(1)(vi))

2) For flow rate during unit operation, as measured and reported from each certified primary monitor, certified back-up monitor, or other

approved method of emissions determination: (40 CFR 75.57(c)(2))

(a) Component-system identification code, as provided in 40 CFR 75.53; (40 CFR 75.57(c)(2)(i))

(b) Date and hour; (40 CFR 75.57(c)(2)(ii))

(c) Hourly average volumetric flow rate (in scfh, rounded to the nearest thousand); (40 CFR 75.57(c)(2)(iii))

(d) Hourly average volumetric flow rate (in scfh, rounded to the nearest thousand), adjusted for bias if bias adjustment factor required, as provided in 40 CFR 75.24(d); (40 CFR 75.57(c)(2)(iv))

(e) Percent monitor data availability (recorded to the nearest tenth of a percent) for the flow monitor, calculated pursuant to 40 CFR 75.32; and (40 CFR 75.57(c)(2)(v))

(f) Method of determination for hourly average flow rate using Codes 1–55 in Table 4a of 40 CFR 75.57. (40 CFR 75.57(c)(2)(vi))

3) For SO_2 mass emission rate during unit operation, as measured and reported from the certified primary monitoring system(s), certified redundant or non-redundant back-up monitoring system(s), or other approved method(s) of emissions determination: (40 CFR 75.57(c)(4))

(a) Date and hour; (40 CFR 75.57(c)(4)(i))

(b) Hourly SO_2 mass emission rate (lb/hr, rounded to the nearest tenth); (40 CFR 75.57(c)(4)(ii))

(c) Hourly SO_2 mass emission rate (lb/hr, rounded to the nearest tenth), adjusted for bias if bias adjustment factor required, as provided in 40 CFR 75.24(d); and (40 CFR 75.57(c)(4)(iii))

(d) Identification code for emissions formula used to derive hourly SO2 mass emission rate from SO2 concentration and flow and (if applicable) moisture data in paragraphs (c)(1), (c)(2), and (c)(3) of 40 CFR 75.57, as provided in 40 CFR 75.53. (40 CFR 75.57(c)(4)(iv))

c. **PM**

i. The company shall follow one of the two options below to demonstrate compliance with PM standards:

1) Option 1: the owner or operator shall install, maintain, calibrate, and operate a PM CEMS for each steam generating unit. (Regulation 2.16, section 4.1.1) (See Comment 2) (40 CFR 64, See Comment 7)

(a) The use of PM CEMS as the measurement technique must be appropriate for the stack conditions.

(b) The PM CEMS must be installed, operated and maintained in accordance with the manufacturer's recommendations.

(c) The PM CEMS must be certified in accordance with Performance Specification 11, Specifications and Test Procedures for Particulate Matter Continuous Emission Monitoring Systems at Stationary Sources, found in 40 CFR 60, Appendix B.

(d) A quality assurance/quality control program must be implemented in accordance with procedures in 40 CFR 60, Appendix F, Procedure 2 (Quality Assurance Requirements for Particulate Matter Continuous Emission Monitoring Systems at Stationary Sources).

(e) Compliance with the particulate matter emission limit will be based upon three-hour rolling average periods during source operation.

(f) Quarterly excess emission reports must be submitted, and PM excess emissions shall be reported based upon three-hour rolling averages during source operation.

2) Option 2: the owner or operator shall conduct an annual EPA Reference Method 5 performance test following the testing requirements in Attachment B, Specific Condition b.ii.

ii. If certified PM CEMS (Option 1) is used to demonstrate compliance with PM standards, the owner or operator shall record on an hourly basis all PM emission data, in lb/MMBtu, from PM CEMS. (40 CFR 64, See Comment 7)

iii. If annual PM testing (Option 2) is used to demonstrate compliance with PM standards, the owner or operator shall use PM CEMS as a performance indicator of continuous normal operation of the PM control devices and do the following: (40 CFR 64, See Comment 7)

1) The owner or operator shall monitor and record all PM emission data from PM CEMS, which is used as the indicator of normal operation of the PM control devices.

2) The owner or operator shall maintain daily records of any periods of time where the process was operating and the PM control devices were not operating or a declaration that the PM control devices operated at all times that day when the process was operating.

3) If there is any time that the PM control devices are bypassed or not in operation when the process is operating, then the owner or operator shall keep a record of the following for each bypass event:

(a) Date;
(b) Start time and stop time;
(c) Identification of the control devices and process equipment;
(d) PM emissions during the bypass in lb/hr;
(e) Summary of the cause or reason for each bypass event;
(f) Corrective action taken to minimize the extent or duration of the bypass event; and
(g) Measures implemented to prevent reoccurrence of the situation that resulted in the bypass event.

d. **Opacity**

i. If certified COMS is used to demonstrate compliance with opacity standards, the owner or operator shall record on an hourly basis all opacity from COMS. (See Comment 2)

ii. If VE/Method 9 is used to demonstrate compliance with opacity standards, in order for the owner or operator to use its VE observations to satisfy the opacity monitoring requirement, the following conditions must be met: (EPA Letter, 2007, See Comment 2)

1) On a weekly basis, the owner or operator shall attempt to perform VE observations in accordance with procedures in EPA Method 9.

2) On the weeks when it is possible to collect unit-specific VE data, at least one hour of Method 9 data shall be collected for each unit.

3) Records of the Method 9 readings shall be submitted with the quarterly excess emission reports for PM emissions.

iii. The owner or operator shall keep a record of every Method 9 test performed or the reason why it could not be performed that day.

iv. <u>For coal silos (E2):</u>

1) The owner or operator shall conduct a weekly one-minute visible emissions survey, during normal operation, of the PM Emission Points (stacks). For Emission Points without observed visible emissions during twelve consecutive operating weeks, the owner or operator may elect to conduct a monthly one-minute visible emission survey, during normal operation.

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 for stack emissions within 24 hours of the initial observation. If the opacity standard is exceeded, the owner or operator shall report the exceedance to the District, according to Regulation 1.07, and take all practicable steps to eliminate the exceedance.

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

e. **TAC**

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

ii. The owner or operator shall monthly calculate and record TAC emissions for this unit in order to demonstrate compliance with the TAC emission standards required in Specific S1.e.ii.

iii. The owner or operator shall re-evaluate the environmental acceptability and document the environmentally acceptable emissions if a new TAC is introduced or the content of a TAC in a raw material increases above de minimis, or any TAC emission exceeds the TAC emissions standards required in Specific S1.e.ii. (See Comment 6)

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

i. The owner or operator shall comply with 40 CFR 63, Subpart UUUUU (See Attachment A) no later than April 16, 2016. (See Comment 8)

ii. The owner or operator shall establish a site-specific minimum activated carbon injection rate for PAC injection system according to Attachment B, Specific Condition a.i. The owner or operator shall monitor and record the activated carbon injection rate during each operating day.

iii. The owner or operator shall monitor and record all Hg emission data from the Hg sorbent traps, which is used as the indicator of normal operation of the Hg control measures.

iv. The owner or operator shall monitor and record the pH of the reactant material in the FGD and any other parameters verified as having a direct effect on Hg emissions during each operating day, which is (are) used as the indicator(s) of normal operation of Hg control measures.

v. The owner or operator shall maintain records of which Hg control devices/measure was being used during each operating day.

vi. Monitor and record pH range of reactant material in the FGD and normal range of any other parameters verified as having a direct effect on Hg emissions for 180 days, upon startup of the new control equipment, to establish normal range.

g. **BART** (40 CFR 52, Subpart S)

The owner or operator shall maintain daily records of any periods of time where the process was operating and both PJFF baghouse and ESP were not operating or a declaration that the PJFF baghouse and/or ESP operated at all times that day when the process was operating.

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

The owner or operator shall submit quarterly compliance reports that include the information in this section. (See Comment 9)

a. **NO_x**

i. The owner or operator shall identify all periods of exceeding a NO_x emission standard during a quarterly reporting period. The quarterly compliance 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, including the magnitude, of the deviation;
4) If known, the cause of the deviation;
5) A description of all corrective actions taken to abate the deviation; and
6) If no deviations occur during a quarterly reporting period, the report shall contain a negative declaration.

ii. The owner or operator shall submit a written report of excess emissions and the nature and cause of the excess emissions if known. The averaging period used for data reporting should correspond to the averaging period specified in the emission test method used to determine compliance with an emission standard for the pollutant/source category in question. All quarterly reports shall be postmarked by the 30th day following the end of each calendar quarter. The required report shall include: (Regulation 6.02, section 16.1)

1) For gaseous measurements, the summary shall consist of hourly averages in the units of the applicable standard. The hourly averages shall not appear in the written summary, but shall be made available electronically[3]. (Regulation 6.02, section 16.3)

2) The data and time identifying each period during which the continuous monitoring system was inoperative, except for zero and span checks, and the nature of system repairs or adjustment shall be reported. Proof of continuous monitoring system performance whenever system repairs or adjustments have been made is required. (Regulation 6.02, section 16.4)

3) When no excess emissions have occurred and the continuous monitoring systems have been inoperative, repaired, or adjusted, such information shall be included in the report. (Regulation 6.02, section 16.5)

[3] The hourly averages are only required to be made available in electronic summary, not in written summary.

4) Owners or operators of affected facilities shall maintain a file of all information reported in the quarterly summaries, and all other data collected either by the continuous monitoring system or as necessary to convert monitoring data to the units of the applicable standard for a minimum of two years from the date of collection of such data or submission of such summaries. (Regulation 6.02, section 16.6)

iii. The owner or operator shall comply with the reporting requirements for the Acid Rain Permit No.176-97-AR (R4), specified in 40 CFR 75, Subpart G. Notifications, Monitoring Plans, Initial Certification and Recertification Applications, Quarterly Reports, Opacity Reports, Petitions to the Administrator, and Retired Unit Petitions shall be submitted as specified in Subpart G - reporting requirements. (See Attachment E)

iv. The owner or operator shall comply with the reporting requirements for the Title IV NO_x Budget Emission Limitation, 0.40 lb/MMBtu, as specified in 40 CFR Part 76.

b. **SO_2**

i. The owner or operator shall identify all periods of exceeding a SO_2 emission standard during a quarterly 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, including the magnitude, of the deviation;
4) If known, the cause of the deviation;
5) A description of all corrective actions taken to abate the deviation; and
6) If no deviations occur during a quarterly reporting period, the report shall contain a negative declaration.

ii. The owner or operator shall submit a written report of excess emissions and the nature and cause of the excess emissions if known. See Specific Condition S3.a.ii.

iii. The owner or operator shall comply with the reporting requirements for the Acid Rain Permit No.176-97-AR (R4), specified in 40 CFR 75, Subpart G. Notifications, monitoring Plans, Initial Certification and Recertification Applications, Quarterly Reports, Opacity Reports, Petitions to the Administrator, and Retired Unit Petitions shall be

submitted as specified in Subpart G - Reporting Requirements. (See Attachment E)

c. **PM**

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

1) Emission Unit ID number and emission point ID number;
2) The date and duration (including the start and stop time) during which a deviation occurred;
3) The magnitude of excess emissions;
4) Description of the deviation and summary information on the cause or reason for excess emissions;
5) Corrective action taken to minimize the extent and duration of each excess emissions event;
6) Measures implemented to prevent reoccurrence of the situation that resulted in excess PM emissions; or
7) If no deviations occur during a quarterly reporting period, the report shall contain a negative declaration.

ii. The owner or operator shall submit a written report of excess emissions and the nature and cause of the excess emissions if known. See Specific Condition S3.a.ii.

d. **Opacity**

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

1) Any deviation from the requirement to perform daily (or monthly, if required) visible emission surveys or Method 9 tests and documented reason;
2) Any deviation from the requirement to record the results of each VE survey and Method 9 test performed and documented reason;
3) The number, date, and time of each VE Survey where visible emissions were observed and the results of the Method 9 test performed;
4) Identification of all periods of exceeding an opacity standard;
5) Description of any corrective action taken for each exceedance of the opacity standard; or
6) If no deviations occur during a quarterly reporting period, the report shall contain a negative declaration.

ii. The owner or operator shall comply with the reporting requirements for the Acid Rain Permit No.176-97-AR (R4), specified in 40 CFR 75, Subpart G. Notifications, monitoring Plans, Initial Certification and Recertification Applications, Quarterly Reports, Opacity Reports, Petitions to the Administrator, and Retired Unit Petitions shall be submitted as specified in Subpart G - reporting requirements. (See Attachment E) (Regulation 6.47, section 3.4 and 3.5 referencing 40 CFR Parts 75 and 76)

iii. <u>For coal silos (E2)</u>:

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

1) Emission Unit ID number, Stack ID number, and/or Emission point ID number;
2) The beginning and ending date of the reporting period;
3) The date, time and results of each exceedance of the opacity standard;
4) Description of any corrective action taken for each exceedance.

e. **TAC**

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

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

iii. The owner or operator shall identify all periods of exceeding a TAC emission standard during a quarterly 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, including the magnitude, of the deviation;
4) If known, the cause of the deviation;

5) A description of all corrective actions taken to abate the deviation; and
6) If no deviations occur during a quarterly reporting period, the report shall contain a negative declaration.

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

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

i. The owner or operator shall comply with 40 CFR 63, Subpart UUUUU (See Attachment A) no later than April 16, 2016. (See Comment 8)

ii. Report normal pH range of reactant material in the FGD and normal range of any other parameters verified as having a direct effect on Hg emission within 30 days of establishing the normal range.

iii. The owner or operator shall identify all periods of the activated carbon injection rate are less than the minimum injection rate, or the pH of the reactant material in the FGD are out of normal range, or anytime other verified parameters are outside of their normal range, and any corrective action taken for each exceedance.

g. **BART** (40 CFR 52, Subpart S)

The owner or operator shall report any periods of time where the process was operating and both PJFF baghouse and ESP were not operating.

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

a. **Control efficiency determination**

The owner or operator shall conduct performance test for the new EGU control device C26 and C27, according to the testing requirements in Attachment B, C and G. (Regulation 2.16, section 4.1.9.1) (See Comment 5 and 11)

U1 Comments

1. The emission standards, monitoring, record keeping, and reporting requirements only apply to the boiler E1 (not the coal silos E2) if not indicated.

2. According to LG&E's request, PM CEMS have been installed, calibrated, maintained, and operated for Unit 1. LG&E requested permission to remove COMS for Unit 3 and 4 under provisions in 40 CFR 60.13(i)(1), "*Alternative monitoring requirements when*

installation of a continuous monitoring system or monitoring device specified by this part would not provide accurate measurements due to liquid water or other interferences caused by substances in the effluent gases." LG&E's proposal for Unit 3 and 4 was accepted in a letter from EPA dated Feb. 28, 2007. The District accordingly approved LG&E's request for removing COMS for Unit 1 and 2 providing PM CEMS are appropriately installed for these units.

3. The SO_2 and PM emissions cannot meet the standards uncontrolled. The owner or operator is required to operate the control devices to meet the applicable limits for SO_2 and PM.

4. For the coal silos (E2), the owner or operator has shown, by worst-case calculations without allowance for a control device, that the hourly uncontrolled PM emission standard cannot be exceeded; therefore, no additional monitoring, recordkeeping, or reporting is required to demonstrate compliance with the applicable PM standards specified in Regulation 6.09 is required for this emission point.

5. Per an EPA rule change ("Restructuring of the Stationary Source Audit Program." Federal Register 75:176 (September 13, 2010) pp 55636-55657), if an audit sample is required by the test method, sources became responsible for obtaining the audit samples directly from accredited audit sample suppliers, not the regulatory agencies.

6. LG&E Mill Creek submitted their TAC Environmental Acceptability Demonstration to the District on December 28, 2006, March 25, 2008, April 9, 2010, April 2, 2012, and May 13, 2014. Compliance with the STAR EA Goals was demonstrated in the source's EA Demonstrations. SCREEN3 air dispersion modeling was performed for each emission unit that has non-de minimis TAC emissions. The following table demonstrates that the carcinogen risk and non-carcinogen risk values, calculated using the District approved PTE for each unit and the SCREEN model results from the source's EA Demonstration, comply with the STAR EA goals required in Regulation 5.21 controlled.

Plant-wide Sum	All existing & new		All new P/PE	
Industrial Total R_C	4.16	< 75	0.61	< 38
Non-Ind. Total R_C	4.16	< 7.5	0.61	< 3.8
Industrial Max. R_{NC}	0.03	< 3.0		
Non-Ind. Max. R_{NC}	0.03	< 1.0		

		R_{NC} Total		U1		U2		U3		U4		U8		U9		U22	
		Ind./Non-Ind.		Ind./Non-Ind.		Ind./Non-Ind.		Ind./Non-Ind.		Ind./Non-Ind.		Ind./Non-Ind.		Ind./Non-Ind.		Ind./Non-Ind.	
TAC	CAS #	R_{NC}	R_{NC}	R_C	R_{NC}	R_C	R_{NC}	R_C	R_{NC}	R_C	R_{NC}	R_C	R_{NC}	R_C	R_{NC}	R_C	R_{NC}
Total R_C/ Max. R_{NC}		**0.03**	**0.03**	**0.65**		**0.65**		**1.09**		**1.07**		**0.58**		**0.10**		**0.03**	
Arsenic and	7440-38-2	0.03	0.03	0.29	0.00	0.29	0.00	0.48	0.01	0.48	0.01	0.56	0.01	0.10	0.002	0.02	0.00
Cadmium and	7440-43-9	0.00	0.00	0.02	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Chromium he	7440-47-3	0.02	0.02	0.28	0.00	0.28	0.00	0.48	0.00	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Chromium triv	16065-83-1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Formaldehyd	50-00-0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nickel and nic	7440-02-0	0.03	0.03	0.02	0.01	0.02	0.01	0.03	0.01	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Cobalt and co	7440-48-4	0.01	0.01	0.03	0.00	0.03	0.00	0.06	0.00	0.06	0.00	0.03	0.001	0.00	0.00	0.00	0.00
Hydrofluoric	7664-39-3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lead compou	7439-92-1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Manganese a	7439-96-5	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Naphthalene	91-20-3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

7. The coal-fired boilers are subject to 40 CFR Part 64 - Compliance Assurance Monitoring (CAM) for Major Stationary Source since SO_2, PM, and NOx emissions from each of the boilers may be greater than the major source threshold and control devices are required to achieve compliance with standards. On 5/21/2014, LG&E submitted a revised CAM Plan in which SO_2 and NOx CEMS are used for compliance demonstration. PM CEMS is used to demonstrate compliance or provide an indication of continuous PM control.

8. According to 40 CFR 63.9984(b), the compliance date for an existing EGU is April 16, 2015. LG&E requested a year extension and the District has approved the request for the extension per (40 CFR 63.6(i)(4)(i)). Therefore the compliance date for the EGUs under this construction is April 16, 2016.

9. The compliance reports are due on or before the following dates of each calendar year:

Reporting Period	Report Due Date
January 1st through March 31th	May 30th
April 1st through June 30th	August 29th
July 1st through September 30th	November 29th
October 1st through December 31st	March 1st

10. Boiler (E1) has TAC emission standards 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. In this case, controlled PTE is used as limit. TAC emissions for the coal silos (E2) are de minimis according to Regulation 5.21, section 2.1. The TAC emission limits determined by de minimis values shall be updated each time when the District revises the BAC/de minimis values for these TACs. The current de minimis values per TAC list revised on 10/14/2013 are as the following:

TAC Name	CAS #	De minimis values	
		(lb/hr)	(lb/yr)
Benzene	71-43-2	0.243	216

TAC Name	CAS #	De minimis values	
		(lb/hr)	(lb/yr)
Bromoform	75-25-2	0.4914	437
Chloroform	67-66-3	0.02322	20.6
Methylene chloride	75-09-2	54	48,000
Tetrachloroethylene (Perc)	127-18-4	2.079	1,848
Toluene	108-88-3	2700	2,400,000
Xylene	1330-20-7	54	48,000
Hydrochloric acid	7647-01-0	10.8	9,600

11. This unit was modified under construction permit 34595-12-C. According to permit 34595-12-C, the source is required to conduct stack tests to obtain the actual emission factors and control efficiencies.

12. This unit is equipped with CEMS for NOx, SO_2, and PM. According to the District's letter dated November 1, 2005, parametric monitoring of the ESP, FGD, and PJFF for this unit is removed as such monitoring would no longer be required for demonstration of compliance.

Emission Unit U2: Electric Utility Steam Generating Unit (EGU) – Unit 2

U2 Applicable Regulations:

FEDERALLY ENFORCEABLE REGULATIONS		
Regulation	**Title**	**Applicable Sections**
6.02	Emission Monitoring for Existing Sources	1, 2, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18
6.07	Standards of Performance for Existing Indirect Heat Exchangers	1, 2, 3, 4
6.09	Standards of Performance for Existing Process Operations	1, 2, 3, 5
6.42	Reasonably Available Control Technology Requirements for Major Volatile Organic Compound- and Nitrogen Oxides-Emitting Facilities	1, 2, 3, 4, 5
6.47	Federal Acid Rain Program for Existing Sources Incorporated by Reference	1, 2, 3, 4, 5
40 CFR 64	Compliance Assurance Monitoring for Major Stationary Sources	64.1 through 64.10
40 CFR 72	Permits Regulation	Subparts A, B, C, D, E, F, G, H, I
40 CFR 73	Sulfur Dioxide Allowance System	Subparts A, B, C, D, E, F, G
40 CFR 75	Continuous Emission Monitoring	Subparts A, B, C, D, E, F, G
40 CFR 76	Acid Rain Nitrogen Oxides Emission Reduction Program	76.1, 76.2, 76.3, 76.4, 76.5, 76.7, 76.8, 76.9, 76.11, 76.13, 76.14, 76.15, Appendix A, Appendix B
40 CFR 77	Excess Emissions	77.1, 77.2, 77.3, 77.4, 77.5, 77.6
40 CFR 78	Appeals Procedures for Acid Rain Program	78.1, 78.2, 78.3, 78.4, 78.5, 78.6, 78.8, 78.9, 78.10, 78.11, 78.13, 78.14, 78.15, 78.16, 78.17, 78.18, 78.19, 78.20
40 CFR 63, Subpart UUUUU	National Emission Standards for Hazardous Air Pollutants: Coal- and Oil-Fired Electric Utility Steam Generating Units (EGU MACT)	63.9980 through 63.10042

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

U2 Equipment:

Emission Point	Description	Applicable Regulation	Control ID	Stack ID
E3	One (1) tangentially fired boiler, nominal rating 3,085 MMBtu/hr, make Combustion Engineering, using pulverized coal as a primary fuel and natural gas as secondary fuel.	5.00, 5.01, 5.02, 5.14, 5.20, 5.21, 5.22, 5.23, 6.02, 6.07, 6.42, 6.47, 40 CFR 64, 40 CFR 72-73, 40 CFR 75-78, 40 CFR 63, UUUUU	C4, C5[a]	S2[a]
			C4, C27[b], C28[b]	S33[b]
E4	Four (4) coal silos, make American Air Filter, controlled by a centrifugal dust collector and equipped with four (4) coal mills, make Combustion Engineering Raymond Bowl Mills.	5.00, 5.01, 5.02, 5.14, 5.20, 5.21, 5.22, 5.23, 6.09	C6	S6

Note a: The existing FGD (C5, S2) will shut down before April 16, 2016, the compliance date when this unit has to comply with 40 CFR 63, Subpart UUUUU.

Note b: The new FGD and HAP PM control (C27, C28, and S33) will replace C5 and S2. These new control devices need to be in full operation no later than April 16, 2016, the compliance date when this unit has to comply with 40 CFR 63, Subpart UUUUU.

U2 Control Devices:

Before compliance with 40 CFR 63, Subpart UUUUU, Unit 2 uses the following control devices:

ID	Description	Performance Indicator	Stack ID
C4	One (1) custom-built electrostatic precipitator (ESP) for PM control, make Western Precipitator Division	PM emission data from PM CEMS (if PM CEMS is not used to demonstrate compliance)	S2
C5	One (1) Flue Gas Desulfurization (FGD) unit for SO_2 control using limestone scrubbing liquor, make Combustion Engineering	N/A (See Comment 11)	
C6	One (1) centrifugal dust collector, make American Air Filter	N/A (See Comment 4)	S6

After compliance with 40 CFR 63, Subpart UUUUU, Unit 2 uses the following control devices:

ID	Description	Performance Indicator	Stack ID
C4	One (1) custom-built electrostatic precipitator (ESP) for PM control, make Western Precipitator Division	N/A (See Comment 11)	S33
C27	One (1) combined Flue Gas Desulfurization (FGD) unit for SO2 control using limestone scrubbing liquor, make Babcock Power Environmental	N/A (See Comment 11)	
C28	One (1) HAP particulate matter control system, consists of: one (1) powdered activated carbon (PAC) injection system; one (1) dry sorbent injection system; liquid additive system(s); and one (1) pulse-jet fabric filter (PJFF) baghouse used for collecting PM from the boiler and PAC and dry sorbent injection system. PJFF make Clyde Bergemann Power Group, model Structural Pulse Jet	PM Control: PM emission data from PM CEMS (if PM CEMS is not used to demonstrate compliance) Hg control: (1) Minimum PAC injection rate; (2) pH of reactant in FGD; (3) Hg emission data from Sorbent Traps	
C6	One (1) centrifugal dust collector, make American Air Filter	N/A (See Comment 4)	S6

U2 Specific Conditions

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

a. **NO_x**

i. The owner or operator shall not allow the average NO_x emissions to exceed the alternate contemporaneous emission limitation of 0.40 lb/MMBtu of heat input on an annual average basis, as specified in Acid Rain Permit No.176-97-AR (R4) which is attached and considered part of the Title V Operating Permit. (Regulation 6.47, section 3.5 referencing 40 CFR Part 76) (See Comment 1)

ii. The owner or operator shall not exceed the NOx RACT emissions standard of 0.47 lb/MMBtu of heat input based on a rolling 30-day average. (See NOx RACT, Attachment C) (Regulation 6.42, section 4.3)

iii. The owner or operator shall install, maintain, calibrate and operate a continuous emission monitoring system (CEMS) for the measurement or calculation of nitrogen oxides in the flue gas. (Regulation 6.02, section 6.1.3) (NO_x RACT Plan) (Regulation 6.47, section 3.4 referencing 40 CFR 75.10(a)(2))

b. **SO_2**

i. The owner or operator shall not exceed 1.2 lb/MMBtu per hour heat input based on a three hour rolling average. (Regulation 6.07, section 4.1)

ii. The owner or operator shall comply with the SO_2 emission allowances specified in Acid Rain Permit No.176-97-AR (R4). (See Acid Rain Permit Attachment) (Regulation 6.47, section 3.2 referencing 40 CFR Part 73)

iii. The owner or operator shall operate and maintain the FGD, as recommended by the manufacturer, at all times the respective boiler is in operation and shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. (Permit 34595-12-C, effective date: June 15, 2012) (See Comment 3)

iv. The owner or operator shall install, maintain, calibrate and operate a continuous emission monitoring system (CEMS) for the measurement of sulfur dioxide in the flue gas. (Regulation 6.02, section 6.1.2) (Regulation 6.47, section 3.4 referencing 40 CFR 75.10(a)(1))

c. **PM**

i. The owner or operator shall not exceed an allowable particulate emission rate of 0.11 lbs/MMBtu heat input based on a three hour rolling average. (Regulation 6.07, section 3.1)

ii. The owner or operator shall operate and maintain the PM control devices, as recommended by the manufacturer, at all times the respective boiler is in operation and shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Following commissioning of the PJFF baghouses, the owner or operator may elect to operate, turn down, or turn off the ESP to ensure the efficient operation of the PJFF baghouse. (Permit 34595-12-C, effective date: June 15, 2012) (See Comment 3)

iii. The company shall follow one of the two options below to demonstrate compliance with PM standards:

Compliance Options	PM	Opacity	Control Device Performance indication
Option 1	Certified PM CEMS	VE/Method 9, or Certified COMS	N/A (See Comment 12)
Option 2	Annual testing	Certified COMS	PM CEMS

iv. <u>For the coal silos (E4)</u>, the owner or operator shall not exceed an allowable particulate emission rate of 82.95 lbs/hr from four coal silos combined. (Regulation 6.09, section 3.2) (See Comment 4)

d. **Opacity**

i. The owner or operator shall not cause the emission into the open air of particulate matter from any indirect heat exchanger which is greater than 20% opacity, except 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. (Regulation 6.07, section 3.2 and 3.3)

ii. The company shall follow one of the two options in the table under Specific Condition S1.c.iii to demonstrate compliance with opacity standards.

iii. For the coal silos (E4), the owner or operator shall not allow visible emissions to equal or exceed 20% opacity. (Regulation 6.09, section 3.1)

e. **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 Comment 6)

ii. The owner or operator shall not allow TAC emissions from boiler E3 to exceed the TAC emission standards determined based upon the EA Demonstration provided to the District.[4] (Regulation 5.21, section 4.2 and section 4.3) (See Comment 10)

TAC Name	CAS #	TAC Limits Determination	
		(lbs/yr)	Basis of Limits
Naphthalene	91-20-3	16.6	Controlled PTE
Formaldehyde	50-00-0	70.3	Controlled PTE
Hydrogen fluoride	7664-39-3	13,385	Controlled PTE
Arsenic compounds	7440-38-2	266	Controlled PTE
Cadmium compounds	7440-43-9	42.1	Controlled PTE
Chromium VI	7440-47-3	94.5	Controlled PTE
Chromium III	16065-83-1	216	Controlled PTE
Cobalt compounds	7440-48-4	56.2	Controlled PTE
Lead compounds	7439-92-1	332	Controlled PTE
Manganese compounds	7439-96-5	424	Controlled PTE
Nickel compounds	7440-02-0	307	Controlled PTE
Benzene	71-43-2	De minimis values (See Comment 10)	De Minimis
Bromoform	75-25-2		De Minimis
Chloroform	67-66-3		De Minimis
Methylene chloride	75-09-2		De Minimis
Tetrachloroethylene (Perc)	127-18-4		De Minimis
Toluene	108-88-3		De Minimis
Xylene	1330-20-7		De Minimis
Hydrochloric acid	7647-01-0		De Minimis

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

The owner or operator shall comply with 40 CFR 63, Subpart UUUUU (See Attachment A) no later than April 16, 2016. (See Comment 8)

[4] This table for TAC emission standards has been revised to exclude Category 3 and 4 TACs for existing sources and use "de minimis values", instead of actual numbers for current de minimis levels, as emission standards.

g. **BART** (40 CFR 52, Subpart S)

The owner or operator shall continue to utilize PJFF baghouse and/or existing ESP to control PM emissions for this unit.[5] (40 CFR 52.920(e) refer to Kentucky Regional Haze SIP)

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

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

a. **NO_x**

i. The owner or operator shall demonstrate compliance with NO_x RACT Plan limits by continuous emissions monitors (CEMs) as specified in the NO_x RACT Plan. (See NO_x RACT Attachment) (Regulation 6.42, section 4.3)

ii. The owner or operator shall keep a record identifying all deviations from the requirements of the NO_x RACT Plan.

iii. The owner or operator shall comply with the NO_x compliance plan requirements specified in the attached Acid Rain Permit, No.176-97-AR (R4). These record keeping requirements shall be determined in accordance with the Title IV Phase II Acid Rain Permit and are specified in 40 CFR Part 75 Subpart F. (See Appendix A to NOx RACT Plan) (Regulation 6.47, section 3.4 and 3.5 referencing 40 CFR Parts 75 and 76)

iv. The owner or operator shall record on an hourly basis all NO_x emission data specified in 40 CFR Part 75, section 75.57(d). (See U1 Specific Condition S2.a.iv.)

v. A CEMS for measuring either oxygen (O_2) or carbon dioxide (CO_2) in the flue gases shall be installed, calibrated, maintained, and operated by the owner or operator. (Regulation 6.02, section 6.1.3) (NO_x RACT Plan)

vi. The owner or operator shall monitor the NO_x emissions, the NO_x allowances, as specified in the Clean Air Interstate Rule or the applicable NO_x cap and trade program(s) in effect.

b. **SO_2**

[5] On March 30, 2012, EPA finalized a limited approval and a limited disapproval of the Kentucky state implementation plan submitted on June 25, 2008 and May 28, 2010. According to 40 CFR 52.920(e), the owner or operator shall meet BART requirements summarized in Table 7.5.3-2 of the Commonwealth's May 28, 2010 submittal.

i. The owner or operator shall maintain hourly records of SO_2 emissions as specified in Regulation 6.02, section 6.1.2.

ii. The owner or operator shall record on an hourly basis all SO_2 emission data specified in 40 CFR 75.57(c). (See U1 Specific Condition S2.b.ii.)

c. **PM**

i. The company shall follow one of the two options below to demonstrate compliance with PM standards:

1) Option 1: the owner or operator shall install, maintain, calibrate, and operate a PM CEMS for each steam generating unit. (Regulation 2.16, section 4.1.1) (See Comment 2) (40 CFR 64, See Comment 7)

(a) The use of PM CEMS as the measurement technique must be appropriate for the stack conditions.

(b) The PM CEMS must be installed, operated and maintained in accordance with the manufacturer's recommendations.

(c) The PM CEMS must be certified in accordance with Performance Specification 11, Specifications and Test Procedures for Particulate Matter Continuous Emission Monitoring Systems at Stationary Sources, found in 40 CFR 60, Appendix B.

(d) A quality assurance/quality control program must be implemented in accordance with procedures in 40 CFR 60, Appendix F, Procedure 2 (Quality Assurance Requirements for Particulate Matter Continuous Emission Monitoring Systems at Stationary Sources).

(e) Compliance with the particulate matter emission limit will be based upon three-hour rolling average periods during source operation.

(f) Quarterly excess emission reports must be submitted, and PM excess emissions shall be reported based upon three-hour rolling averages during source operation.

2) Option 2: the owner or operator shall conduct an annual EPA Reference Method 5 performance test following the testing requirements in Attachment B, Specific Condition b.ii.

ii. If certified PM CEMS (Option 1) is used to demonstrate compliance with PM standards, the owner or operator shall record on an hourly basis all PM emission data, in lb/MMBtu, from PM CEMS. (40 CFR 64, See Comment 7)

iii. If annual PM testing (Option 2) is used to demonstrate compliance with PM standards, the owner or operator shall use PM CEMS as a performance indicator of continuous normal operation of the PM control devices and do the following: (40 CFR 64, See Comment 7)

1) The owner or operator shall monitor and record all PM emission data from PM CEMS, which is used as the indicator of normal operation of the PM control devices.

2) The owner or operator shall maintain daily records of any periods of time where the process was operating and the PM control devices were not operating or a declaration that the PM control devices operated at all times that day when the process was operating.

3) If there is any time that the PM control devices are bypassed or not in operation when the process is operating, then the owner or operator shall keep a record of the following for each bypass event:

(a) Date;
(b) Start time and stop time;
(c) Identification of the control devices and process equipment;
(d) PM emissions during the bypass in lb/hr;
(e) Summary of the cause or reason for each bypass event;
(f) Corrective action taken to minimize the extent or duration of the bypass event; and
(g) Measures implemented to prevent reoccurrence of the situation that resulted in the bypass event.

d. **Opacity**

i. If certified COMS is used to demonstrate compliance with opacity standards, the owner or operator shall record on an hourly basis all opacity from COMS. (See Comment 2)

ii. If VE/Method 9 is used to demonstrate compliance with opacity standards, in order for the owner or operator to use its VE observations to satisfy the opacity monitoring requirement, the following conditions must be met: (EPA Letter, 2007, See Comment 2)

1) On a weekly basis, the owner or operator shall attempt to perform VE observations in accordance with procedures in EPA Method 9.

2) On the weeks when it is possible to collect unit-specific VE data, at least one hour of Method 9 data shall be collected for each unit.

3) Records of the Method 9 readings shall be submitted with the quarterly excess emission reports for PM emissions.

iii. The owner or operator shall keep a record of every Method 9 test performed or the reason why it could not be performed that day.

iv. <u>For coal silos (E4):</u>

1) The owner or operator shall conduct a weekly one-minute visible emissions survey, during normal operation, of the PM Emission Points (stacks). For Emission Points without observed visible emissions during twelve consecutive operating weeks, the owner or operator may elect to conduct a monthly one-minute visible emission survey, during normal operation.

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 for stack emissions within 24 hours of the initial observation. If the opacity standard is exceeded, the owner or operator shall report the exceedance to the District, according to Regulation 1.07, and take all practicable steps to eliminate the exceedance.

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

e. **TAC**

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

ii. The owner or operator shall monthly calculate and record TAC emissions for this unit in order to demonstrate compliance with the TAC emission standards required in Specific S1.e.ii.

iii. The owner or operator shall re-evaluate the environmental acceptability and document the environmentally acceptable emissions if a new TAC is introduced or the content of a TAC in a raw material increases above de minimis, or any TAC emission exceeds the TAC emissions standards required in Specific S1.e.ii. (See Comment 6)

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

i. The owner or operator shall comply with 40 CFR 63, Subpart UUUUU (See Attachment A) no later than April 16, 2016. (See Comment 8)

ii. The owner or operator shall establish a site-specific minimum activated carbon injection rate for PAC injection system according to Attachment B, Specific Condition a.i. The owner or operator shall monitor and record the activated carbon injection rate during each operating day.

iii. The owner or operator shall monitor and record all Hg emission data from the Hg sorbent traps, which is used as the indicator of normal operation of the Hg control measures.

iv. The owner or operator shall monitor and record the pH of the reactant material in the FGD and any other parameters verified as having a direct effect on Hg emissions during each operating day, which is (are) used as the indicator(s) of normal operation of Hg control measures.

v. The owner or operator shall maintain records of which Hg control devices/measure was being used during each operating day.

vi. Monitor and record pH range of reactant material in the FGD and normal range of any other parameters verified as having a direct effect on Hg emissions for 180 days, upon startup of the new control equipment, to establish normal range.

g. **BART** (40 CFR 52, Subpart S)

The owner or operator shall maintain daily records of any periods of time where the process was operating and both PJFF baghouse and ESP were not operating or a declaration that the PJFF baghouse and/or ESP operated at all times that day when the process was operating.

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

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

a. **NO_x**

i. The owner or operator shall identify all periods of exceeding a NO_x emission standard during a quarterly reporting period. The quarterly compliance 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, including the magnitude, of the deviation;
4) If known, the cause of the deviation;
5) A description of all corrective actions taken to abate the deviation; and
6) If no deviations occur during a quarterly reporting period, the report shall contain a negative declaration.

ii. The owner or operator shall submit a written report of excess emissions and the nature and cause of the excess emissions if known. The averaging period used for data reporting should correspond to the averaging period specified in the emission test method used to determine compliance with an emission standard for the pollutant/source category in question. All quarterly reports shall be postmarked by the 30th day following the end of each calendar quarter. The required report shall include: (Regulation 6.02, section 16.1)

1) For gaseous measurements, the summary shall consist of hourly averages in the units of the applicable standard. The hourly averages shall not appear in the written summary, but shall be made available electronically. (Regulation 6.02, section 16.3)

2) The data and time identifying each period during which the continuous monitoring system was inoperative, except for zero and span checks, and the nature of system repairs or adjustment shall be reported. Proof of continuous monitoring system performance whenever system repairs or adjustments have been made is required. (Regulation 6.02, section 16.4)

3) When no excess emissions have occurred and the continuous monitoring systems have been inoperative, repaired, or adjusted, such information shall be included in the report. (Regulation 6.02, section 16.5)

4) Owners or operators of affected facilities shall maintain a file of all information reported in the quarterly summaries, and all other data collected either by the continuous monitoring system or as necessary to convert monitoring data to the units of the applicable standard for a minimum of two years from the date of collection of such data or submission of such summaries. (Regulation 6.02, section 16.6)

iii. The owner or operator shall comply with the reporting requirements for the Acid Rain Permit No.176-97-AR (R4), specified in 40 CFR 75, Subpart G. Notifications, Monitoring Plans, Initial Certification and Recertification Applications, Quarterly Reports, Opacity Reports, Petitions to the Administrator, and Retired Unit Petitions shall be submitted as specified in Subpart G - reporting requirements. (See Attachment E)

iv. The owner or operator shall comply with the reporting requirements for the Title IV NO_x Budget Emission Limitation, 0.40 lb/MMBtu, as specified in 40 CFR Part 76.

b. **SO_2**

i. The owner or operator shall identify all periods of exceeding a SO_2 emission standard during a quarterly 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, including the magnitude, of the deviation;
4) If known, the cause of the deviation;
5) A description of all corrective actions taken to abate the deviation; and
6) If no deviations occur during a quarterly reporting period, the report shall contain a negative declaration.

ii. The owner or operator shall submit a written report of excess emissions and the nature and cause of the excess emissions if known. See Specific Condition S3.a.ii.

iii. The owner or operator shall comply with the reporting requirements for the Acid Rain Permit No.176-97-AR (R4), specified in 40 CFR 75, Subpart G. Notifications, monitoring Plans, Initial Certification and Recertification Applications, Quarterly Reports, Opacity Reports, Petitions to the Administrator, and Retired Unit Petitions shall be submitted as specified in Subpart G - reporting requirements. (See Attachment E)

c. **PM**

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

1) Emission Unit ID number and emission point ID number;
2) The date and duration (including the start and stop time) during which a deviation occurred;
3) The magnitude of excess emissions;
4) Description of the deviation and summary information on the cause or reason for excess emissions;
5) Corrective action taken to minimize the extent and duration of each excess emissions event;
6) Measures implemented to prevent reoccurrence of the situation that resulted in excess PM emissions; or
7) If no deviations occur during a quarterly reporting period, the report shall contain a negative declaration.

ii. The owner or operator shall submit a written report of excess emissions and the nature and cause of the excess emissions if known. See Specific Condition S3.a.ii.

d. **Opacity**

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

1) Any deviation from the requirement to perform daily (or monthly, if required) visible emission surveys or Method 9 tests and documented reason;
2) Any deviation from the requirement to record the results of each VE survey and Method 9 test performed and documented reason;
3) The number, date, and time of each VE Survey where visible emissions were observed and the results of the Method 9 test performed;
4) Identification of all periods of exceeding an opacity standard;
5) Description of any corrective action taken for each exceedance of the opacity standard; or
6) If no deviations occur during a quarterly reporting period, the report shall contain a negative declaration.

ii. The owner or operator shall comply with the reporting requirements for the Acid Rain Permit No.176-97-AR (R4), specified in 40 CFR 75,

Subpart G. Notifications, monitoring Plans, Initial Certification and Recertification Applications, Quarterly Reports, Opacity Reports, Petitions to the Administrator, and Retired Unit Petitions shall be submitted as specified in Subpart G - reporting requirements. (See Attachment E) (Regulation 6.47, section 3.4 and 3.5 referencing 40 CFR Parts 75 and 76)

iii. For coal silos (E4):

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

1) Emission Unit ID number, Stack ID number, and/or Emission point ID number;
2) The beginning and ending date of the reporting period;
3) The date, time and results of each exceedance of the opacity standard;
4) Description of any corrective action taken for each exceedance.

e. **TAC**

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

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

iii. The owner or operator shall identify all periods of exceeding a TAC emission standard during a quarterly 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, including the magnitude, of the deviation;
4) If known, the cause of the deviation;
5) A description of all corrective actions taken to abate the deviation; and

6) If no deviations occur during a quarterly reporting period, the report shall contain a negative declaration.

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

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

i. The owner or operator shall comply with 40 CFR 63, Subpart UUUUU (See Attachment A) no later than April 16, 2016. (See Comment 8)

ii. Report normal pH range of reactant material in the FGD and normal range of any other parameters verified as having a direct effect on Hg emission within 30 days of establishing the normal range.

iii. The owner or operator shall identify all periods of the activated carbon injection rate are less than the minimum injection rate, or the pH of the reactant material in the FGD are out of normal range, or anytime other verified parameters are outside of their normal range, and any corrective action taken for each exceedance.

g. **BART** (40 CFR 52, Subpart S)

The owner or operator shall report any periods of time where the process was operating and both PJFF baghouse and ESP were not operating.

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

a. **Control efficiency determination**

The owner or operator shall conduct performance test for the new EGU control device C27 and C28, according to the testing requirements in Attachment B, C, and G and Attachment C. (Regulation 2.16, section 4.1.9.1) (See Comment 5 and 9)

U2 Comments

1. The emission standards, monitoring, record keeping, and reporting requirements only apply to the boiler E3 (not the coal silos E4) if not indicated.

2. According to LG&E's request, PM CEMS have been installed, calibrated, maintained, and operated for Unit 1. LG&E requested permission to remove COMS for Unit 3 and 4 under provisions in 40 CFR 60.13(i)(1), "*Alternative monitoring requirements when installation of a continuous monitoring system or monitoring device specified by this part*

would not provide accurate measurements due to liquid water or other interferences caused by substances in the effluent gases." LG&E's proposal for Unit 3 and 4 was accepted in a letter from EPA dated Feb. 28, 2007. The District accordingly approved LG&E's request for removing COMS for Unit 1 and 2 providing PM CEMS are appropriately installed for these units.

3. The SO_2 and PM emissions cannot meet the standards uncontrolled. The owner or operator is required to operate the control devices to meet the applicable limits for SO_2 and PM.

4. For the coal silos (E4), the owner or operator has shown, by worst-case calculations without allowance for a control device, that the hourly uncontrolled PM emission standard cannot be exceeded; therefore, no additional monitoring, recordkeeping, or reporting is required to demonstrate compliance with the applicable PM standards specified in Regulation 6.09 is required for this emission point.

5. Per an EPA rule change ("Restructuring of the Stationary Source Audit Program." Federal Register 75:176 (September 13, 2010) pp 55636-55657), if an audit sample is required by the test method, sources became responsible for obtaining the audit samples directly from accredited audit sample suppliers, not the regulatory agencies.

6. Compliance with STAR has been demonstrated for this unit. See U1 Comment 6.

7. The coal-fired boilers are subject to 40 CFR Part 64 - Compliance Assurance Monitoring (CAM) for Major Stationary Source since SO_2, PM, and NOx emissions from each of the boilers may be greater than the major source threshold and control devices are required to achieve compliance with standards. On 5/21/2014, LG&E submitted a revised CAM Plan in which SO_2 and NOx CEMS are used for compliance demonstration. PM CEMS is used to demonstrate compliance or provide an indication of continuous PM control.

8. According to 40 CFR 63.9984(b), the compliance date for an existing EGU is April 16, 2015. LG&E requested a year extension and the District has approved the request for the extension per (40 CFR 63.6(i)(4)(i)). Therefore the compliance date for the EGUs under this construction is April 16, 2016.

9. This unit was modified under construction permit 34595-12-C. According to permit 34595-12-C, the source is required to conduct stack tests to obtain the actual emission factors and control efficiencies.

10. Boiler (E3) has TAC emission standards since its EA Demonstration was based on controlled PTE. If the controlled PTE for the TAC is less than de minimis level, De Minimis is listed as the basis for the 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. In this case, controlled PTE is used as the basis for the limit. TAC emissions for the coal silos (E4) are de minimis according to Regulation 5.21, section 2.1. The TAC emission limits determined by de minimis values shall be updated each time

when the District revises the BAC/de minimis values for these TACs. The current de minimis values per TAC list revised on 10/14/2013 are as the following:

TAC Name	CAS #	De minimis values	
		(lb/hr)	(lb/yr)
Benzene	71-43-2	0.243	216
Bromoform	75-25-2	0.4914	437
Chloroform	67-66-3	0.02322	20.6
Methylene chloride	75-09-2	54	48,000
Tetrachloroethylene (Perc)	127-18-4	2.079	1,848
Toluene	108-88-3	2700	2,400,000
Xylene	1330-20-7	54	48,000
Hydrochloric acid	7647-01-0	10.8	9,600

11. This unit is equipped with CEMS for NOx, SO_2, and PM. According to the District's letter dated November 1, 2005, parametric monitoring of the ESP, FGD, and PJFF for this unit is removed as such monitoring would no longer be required for demonstration of compliance.

Emission Unit U3: Electric Utility Steam Generating Unit (EGU) – Unit 3

U3 Applicable Regulations:

FEDERALLY ENFORCEABLE REGULATIONS		
Regulation	**Title**	**Applicable Sections**
6.02	Emission Monitoring for Existing Sources	1, 2, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18
6.09	Standards of Performance for Existing Process Operations	1, 2, 3, 5
6.42	Reasonably Available Control Technology Requirements for Major Volatile Organic Compound- and Nitrogen Oxides-Emitting Facilities	1, 2, 3, 4, 5
6.47	Federal Acid Rain Program for Existing Sources Incorporated by Reference	1, 2, 3, 4, 5
7.06	Standards of Performance for New Indirect Heat Exchangers	1, 2, 3, 4.1.2, 4.2, 5.1.2, 6, 7, 8
7.08	Standards of Performance for New Process Operations	1, 2, 3, 5
40 CFR 60, Subpart D	Standards of Performance for Fossil-Fuel Fired Steam Generators for Which Construction is Commenced After August 17, 1971	60.40, 60.41, 60.42(a), 60.43, 60.44, 60.45, 60.46
40 CFR 64	Compliance Assurance Monitoring for Major Stationary Sources	64.1 through 64.10
40 CFR 68	Chemical Accident Prevention Provisions	68.1 through 68.220
40 CFR 72	Permits Regulation	Subparts A, B, C, D, E, F, G, H, I
40 CFR 73	Sulfur Dioxide Allowance System	Subparts A, B, C, D, E, F, G
40 CFR 75	Continuous Emission Monitoring	Subparts A, B, C, D, E, F, G
40 CFR 76	Acid Rain Nitrogen Oxides Emission Reduction Program	76.1, 76.2, 76.3, 76.4, 76.5, 76.7, 76.8, 76.9, 76.11, 76.13, 76.14, 76.15, Appendix A, Appendix B
40 CFR 77	Excess Emissions	77.1, 77.2, 77.3, 77.4, 77.5, 77.6
40 CFR 78	Appeals Procedures for Acid Rain Program	78.1, 78.2, 78.3, 78.4, 78.5, 78.6, 78.8, 78.9, 78.10, 78.11, 78.13, 78.14, 78.15, 78.16, 78.17, 78.18, 78.19, 78.20

FEDERALLY ENFORCEABLE REGULATIONS		
Regulation	**Title**	**Applicable Sections**
40 CFR 63, Subpart UUUUU	National Emission Standards for Hazardous Air Pollutants: Coal- and Oil-Fired Electric Utility Steam Generating Units (EGU MACT)	63.9980 through 63.10042

DISTRICT ONLY ENFORCEABLE REGULATIONS		
Regulation	**Title**	**Applicable Sections**
5.00	Definitions	1, 2
5.01	General Provisions	1 through 2
5.02	Adoption of National Emission Standards for Hazardous Air Pollutants	1, 3.95 and 4
5.14	Hazardous Air Pollutants and Source Categories	1, 2
5.15	Chemical Accident Prevention Provisions	1, 2
5.20	Methodology for Determining Benchmark Ambient Concentration of a Toxic Air Contaminant	1 through 6
5.21	Environmental Acceptability for Toxic Air Contaminants	1 through 5
5.22	Procedures for Determining the Maximum Ambient Concentration of a Toxic Air Contaminant	1 through 5
5.23	Categories of Toxic Air Contaminants	1 through 6
7.02	Federal New Source Performance Standards Incorporated by Reference	1.1, 1.8, 2, 3, 4, 5

U3 Equipment:

Emission Point	Description	Applicable Regulation	Control ID	Stack ID
E5	One (1) dry bottom, wall-fired boiler, nominal rating 4,204 MMBtu/hr, make Babcock & Wilcox, using pulverized coal as a primary fuel and natural gas as secondary fuel.	5.00, 5.01, 5.02, 5.14, 5.20, 5.21, 5.22, 5.23, 6.02, 6.42, 6.47,7.06 40 CFR 64, 40 CFR 72-73, 40 CFR 75-78, 40 CFR 63, UUUUU	C7, C8[a], C22	S3[a]
			C7, C22, C29[b], C39[b]	S4[b]

Emission Point	Description	Applicable Regulation	Control ID	Stack ID
E6	Four (4) coal silos, make American Air Filter, controlled by a centrifugal dust collector and equipped with four (4) coal mills, make Babcock & Wilcox.	5.00, 5.01, 5.02, 5.14, 5.20, 5.21, 5.22, 5.23, 6.09	C9	S7
Note a: The existing FGD and stack (C8, S3) will shut down before April 16, 2016, the compliance date when this unit has to comply with 40 CFR 63, Subpart UUUUU. Note b: The new FGD, HAP PM control and existing stack (C29, C39, and S4) will replace C8 and S3. These new control devices need to be in full operation no later than April 16, 2016, the compliance date when this unit has to comply with 40 CFR 63, Subpart UUUUU.				

U3 Control Devices:

Before compliance with 40 CFR 63, Subpart UUUUU, Unit 3 uses the following control devices:

ID	Description	Performance Indicator	Stack ID
C7	One (1) custom-built electrostatic precipitator (ESP) for PM control, make Western Precipitator Division	PM emission data from PM CEMS (if PM CEMS is not used to demonstrate compliance)	S3
C8	One (1) Flue Gas Desulfurization (FGD) unit for SO_2 control using limestone scrubbing liquor, make Combustion Engineering	N/A (See Comment 13)	
C9	One (1) centrifugal dust collector, make American Air Filter	N/A (See Comment 4)	S7
C22	One (1) Selective Catalytic Reduction (SCR), make Babcock Borsig Power, and the associated ammonia storage tanks. (See Comment 10)	N/A (See Comment 13)	S3

After compliance with 40 CFR 63, Subpart UUUUU, Unit 3 uses the following control devices:

ID	Description	Performance Indicator	Stack ID
C7	One (1) custom-built electrostatic precipitator (ESP) for PM control, make Western Precipitator Division	N/A (See Comment 13)	S4
C39	One (1) Flue Gas Desulfurization (FGD) unit for SO_2 control using limestone scrubbing liquor, make Babcock Power Environmental	N/A (See Comment 13)	

ID	Description	Performance Indicator	Stack ID
C9	One (1) centrifugal dust collector, make American Air Filter	N/A (See Comment 4)	S7
C22	One (1) Selective Catalytic Reduction (SCR), make Babcock Borsig Power	N/A (See Comment 13)	S4
C29	One (1) HAP particulate matter control system, consists of: one (1) powdered activated carbon (PAC) injection system; one (1) dry sorbent injection system; liquid additive system(s); and one (1) pulse-jet fabric filter (PJFF) baghouse used for collecting PM from the boiler and PAC and dry sorbent injection system. PJFF make Clyde Bergemann Power Group, model Structural Pulse Jet.	PM Control: PM emission data from PM CEMS (if PM CEMS is not used to demonstrate compliance) Hg control: (1) Minimum PAC injection rate; (2) pH of reactant in FGD; (3) Hg emission data from Sorbent Traps	

U3 Specific Conditions

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

a. **NO_x**

i. The owner or operator shall not allow the average NO_x emissions to exceed the alternate contemporaneous emission limitation of 0.46 lb/MMBtu of heat input on an annual average basis, as specified in Acid Rain Permit No.176-97-AR (R4). (See Acid Rain Permit Attachment) (Regulation 6.47, section 3.5 referencing 40 CFR Part 76)

ii. The owner or operator shall not exceed the NO_x RACT emissions standard of 0.52 lb/MMBtu of heat input based on a rolling 30-day average. (See NO_x RACT Attachment) (Regulation 6.42, section 4.3)

iii. When combusting natural gas, the owner or operator shall not cause to be discharged into the atmosphere any gases which contain nitrogen oxides expressed as nitrogen dioxide in excess of 86 ng/J (0.20 lb/MMBtu) heat input on a 3-hour rolling average. (Regulation 7.06, section 6.1.1) (40 CFR 60.44(a)(1))

iv. When combusting coal, the owner or operator shall not cause to be discharged into the atmosphere any gases which contain nitrogen oxides expressed as nitrogen dioxide in excess of 300 ng/J (0.70 lb/MMBtu) heat input on a 3-hour rolling average. (Regulation 7.06, section 6.1.3) (40 CFR 60.44(a)(3))

v. When natural gas and coal are burned simultaneously in any combination, the applicable standard is determined by proration using the following equation: (40 CFR 60.44(b))

$$PS_{NOx} = \frac{x(86) + z(300)}{(x + z)}$$

Where,

PS_{NOx} = Prorates standard for NOx when burning different fuels simultaneously, in ng/J heat input derived from all fossil fuels fired;
x = Percentage of total heat input from gaseous fossil fuel
z = Percentage of total heat from solid fossil fuel (except lignite)

vi. The owner or operator shall install, maintain, calibrate and operate a continuous emission monitoring system (CEMS) for the measurement or calculation of nitrogen oxides in the flue gas. (Regulation 6.02, section

6.1.3) (NO_x RACT Plan) (Regulation 6.47, section 3.4 referencing 40 CFR 75.10(a)(2))

b. **SO_2**

i. The owner or operator shall not exceed 0.8 lb/MMBtu heat input for combustion of natural gas and 1.2 lb/MMBtu heat input for combustion of coal based on a three hour rolling average. (Regulation 7.06, section 5.1.2) (40 CFR 60.43(a)(2)))

ii. When natural gas and coal fuels are burned simultaneously in any combination, the applicable standard is determined by proration using the following equation: (Regulation 2.16, section 4.1.1)

$$PS_{SO2} = \frac{x(0.8) + z(1.2)}{(x + z)}$$

Where,

PS_{SO2} = Prorates standard for SO_2 when burning different fuels simultaneously, in lb/MMBtu heat input derived from all fossil fuels fired;
x = Percentage of total heat input from gaseous fossil fuel
z = Percentage of total heat from solid fossil fuel (except lignite)

iii. Compliance shall be based on the total heat input from all fossil fuels burned, including gaseous fuels. (40 CFR 60.43(c))

iv. The owner or operator shall comply with the annual SO_2 emission allowances specified in Acid Rain Permit No.176-97-AR (R4). (See Acid Rain Permit Attachment) (Regulation 6.47, section 3.2 referencing 40 CFR Part 73)

v. The owner or operator shall operate and maintain the FGD, as recommended by the manufacturer, at all times the respective boiler is in operation and shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. (Permit 34595-12-C, effective date: June 15, 2012) (See Comment 3)

vi. The owner or operator shall install, maintain, calibrate and operate a continuous emission monitoring system (CEMS) for the measurement of sulfur dioxide in the flue gas. (Regulation 6.02, section 6.1.2) (Regulation 6.47, section 3.4 referencing 40 CFR 75.10(a)(1))

c. **PM**

i. The owner or operator shall not exceed an allowable particulate emission rate of 0.10 lbs/MMBtu heat input based on a three hour rolling average. (Regulation 7.06, section 4.1.2)

ii. The owner or operator shall not cause to be discharged into the atmosphere from any affected facility any gases that Contain PM in excess of 43 ng/J heat input (0.10 lb/MMBtu) derived from fossil fuel. (40 CFR 60.42(a)(1))

iii. The owner or operator shall operate and maintain the PM control devices, as recommended by the manufacturer, at all times the respective boiler is in operation and shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Following commissioning of the PJFF baghouses, the owner or operator may elect to operate, turn down, or turn off the ESP to ensure the efficient operation of the PJFF baghouse. (Permit 34595-12-C, effective date: June 15, 2012) (See Comment 3)

iv. The company shall follow one of the two options below to demonstrate compliance with PM standards:

Compliance Options	PM	Opacity	Control Device Performance indication
Option 1	Certified PM CEMS	VE/Method 9, or Certified COMS	N/A (See Comment 12)
Option 2	Annual testing	Certified COMS	PM CEMS

v. <u>For the coal silos (E6)</u>, the owner or operator shall not exceed an allowable particulate emission rate of 82.95 lbs/hr from four coal silos combined. (Regulation 6.09, section 3.2) (See Comment 4)

d. **Opacity**

i. The owner or operator shall not cause the emission into the open air of particulate matter from any indirect heat exchanger which is greater than 20% opacity, except 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)

ii. The company shall follow one of the two options in the table under Specific Condition S1.c.iv to demonstrate compliance with opacity standards.

iii. The owner or operator shall not cause the emission into the open air of particulate matter that exhibit greater than 20% opacity except for one six-minute period per hour of not more that 27%. (40 CFR 60.42(a)(2))

iv. For the coal silos (E6), the owner or operator shall not allow visible emissions to equal or exceed 20% opacity. (Regulation 6.09, section 3.1) (Regulation 7.08, section 3.1.1)

e. **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 Comment 6)

ii. The owner or operator shall not allow TAC emissions from boiler E5 to exceed the TAC emission standards determined based upon the EA Demonstration provided to the District.[6] (Regulation 5.21, section 4.2 and section 4.3) (See Comment 11)

TAC Name	CAS #	TAC Limits Determination	
		(lbs/yr)	Basis of Limits
Naphthalene	91-20-3	22.6	Controlled PTE
Formaldehyde	50-00-0	95.8	Controlled PTE
Hydrogen fluoride	7664-39-3	18,240	Controlled PTE
Arsenic compounds	7440-38-2	363	Controlled PTE
Cadmium compounds	7440-43-9	57.4	Controlled PTE
Chromium VI	7440-47-3	128.7	Controlled PTE
Chromium III	16065-83-1	295	Controlled PTE
Cobalt compounds	7440-48-4	76.5	Controlled PTE
Lead compounds	7439-92-1	453	Controlled PTE
Manganese compounds	7439-96-5	578	Controlled PTE
Nickel compounds	7440-02-0	418	Controlled PTE
Benzene	71-43-2	De minimis values (See Comment 11)	De Minimis
Bromoform	75-25-2		De Minimis
Chloroform	67-66-3		De Minimis
Methylene chloride	75-09-2		De Minimis
Tetrachloroethylene (Perc)	127-18-4		De Minimis

[6] This table for TAC emission standards has been revised to exclude Category 3 and 4 TACs for existing sources and use “de minimis values”, instead of actual numbers for current de minimis levels, as emission standards.

TAC Name	CAS #	TAC Limits Determination	
		(lbs/yr)	Basis of Limits
Toluene	108-88-3		De Minimis
Xylene	1330-20-7		De Minimis
Hydrochloric acid	7647-01-0		De Minimis

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

The owner or operator shall comply with 40 CFR 63, Subpart UUUUU (See Attachment A) no later than April 16, 2016. (See Comment 8)

g. **112(r) Regulated Substances** (Regulation 5.15)

If anhydrous ammonia is present at the stationary source in an amount greater than the threshold quantity specified in Regulation 5.15, the owner or operator shall comply with the requirements specified in Regulation 5.15, including the requirement to submit a Risk Management Plan in a method and format as specified by the District and EPA. (Construction Permit 225-01-C) (See Comment 10)

h. **BART** (40 CFR 52, Subpart S)

i. The owner or operator shall install sorbent injection to control SO_3 emissions and continue to utilize PJFF baghouse and/or existing ESP to control PM emissions for this unit.[7] (40 CFR 52.920(e) refer to Kentucky Regional Haze SIP)

ii. The owner or operator shall not allow H_2SO_4 emissions from this unit to exceed 64.3 lbs/hr based on actual operating houses in a calendar day. (40 CFR 52.920(e) refer to Kentucky Regional Haze SIP)

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

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

a. **NO_x**

[7] On March 30, 2012, EPA finalized a limited approval and a limited disapproval of the Kentucky state implementation plan submitted on June 25, 2008 and May 28, 2010. According to 40 CFR 52.920(e), the owner or operator shall meet BART requirements summarized in Table 7.5.3-2 of the Commonwealth's May 28, 2010 submittal. A sorbent injection system has been installed for this unit in 2015.

i. The owner or operator shall demonstrate compliance with NO_x RACT Plan limits by continuous emissions monitors (CEMs) as specified in the NO_x RACT Plan. (See NO_x RACT Attachment) (Regulation 6.42, section 4.3)

ii. The owner or operator shall keep a record identifying all deviations from the requirements of the NO_x RACT Plan.

iii. The owner or operator shall comply with the NO_x compliance plan requirements specified in the attached Acid Rain Permit, No.176-97-AR (R4). These record keeping requirements shall be determined in accordance with the Title IV Phase II Acid Rain Permit and are specified in 40 CFR Part 75 Subpart F. (See AppendixA to NOx RACT Plan) (Regulation 6.47, section 3.4 and 3.5 referencing 40 CFR Parts 75 and 76)

iv. The owner or operator shall record on an hourly basis all NO_x emission data specified in 40 CFR Part 75, section 75.57(d). (See U1 Specific Condition S2.a.iv.)

v. A CEMS for measuring either oxygen (O_2) or carbon dioxide (CO_2) in the flue gases shall be installed, calibrated, maintained, and operated by the owner or operator. The owner or operator shall use the conversion procedures specified in Regulation 7.06, sections 7.5 and 7.6 for NO_x, SO_2, and PM. (Regulation 7.06, section 7.4)

vi. The owner or operator shall monitor the NO_x emissions, the NO_x allowances, as specified in the Clean Air Interstate Rule or the applicable NO_x cap and trade program(s) in effect.

vii. For performance evaluations under 40 CFR 60.13(c) and calibration checks under 40 CFR 60.13(d), the following procedures shall be used: (40 CFR 60.45(c))

1) Methods 6, 7, and 3B of appendix A of this part, as applicable, shall be used for the performance evaluations of SO_2 and NO_X continuous monitoring systems. Acceptable alternative methods for Methods 6, 7, and 3B of appendix A of this part are given in 40 CFR 60.46(d). (40 CFR 60.45(c)(1))

2) Sulfur dioxide or nitric oxide, as applicable, shall be used for preparing calibration gas mixtures under Performance Specification 2 of appendix B to this part. (40 CFR 60.45(c)(2))

3) For affected facilities burning fossil fuel(s), the span value for a continuous monitoring system measuring the opacity of emissions shall be 80, 90, or 100 percent. For a continuous monitoring system measuring sulfur oxides or NO_X the span value shall be

determined using one of the following procedures: (40 CFR 60.45(c)(3))

(a) Except as provided under paragraph 40 CFR 60.45(c)(3)(ii), SO_2 and NO_X span values shall be determined as follows: (40 CFR 60.45(c)(3)(i))

Fossil fuel	In parts per million	
	Span value for SO_2	Span value for NO_X
Gas	Not Applicable	500.
Liquid	1,000	500.
Solid	1,500	1,000.

(b) As an alternative to meeting the requirements of paragraph 40 CFR 60.45(c)(3)(i), the owner or operator of an affected facility may elect to use the SO_2 and NO_X span values determined according to sections 2.1.1 and 2.1.2 in appendix A to part 75 of this chapter. (40 CFR 60.45(c)(3)(ii))

viii. The conversion procedures in 40 CFR 60.45(e) and (f) shall be used to convert the continuous monitoring data into units of the applicable standards. (40 CFR 60.45(e) and (f))

1) For any CEMS installed under paragraph (a) of this section, the following conversion procedures shall be used to convert the continuous monitoring data into units of the applicable standards (ng/J, lb/MMBtu): (40 CFR 60.45(e))

(a) When a CEMS for measuring O_2 is selected, the measurement of the pollutant concentration and O_2 concentration shall each be on a consistent basis (wet or dry). Alternative procedures approved by the Administrator shall be used when measurements are on a wet basis. When measurements are on a dry basis, the following conversion procedure shall be used: (40 CFR 60.45(e)(1))

$$E = CF\left(\frac{20.9}{(20.9 - \%O_2)}\right)$$

Where E, C, F, and $\%O_2$ are determined under paragraph (f) of this section.

(b) When a CEMS for measuring CO_2 is selected, the measurement of the pollutant concentration and CO_2 concentration shall each be on a consistent basis (wet or

dry) and the following conversion procedure shall be used: (40 CFR 60.45(e)(2))

$$E = CF_c\left(\frac{100}{\%CO_2}\right)$$

Where E, C, F_c and $\%CO_2$ are determined under paragraph (f) of this section.

2) The values used in the equations under paragraphs (e)(1) and (2) of this section are derived as follows: (40 CFR 60.45(f))

(a) E = pollutant emissions, ng/J (lb/MMBtu). (40 CFR 60.45(f)(1))

(b) C = pollutant concentration, ng/dscm (lb/dscf), determined by multiplying the average concentration (ppm) for each one-hour period by 4.15×10^{4} M ng/dscm per ppm (2.59×10^{-9}M lb/dscf per ppm) where M = pollutant molecular weight, g/g-mole (lb/lb-mole). M = 64.07 for SO_2 and 46.01 for NO_X. (40 CFR 60.45(f)(2))

(c) $\%O_2$, $\%CO_2$= O_2 or CO_2 volume (expressed as percent), determined with equipment specified under paragraph (a) of this section. (40 CFR 60.45(f)(3))

(d) F, F_c= a factor representing a ratio of the volume of dry flue gases generated to the calorific value of the fuel combusted (F), and a factor representing a ratio of the volume of CO_2 generated to the calorific value of the fuel combusted (F_c), respectively. Values of F and F_c are given as follows: (40 CFR 60.45(f)(4))

(i) For anthracite coal as classified according to ASTM D388 (incorporated by reference, see 40 CFR 60.17), F = $2{,}723 \times 10^{-17}$ dscm/J (10,140 dscf/MMBtu) and F_c= 0.532×10^{-17} scm CO_2/J (1,980 scf CO_2/MMBtu). (40 CFR 60.45(f)(4)(i))

(ii) For subbituminous and bituminous coal as classified according to ASTM D388 (incorporated by reference, see 40 CFR 60.17), F = 2.637×10^{-7} dscm/J (9,820 dscf/MMBtu) and F_c= 0.486×10^{-7} scm CO_2/J (1,810 scf CO_2/MMBtu). (40 CFR 60.45(f)(4)(ii))

(iii) For liquid fossil fuels including crude, residual, and distillate oils, F = 2.476×10^{-7} dscm/J (9,220 dscf/MMBtu) and F_c= 0.384×10^{-7} scm CO_2/J

(1,430 scf CO_2/MMBtu). (40 CFR 60.45(f)(4)(iii))

(iv) For gaseous fossil fuels, F = 2.347 × 10^{-7} dscm/J (8,740 dscf/MMBtu). For natural gas, propane, and butane fuels, F_c= 0.279 × 10^{-7} scm CO_2/J (1,040 scf CO_2/MMBtu) for natural gas, 0.322 × 10^{-7} scm CO_2/J (1,200 scf CO_2/MMBtu) for propane, and 0.338 × 10^{-7} scm CO_2/J (1,260 scf CO_2/MMBtu) for butane. (40 CFR 60.45(f)(4)(iv))

(v) For bark F = 2.589 × 10^{-7} dscm/J (9,640 dscf/MMBtu) and F_c= 0.500 × 10^{-7} scm CO_2/J (1,840 scf CO_2/MMBtu). For wood residue other than bark F = 2.492 × 10^{-7} dscm/J (9,280 dscf/MMBtu) and F_c= 0.494 × 10^{-7} scm CO_2/J (1,860 scf CO_2/MMBtu). (40 CFR 60.45(f)(4)(v))

(vi) For lignite coal as classified according to ASTM D388 (incorporated by reference, see 40 CFR 60.17), F = 2.659 × 10^{-7} dscm/J (9,900 dscf/MMBtu) and F_c= 0.516 × 10^{-7} scm CO_2/J (1,920 scf CO_2/MMBtu). (40 CFR 60.45(f)(4)(vi))

(e) The owner or operator may use the following equation to determine an F factor (dscm/J or dscf/MMBtu) on a dry basis (if it is desired to calculate F on a wet basis, consult the Administrator) or Fc factor (scm CO_2/J, or scf CO_2/MMBtu) on either basis in lieu of the F or F_c factors specified in paragraph (f)(4) of this section: (40 CFR 60.45(f)(5))

$$F = 10^{6}\,\frac{[227.2\ (\%H) + 95.5\ (\%C) + 35.6\ (\%S) + 8.7\ (\%N) - 28.7\ (\%O)]}{GCV}$$

$$F_c = \frac{2.0\times10^{-5}\ (\%C)}{GCV\ (SI\ units)}$$

$$F = 10^{6}\,\frac{[3.64\ (\%H) + 1.53\ (\%C) + 0.57\ (\%S) + 0.14\ (\%N) - 0.46\ (\%O)]}{GCV\ (English\ units)}$$

$$F_c = \frac{20.0\ (\%C)}{GCV\ (SI\ units)}$$

$$F_c = \frac{321\times10^{3}\ (\%C)}{GCV\ (English\ units)}$$

(i) %H, %C, %S, %N, and %O are content by weight of hydrogen, carbon, sulfur, nitrogen, and O_2(expressed as percent), respectively, as

determined on the same basis as GCV by ultimate analysis of the fuel fired, using ASTM D3178 or D3176 (solid fuels), or computed from results using ASTM D1137, D1945, or D1946 (gaseous fuels) as applicable. (These five methods are incorporated by reference, see 40 CFR 60.17.) (40 CFR 60.45(f)(5)(i))

(ii) GVC is the gross calorific value (kJ/kg, Btu/lb) of the fuel combusted determined by the ASTM test methods D2015 or D5865 for solid fuels and D1826 for gaseous fuels as applicable. (These three methods are incorporated by reference, see 40 CFR 60.17.) (40 CFR 60.45(f)(5)(ii))

(iii) For affected facilities which fire both fossil fuels and nonfossil fuels, the F or Fc value shall be subject to the Administrator's approval. (40 CFR 60.45(f)(5)(iii))

(f) For affected facilities firing combinations of fossil fuels or fossil fuels and wood residue, the F or Fc factors determined by paragraphs (f)(4) or (f)(5) of this section shall be prorated in accordance with the applicable formula as follows: (40 CFR 60.45(f)(6))

$$F = \sum_{i=1}^{n} X_i F_i \quad \text{or} \quad F_c = \sum_{i=1}^{n} X_i (F_c)_i$$

Where:
X_i= Fraction of total heat input derived from each type of fuel (e.g. natural gas, bituminous coal, wood residue, etc.);
F_i or $(F_c)_i$= Applicable F or F_c factor for each fuel type determined in accordance with paragraphs (f)(4) and (f)(5) of this section; and
n = Number of fuels being burned in combination.

b. **SO_2**

i. The owner or operator shall maintain hourly records of SO_2 emissions as specified in Regulation 6.02, section 6.1.2.

ii. The owner or operator shall record on an hourly basis all SO_2 emission data specified in 40 CFR 75.57(c). (See U1 Specific Condition S2.b.ii.)

iii. See Specific Condition S2.a.vii and viii.

c. **PM**

i. The company shall follow one of the two options below to demonstrate compliance with PM standards:

1) Option 1: the owner or operator shall install, maintain, calibrate, and operate a PM CEMS for each steam generating unit. (Regulation 2.16, section 4.1.1) (See Comment 2) (40 CFR 64, See Comment 7)

(a) The use of PM CEMS as the measurement technique must be appropriate for the stack conditions.

(b) The PM CEMS must be installed, operated and maintained in accordance with the manufacturer's recommendations, applicable requirements in Subpart D, and General Provisions in 40 CFR 60.7 – 60.13.

(c) The PM CEMS must be certified in accordance with Performance Specification 11, Specifications and Test Procedures for Particulate Matter Continuous Emission Monitoring Systems at Stationary Sources, found in 40 CFR 60, Appendix B.

(d) A quality assurance/quality control program must be implemented in accordance with procedures in 40 CFR 60, Appendix F, Procedure 2 (Quality Assurance Requirements for Particulate Matter Continuous Emission Monitoring Systems at Stationary Sources).

(e) Compliance with the particulate matter emission limit promulgated at 40 CFR 60.42(a) will be based upon three-hour rolling average periods during source operation.

(f) LG&E must comply with all applicable recordkeeping and reporting requirements under Subpart D and under the General Provisions in 40 CFR 60.7 – 60.13. Quarterly excess emission reports must be submitted, and PM excess emissions shall be reported based upon three-hour rolling averages during source operation.

2) Option 2: the owner or operator shall conduct an annual EPA Reference Method 5 performance test following the testing requirements in Attachment B, Specific Condition b.ii.

ii. If certified PM CEMS (Option 1) is used to demonstrate compliance with PM standards, the owner or operator shall record on an hourly basis all PM emission data, in lb/MMBtu, from PM CEMS. (40 CFR 64, See Comment 7)

iii. If annual PM testing (Option 2) is used to demonstrate compliance with PM standards, the owner or operator shall use PM CEMS as a performance indicator of continuous normal operation of the PM control devices and do the following: (40 CFR 64, See Comment 7)

1) The owner or operator shall monitor and record all PM emission data from PM CEMS, which is used as the indicator of normal operation of the PM control devices.

2) The owner or operator shall maintain daily records of any periods of time where the process was operating and the PM control devices were not operating or a declaration that the PM control devices operated at all times that day when the process was operating.

3) If there is any time that the PM control devices are bypassed or not in operation when the process is operating, then the owner or operator shall keep a record of the following for each bypass event:

(a) Date;
(b) Start time and stop time;
(c) Identification of the control devices and process equipment;
(d) PM emissions during the bypass in lb/hr;
(e) Summary of the cause or reason for each bypass event;
(f) Corrective action taken to minimize the extent or duration of the bypass event; and
(g) Measures implemented to prevent reoccurrence of the situation that resulted in the bypass event.

d. **Opacity**

i. If certified COMS is used to demonstrate compliance with opacity standards, the owner or operator shall record on an hourly basis all opacity from COMS. (See Comment 2)

ii. If VE/Method 9 is used to demonstrate compliance with opacity standards, in order for the owner or operator to use its VE observations to satisfy the opacity monitoring requirement, the following conditions must be met: (EPA Letter, 2007, See Comment 2)

1) On a weekly basis, the owner or operator shall attempt to perform VE observations in accordance with procedures in EPA Method 9.

2) On the weeks when it is possible to collect unit-specific VE data, at least one hour of Method 9 data shall be collected for each unit.

3) Records of the Method 9 readings shall be submitted with the quarterly excess emission reports for PM emissions.

iii. The owner or operator shall keep a record of every Method 9 test performed or the reason why it could not be performed that day.

iv. An owner or operator of an affected facility subject to an opacity standard under 40 CFR 60.42 that elects to not use a COMS because the affected facility burns only fuels as specified under paragraph (b)(1) of 40 CFR 60.45, monitors PM emissions as specified under paragraph (b)(5) of 40 CFR 60.45, or monitors CO emissions as specified under paragraph (b)(6) of 40 CFR 60.45, shall conduct a performance test using Method 9 of appendix A-4 of this part and the procedures in 40 CFR 60.11 to demonstrate compliance with the applicable limit in 40 CFR 60.42 by April 29, 2011 or within 45 days after stopping use of an existing COMS, whichever is later, and shall comply with either paragraph (b)(7)(i), (b)(7)(ii), or (b)(7)(iii) of 40 CFR 60.45. The observation period for Method 9 of appendix A-4 of this part performance tests may be reduced from 3 hours to 60 minutes if all 6-minute averages are less than 10 percent and all individual 15-second observations are less than or equal to 20 percent during the initial 60 minutes of observation. The permitting authority may exempt owners or operators of affected facilities burning only natural gas from the opacity monitoring requirements. (40 CFR 60.45(b)(7))

1) Except as provided in paragraph (b)(7)(ii) or (b)(7)(iii) of 40 CFR 60.45, the owner or operator shall conduct subsequent Method 9 of appendix A–4 of this part performance tests using the procedures in paragraph (b)(7) of 40 CFR 60.45 according to the applicable schedule in paragraphs (b)(7)(i)(A) through (b)(7)(i)(D) of 40 CFR 60.45, as determined by the most recent Method 9 of appendix A–4 of this part performance test results.

(a) If no visible emissions are observed, a subsequent Method 9 of appendix A–4 of this part performance test must be completed within 12 calendar months from the date that the most recent performance test was conducted; (40 CFR 60.45(b)(7)(i)(A))

(b) If visible emissions are observed but the maximum 6-minute average opacity is less than or equal to 5 percent, a

subsequent Method 9 of appendix A–4 of this part performance test must be completed within 6 calendar months from the date that the most recent performance test was conducted; (40 CFR 60.45(b)(7)(i)(B))

(c) If the maximum 6-minute average opacity is greater than 5 percent but less than or equal to 10 percent, a subsequent Method 9 of appendix A–4 of this part performance test must be completed within 3 calendar months from the date that the most recent performance test was conducted; or (40 CFR 60.45(b)(7)(i)(C))

(d) If the maximum 6-minute average opacity is greater than 10 percent, a subsequent Method 9 of appendix A-4 of this part performance test must be completed within 45 calendar days from the date that the most recent performance test was conducted. (40 CFR 60.45(b)(7)(i)(D))

2) If the maximum 6-minute opacity is less than 10 percent during the most recent Method 9 of appendix A–4 of this part performance test, the owner or operator may, as an alternative to performing subsequent Method 9 of appendix A–4 of this part performance test, elect to perform subsequent monitoring using Method 22 of appendix A–7 of this part according to the procedures specified in paragraphs (b)(7)(ii)(A) and (B) of 40 CFR 60.45. (40 CFR 60.45(b)(7)(ii))

(a) The owner or operator shall conduct 10 minute observations (during normal operation) each operating day the affected facility fires fuel for which an opacity standard is applicable using Method 22 of appendix A-7 of this part and demonstrate that the sum of the occurrences of any visible emissions is not in excess of 5 percent of the observation period (i.e., 30 seconds per 10 minute period). If the sum of the occurrence of any visible emissions is greater than 30 seconds during the initial 10 minute observation, immediately conduct a 30 minute observation. If the sum of the occurrence of visible emissions is greater than 5 percent of the observation period (i.e., 90 seconds per 30 minute period), the owner or operator shall either document and adjust the operation of the facility and demonstrate within 24 hours that the sum of the occurrence of visible emissions is equal to or less than 5 percent during a 30 minute observation (i.e., 90 seconds) or conduct a new Method 9 of appendix A-4 of this part performance test using the procedures in paragraph (b)(7) of 40 CFR 60.45 within 45 calendar days according to the requirements in 40

CFR 60.46(b)(3). (40 CFR 60.45(b)(7)(ii)(A))

(b) If no visible emissions are observed for 30 operating days during which an opacity standard is applicable, observations can be reduced to once every 7 operating days during which an opacity standard is applicable. If any visible emissions are observed, daily observations shall be resumed. (40 CFR 60.45(b)(7)(ii)(B))

3) If the maximum 6-minute opacity is less than 10 percent during the most recent Method 9 of appendix A–4 of this part performance test, the owner or operator may, as an alternative to performing subsequent Method 9 of appendix A–4 performance tests, elect to perform subsequent monitoring using a digital opacity compliance system according to a site-specific monitoring plan approved by the Administrator. The observations shall be similar, but not necessarily identical, to the requirements in paragraph (b)(7)(ii) of 40 CFR 60.45. For reference purposes in preparing the monitoring plan, see OAQPS "Determination of Visible Emission Opacity from Stationary Sources Using Computer-Based Photographic Analysis Systems." This document is available from the U.S. Environmental Protection Agency (U.S. EPA); Office of Air Quality and Planning Standards; Sector Policies and Programs Division; Measurement Policy Group (D243–02), Research Triangle Park, NC 27711. This document is also available on the Technology Transfer Network (TTN) under Emission Measurement Center Preliminary Methods. (40 CFR 60.45(b)(7)(iii)

v. The owner or operator of an affected facility subject to the opacity limits in 40 CFR 60.42 that elects to monitor emissions according to the requirements in 40 CFR 60.45(b)(7) shall maintain records according to the requirements specified in paragraphs (h)(1) through (3) of 40 CFR 60.45, as applicable to the visible emissions monitoring method used. (40 CFR 60.45(h))

1) For each performance test conducted using Method 9 of appendix A–4 of this part, the owner or operator shall keep the records including the information specified in paragraphs (h)(1)(i) through (iii) of 40 CFR 60.45. (40 CFR 60.45(h)(1))

(a) Dates and time intervals of all opacity observation periods; (40 CFR 60.45(h)(1)(i))

(b) Name, affiliation, and copy of current visible emission reading certification for each visible emission observer

participating in the performance test; and (40 CFR 60.45(h)(1)(ii))

(c) Copies of all visible emission observer opacity field data sheets; (40 CFR 60.45(h)(1)(iii))

2) For each performance test conducted using Method 22 of appendix A–4 of this part, the owner or operator shall keep the records including the information specified in paragraphs (h)(2)(i) through (iv) of 40 CFR 60.45. (40 CFR 60.45(h)(2))

(a) Dates and time intervals of all visible emissions observation periods; (40 CFR 60.45(h)(2)(i))

(b) Name and affiliation for each visible emission observer participating in the performance test; (40 CFR 60.45(h)(2)(ii))

(c) Copies of all visible emission observer opacity field data sheets; and (40 CFR 60.45(h)(2)(iii))

(d) Documentation of any adjustments made and the time the adjustments were completed to the affected facility operation by the owner or operator to demonstrate compliance with the applicable monitoring requirements. (40 CFR 60.45(h)(2)(iv))

3) For each digital opacity compliance system, the owner or operator shall maintain records and submit reports according to the requirements specified in the site-specific monitoring plan approved by the Administrator. (40 CFR 60.45(h)(3))

vi. <u>For coal silos (E6):</u>

1) The owner or operator shall conduct a weekly one-minute visible emissions survey, during normal operation, of the PM Emission Points (stacks). For Emission Points without observed visible emissions during twelve consecutive operating weeks, the owner or operator may elect to conduct a monthly one-minute visible emission survey, during normal operation.

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 for stack emissions within 24 hours of the initial observation. If the

opacity standard is exceeded, the owner or operator shall report the exceedance to the District, according to Regulation 1.07, and take all practicable steps to eliminate the exceedance.

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

e. **TAC**

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

ii. The owner or operator shall monthly calculate and record TAC emissions for this unit in order to demonstrate compliance with the TAC emission standards required in Specific S1.e.ii.

iii. The owner or operator shall re-evaluate the environmental acceptability and document the environmentally acceptable emissions if a new TAC is introduced or the content of a TAC in a raw material increases above de minimis, or any TAC emission exceeds the TAC emissions standards required in Specific S1.e.ii. (See Comment 6)

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

i. The owner or operator shall comply with 40 CFR 63, Subpart UUUUU (See Attachment A) no later than April 16, 2016. (See Comment 8)

ii. The owner or operator shall establish a site-specific minimum activated carbon injection rate for PAC injection system according to Attachment B, Specific Condition a.i. The owner or operator shall monitor and record the activated carbon injection rate during each operating day.

iii. The owner or operator shall monitor and record all Hg emission data from the Hg sorbent traps, which is used as the indicator of normal operation of the Hg control measures.

iv. The owner or operator shall monitor and record the pH of the reactant material in the FGD and any other parameters verified as having a direct

effect on Hg emissions during each operating day, which is (are) used as the indicator(s) of normal operation of Hg control measures.

v. The owner or operator shall maintain records of which Hg control devices/measure was being used during each operating day.

vi. Monitor and record pH range of reactant material in the FGD and normal range of any other parameters verified as having a direct effect on Hg emissions for 180 days, upon startup of the new control equipment, to establish normal range.

g. **112(r) Regulated Substances (Regulation 5.15)**

If anhydrous ammonia is present at the stationary source in an amount greater than the threshold quantity specified in Regulation 5.15, the owner or operator shall monitor the processes and keep records as required by Regulation 5.15. (Construction Permit 225-01-C)

h. **BART** (40 CFR 52, Subpart S)

i. The owner or operator shall maintain daily records of the hours of operation.

ii. The owner or operator shall, monthly, calculate and record the H_2SO_4 emissions on an average hourly basis for each operating calendar day.

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

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

a. **NO_x**

i. The owner or operator shall identify all periods of exceeding a NO_x emission standard during a quarterly reporting period. The quarterly compliance 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, including the magnitude, of the deviation;
4) If known, the cause of the deviation;
5) A description of all corrective actions taken to abate the deviation; and
6) If no deviations occur during a quarterly reporting period, the report shall contain a negative declaration.

ii. The owner or operator shall submit a written report of excess emissions and the nature and cause of the excess emissions if known. The averaging period used for data reporting should correspond to the averaging period specified in the emission test method used to determine compliance with an emission standard for the pollutant/source category in question. All quarterly reports shall be postmarked by the 30th day following the end of each calendar quarter. The required report shall include: (Regulation 6.02, section 16.1)

1) For gaseous measurements, the summary shall consist of hourly averages in the units of the applicable standard. The hourly averages shall not appear in the written summary, but shall be made available electronically. (Regulation 6.02, section 16.3)

2) The data and time identifying each period during which the continuous monitoring system was inoperative, except for zero and span checks, and the nature of system repairs or adjustment shall be reported. Proof of continuous monitoring system performance whenever system repairs or adjustments have been made is required. (Regulation 6.02, section 16.4)

3) When no excess emissions have occurred and the continuous monitoring systems have been inoperative, repaired, or adjusted, such information shall be included in the report. (Regulation 6.02, section 16.5)

4) Owners or operators of affected facilities shall maintain a file of all information reported in the quarterly summaries, and all other data collected either by the continuous monitoring system or as necessary to convert monitoring data to the units of the applicable standard for a minimum of two years from the date of collection of such data or submission of such summaries. (Regulation 6.02, section 16.6)

iii. The owner or operator shall comply with the reporting requirements for the Acid Rain Permit No.176-97-AR (R4), specified in 40 CFR 75, Subpart G. Notifications, Monitoring Plans, Initial Certification and Recertification Applications, Quarterly Reports, Opacity Reports, Petitions to the Administrator, and Retired Unit Petitions shall be submitted as specified in Subpart G - reporting requirements. (See Attachment E)

iv. The owner or operator shall comply with the reporting requirements for the Title IV NO_x Budget Emission Limitation, 0.46 lb/MMBtu, as specified in 40 CFR Part 76.

v. Excess emissions for affected facilities using a CEMS for measuring NO_X are defined as: (40 CFR 60.45(g)(3))

1) For affected facilities electing not to comply with 40 CFR 60.44(e), any three-hour period during which the average emissions (arithmetic average of three contiguous one-hour periods) exceed the applicable standards in 40 CFR 60.44; or (40 CFR 60.45(g)(3)(i))

2) For affected facilities electing to comply with 40 CFR 60.44(e), any 30 operating day period during which the average emissions (arithmetic average of all one-hour periods during the 30 operating days) of NO_X as measured by a CEMS exceed the applicable standard in 40 CFR 60.44. (40 CFR 60.45(g)(3)(ii))

b. **SO_2**

i. The owner or operator shall identify all periods of exceeding a SO_2 emission standard during a quarterly 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, including the magnitude, of the deviation;
4) If known, the cause of the deviation;
5) A description of all corrective actions taken to abate the deviation; and
6) If no deviations occur during a quarterly reporting period, the report shall contain a negative declaration.

ii. The owner or operator shall submit a written report of excess emissions and the nature and cause of the excess emissions if known. See Specific Condition S3.a.ii.

iii. The owner or operator shall comply with the reporting requirements for the Acid Rain Permit No.176-97-AR (R4), specified in 40 CFR 75, Subpart G. Notifications, monitoring Plans, Initial Certification and Recertification Applications, Quarterly Reports, Opacity Reports, Petitions to the Administrator, and Retired Unit Petitions shall be submitted as specified in Subpart G - reporting requirements. (See Attachment E)

iv. Excess emissions for affected facilities are defined as: (40 CFR 60.45(g)(2))

1) For affected facilities electing not to comply with 40 CFR 60.43(d), any three-hour period during which the average emissions (arithmetic average of three contiguous one-hour periods) of SO_2 as measured by a CEMS exceed the applicable standard in 40 CFR 60.43; or (40 CFR 60.45(g)(2)(i))

2) For affected facilities electing to comply with 40 CFR 60.43(d), any 30 operating day period during which the average emissions (arithmetic average of all one-hour periods during the 30 operating days) of SO_2 as measured by a CEMS exceed the applicable standard in 40 CFR 60.43. (40 CFR 60.45(g)(2)(ii))

c. **PM**

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

1) Emission Unit ID number and emission point ID number;
2) The date and duration (including the start and stop time) during which a deviation occurred;
3) The magnitude of excess emissions;
4) Description of the deviation and summary information on the cause or reason for excess emissions;
5) Corrective action taken to minimize the extent and duration of each excess emissions event;
6) Measures implemented to prevent reoccurrence of the situation that resulted in excess PM emissions; or
7) If no deviations occur during a quarterly reporting period, the report shall contain a negative declaration.

ii. The owner or operator shall submit a written report of excess emissions and the nature and cause of the excess emissions if known. See Specific Condition S3.a.ii.

iii. Excess emissions for affected facilities using a CEMS for measuring PM are defined as any boiler operating day period during which the average emissions (arithmetic average of all operating one-hour periods) exceed the applicable standards in 40 CFR 60.42. (40 CFR 60.45(g)(4))

d. **Opacity**

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

1) Any deviation from the requirement to perform daily (or monthly, if required) visible emission surveys or Method 9 tests and documented reason;
2) Any deviation from the requirement to record the results of each VE survey and Method 9 test performed and documented reason;
3) The number, date, and time of each VE Survey where visible emissions were observed and the results of the Method 9 test performed;
4) Identification of all periods of exceeding an opacity standard;
5) Description of any corrective action taken for each exceedance of the opacity standard; or
6) If no deviations occur during a quarterly reporting period, the report shall contain a negative declaration.

ii. The owner or operator shall comply with the reporting requirements for the Acid Rain Permit No.176-97-AR (R4), specified in 40 CFR 75, Subpart G. Notifications, monitoring Plans, Initial Certification and Recertification Applications, Quarterly Reports, Opacity Reports, Petitions to the Administrator, and Retired Unit Petitions shall be submitted as specified in Subpart G - reporting requirements. (See Attachment E) (Regulation 6.47, section 3.4 and 3.5 referencing 40 CFR Parts 75 and 76)

iii. Excess emissions are defined as any six-minute period during which the average opacity of emissions exceeds 20 percent opacity, except that one six-minute average per hour of up to 27 percent opacity need not be reported. (40 CFR 60.45(g)(1))

iv. <u>For coal silos (E6)</u>:

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

1) Emission Unit ID number, Stack ID number, and/or Emission point ID number;
2) The beginning and ending date of the reporting period;
3) The date, time and results of each exceedance of the opacity standard;
4) Description of any corrective action taken for each exceedance.

e. **TAC**

i. The owner or operator shall report any conditions that were inconsistent with those conditions analyzed in the most recent Environmental Acceptability Demonstration or a negative declaration stating that

operations were within the conditions analyzed. This includes, but is not limited to, control device upset conditions.

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

iii. The owner or operator shall identify all periods of exceeding a TAC emission standard during a quarterly 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, including the magnitude, of the deviation;
4) If known, the cause of the deviation;
5) A description of all corrective actions taken to abate the deviation; and
6) If no deviations occur during a quarterly reporting period, the report shall contain a negative declaration.

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

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

i. The owner or operator shall comply with 40 CFR 63, Subpart UUUUU (See Attachment A) no later than April 16, 2016. (See Comment 8)

ii. Report normal pH range of reactant material in the FGD and normal range of any other parameters verified as having a direct effect on Hg emission within 30 days of establishing the normal range.

iii. The owner or operator shall identify all periods of the activated carbon injection rate are less than the minimum injection rate, or the pH of the reactant material in the FGD are out of normal range, or anytime other verified parameters are outside of their normal range, and any corrective action taken for each exceedance.

g. **112(r) Regulated Substances (Regulation 5.15)**

If anhydrous ammonia is present at the stationary source in an amount greater than the threshold quantity specified in Regulation 5.15, the owner or operator

shall comply with the reporting requirements specified in Regulation 5.15. (Construction Permit 225-01-C)

h. **BART** (40 CFR 52, Subpart S)

The owner or operator shall identify all periods of exceeding a H_2SO_4 emission standard during a quarterly reporting period. The report shall include the following:

1) Emission Unit ID number and emission point ID number;
2) The date and duration (including the start and stop time) during which a deviation occurred;
3) The magnitude of excess emissions;
4) Description of the deviation and summary information on the cause or reason for excess emissions;
5) Corrective action taken to minimize the extent and duration of each excess emissions event;
6) Measures implemented to prevent reoccurrence of the situation that resulted in excess H_2SO_4 emissions; or
7) If no deviations occur during a quarterly reporting period, the report shall contain a negative declaration.

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

a. **Control efficiency determination**

The owner or operator shall conduct performance test for the new EGU control device C29 and C39, according to the testing requirements in Attachment B, C, and G and Attachment C. (Regulation 2.16, section 4.1.9.1) (See Comment 5 and 9)

U3 Comments

1. The emission standards, monitoring, record keeping, and reporting requirements only apply to the boiler E5 (not the coal silos E6) if not indicated.

2. According to LG&E's request, PM CEMS have been installed, calibrated, maintained, and operated for Unit 1. LG&E requested permission to remove COMS for Unit 3 and 4 under provisions in 40 CFR 60.13(i)(1), "*Alternative monitoring requirements when installation of a continuous monitoring system or monitoring device specified by this part would not provide accurate measurements due to liquid water or other interferences caused by substances in the effluent gases*." LG&E's proposal for Unit 3 and 4 was accepted in a letter from EPA dated Feb. 28, 2007. The District accordingly approved LG&E's request for removing COMS for Unit 1 and 2 providing PM CEMS are appropriately installed for these units.

3. The SO_2 and PM emissions cannot meet the standards uncontrolled. The owner or operator is required to operate the control devices to meet the applicable limits for SO_2 and PM.

4. For the coal silos (E6), the owner or operator has shown, by worst-case calculations without allowance for a control device, that the hourly uncontrolled PM emission standard cannot be exceeded; therefore, no additional monitoring, recordkeeping, or reporting is required to demonstrate compliance with the applicable PM standards specified in Regulation 6.09 and 7.08 is required for this emission point.

5. Per an EPA rule change ("Restructuring of the Stationary Source Audit Program." Federal Register 75:176 (September 13, 2010) pp 55636-55657), if an audit sample is required by the test method, sources became responsible for obtaining the audit samples directly from accredited audit sample suppliers, not the regulatory agencies.

6. Compliance with STAR has been demonstrated for this unit. See U1 Comment 6.

7. The coal-fired boilers are subject to 40 CFR Part 64 - Compliance Assurance Monitoring (CAM) for Major Stationary Source since SO_2, PM, and NOx emissions from each of the boilers may be greater than the major source threshold and control devices are required to achieve compliance with standards. On 5/21/2014, LG&E submitted a revised CAM Plan in which SO_2 and NOx CEMS are used for compliance demonstration. PM CEMS is used to demonstrate compliance or provide an indication of continuous PM control.

8. According to 40 CFR 63.9984(b), the compliance date for an existing EGU is April 16, 2015. LG&E requested a year extension and the District has approved the request for the extension per (40 CFR 63.6(i)(4)(i)). Therefore the compliance date for the EGUs under this construction is April 16, 2016.

9. According to permit 34595-12-C, the source is required to conduct stack tests to obtain the actual emission factors and control efficiencies.

10. The two ammonia storage tanks are housed in a roof-covered building which has secondary containment for about 66,000 gallons of liquid ammonia (110% of one tank) if a release occurs. The ammonia, under pressure, will be a liquid but will convert to a gas after it is released. The building and tanks contain alarms and leak detection devices. Ammonia from either tank can be used by either Unit 3 or Unit 4 SCR System.

11. Boiler (E5) has TAC emission standards since its EA Demonstration was based on controlled PTE. If the controlled PTE for the TAC is less than de minimis level, De Minimis is listed as the basis of the 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. In this case, controlled is used as the basis of the limit. TAC emissions for the coal silos (E6) are de minimis according to Regulation 5.21, section 2.1. The TAC emission limits determined by de minimis values shall be updated each time when the District revises the BAC/de minimis values for these TACs. The current de minimis values per TAC list revised on 10/14/2013 are as the following:

TAC Name	CAS #	De minimis values	
		(lb/hr)	(lb/yr)
Benzene	71-43-2	0.243	216
Bromoform	75-25-2	0.4914	437
Chloroform	67-66-3	0.02322	20.6
Methylene chloride	75-09-2	54	48,000
Tetrachloroethylene (Perc)	127-18-4	2.079	1,848
Toluene	108-88-3	2700	2,400,000
Xylene	1330-20-7	54	48,000
Hydrochloric acid	7647-01-0	10.8	9,600

12. This unit was modified under construction permit 215-01 (SCR – C22), 225-01 (Ammonia tanks), and 34595-12-C.

13. This unit is equipped with CEMS for NOx, SO_2, and PM. According to the District's letter dated November 1, 2005, parametric monitoring of the ESP, FGD, and PJFF for this unit is removed as such monitoring would no longer be required for demonstration of compliance.

Emission Unit U4: Electric Utility Steam Generating Unit (EGU) – Unit 4

U4 Applicable Regulations:

FEDERALLY ENFORCEABLE REGULATIONS		
Regulation	**Title**	**Applicable Sections**
6.02	Emission Monitoring for Existing Sources	1, 2, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18
6.09	Standards of Performance for Existing Process Operations	1, 2, 3, 5
6.42	Reasonably Available Control Technology Requirements for Major Volatile Organic Compound- and Nitrogen Oxides-Emitting Facilities	1, 2, 3, 4, 5
6.47	Federal Acid Rain Program for Existing Sources Incorporated by Reference	1, 2, 3, 4, 5
7.06	Standards of Performance for New Indirect Heat Exchangers	1, 2, 3, 4.1.2, 4.2, 5.1.2, 6, 7, 8
7.08	Standards of Performance for New Process Operations	1, 2, 3, 5
40 CFR 60, Subpart D	Standards of Performance for Fossil-Fuel Fired Steam Generators for Which Construction is Commenced After August 17, 1971	60.40, 60.41, 60.42(a), 60.43, 60.44, 60.45, 60.46
40 CFR 64	Compliance Assurance Monitoring for Major Stationary Sources	64.1 through 64.10
40 CFR 68	Chemical Accident Prevention Provisions	68.1 through 68.220
40 CFR 72	Permits Regulation	Subparts A, B, C, D, E, F, G, H, I
40 CFR 73	Sulfur Dioxide Allowance System	Subparts A, B, C, D, E, F, G
40 CFR 75	Continuous Emission Monitoring	Subparts A, B, C, D, E, F, G
40 CFR 76	Acid Rain Nitrogen Oxides Emission Reduction Program	76.1, 76.2, 76.3, 76.4, 76.5, 76.7, 76.8, 76.9, 76.11, 76.13, 76.14, 76.15, Appendix A, Appendix B
40 CFR 77	Excess Emissions	77.1, 77.2, 77.3, 77.4, 77.5, 77.6
40 CFR 78	Appeals Procedures for Acid Rain Program	78.1, 78.2, 78.3, 78.4, 78.5, 78.6, 78.8, 78.9, 78.10, 78.11, 78.13, 78.14, 78.15, 78.16, 78.17, 78.18, 78.19, 78.20

FEDERALLY ENFORCEABLE REGULATIONS		
Regulation	**Title**	**Applicable Sections**
40 CFR 63, Subpart UUUUU	National Emission Standards for Hazardous Air Pollutants: Coal- and Oil-Fired Electric Utility Steam Generating Units (EGU MACT)	63.9980 through 63.10042

DISTRICT ONLY ENFORCEABLE REGULATIONS		
Regulation	**Title**	**Applicable Sections**
5.00	Definitions	1, 2
5.01	General Provisions	1 through 2
5.02	Adoption of National Emission Standards for Hazardous Air Pollutants	1, 3.95 and 4
5.14	Hazardous Air Pollutants and Source Categories	1, 2
5.15	Chemical Accident Prevention Provisions	1, 2
5.20	Methodology for Determining Benchmark Ambient Concentration of a Toxic Air Contaminant	1 through 6
5.21	Environmental Acceptability for Toxic Air Contaminants	1 through 5
5.22	Procedures for Determining the Maximum Ambient Concentration of a Toxic Air Contaminant	1 through 5
5.23	Categories of Toxic Air Contaminants	1 through 6
7.02	Federal New Source Performance Standards Incorporated by Reference	1.1, 1.8, 2, 3, 4, 5

U4 Equipment:

Emission Point	Description	Applicable Regulation	Control ID	Stack ID
E7	One (1) dry bottom, wall-fired boiler, nominal rating 5,025 MMBtu/hr, make Babcock & Wilcox, using pulverized coal as a primary fuel and natural gas as secondary fuel.	5.00, 5.01, 5.02, 5.14, 5.20, 5.21, 5.22, 5.23, 6.02, 6.42, 6.47,7.06 40 CFR 64, 40 CFR 72-73, 40 CFR 75-78, 40 CFR 63, UUUUU	C10, C11[a], C23	S4[a]
			C10, C23, C30, C31[b]	S34[b]

Emission Point	Description	Applicable Regulation	Control ID	Stack ID
E8	Five (5) coal silos, make American Air Filter, controlled by a centrifugal dust collector and equipped with five (5) coal mills, make Babcock & Wilcox.	5.00, 5.01, 5.02, 5.14, 5.20, 5.21, 5.22, 5.23, 6.09	C12	S8
Note a: The existing FGD (C11, S4) will shut down before April 16, 2016, the compliance date when this unit has to comply with 40 CFR 63, Subpart UUUUU. Note b: The new FGD, HAP PM control and stack (C30, C31, and S34) will replace C11 and S4. These new control devices need to be in full operation no later than April 16, 2016, the compliance date when this unit has to comply with 40 CFR 63, Subpart UUUUU.				

U4 Control Devices:

Before compliance with 40 CFR 63, Subpart UUUUU, Unit 4 uses the following control devices:

ID	Description	Performance Indicator	Stack ID
C10	One (1) custom-built electrostatic precipitator (ESP) for PM control, make Western Precipitator Division	PM emission data from PM CEMS (if PM CEMS is not used to demonstrate compliance)	S4
C11	One (1) Flue Gas Desulfurization (FGD) unit for SO_2 control using limestone scrubbing liquor, make Combustion Engineering	N/A (See Comment 13)	
C12	One (1) centrifugal dust collector, make American Air Filter	N/A (See Comment 4)	S8
C23	One (1) Selective Catalytic Reduction (SCR), make Babcock Borsig Power, and the associated ammonia storage tanks. (See Comment 10)	N/A (See Comment 13)	S4

After compliance with 40 CFR 63, Subpart UUUUU, Unit 4 uses the following control devices:

ID	Description	Performance Indicator	Stack ID
C10	One (1) custom-built electrostatic precipitator (ESP) for PM control, make Western Precipitator Division	N/A (See Comment 13)	S34
C12	One (1) centrifugal dust collector, make American Air Filter	N/A (See Comment 4)	S8
C23	One (1) Selective Catalytic Reduction (SCR), make Babcock Borsig Power	N/A (See Comment 13)	S34

ID	Description	Performance Indicator	Stack ID
C30	One (1) HAP particulate matter control system, consists of: one (1) powdered activated carbon (PAC) injection system; one (1) dry sorbent injection system; liquid additive system(s); and one (1) pulse-jet fabric filter (PJFF) baghouse used for collecting PM from the boiler and PAC and dry sorbent injection system. PJFF make Clyde Bergemann Power Group, model Structural Pulse Jet	PM Control: PM emission data from PM CEMS (if PM CEMS is not used to demonstrate compliance) Hg control: (1) Minimum PAC injection rate; (2) pH of reactant in FGD; (3) Hg emission data from Sorbent Traps	S34
C31	One (1) Flue Gas Desulfurization (FGD) unit for SO_2 control using limestone scrubbing liquor, make Babcock Power Environmental	N/A (See Comment 13)	S34

U4 Specific Conditions

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

a. **NO_x**

i. The owner or operator shall not allow the average NO_x emissions to exceed the alternate contemporaneous emission limitation of 0.46 lb/MMBtu of heat input on an annual average basis, as specified in Acid Rain Permit No.176-97-AR (R4). (See Acid Rain Permit Attachment) (Regulation 6.47, section 3.5 referencing 40 CFR Part 76)

ii. The owner or operator shall not exceed the NO_x RACT emissions standard of 0.52 lb/MMBtu of heat input based on a rolling 30-day average. (See NO_x RACT Attachment) (Regulation 6.42, section 4.3)

iii. When combusting natural gas, the owner or operator shall not cause to be discharged into the atmosphere any gases which contain nitrogen oxides expressed as nitrogen dioxide in excess of 86 ng/J (0.20 lb/MMBtu) heat input on a 3-hour rolling average. (Regulation 7.06, section 6.1.1) (40 CFR 60.44(a)(1))

iv. When combusting coal, the owner or operator shall not cause to be discharged into the atmosphere any gases which contain nitrogen oxides expressed as nitrogen dioxide in excess of 300 ng/J (0.70 lb/MMBtu) heat input on a 3-hour rolling average. (Regulation 7.06, section 6.1.3) (40 CFR 60.44(a)(3))

v. When natural gas and coal are burned simultaneously in any combination, the applicable standard is determined by proration using the following equation: (40 CFR 60.44(b))

$$PS_{NOx} = \frac{x(86) + z(300)}{(x + z)}$$

Where,

PS_{NOx} = Prorates standard for NOx when burning different fuels simultaneously, in ng/J heat input derived from all fossil fuels fired;
x = Percentage of total heat input from gaseous fossil fuel
z = Percentage of total heat from solid fossil fuel (except lignite)

vi. The owner or operator shall install, maintain, calibrate and operate a continuous emission monitoring system (CEMS) for the measurement or calculation of nitrogen oxides in the flue gas. (Regulation 6.02, section

6.1.3) (NO_x RACT Plan) (Regulation 6.47, section 3.4 referencing 40 CFR 75.10(a)(2))

b. **SO_2**

i. The owner or operator shall not exceed 0.8 lb/MMBtu heat input for combustion of natural gas and 1.2 lb/MMBtu heat input for combustion of coal based on a three hour rolling average. (Regulation 7.06, section 5.1.2) (40 CFR 60.43(a)(2)))

ii. When natural gas and coal fuels are burned simultaneously in any combination, the applicable standard is determined by proration using the following equation: (Regulation 2.16, section 4.1.1)

$$PS_{SO2} = \frac{x(0.8) + z(1.2)}{(x + z)}$$

Where,

PS_{SO2} = Prorates standard for SO_2 when burning different fuels simultaneously, in lb/MMBtu heat input derived from all fossil fuels fired;
x = Percentage of total heat input from gaseous fossil fuel
z = Percentage of total heat from solid fossil fuel (except lignite)

iii. Compliance shall be based on the total heat input from all fossil fuels burned, including gaseous fuels. (40 CFR 60.43(c))

iv. The owner or operator shall comply with the annual SO_2 emission allowances as specified in Acid Rain Permit No.176-97-AR (R4). (See Acid Rain Permit Attachment) (Regulation 6.47, section 3.2 referencing 40 CFR Part 73)

v. The owner or operator shall operate and maintain the FGD, as recommended by the manufacturer, at all times the respective boiler is in operation and shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. (Permit 34595-12-C, effective date: June 15, 2012) (See Comment 3)

vi. The owner or operator shall install, maintain, calibrate and operate a continuous emission monitoring system (CEMS) for the measurement of sulfur dioxide in the flue gas. (Regulation 6.02, section 6.1.2) (Regulation 6.47, section 3.4 referencing 40 CFR 75.10(a)(1))

c. **PM**

i. The owner or operator shall not exceed an allowable particulate emission rate of 0.10 lbs/MMBtu heat input based on a three hour rolling average. (Regulation 7.06, section 4.1.2)

ii. The owner or operator shall not cause to be discharged into the atmosphere from any affected facility any gases that contain PM in excess of 43 ng/J heat input (0.10 lb/MMBtu) derived from fossil fuel. (40 CFR 60.42(a)(1))

iii. The owner or operator shall operate and maintain the PM control devices, as recommended by the manufacturer, at all times the respective boiler is in operation and shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Following commissioning of the PJFF baghouses, the owner or operator may elect to operate, turn down, or turn off the ESP to ensure the efficient operation of the PJFF baghouse. (Permit 34595-12-C, effective date: June 15, 2012) (See Comment 3)

iv. The company shall follow one of the two options below to demonstrate compliance with PM standards:

Compliance Options	PM	Opacity	Control Device Performance indication
Option 1	Certified PM CEMS	VE/Method 9, or Certified COMS	N/A (See Comment 12)
Option 2	Annual testing	Certified COMS	PM CEMS

v. <u>For the coal silos (E8)</u>, the owner or operator shall not exceed an allowable particulate emission rate of 82.95 lbs/hr from five coal silos combined. (Regulation 6.09, section 3.2) (See Comment 4)

d. **Opacity**

i. The owner or operator shall not cause the emission into the open air of particulate matter from any indirect heat exchanger which is greater than 20% opacity, except 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)

ii. The company shall follow one of the two options in the table under Specific Condition S1.c.iv to demonstrate compliance with opacity standards.

iii. The owner or operator shall not cause the emission into the open air of particulate matter that exhibit greater than 20% opacity except for one six-minute period per hour of not more that 27%. (40 CFR 60.42(a)(2))

iv. For the coal silos (E8), the owner or operator shall not allow visible emissions to equal or exceed 20% opacity. (Regulation 6.09, section 3.1) (Regulation 7.08, section 3.1.1)

e. **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 Comment 6)

ii. The owner or operator shall not allow TAC emissions from boiler E7 to exceed the TAC emission standards determined based upon the EA Demonstration provided to the District.[8] (Regulation 5.21, section 4.2 and section 4.3) (See Comment 11)

TAC Name	CAS #	TAC Limits Determination	
		(lbs/yr)	Basis of Limits
Naphthalene	91-20-3	27.0	Controlled PTE
Chloroform	67-66-3	24.2	Controlled PTE
Formaldehyde	50-00-0	114.4	Controlled PTE
Hydrogen fluoride	7664-39-3	21,802	Controlled PTE
Arsenic compounds	7440-38-2	434	Controlled PTE
Cadmium compounds	7440-43-9	68.6	Controlled PTE
Chromium VI	7440-47-3	153.9	Controlled PTE
Chromium III	16065-83-1	353	Controlled PTE
Cobalt compounds	7440-48-4	91.5	Controlled PTE
Lead compounds	7439-92-1	541	Controlled PTE
Manganese compounds	7439-96-5	691	Controlled PTE
Nickel compounds	7440-02-0	499	Controlled PTE
Benzene	71-43-2	De minimis values (See Comment 11)	De Minimis
Bromoform	75-25-2		De Minimis
Methylene chloride	75-09-2		De Minimis
Tetrachloroethylene (Perc)	127-18-4		De Minimis

[8] This table for TAC emission standards has been revised to exclude Category 3 and 4 TACs for existing sources and use “de minimis values”, instead of actual numbers for current de minimis levels, as emission standards.

TAC Name	CAS #	TAC Limits Determination	
		(lbs/yr)	Basis of Limits
Toluene	108-88-3		De Minimis
Xylene	1330-20-7		De Minimis
Hydrochloric acid	7647-01-0		De Minimis

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

The owner or operator shall comply with 40 CFR 63, Subpart UUUUU (See Attachment A) no later than April 16, 2016. (See Comment 8)

g. **112(r) Regulated Substances (Regulation 5.15)**

If anhydrous ammonia is present at the stationary source in an amount greater than the threshold quantity specified in Regulation 5.15, the owner or operator shall comply with the requirements specified in Regulation 5.15, including the requirement to submit a Risk Management Plan in a method and format as specified by the District and EPA. (Construction Permit 225-01-C) (See Comment 10)

h. **BART** (40 CFR 52, Subpart S)

i. The owner or operator shall install sorbent injection to control SO_3 emissions and continue to utilize PJFF baghouse and/or existing ESP to control PM emissions for this unit.[9] (40 CFR 52.920(e) refer to Kentucky Regional Haze SIP)

ii. The owner or operator shall not allow H_2SO_4 emissions from this unit to exceed 76.5 lbs/hr based on actual operating houses in a calendar day. (40 CFR 52.920(e) refer to Kentucky Regional Haze SIP)

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

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

a. **NO_x**

i. The owner or operator shall demonstrate compliance with NO_x RACT Plan limits by continuous emissions monitors (CEMs) as specified in the NO_x RACT Plan. (See NO_x RACT Attachment) (Regulation 6.42, section 4.3)

[9] On March 30, 2012, EPA finalized a limited approval and a limited disapproval of the Kentucky state implementation plan submitted on June 25, 2008 and May 28, 2010. According to 40 CFR 52.920(e), the owner or operator shall meet BART requirements summarized in Table 7.5.3-2 of the Commonwealth's May 28, 2010 submittal. A sorbent injection system has been installed for this unit in 2015.

ii. The owner or operator shall keep a record identifying all deviations from the requirements of the NO_x RACT Plan.

iii. The owner or operator shall comply with the NO_x compliance plan requirements specified in the attached Acid Rain Permit, No.176-97-AR (R4). These record keeping requirements shall be determined in accordance with the Title IV Phase II Acid Rain Permit and are specified in 40 CFR Part 75 Subpart F. (See Appendix A to NOx RACT Plan) (Regulation 6.47, section 3.4 and 3.5 referencing 40 CFR Parts 75 and 76)

iv. The owner or operator shall record on an hourly basis all NO_x emission data specified in 40 CFR Part 75, section 75.57(d). (See U1 Specific Condition S2.a.iv.)

v. A CEMS for measuring either oxygen (O_2) or carbon dioxide (CO_2) in the flue gases shall be installed, calibrated, maintained, and operated by the owner or operator. The owner or operator shall use the conversion procedures specified in Regulation 7.06, sections 7.5 and 7.6 for NO_x, SO_2, and PM. (Regulation 7.06, section 7.4)

vi. The owner or operator shall monitor the NO_x emissions, the NO_x allowances, as specified in the Clean Air Interstate Rule or the applicable NOx cap and trade program(s) in effect.

vii. For performance evaluations under 40 CFR 60.13(c) and calibration checks under 40 CFR 60.13(d), the procedures required in 40 CFR 60.45(c) (See U3 Specific Condition S2.a.vii) shall be used.

viii. The conversion procedures in 40 CFR 60.45(e) and (f) shall be used to convert the continuous monitoring data into units of the applicable standards. See U3 Specific Condition S2.a.viii. (40 CFR 60.45(e) and (f))

b. **SO_2**

i. The owner or operator shall maintain hourly records of SO_2 emissions as specified in Regulation 6.02, section 6.1.2.

ii. The owner or operator shall record on an hourly basis all SO_2 emission data specified in 40 CFR 75.57(c). (See U1 Specific Condition S2.b.ii.)

iii. See Specific Condition S2.a.vii and viii.

c. **PM**

i. The company shall follow one of the two options below to demonstrate compliance with PM standards:

1) Option 1: the owner or operator shall install, maintain, calibrate, and operate a PM CEMS for each steam generating unit. (Regulation 2.16, section 4.1.1) (See Comment 2) (40 CFR 64, See Comment 7)

(a) The use of PM CEMS as the measurement technique must be appropriate for the stack conditions.

(b) The PM CEMS must be installed, operated and maintained in accordance with the manufacturer's recommendations, applicable requirements in Subpart D, and General Provisions in 40 CFR 60.7 – 60.13.

(c) The PM CEMS must be certified in accordance with Performance Specification 11, Specifications and Test Procedures for Particulate Matter Continuous Emission Monitoring Systems at Stationary Sources, found in 40 CFR 60, Appendix B.

(d) A quality assurance/quality control program must be implemented in accordance with procedures in 40 CFR 60, Appendix F, Procedure 2 (Quality Assurance Requirements for Particulate Matter Continuous Emission Monitoring Systems at Stationary Sources).

(e) Compliance with the particulate matter emission limit promulgated at 40 CFR 60.42(a) will be based upon three-hour rolling average periods during source operation.

(f) LG&E must comply with all applicable recordkeeping and reporting requirements under Subpart D and under the General Provisions in 40 CFR 60.7 – 60.13. Quarterly excess emission reports must be submitted, and PM excess emissions shall be reported based upon three-hour rolling averages during source operation.

2) Option 2: the owner or operator shall conduct an annual EPA Reference Method 5 performance test following the testing requirements in Attachment B, Specific Condition b.ii.

ii. If certified PM CEMS (Option 1) is used to demonstrate compliance with PM standards, the owner or operator shall record on an hourly basis all PM emission data, in lb/MMBtu, from PM CEMS. (40 CFR 64, See Comment 7)

iii. If annual PM testing (Option 2) is used to demonstrate compliance with PM standards, the owner or operator shall use PM CEMS as a performance indicator of continuous normal operation of the PM control devices and do the following: (40 CFR 64, See Comment 7)

1) The owner or operator shall monitor and record all PM emission data from PM CEMS, which is used as the indicator of normal operation of the PM control devices.

2) The owner or operator shall maintain daily records of any periods of time where the process was operating and the PM control devices were not operating or a declaration that the PM control devices operated at all times that day when the process was operating.

3) If there is any time that the PM control devices are bypassed or not in operation when the process is operating, then the owner or operator shall keep a record of the following for each bypass event:

(a) Date;
(b) Start time and stop time;
(c) Identification of the control devices and process equipment;
(d) PM emissions during the bypass in lb/hr;
(e) Summary of the cause or reason for each bypass event;
(f) Corrective action taken to minimize the extent or duration of the bypass event; and
(g) Measures implemented to prevent reoccurrence of the situation that resulted in the bypass event.

d. **Opacity**

i. If certified COMS is used to demonstrate compliance with opacity standards, the owner or operator shall record on an hourly basis all opacity from COMS. (See Comment 2)

ii. If VE/Method 9 is used to demonstrate compliance with opacity standards, in order for the owner or operator to use its VE observations to satisfy the opacity monitoring requirement, the following conditions must be met: (EPA Letter, 2007, See Comment 2)

1) On a weekly basis, the owner or operator shall attempt to perform VE observations in accordance with procedures in EPA Method 9.

2) On the weeks when it is possible to collect unit-specific VE data, at least one hour of Method 9 data shall be collected for each unit.

3) Records of the Method 9 readings shall be submitted with the quarterly excess emission reports for PM emissions.

iii. The owner or operator shall keep a record of every Method 9 test performed or the reason why it could not be performed that day.

iv. An owner or operator of an affected facility subject to an opacity standard under 40 CFR 60.42 that elects to not use a COMS because the affected facility burns only fuels as specified under paragraph (b)(1) of 40 CFR 60.45, monitors PM emissions as specified under paragraph (b)(5) of 40 CFR 60.45, or monitors CO emissions as specified under paragraph (b)(6) of 40 CFR 60.45, shall conduct a performance test using Method 9 of appendix A-4 of this part and the procedures in 40 CFR 60.11 to demonstrate compliance with the applicable limit in 40 CFR 60.42 by April 29, 2011 or within 45 days after stopping use of an existing COMS, whichever is later, and shall comply with either paragraph (b)(7)(i), (b)(7)(ii), or (b)(7)(iii) of 40 CFR 60.45. The observation period for Method 9 of appendix A-4 of this part performance tests may be reduced from 3 hours to 60 minutes if all 6-minute averages are less than 10 percent and all individual 15-second observations are less than or equal to 20 percent during the initial 60 minutes of observation. The permitting authority may exempt owners or operators of affected facilities burning only natural gas from the opacity monitoring requirements. (40 CFR 60.45(b)(7))

1) Except as provided in paragraph (b)(7)(ii) or (b)(7)(iii) of 40 CFR 60.45, the owner or operator shall conduct subsequent Method 9 of appendix A–4 of this part performance tests using the procedures in paragraph (b)(7) of 40 CFR 60.45 according to the applicable schedule in paragraphs (b)(7)(i)(A) through (b)(7)(i)(D) of 40 CFR 60.45, as determined by the most recent Method 9 of appendix A–4 of this part performance test results.

(a) If no visible emissions are observed, a subsequent Method 9 of appendix A–4 of this part performance test must be completed within 12 calendar months from the date that the most recent performance test was conducted; (40 CFR 60.45(b)(7)(i)(A))

(b) If visible emissions are observed but the maximum 6-minute average opacity is less than or equal to 5 percent, a subsequent Method 9 of appendix A–4 of this part

performance test must be completed within 6 calendar months from the date that the most recent performance test was conducted; (40 CFR 60.45(b)(7)(i)(B))

(c) If the maximum 6-minute average opacity is greater than 5 percent but less than or equal to 10 percent, a subsequent Method 9 of appendix A–4 of this part performance test must be completed within 3 calendar months from the date that the most recent performance test was conducted; or (40 CFR 60.45(b)(7)(i)(C))

(d) If the maximum 6-minute average opacity is greater than 10 percent, a subsequent Method 9 of appendix A-4 of this part performance test must be completed within 45 calendar days from the date that the most recent performance test was conducted. (40 CFR 60.45(b)(7)(i)(D))

2) If the maximum 6-minute opacity is less than 10 percent during the most recent Method 9 of appendix A–4 of this part performance test, the owner or operator may, as an alternative to performing subsequent Method 9 of appendix A–4 of this part performance test, elect to perform subsequent monitoring using Method 22 of appendix A–7 of this part according to the procedures specified in paragraphs (b)(7)(ii)(A) and (B) of 40 CFR 60.45. (40 CFR 60.45(b)(7)(ii))

(a) The owner or operator shall conduct 10 minute observations (during normal operation) each operating day the affected facility fires fuel for which an opacity standard is applicable using Method 22 of appendix A-7 of this part and demonstrate that the sum of the occurrences of any visible emissions is not in excess of 5 percent of the observation period (i.e., 30 seconds per 10 minute period). If the sum of the occurrence of any visible emissions is greater than 30 seconds during the initial 10 minute observation, immediately conduct a 30 minute observation. If the sum of the occurrence of visible emissions is greater than 5 percent of the observation period (i.e., 90 seconds per 30 minute period), the owner or operator shall either document and adjust the operation of the facility and demonstrate within 24 hours that the sum of the occurrence of visible emissions is equal to or less than 5 percent during a 30 minute observation (i.e., 90 seconds) or conduct a new Method 9 of appendix A-4 of this part performance test using the procedures in paragraph (b)(7) of 40 CFR 60.45 within 45 calendar days according to the requirements in 40 CFR 60.46(b)(3). (40 CFR 60.45(b)(7)(ii)(A))

(b) If no visible emissions are observed for 30 operating days during which an opacity standard is applicable, observations can be reduced to once every 7 operating days during which an opacity standard is applicable. If any visible emissions are observed, daily observations shall be resumed. (40 CFR 60.45(b)(7)(ii)(B))

3) If the maximum 6-minute opacity is less than 10 percent during the most recent Method 9 of appendix A–4 of this part performance test, the owner or operator may, as an alternative to performing subsequent Method 9 of appendix A–4 performance tests, elect to perform subsequent monitoring using a digital opacity compliance system according to a site-specific monitoring plan approved by the Administrator. The observations shall be similar, but not necessarily identical, to the requirements in paragraph (b)(7)(ii) of 40 CFR 60.45. For reference purposes in preparing the monitoring plan, see OAQPS "Determination of Visible Emission Opacity from Stationary Sources Using Computer-Based Photographic Analysis Systems." This document is available from the U.S. Environmental Protection Agency (U.S. EPA); Office of Air Quality and Planning Standards; Sector Policies and Programs Division; Measurement Policy Group (D243–02), Research Triangle Park, NC 27711. This document is also available on the Technology Transfer Network (TTN) under Emission Measurement Center Preliminary Methods. (40 CFR 60.45(b)(7)(iii)

v. The owner or operator of an affected facility subject to the opacity limits in 40 CFR 60.42 that elects to monitor emissions according to the requirements in 40 CFR 60.45(b)(7) shall maintain records according to the requirements specified in paragraphs (h)(1) through (3) of 40 CFR 60.45, as applicable to the visible emissions monitoring method used. (40 CFR 60.45(h))

1) For each performance test conducted using Method 9 of appendix A–4 of this part, the owner or operator shall keep the records including the information specified in paragraphs (h)(1)(i) through (iii) of 40 CFR 60.45. (40 CFR 60.45(h)(1))

(a) Dates and time intervals of all opacity observation periods; (40 CFR 60.45(h)(1)(i))

(b) Name, affiliation, and copy of current visible emission reading certification for each visible emission observer

participating in the performance test; and (40 CFR 60.45(h)(1)(ii))

(c) Copies of all visible emission observer opacity field data sheets; (40 CFR 60.45(h)(1)(iii))

2) For each performance test conducted using Method 22 of appendix A–4 of this part, the owner or operator shall keep the records including the information specified in paragraphs (h)(2)(i) through (iv) of 40 CFR 60.45. (40 CFR 60.45(h)(2))

(a) Dates and time intervals of all visible emissions observation periods; (40 CFR 60.45(h)(2)(i))

(b) Name and affiliation for each visible emission observer participating in the performance test; (40 CFR 60.45(h)(2)(ii))

(c) Copies of all visible emission observer opacity field data sheets; and (40 CFR 60.45(h)(2)(iii))

(d) Documentation of any adjustments made and the time the adjustments were completed to the affected facility operation by the owner or operator to demonstrate compliance with the applicable monitoring requirements. (40 CFR 60.45(h)(2)(iv))

3) For each digital opacity compliance system, the owner or operator shall maintain records and submit reports according to the requirements specified in the site-specific monitoring plan approved by the Administrator. (40 CFR 60.45(h)(3))

vi. <u>For coal silos (E8):</u>

1) The owner or operator shall conduct a weekly one-minute visible emissions survey, during normal operation, of the PM Emission Points (stacks). For Emission Points without observed visible emissions during twelve consecutive operating weeks, the owner or operator may elect to conduct a monthly one-minute visible emission survey, during normal operation.

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 for stack emissions within 24 hours of the initial observation. If the

opacity standard is exceeded, the owner or operator shall report the exceedance to the District, according to Regulation 1.07, and take all practicable steps to eliminate the exceedance.

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

e. **TAC**

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

ii. The owner or operator shall monthly calculate and record TAC emissions for this unit in order to demonstrate compliance with the TAC emission standards required in Specific S1.e.ii.

iii. The owner or operator shall re-evaluate the environmental acceptability and document the environmentally acceptable emissions if a new TAC is introduced or the content of a TAC in a raw material increases above de minimis, or any TAC emission exceeds the TAC emissions standards required in Specific S1.e.ii. (See Comment 6)

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

i. The owner or operator shall comply with 40 CFR 63, Subpart UUUUU (See Attachment A) no later than April 16, 2016. (See Comment 8)

ii. The owner or operator shall establish a site-specific minimum activated carbon injection rate for PAC injection system according to Attachment B, Specific Condition a.i. The owner or operator shall monitor and record the activated carbon injection rate during each operating day.

iii. The owner or operator shall monitor and record all Hg emission data from the Hg sorbent traps, which is used as the indicator of normal operation of the Hg control measures.

iv. The owner or operator shall monitor and record the pH of the reactant material in the FGD and any other parameters verified as having a direct

effect on Hg emissions during each operating day, which is (are) used as the indicator(s) of normal operation of Hg control measures.

v. The owner or operator shall maintain records of which Hg control devices/measure was being used during each operating day.

vi. Monitor and record pH range of reactant material in the FGD and normal range of any other parameters verified as having a direct effect on Hg emissions for 180 days, upon startup of the new control equipment, to establish normal range.

g. **112(r) Regulated Substances (Regulation 5.15)**

If anhydrous ammonia is present at the stationary source in an amount greater than the threshold quantity specified in Regulation 5.15, the owner or operator shall monitor the processes and keep records as required by Regulation 5.15. (Construction Permit 225-01-C)

h. **BART (40 CFR 52, Subpart S)**

i. The owner or operator shall maintain daily records of the hours of operation.

ii. The owner or operator shall, monthly, calculate and record the H_2SO_4 emissions on an average hourly basis for each operating calendar day.

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

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

a. **NO_x**

i. The owner or operator shall identify all periods of exceeding a NO_x emission standard during a quarterly reporting period. The quarterly compliance 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, including the magnitude, of the deviation;
4) If known, the cause of the deviation;
5) A description of all corrective actions taken to abate the deviation; and
6) If no deviations occur during a quarterly reporting period, the report shall contain a negative declaration.

ii. The owner or operator shall submit a written report of excess emissions and the nature and cause of the excess emissions if known. The averaging period used for data reporting should correspond to the averaging period specified in the emission test method used to determine compliance with an emission standard for the pollutant/source category in question. All quarterly reports shall be postmarked by the 30th day following the end of each calendar quarter. The required report shall include: (Regulation 6.02, section 16.1)

1) For gaseous measurements, the summary shall consist of hourly averages in the units of the applicable standard. The hourly averages shall not appear in the written summary, but shall be made available electronically. (Regulation 6.02, section 16.3)

2) The data and time identifying each period during which the continuous monitoring system was inoperative, except for zero and span checks, and the nature of system repairs or adjustment shall be reported. Proof of continuous monitoring system performance whenever system repairs or adjustments have been made is required. (Regulation 6.02, section 16.4)

3) When no excess emissions have occurred and the continuous monitoring systems have been inoperative, repaired, or adjusted, such information shall be included in the report. (Regulation 6.02, section 16.5)

4) Owners or operators of affected facilities shall maintain a file of all information reported in the quarterly summaries, and all other data collected either by the continuous monitoring system or as necessary to convert monitoring data to the units of the applicable standard for a minimum of two years from the date of collection of such data or submission of such summaries. (Regulation 6.02, section 16.6)

iii. The owner or operator shall comply with the reporting requirements for the Acid Rain Permit No.176-97-AR (R4), specified in 40 CFR 75, Subpart G. Notifications, Monitoring Plans, Initial Certification and Recertification Applications, Quarterly Reports, Opacity Reports, Petitions to the Administrator, and Retired Unit Petitions shall be submitted as specified in Subpart G - reporting requirements. (See Attachment E)

iv. The owner or operator shall comply with the reporting requirements for the Title IV NO_x Budget Emission Limitation, 0.46 lb/MMBtu, as specified in 40 CFR Part 76.

v. Excess emissions for affected facilities using a CEMS for measuring NO_X are defined as: (40 CFR 60.45(g)(3))

1) For affected facilities electing not to comply with 40 CFR 60.44(e), any three-hour period during which the average emissions (arithmetic average of three contiguous one-hour periods) exceed the applicable standards in 40 CFR 60.44; or(40 CFR 60.45(g)(3)(i))

2) For affected facilities electing to comply with 40 CFR 60.44(e), any 30 operating day period during which the average emissions (arithmetic average of all one-hour periods during the 30 operating days) of NO_X as measured by a CEMS exceed the applicable standard in 40 CFR 60.44. (40 CFR 60.45(g)(3)(ii))

b. **SO_2**

i. The owner or operator shall identify all periods of exceeding a SO_2 emission standard during a quarterly 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, including the magnitude, of the deviation;
4) If known, the cause of the deviation;
5) A description of all corrective actions taken to abate the deviation; and
6) If no deviations occur during a quarterly reporting period, the report shall contain a negative declaration.

ii. The owner or operator shall submit a written report of excess emissions and the nature and cause of the excess emissions if known. See Specific Condition S3.a.ii.

iii. The owner or operator shall comply with the reporting requirements for the Acid Rain Permit No.176-97-AR (R4), specified in 40 CFR 75, Subpart G. Notifications, monitoring Plans, Initial Certification and Recertification Applications, Quarterly Reports, Opacity Reports, Petitions to the Administrator, and Retired Unit Petitions shall be submitted as specified in Subpart G - reporting requirements. (See Attachment E)

iv. Excess emissions for affected facilities are defined as: (40 CFR 60.45(g)(2))

1) For affected facilities electing not to comply with 40 CFR 60.43(d), any three-hour period during which the average emissions (arithmetic average of three contiguous one-hour periods) of SO_2 as measured by a CEMS exceed the applicable standard in 40 CFR 60.43; or (40 CFR 60.45(g)(2)(i))

2) For affected facilities electing to comply with 40 CFR 60.43(d), any 30 operating day period during which the average emissions (arithmetic average of all one-hour periods during the 30 operating days) of SO_2 as measured by a CEMS exceed the applicable standard in 40 CFR 60.43. (40 CFR 60.45(g)(2)(ii))

c. **PM**

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

1) Emission Unit ID number and emission point ID number;
2) The date and duration (including the start and stop time) during which a deviation occurred;
3) The magnitude of excess emissions;
4) Description of the deviation and summary information on the cause or reason for excess emissions;
5) Corrective action taken to minimize the extent and duration of each excess emissions event;
6) Measures implemented to prevent reoccurrence of the situation that resulted in excess PM emissions; or
7) If no deviations occur during a quarterly reporting period, the report shall contain a negative declaration.

ii. The owner or operator shall submit a written report of excess emissions and the nature and cause of the excess emissions if known. See Specific Condition S3.a.ii.

iii. Excess emissions for affected facilities using a CEMS for measuring PM are defined as any boiler operating day period during which the average emissions (arithmetic average of all operating one-hour periods) exceed the applicable standards in 40 CFR 60.42. (40 CFR 60.45(g)(4))

d. **Opacity**

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

1) Any deviation from the requirement to perform daily (or monthly, if required) visible emission surveys or Method 9 tests and documented reason;
2) Any deviation from the requirement to record the results of each VE survey and Method 9 test performed and documented reason;
3) The number, date, and time of each VE Survey where visible emissions were observed and the results of the Method 9 test performed;
4) Identification of all periods of exceeding an opacity standard;
5) Description of any corrective action taken for each exceedance of the opacity standard; or
6) If no deviations occur during a quarterly reporting period, the report shall contain a negative declaration.

ii. The owner or operator shall comply with the reporting requirements for the Acid Rain Permit No.176-97-AR (R4), specified in 40 CFR 75, Subpart G. Notifications, monitoring Plans, Initial Certification and Recertification Applications, Quarterly Reports, Opacity Reports, Petitions to the Administrator, and Retired Unit Petitions shall be submitted as specified in Subpart G - reporting requirements. (See Attachment E) (Regulation 6.47, section 3.4 and 3.5 referencing 40 CFR Parts 75 and 76)

iii. Excess emissions are defined as any six-minute period during which the average opacity of emissions exceeds 20 percent opacity, except that one six-minute average per hour of up to 27 percent opacity need not be reported. (40 CFR 60.45(g)(1))

iv. <u>For coal silos (E8)</u>:

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

1) Emission Unit ID number, Stack ID number, and/or Emission point ID number;
2) The beginning and ending date of the reporting period;
3) The date, time and results of each exceedance of the opacity standard;
4) Description of any corrective action taken for each exceedance.

e. **TAC**

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

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

iii. The owner or operator shall identify all periods of exceeding a TAC emission standard during a quarterly 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, including the magnitude, of the deviation;
4) If known, the cause of the deviation;
5) A description of all corrective actions taken to abate the deviation; and
6) If no deviations occur during a quarterly reporting period, the report shall contain a negative declaration.

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

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

i. The owner or operator shall comply with 40 CFR 63, Subpart UUUUU (See Attachment A) no later than April 16, 2016. (See Comment 8)

ii. Report normal pH range of reactant material in the FGD and normal range of any other parameters verified as having a direct effect on Hg emission within 30 days of establishing the normal range.

iii. The owner or operator shall identify all periods of the activated carbon injection rate are less than the minimum injection rate, or the pH of the reactant material in the FGD are out of normal range, or anytime other verified parameters are outside of their normal range, and any corrective action taken for each exceedance.

g. **112(r) Regulated Substances (Regulation 5.15)**

If anhydrous ammonia is present at the stationary source in an amount greater than the threshold quantity specified in Regulation 5.15, the owner or operator shall comply with the reporting requirements specified in Regulation 5.15. (Construction Permit 225-01-C)

h. **BART (40 CFR 52, Subpart S)**

The owner or operator shall identify all periods of exceeding a H_2SO_4 emission standard during a quarterly reporting period. The report shall include the following:

1) Emission Unit ID number and emission point ID number;
2) The date and duration (including the start and stop time) during which a deviation occurred;
3) The magnitude of excess emissions;
4) Description of the deviation and summary information on the cause or reason for excess emissions;
5) Corrective action taken to minimize the extent and duration of each excess emissions event;
6) Measures implemented to prevent reoccurrence of the situation that resulted in excess H_2SO_4 emissions; or
7) If no deviations occur during a quarterly reporting period, the report shall contain a negative declaration.

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

a. **Control efficiency determination**

The owner or operator shall conduct performance test for the new EGU control device C30 and C31, according to the testing requirements in Attachment B, C, and G and Attachment C. (Regulation 2.16, section 4.1.9.1) (See Comment 5 and 9)

U4 Comments

1. The emission standards, monitoring, record keeping, and reporting requirements only apply to the boiler E7 (not the coal silos E8) if not indicated.

2. According to LG&E's request, PM CEMS have been installed, calibrated, maintained, and operated for Unit 1. LG&E requested permission to remove COMS for Unit 3 and 4 under provisions in 40 CFR 60.13(i)(1), "*Alternative monitoring requirements when installation of a continuous monitoring system or monitoring device specified by this part*

would not provide accurate measurements due to liquid water or other interferences caused by substances in the effluent gases." LG&E's proposal for Unit 3 and 4 was accepted in a letter from EPA dated Feb. 28, 2007. The District accordingly approved LG&E's request for removing COMS for Unit 1 and 2 providing PM CEMS are appropriately installed for these units.

3. The SO_2 and PM emissions cannot meet the standards uncontrolled. The owner or operator is required to operate the control devices to meet the applicable limits for SO_2 and PM.

4. For the coal silos (E8), the owner or operator has shown, by worst-case calculations without allowance for a control device, that the hourly uncontrolled PM emission standard cannot be exceeded; therefore, no additional monitoring, recordkeeping, or reporting is required to demonstrate compliance with the applicable PM standards specified in Regulation 6.09 and 7.08 is required for this emission point.

5. Per an EPA rule change ("Restructuring of the Stationary Source Audit Program." Federal Register 75:176 (September 13, 2010) pp 55636-55657), if an audit sample is required by the test method, sources became responsible for obtaining the audit samples directly from accredited audit sample suppliers, not the regulatory agencies.

6. Compliance with STAR has been demonstrated for this unit (See U1 Comment 6).

7. The coal-fired boilers are subject to 40 CFR Part 64 - Compliance Assurance Monitoring (CAM) for Major Stationary Source since SO_2, PM, and NOx emissions from each of the boilers may be greater than the major source threshold and control devices are required to achieve compliance with standards. On 5/21/2014, LG&E submitted a revised CAM Plan in which SO_2 and NOx CEMS are used for compliance demonstration. PM CEMS is used to demonstrate compliance or provide an indication of continuous PM control.

8. According to 40 CFR 63.9984(b), the compliance date for an existing EGU is April 16, 2015. LG&E requested a year extension and the District has approved the request for the extension per (40 CFR 63.6(i)(4)(i)). Therefore the compliance date for the EGUs under this construction is April 16, 2016.

9. According to permit 34595-12-C, the source is required to conduct stack tests to obtain the actual emission factors and control efficiencies.

10. The two ammonia storage tanks are housed in a roof-covered building which has secondary containment for about 66,000 gallons of liquid ammonia (110% of one tank) if a release occurs. The ammonia, under pressure, will be a liquid but will convert to a gas after it is released. The building and tanks contain alarms and leak detection devices. Ammonia from either tank can be used by either Unit 3 or Unit 4 SCR System.

11. Boiler (E7) has TAC emission standards since its EA Demonstration was based on controlled PTE. If the controlled PTE for the TAC is less than de minimis level, De Minimis is listed as the basis of the 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. In this case, controlled is used as the basis of the limit. TAC emissions for the coal silos (E8) are de minimis according to Regulation 5.21, section 2.1. The TAC emission limits determined by de minimis values shall be updated each time when the District revises the BAC/de minimis values for these TACs. The current de minimis values per TAC list revised on 10/14/2013 are as the following:

TAC Name	CAS #	De minimis values	
		(lb/hr)	(lb/yr)
Benzene	71-43-2	0.243	216
Bromoform	75-25-2	0.4914	437
Methylene chloride	75-09-2	54	48,000
Tetrachloroethylene (Perc)	127-18-4	2.079	1,848
Toluene	108-88-3	2700	2,400,000
Xylene	1330-20-7	54	48,000
Hydrochloric acid	7647-01-0	10.8	9,600

12. This unit was modified under construction permit 216-01 (SCR – C23), 225-01 (Ammonia tanks), and 34595-12-C.

13. This unit is equipped with CEMS for NOx, SO_2, and PM. According to the District's letter dated November 1, 2005, parametric monitoring of the ESP, FGD, and PJFF for this unit is removed as such monitoring would no longer be required for demonstration of compliance.

Emission Unit U8: Fly ash storage & handling unit

U8 Applicable Regulations:

FEDERALLY ENFORCEABLE REGULATIONS		
Regulation	**Title**	**Applicable Sections**
7.08	Standards of Performance for New Affected Facilities	1, 2, 3, 4, 5, 6

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

U8 Equipment:

Emission Point	Description	Applicable Regulation	Control ID	Stack ID
E13	One (1) flyash silo designated as Silo A, make Flex Kleen	5.00, 5.01, 5.02, 5.14, 5.20, 5.21, 5.22, 5.23, 7.08	C15	S13
	One (1) flyash silo designated as Silo B, make Wheelabrator-Fry		C16	S14
E31	Silo A dry truck load-out (75 tph) and silo B dry truck load-out (47.5 tph), make DCL		C37, C38	S42, S43

Emission Point	Description	Applicable Regulation	Control ID	Stack ID
E32	Silo A railcar load-out, made Stephens Mfg.	5.00, 5.01, 5.02, 5.14, 5.20, 5.21, 5.22, 5.23, 7.08	C24	S22
	Silo B railcar load-out, made Stephens Mfg.		C25	S23
E33	Silo A and B wet truck load-out, make Ash Conveying Technologies		N/A	N/A

U8 Control Devices:

ID	Description	Performance Indicator	Stack ID
C15	One (1) baghouse for Silo A, make Flex Kleen	Pressure drop range 0.1” to 5.0” water column	S13
C16	One (1) baghouse for Silo B, make Wheelabrator - Frye	Pressure drop range 0.1” to 5.0” water column	S14
C24	One (1) baghouse for Silo A railcar load-out, make Stephens Mfg	N/A (See Comment 1)	S22
C25	One (1) baghouse for Silo B railcar load-out, make Stephens Mfg	N/A (See Comment 1)	S23
C37	One (1) filter for Silo A and B air sliders, make DCL, model VML 185	N/A (See Comment 1)	S42
C38	One (1) filter for Silo A and B loading spout, make DCL, model CFM 330	N/A (See Comment 1)	S43

U8 Specific Conditions

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

a. **PM**

i. The owner or operator shall not allow PM emissions from emission point E13 to exceed 34.9 lbs/hr. (Regulation 7.08, section 3.3) (See Comment 1)

ii. The owner or operator shall not allow PM emissions from emission point E31 to exceed 32.4 lbs/hr. (Regulation 7.08, section 3.3) (Permit 145-05-C, See Comment 1)

iii. The owner or operator shall not allow PM emissions from emission point E32 to exceed 30.9 lbs/hr. (Regulation 7.08, section 3.3) (Permit 144-05-C, See Comment 1)

iv. The owner or operator shall not allow PM emissions from emission point E33 to exceed 38.6 lbs/hr. (Regulation 7.08, section 3.3) (See Comment 1)

b. **Opacity**

The owner or operator shall not allow visible emissions to equal or exceed 20% opacity. (Regulation 7.08, section 3.1.1)

c. **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 Comment 2)

ii. The owner or operator shall operate and maintain the baghouse for flyash silo (E13), as recommended by the manufacturer, at all times the process equipment is in operation and shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. (Regulation 2.16, section 4.1.1)

iii. The owner or operator shall not allow TAC emissions for flyash silo (E13) to exceed the TAC emission standards listed in the following table.[10] (Regulation 5.21, section 4.2 and section 4.3) (See Comment 2)

[10] This table for TAC emission standards has been revised to exclude Category 3 and 4 TACs for existing sources and use “de minimis values”, instead of actual numbers for current de minimis levels, as emission standards.

TAC	CAS #	TAC Limits Determination	
		(lbs/yr)	Basis of Limits
Arsenic	7440-38-2	1.20	Controlled PTE
Cadmium	7440-43-9	De minimis values (See Comment 2)	De Minimis
Chromium III	16065-83-1		De Minimis
Chromium VI	7440-47-3		De Minimis
Nickel	7440-02-0		De Minimis
Cobalt	7440-48-4		De Minimis
Lead	7439-92-1		De Minimis
Manganese	7439-96-5		De Minimis

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

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

a. **PM**

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

b. **Opacity**

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

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

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

c. **TAC**

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

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

iii. The owner or operator shall perform sampling and lab analysis for the flyash in order to determine the TAC concentrations, at least once every six months.

iv. The owner or operator shall calculate the TAC emissions at least once every six months. The average TAC concentrations of all sampling results during the previous 12 months combined with the sampling results from the current semiannual period shall be used for emission calculations.

v. The owner or operator shall monitor and record the pressure drop across baghouse C15 and C16, which is used as the indicator of normal operation of the baghouses, at least once each per operating day. The normal pressure drop range for C15 and C16 is 0.1” to 5.0” water column.

vi. The owner or operator shall maintain daily records of any periods of time where the process was operating and the baghouse C15 or C16 was not operating or a declaration that the baghouse operated at all times that day when the process was operating.

vii. If there is any time that the baghouse C15 or C16 is bypassed or not in operation, such as the filters are not in place, etc, when the process is operating, 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 baghouse and process equipment;
4) TAC emissions during the bypass in lb/hr;
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 submit quarterly compliance reports that include the information in this section.

a. **PM**

There are no routine reporting requirements for this pollutant.

b. **Opacity**

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

1) Any deviation from the requirement to perform daily (or monthly, if required) visible emission surveys or Method 9 tests;
2) Any deviation from the requirement to record the results of each VE survey and Method 9 test performed;
3) The date and time of each VE Survey where visible emissions were observed and the results of any Method 9 test performed;
4) The date, time and results of follow-up VE survey;
5) The date, time, and results of any Method 9 test performed;
6) Identification of all periods of exceeding an opacity standard; and
7) If no deviations occur during a quarterly reporting period, the report shall contain a negative declaration.

c. **TAC**

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

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

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

iv. The owner or operator shall identify all periods of the pressure drop across the baghouse C15 and C16 exceeding the normal range and any corrective action taken for each exceedance.

v. The owner or operator shall report the following information regarding By-Pass Activity in the quarterly compliance reports.

1) Number of times the vent stream by-passes the baghouse C15 or C16 and is vented to the atmosphere;
2) Duration of each by-pass to the atmosphere;
3) Calculated pound per hour TAC emissions for each by-pass; or
4) A negative declaration if no by-passes occurred.

U8 Comments

1. It has been demonstrated that the PM emissions cannot exceed the PM standards specified in Regulation 7.08 uncontrolled. However, there are monitoring, record keeping and reporting requirements associated with any times that the control devices are not in place and the process is operated. STAR limits are based upon controlled emissions.

2. Compliance with STAR has been demonstrated for this unit. See U1 Comment 6. The flyash silo (E13) has TAC emission standards 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. In this case, controlled is used as limit. The TAC emission limits determined by de minimis values shall be updated each time when the District revises the BAC/de minimis values for these TACs. The current de minimis values per TAC list revised on 10/14/2013 are as the following:

TAC Name	CAS #	De minimis values	
		(lb/hr)	(lb/yr)
Cadmium	7440-43-9	0.0003	0.27
Chromium III	16065-83-1	0.1	109.5
Chromium VI	7440-47-3	4.5E-05	0.040
Nickel	7440-02-0	0.0021	1.82
Cobalt	7440-48-4	0.00022	0.192
Lead	7439-92-1	0.043	38.4
Manganese	7439-96-5	0.027	24

3. This unit incorporated construction permit 143-05-C and 37-07-C for railcar loading process (E32), 144-05-C and 38-07-C for railcar loading baghouses (C24, C25), and 145-05-C for truck loading process (E31, E33).

Emission Unit U9: Fly ash transfer bins

U9 Applicable Regulations:

FEDERALLY ENFORCEABLE REGULATIONS		
Regulation	**Title**	**Applicable Sections**
7.08	Standards of Performance for New Affected Facilities	1, 2, 3, 4, 5, 6

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

U9 Equipment:

Emission Point	Description	Applicable Regulation	Control ID	Stack ID
E16	One (1) flyash transfer bin with two (2) separators for Unit 1 and 2. Total capacity of transfer bin E16, E17, and E18 is 80.5 tph.	5.00, 5.01, 5.02, 5.14, 5.20, 5.21, 5.22, 5.23, 7.08	C19	S17, S24, S25
E17	One (1) flyash transfer bin with two (2) separators for Unit 3.		C20	S18, S26, S27
E18	One (1) flyash transfer bin with two (2) separators for Unit 4.		C21	S19, S28, S29

U9 Control Devices:

ID	Description	Performance Indicator	Stack ID
C19	One (1) baghouse for Unit 1 & 2 transfer bin, make Mikro-Pulsaire	Pressure drop range 3.0” to 6.0” water column [11]	S17, S24, S25
C20	One (1) baghouse for Unit 3 transfer bin, make Mikro-Pulsaire		S18, S26, S27
C21	One (1) baghouse for Unit 4 transfer bin, make Mikro-Pulsaire		S19, S28, S29

[11] According to permit 145-97-TV (R1), LG&E has established the normal pressure drop range for the baghouses after ninety (90) consecutive days of observation and submitted the report on March 11, 2015.

U9 Specific Conditions

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

a. **PM**

The owner or operator shall not allow PM emissions from emission point E16, E17, or E18 to exceed 34.9 lbs/hr for all three emission points combined. (Regulation 7.08, section 3.3) (See Comment 1)

b. **Opacity**

The owner or operator shall not allow visible emissions to equal or exceed 20% opacity. (Regulation 7.08, section 3.1.1)

c. **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 Comment 2)

ii. The owner or operator shall operate and maintain the baghouses, as recommended by the manufacturer, at all times the process equipment is in operation and shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. (Regulation 2.16, section 4.1.1)

iii. The owner or operator shall not allow TAC emissions for this unit to exceed the TAC emission standards determined based upon the EA Demo provided to the District.[12] (Regulation 5.21, section 4.2 and section 4.3) (See Comment 2)

TAC	CAS #	TAC Limits Determination	
		(lbs/yr)	Basis of Limits
Arsenic	7440-38-2	1.20	Controlled PTE
Cadmium	7440-43-9	De minimis values (See Comment 2)	De Minimis
Chromium III	16065-83-1		De Minimis
Chromium VI	7440-47-3		De Minimis
Nickel	7440-02-0		De Minimis
Cobalt	7440-48-4		De Minimis
Lead	7439-92-1		De Minimis
Manganese	7439-96-5		De Minimis

[12] This table for TAC emission standards has been revised to exclude Category 3 and 4 TACs for existing sources and use “de minimis values”, instead of actual numbers for current de minimis levels, as emission standards.

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

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

a. **PM**

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

b. **Opacity**

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

ii. At emission points where visible emissions are observed, the owner or operator shall initiate corrective action within eight hours of the initial observation. If correction actions are taken then a follow-up visible emission survey shall be made. If the visible emissions persist, the owner or operator shall perform or cause to be performed a Method 9, in accordance with 40 CFR Part 60, Appendix A, 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 person conducting the survey, whether or not visible emissions were observed, and what if any corrective action was performed. If an emission point is not being operated during a given month, then no visible emission survey needs to be performed and a negative declaration shall be entered in the record.

c. **TAC**

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

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

iii. The owner or operator shall perform sampling and lab analysis for the flyash in order to determine the TAC concentrations, at least once every six months.

iv. The owner or operator shall calculate the TAC emissions at least once every six months. The average TAC concentrations of all sampling results during the previous 12 months combined with the sampling results from the current semiannual period shall be used for emission calculations.

v. The owner or operator shall monitor and record the pressure drop across baghouses. The normal pressure drop range for the baghouses is 3.0” to 6.0” water column.

vi. The owner or operator shall maintain daily records of any periods of time where the process was operating and the baghouse was not operating or a declaration that the baghouse operated at all times that day when the process was operating.

vii. If there is any time that the baghouse is bypassed or not in operation, such as the filters are not in place, etc, when the process is operating, 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 baghouse and process equipment;
4) TAC emissions during the bypass in lb/hr;
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 submit quarterly compliance reports that include the information in this section.

a. **PM**

There are no routine reporting requirements for this pollutant.

b. **Opacity**

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

1) Any deviation from the requirement to perform daily (or monthly, if required) visible emission surveys or Method 9 tests;
2) Any deviation from the requirement to record the results of each VE survey and Method 9 test performed;
3) The date and time of each VE Survey where visible emissions were observed and the results of any Method 9 test performed;
4) The date, time and results of follow-up VE survey;
5) The date, time, and results of any Method 9 test performed;
6) Identification of all periods of exceeding an opacity standard; and
7) If no deviations occur during a quarterly reporting period, the report shall contain a negative declaration.

c. **TAC**

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

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

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

iv. The owner or operator shall identify all periods of the pressure drop across the baghouses exceeding the normal range and any corrective action taken for each exceedance.

v. The owner or operator shall report the following information regarding By-Pass Activity in the quarterly compliance reports.

1) Number of times the vent stream by-passes the baghouse and is vented to the atmosphere;
2) Duration of each by-pass to the atmosphere;
3) Calculated pound per hour TAC emissions for each by-pass; or
4) A negative declaration if no by-passes occurred.

U9 Comments

1. It has been demonstrated that the PM emissions cannot exceed the PM standards specified in Regulation 7.08 uncontrolled

2. Compliance with STAR has been demonstrated for this unit. See U1 Comment 6. This unit has TAC emission standards 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. In this case, controlled is used as limit. The TAC emission limits determined by de minimis values shall be updated each time when the District revises the BAC/de minimis values for these TACs. The current de minimis values per TAC list revised on 10/14/2013 are as the following:

TAC Name	CAS #	De minimis values	
		(lb/hr)	(lb/yr)
Cadmium	7440-43-9	0.0003	0.27
Chromium III	16065-83-1	0.1	109.5
Chromium VI	7440-47-3	4.5E-05	0.040
Nickel	7440-02-0	0.0021	1.82
Cobalt	7440-48-4	0.00022	0.192
Lead	7439-92-1	0.043	38.4
Manganese	7439-96-5	0.027	24

Emission Unit U12: Limestone processing operation

U12 Applicable Regulations:

FEDERALLY ENFORCEABLE REGULATIONS		
Regulation	**Title**	**Applicable Sections**
7.08	Standards of Performance for New Affected Facilities	1, 2, 3
40 CFR 60 Subpart OOO	Standards of Performance for Nonmetallic Mineral Processing Plants	60.670, 60.671, 60.672(b)(e), 60.673, 60.675(d), 60.676(f)(j)

DISTRICT ONLY ENFORCEABLE REGULATIONS		
Regulation	**Title**	**Applicable Sections**
7.02	Federal New Source Performance Standards Incorporated by Reference	1.1, 1.72, 2, 3, 4, 5

U12 Equipment:

Emission Point	Description	Applicable Regulation	Control ID	Stack ID
E24	One (1) barge unloading operation with unloading hopper, rated capacity 750 tph	7.08	N/A	N/A
E25	One (1) transfer point from conveyor to storage pile with receiving rate capacity 1,000 tph	7.08, 40 CFR 60 Subpart OOO	N/A	N/A
E26	One (1) belt conveyor LA, rated capacity 1000 tph, from hopper to belt conveyor LB	7.08, 40 CFR 60 Subpart OOO	N/A	N/A
E27	One (1) belt conveyor LB, rated capacity 1000 tph, from belt conveyor LA to storage pile	7.08, 40 CFR 60 Subpart OOO	N/A	N/A
E28	Three (3) limestone crushers* with a total capacity 145 tph	7.08, 40 CFR 60 Subpart OOO	N/A	N/A
* Limestone grinding building contains three (3) limestone slurry units, Unit A, B, and C. Each unit consists of crusher, ball mill, separating tank, mill slurry classifier, and mill slurry tank. Since water is added to the crusher to make slurry, there are no emissions from ball mills, separating tanks, slurry classifiers, and mill slurry tanks.				

U12 Control Devices:
There is no control device associated with this unit.

U12 Specific Conditions

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

a. **PM**

i. The owner or operator shall not allow PM emissions to exceed 49.9 lb/hr from emission point E24. (Regulation 7.08, section 3.1.2) (See Comment 1)

ii. The owner or operator shall not allow PM emissions to exceed 52.3 lb/hr from emission point E25, E26, and E27. (Regulation 7.08, section 3.1.2) (See Comment 1)

iii. The owner or operator shall not allow PM emissions to exceed 38.4 lb/hr from E28 (Unit A, B, C combined) and 31.8 lb/hr from Unit C only. (Regulation 7.08, section 3.1.2) (See Comment 1, 2)

b. **Opacity**

i. For emission point E24, E25, E26, E27, and E28, the owner or operator shall not allow visible emissions to equal or exceed 20% opacity. (Regulation 7.08, section 3.1.1)

ii. For emission point E25, E26, and E27, the owner or operator shall not allow visible emissions to equal or exceed 10% opacity. (40 CFR 60. 672(b) and Table 2 to Subpart OOO of Part 60) (See Comment 3)

iii. For emission point E28, Unit A and B crushers, the owner or operator shall not allow visible emission to equal or exceed 15% opacity. (40 CFR 60.672(b) and Table 2 to Subpart OOO of Part 60) (See Comment 3)

iv. For emission point E28, Unit C crusher, the owner or operator shall not allow visible emission to equal or exceed 12% opacity. (40 CFR 60. 672(b) and Table 2 to Subpart OOO of Part 60) (See Comment 3)

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

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

a. **PM**

There are no routine monitoring and record keeping requirements for this pollutant. (See Comment 1)

b. **Opacity**

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

ii. At emission points where visible emissions are observed, the owner or operator shall initiate corrective action within eight hours of the initial observation. If 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 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.

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

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

a. **PM**

There are no routine reporting requirements for this process. (See comment 1)

b. **Opacity**

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

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

S4. **Testing** (Regulation 2.16, section 4.1.9.3)

E28, Unit C crusher is subject to the following testing requirements:

Opacity

i. The owner or operator shall perform an *initial performance* test to demonstrate compliance with the opacity limit by initially conducting a test in accordance with Method 9 of 40 CFR 60 Appendix A within 180 days of achieving normal operation. (40 CFR 60.672(b))

ii. The owner or operator shall conduct a *repeat performance test* according to Method 9 within 5 years from the initial performance test. (40 CFR 60. 672(b))

iii. The owner or operator shall use Method 9 of Appendix A–4 of 40 CFR 60 and the procedures in 40 CFR 60.11, with the following additions:

1) The minimum distance between the observer and the emission source shall be 4.57 meters (15 feet). (40 CFR 60.675(c)(1)(i))

2) The observer shall, when possible, select a position that minimizes interference from other fugitive emission sources (*e.g.*, road dust). The required observer position relative to the sun (Method 9 of Appendix A–4 of this part, Section 2.1) must be followed. (40 CFR 60.675(c)(1)(ii))

iv. The test shall be performed at maximum capacity or allowable/permitted capacity or at a level of capacity which results in the greatest emissions and is representative of the operations. Failure to perform the test at these conditions may necessitate a re-test. The maximum 6-minute average opacity exhibited during the test period shall be used to determine whether the affected source is in initial compliance with the standard. The duration of the Method 9 performance test shall be 3 hours (30 6-minute averages).

v. The owner or operator shall provide the District a 7-day advance notification for this Method 9 test. (40 CFR 60. 675(g))

vi. The owner or operator shall furnish the District with a written report of the results of the compliance test(s) within 60 days following the actual date of the compliance test(s).

U12 Comments

1. It has been demonstrated that the PM emissions cannot exceed the PM standards specified in Regulation 7.08 uncontrolled.

2. This unit is not subject to STAR since it does not have any TAC emissions.

3. Limestone slurry unit, Unit C, was previously permitted under construction permit 30399-11-C.

4. By demonstrating compliance with the opacity requirements in these conditions it also demonstrates compliance with the 20% opacity requirement in Regulation 7.08.

5. The initial performance testing for this unit was conducted on November 28, 2012 and the result of this performance was submitted to the District on January 9, 2013.

Emission Unit U14: Cooling tower

U14 Applicable Regulations:

FEDERALLY ENFORCEABLE REGULATIONS		
Regulation	**Title**	**Applicable Sections**
7.08	Standards of Performance for New Affected Facilities	1, 2, 3

U14 Equipment:

Emission Point	Description	Applicable Regulation	Control ID	Stack ID
E38	One (1) cooling tower for Unit 4 boiler, make Zurn, model 12Z-3300, capacity 222,600 gallon water per minute.	7.08	N/A	N/A

U14 Control Devices:

There is no control device associated with this unit.

U14 Specific Conditions

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

a. **PM**

The owner or operator shall not allow PM emissions to exceed 97.9 lb/hr from this emission unit. (Title V Application, November 30, 2007) (See Comment 1)

b. **Opacity**

The owner or operator shall not allow visible emissions to equal or exceed 20% opacity. (Regulation 7.08, section 3.1.1)

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

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

a. **PM**

There are no monitoring or record keeping requirements for this pollutant. (See Comment 1)

b. **Opacity**

There are no monitoring or record keeping requirements for this pollutant. (See Comment 2)

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

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

a. **PM**

There are no routine reporting requirements for this process. (See comment 1)

b. **Opacity**

There are no routine reporting requirements for this process. (See comment 2)

U14 Comments

1. The PM standards is determined based on the capacity (202,000 gal/min) listed in the Title V Renewal Application submitted in 2007. LG&E submitted an application on July 21, 2014 to request the capacity to be revised from 202,000 gal/min to 222,600 gal/min. LG&E did not request to change the standard based on the higher capacity. It has been demonstrated that the PM emissions cannot exceed the PM standards specified in Regulation 7.08 uncontrolled. Therefore there are no monitoring, record keeping, and reporting requirements with respect to the PM lb/hr emission standards.

2. Testing for opacity is not required for this unit due to the nature of the cooling tower.

3. This unit is not subject to STAR since it does not have any TAC emissions.

Emission Unit U15: Haul Roads

U15 Applicable Regulations:

FEDERALLY ENFORCEABLE REGULATIONS		
Regulation	**Title**	**Applicable Sections**
1.14	Control of Fugitive Particulate Emissions	1, 2, 3, 4, 8, 9

U15 Equipment:

Emission Point	Description	Applicable Regulation	Control ID	Stack ID
E39a	Paved road particulate emissions	1.14	N/A	N/A
E39b	Unpaved road particulate emissions	1.14	N/A	N/A

U15 Control Devices:

Particulate emissions from unpaved road are controlled according to an approved Fugitive Dust Control Plan for Paved & Unpaved Roads. (See Attachment F)

U15 Specific Conditions

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

a. **PM**

The owner or operator shall not allow a road to be used without taking reasonable precautions to prevent particulate matter from becoming airborne beyond the work site. Such precautions shall include, where applicable, but shall not be limited to the following: (Regulation 1.14, section 2.1)

i. Applying and maintaining asphalt, oil, water, or suitable chemicals on roads, materials stockpiles, and other surfaces which can create airborne dusts, (Regulation 1.14, section 2.1.2)

ii. Covering at all times, except when loading and unloading, open bodied trucks transporting materials likely to become airborne, (Regulation 1.14, section 2.1.4)

iii. Maintaining paved roadways in a clean condition, (Regulation 1.14, section 2.1.6)

iv. Removing earth or other material from paved streets which earth or other material has been transported thereto by trucking or earth moving equipment or erosion by water. (Regulation 1.14, section 2.1.7)

b. **Opacity**

i. The owner or operator shall not allow visible emissions to equal or exceed 20% opacity. (Regulation 1.14, section 2.3)

ii. The owner or operator shall not allow visible fugitive emissions beyond the lot line of the property on which the emissions originate. (Regulation 1.14, section 2.4)

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. **PM**

The owner or operator shall keep records of vehicle miles traveled (VMT) and weights for the vehicles traveled on unpaved and paved roads.

b. **Opacity**

See Specific Condition S2.a.

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

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

PM/ Opacity

The owner or operator shall report any deviation from the attached Fugitive Dust Control Plan during the reporting period.

U15 Comments

1. LG&E submitted a plant-wide Fugitive Dust Control Plan on June 28, 2013 and the District approved the plan on 06/05/2014. See Attachment F.

2. This unit is not subject to STAR since it does not have any TAC emissions.

Emission Unit U16: Sorbent storage silos

U16 Applicable Regulations:

FEDERALLY ENFORCEABLE REGULATIONS		
Regulation	**Title**	**Applicable Sections**
7.08	Standards of Performance for New Affected Facilities	1, 2, 3, 4, 5, 6

U16 Equipment:

Emission Point	Description	Applicable Regulation	Control ID	Stack ID
E40a – E40h	Six (6) to eight (8) sorbent silos for dry sorbent or Trona, make BCSI, model BCSI-14. Each silo has a capacity of 120 tons, loading rate 40 tons/hr, and equipped with a bin vent filter.	7.08	C32a – C32h	S35a – S35h

U16 Control Devices:

ID	Description	Performance Indicator	Stack ID
C32a – C32h	Six (6) to eight (8) bin vent filters each controlling a sorbent storage silo, make BCSI, model BV25-96	N/A (See Comment 1)	S35a – S35h

U16 Specific Conditions

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

a. **PM**

i. The owner or operator shall not allow PM emissions from each of the emission points E40a through E40h to exceed 6.9 lbs/hr. (Regulation 7.08, section 3.3)

ii. The owner or operator shall maintain the bin vent filters in place at all times the process equipment is in operation and shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. (Regulation 2.16, section 4.1.9.1)

b. **Opacity**

The owner or operator shall not allow visible emissions to equal or exceed 20% opacity. (Regulation 7.08, section 3.1.1)

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

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

a. **PM**

i. The owner or operator shall maintain monthly records of the type and amount of material throughput for each piece of equipment.

ii. The owner or operator shall monthly perform a visual inspection of the structural and mechanical integrity of the bin vent filters for signs of damage, air leakage, corrosion, or other equipment defects, and repair and/or replace defective components as needed. The owner or operator shall maintain monthly records of the results.

iii. The owner or operator shall maintain daily records of any periods of time where the process was operating and the bin vent filters were not in place or a declaration that the bin vent filters were in place at all times that day when the process was operating.

iv. If there is any time that the bin vent filters are not in place when the process is operating, 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 bin vent filters and process equipment;
4) PM emissions during the bypass in lb/hr;
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.

b. **Opacity**

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

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

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

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

a. **PM**

The owner or operator shall report the following information regarding PM By-Pass Activity in the quarterly compliance reports.

1) Number of times the PM vent stream by-passes the bin vent filters and is vented to the atmosphere;
2) Duration of each by-pass to the atmosphere;
3) Calculated pound per hour PM emissions for each by-pass; or
4) A negative declaration if no by-passes occurred.

b. **Opacity**

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

1) Any deviation from the requirement to perform daily (or monthly, if required) visible emission surveys or Method 9 tests;
2) Any deviation from the requirement to record the results of each VE survey and Method 9 test performed;
3) The date and time of each VE Survey where visible emissions were observed and the results of any Method 9 test performed;
4) The date, time and results of follow-up VE survey;
5) The date, time, and results of any Method 9 test performed;
6) Identification of all periods of exceeding an opacity standard; and
7) If no deviations occur during a quarterly reporting period, the report shall contain a negative declaration.

U16 Comments

1. The bin vent filter equipped for each silo is considered as an integrated component of the silo. However, there are monitoring, record keeping and reporting requirements associated with any times that the filters are not in place and the process is operated.

2. This unit is not subject to STAR since it does not have any TAC emissions.

3. This unit was previously permitted under construction permit 34658-12-C.

Emission Unit U17: PAC storage silos

U17 Applicable Regulations:

FEDERALLY ENFORCEABLE REGULATIONS		
Regulation	**Title**	**Applicable Sections**
7.08	Standards of Performance for New Affected Facilities	1, 2, 3, 4, 5, 6

U17 Equipment:

Emission Point	Description	Applicable Regulation	Control ID	Stack ID
E41a – E41f	Four (4) to six (6) PAC silos for PAC injection system, make BCSI, model BCSI-14. Each silo has a capacity of 94 tons, loading rate 40 tons/hr, and equipped with a bin vent filter.	7.08	C33a – C33f	S36a – S36f

U17 Control Devices:

ID	Description	Performance Indicator	Stack ID
C33a – C33f	Four (4) to six (6) bin vent filters each controlling a PAC storage silo, make BCSI, model BV25-96	N/A (See Comment 1)	S36a – S36f

U17 Specific Conditions

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

a. **PM**

i. The owner or operator shall not allow PM emissions from each of the emission points E41a through E41f to exceed 9.7 lbs/hr. (Regulation 7.08, section 3.3)

ii. The owner or operator shall maintain the bin vent filters in place at all times the process equipment is in operation and shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. (Regulation 2.16, section 4.1.9.1)

b. **Opacity**

The owner or operator shall not allow visible emissions to equal or exceed 20% opacity. (Regulation 7.08, section 3.1.1)

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

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

a. **PM**

i. The owner or operator shall maintain monthly records of the type and amount of material throughput for each piece of equipment.

ii. The owner or operator shall monthly perform a visual inspection of the structural and mechanical integrity of the bin vent filters for signs of damage, air leakage, corrosion, or other equipment defects, and repair and/or replace defective components as needed. The owner or operator shall maintain monthly records of the results.

iii. The owner or operator shall maintain daily records of any periods of time where the process was operating and the bin vent filters were not in place or a declaration that the bin vent filters were in place at all times that day when the process was operating.

iv. If there is any time that the bin vent filters are not in place when the process is operating, 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 bin vent filters and process equipment;
4) PM emissions during the bypass in lb/hr;
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.

b. **Opacity**

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

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

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

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

a. **PM**

The owner or operator shall report the following information regarding PM By-Pass Activity in the quarterly compliance reports.

1) Number of times the PM vent stream by-passes the bin vent filters and is vented to the atmosphere;
2) Duration of each by-pass to the atmosphere;
3) Calculated pound per hour PM emissions for each by-pass; or
4) A negative declaration if no by-passes occurred.

b. **Opacity**

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

1) Any deviation from the requirement to perform daily (or monthly, if required) visible emission surveys or Method 9 tests;
2) Any deviation from the requirement to record the results of each VE survey and Method 9 test performed;
3) The date and time of each VE Survey where visible emissions were observed and the results of any Method 9 test performed;
4) The date, time and results of follow-up VE survey;
5) The date, time, and results of any Method 9 test performed;
6) Identification of all periods of exceeding an opacity standard; and
7) If no deviations occur during a quarterly reporting period, the report shall contain a negative declaration.

U17 Comments

1. The bin vent filter equipped for each silo is considered as an integrated component of the silo. However, there are monitoring, record keeping and reporting requirements associated with any times that the filters are not in place and the process is operated.

2. This unit is not subject to STAR since it does not have any TAC emissions.

3. This unit was previously permitted under construction permit 34658-12-C.

Emission Unit U18: Flyash storage silos

U18 Applicable Regulations:

FEDERALLY ENFORCEABLE REGULATIONS		
Regulation	**Title**	**Applicable Sections**
7.08	Standards of Performance for New Affected Facilities	1, 2, 3, 4, 5, 6

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

U18 Equipment:

Emission Point	Description	Applicable Regulation	Control ID	Stack ID
E42	One (1) or more flyash silo for PJFF units, make Marietta Silos, model Concrete Field Erected, storage capacity 3,620 tons, maximum loading rate 79.5 ton/hr, equipped with bin vent filter.	5.00, 5.01, 5.02, 5.14, 5.20, 5.21, 5.22, 5.23, 7.08	C34	S37

U18 Control Devices:

ID	Description	Performance Indicator	Stack ID
C34	One (1) or more bin vent filters each controlling a flyash storage silo	N/A (See Comment 1)	S37

U18 Specific Conditions

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

a. **PM**

i. The owner or operator shall not allow PM emissions from emission point E42 to exceed 13.9 lbs/hr. (Regulation 7.08, section 3.3)

ii. The owner or operator shall maintain the bin vent filters in place at all times the process equipment is in operation and shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. (Regulation 2.16, section 4.1.9.1)

b. **Opacity**

The owner or operator shall not allow visible emissions to equal or exceed 20% opacity. (Regulation 7.08, section 3.1.1)

c. **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 Comment 2 and 3)

ii. The owner or operator shall not allow Arsenic (As) emissions to exceed de minimis from this unit. (Regulation 5.21, section 4.2 and section 4.3) (See Comment 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. **PM**

i. The owner or operator shall maintain monthly records of the type and amount of material throughput for each piece of equipment.

ii. The owner or operator shall monthly perform a visual inspection of the structural and mechanical integrity of the bin vent filters for signs of damage, air leakage, corrosion, or other equipment defects, and repair and/or replace defective components as needed. The owner or operator shall maintain monthly records of the results.

iii. The owner or operator shall maintain daily records of any periods of time where the process was operating and the bin vent filters were not in place or a declaration that the bin vent filters were in place at all times that day when the process was operating.

iv. If there is any time that the bin vent filters are not in place when the process is operating, 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 bin vent filters and process equipment;
4) PM emissions during the bypass in lb/hr;
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.

b. **Opacity**

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

ii. At emission points where visible emissions are observed, the owner or operator shall initiate corrective action within eight hours of the initial observation. If correction actions are taken then a follow-up visible emission survey shall be made. If the visible emissions persist, the owner or operator shall perform or cause to be performed a Method 9, in accordance with 40 CFR Part 60, Appendix A, 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 person conducting the survey, whether or not visible emissions were observed, and what if any corrective action was performed. If an emission

point is not being operated during a given month, then no visible emission survey needs to be performed and a negative declaration shall be entered in the record.

c. **TAC**

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

ii. 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 re-evaluate the environmental acceptability and document the environmentally acceptable emissions. (See Comment 2)

iii. The owner or operator shall perform sampling and lab analysis for the flyash in order to determine the TAC concentrations, at least once every six months.

iv. The owner or operator shall calculate the TAC emissions at least once every six months. The average TAC concentrations of all sampling results during the previous 12 months combined with the sampling results from the current semiannual period shall be used for emission calculations.

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

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

a. **PM**

The owner or operator shall report the following information regarding PM By-Pass Activity in the quarterly compliance reports.

1) Number of times the PM vent stream by-passes the bin vent filters and is vented to the atmosphere;
2) Duration of each by-pass to the atmosphere;
3) Calculated pound per hour PM emissions for each by-pass; or
4) A negative declaration if no by-passes occurred.

b. **Opacity**

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

1) Any deviation from the requirement to perform daily (or monthly, if required) visible emission surveys or Method 9 tests;
2) Any deviation from the requirement to record the results of each VE survey and Method 9 test performed;
3) The date and time of each VE Survey where visible emissions were observed and the results of any Method 9 test performed;
4) The date, time and results of follow-up VE survey;
5) The date, time, and results of any Method 9 test performed;
6) Identification of all periods of exceeding an opacity standard; and
7) If no deviations occur during a quarterly reporting period, the report shall contain a negative declaration.

c. **TAC**

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

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

iii. The owner or operator shall identify all periods of exceeding any TAC de minimis level and submit the re-evaluated EA demonstration to the District within 6 months.

U18 Comments

1. The bin vent filter equipped for each silo is considered as an integrated component of the silo. However, there are monitoring, record keeping and reporting requirements associated with any times that the filters are not in place and the process is operated.

2. LG&E submitted their TAC Environmental Acceptability Demonstration to the District on December 28, 2006, March 25, 2008, and April 9, 2010, in which the source has demonstrated compliance with the EA Goals. The proposed project for installation and modification of the bin vent filters will reduce TAC emissions plant-wide. There will be no new TACs introduced at the facility, though more flyash will be collected and transferred to flyash transfer bins (U9) and silos (U8 and U18).The company demonstrated compliance with the STAR Program in the updated the EA Demonstration dated April 3, 2012.

3. In the STAR EA Demonstration dated April 3, 2012, a control efficiency of 99.5% was used for bin vent filters controlling flyash silos and flyash transfer bins. LG&E has submitted a manufacturer's guarantee, which guarantees a 99.9% control efficiency for the fabric filters, on 9/13/2013.

4. Using 99.5% control efficiency and the TAC contents are based on previous sample analysis, all TACs are below the de minimis threshold levels. However, results of sample analysis vary from each other and the potential emission for Arsenic is close to its de minimis threshold. The source is required to conduct periodically sample analysis and demonstrate that the Arsenic emission is under de minimis level based on the most recent sampling results.

5. This unit was previously permitted under construction permit 34658-12-C.

Emission Unit U20: Gypsum pelletizing plant

U20 Applicable Regulations:

FEDERALLY ENFORCEABLE REGULATIONS		
Regulation	**Title**	**Applicable Sections**
7.06	Standards of Performance for New Indirect Heat Exchangers	1, 2, 3, 4, 5, 6, 7, 8
7.08	Standards of Performance for New Affected Facilities	1, 2, 3, 4, 5, 6
40 CFR 63 Subpart DDDDD	National Emission Standards for Hazardous Air Pollutant for Industrial, Commercial, and Institutional Boilers and Process Heaters	63.7480 – 63.7575

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

U20 Equipment:

Emission Point	Description	Applicable Regulation	Control ID	Stack ID
E44-a	One (1) load hopper used for gypsum receiving, capacity 50 ton/hr.	7.08	C36	S39
E44-b	One (1) conveyor (hopper to dispersion dryer)	7.08	C36	S39
E44-c	One (1) Allgaier dispersion dryer	7.08	N/A	N/A

Emission Point	Description	Applicable Regulation	Control ID	Stack ID
E44-d	One (1) pneumatic conveyor with a cyclone separator (baghouse to mixer load hopper)	7.08	N/A	N/A
E44-e	One (1) mixer load hopper, capacity 50 ton/hr	7.08	N/A	N/A
E44-f	One (1) rotary airlock conveyor (mixer load hopper to pin mixer)	7.08	N/A	N/A
E44-g	One (1) Pin or Plow mixer with a Lingo sulfonate storage tank	7.08	N/A	N/A
E44-h	One (1) belt conveyor (pin mixer to Disc pelletizer)	7.08	N/A	N/A
E44-i	one (1) DISC pelletizer	7.08	N/A	N/A
E44-j	One (1) belt conveyor (Disc pelletizer to fluid bed dryer)	7.08	N/A	N/A
E44-k	One (1) Allgaier vibrating fluid bed dryer	7.08	N/A	N/A
E44-l	One (1) Mogensen sizer/screener	7.08	N/A	N/A
E44-m	One (1) belt conveyor (screener to product pile)	7.08	N/A	N/A
E44-n	One (1) hammer mill	7.08	N/A	N/A
E44-o	One (1) limestone silo	7.08	N/A	N/A
E45 and E46	Two (2) natural gas-fired heaters used for dispersion dryer and fluid bed dryer respectively, combined heat input rate 42 MMBtu/hr, make Star Combustion	5.00, 5.01, 5.02, 5.14, 5.20, 5.21, 5.22, 5.23, 7.06, 40 CFR 63 Subpart DDDDD	N/A	S40 and S41

U20 Control Devices:

ID	Description	Performance Indicator	Stack ID
C36	One (1) baghouse used as gypsum separator and PM control, make Donaldson Torit, model DuraLife	N/A (See Comment 1)	S39

U20 Specific Conditions

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

a. **PM**

i. The owner or operator shall not allow PM emissions from the gypsum pelletizing process (E44) to exceed 32.4 lbs/hr. (Regulation 7.08, section 3.3) (See Comment 1)

ii. The owner or operator shall not allow PM emissions from each natural gas-fired heater (E45, E46) to exceed 0.10 lb/MMBtu actual total heat input. (Regulation 7.06, section 4.1.2) (See Comment 4)

b. **Opacity**

i. The owner or operator shall not allow visible emissions from the gypsum pelletizing process (E44) to equal or exceed 20% opacity. (Regulation 7.08, section 3.1.1)

ii. The owner or operator combusting natural gas (E45 and E46) shall not cause to be discharged into the atmosphere from any affected facility PM emissions which exhibit greater than 20% opacity. (Regulation 7.06, section 4.2) (See Comment 5)

c. **SO_2**

The owner or operator shall not cause to be discharged into the atmosphere from each natural gas-fired heater (E45, E46) any gases which contain SO_2 in excess of 0.8 lb/MMBtu actual total heat input. (Regulation 7.06, section 5.1.2) (See Comment 4)

d. **HAP** (40 CFR 63, Subpart DDDDD. For E45 and E46 heaters only)

Work Practice Standard:

The owner or operator shall conduct a tune-up of the process heaters annually as specified in 40 CFR 63.7540. (40 CFR 63.7500(a) and Table 3, See Comment 3)

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

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

a. **PM**

There are no routine monitoring or record keeping requirements for this pollutant. (See Comment 4)

b. **Opacity**

For the gypsum pelletizing process (E44):

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 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.

For the natural gas-fired heaters (E45 and E46):

iv. There are no routine monitoring or record keeping requirements for this equipment. (See Comment 5)

c. **SO_2**

For the natural gas-fired heaters (E45 and E46):

There are no monitoring and record keeping requirements for this equipment. (See Comment 4)

d. **HAP** (40 CFR 63, Subpart DDDDD. For E45 and E46 heaters only)

For all tune-ups, the owner or operator shall keep records of the dates and procedures of each tune-up, and the fuel used. The owner or operator should begin keeping fuel records for at least 12 months prior to the scheduled tune-up. The record must be kept on-site and submitted to the delegated authority if requested. (40 CFR 63.7555(a))

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

a. **PM**

There are no routine reporting requirements for this pollutant.

b. **Opacity**

For the gypsum pelletizing process (E44):

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

1) Any deviation from the requirement to perform daily (or monthly, if required) visible emission surveys or Method 9 tests;
2) Any deviation from the requirement to record the results of each VE survey and Method 9 test performed;
3) The date and time of each VE Survey where visible emissions were observed and the results of any Method 9 test performed;
4) The date, time and results of any follow-up VE survey;
5) The date, time, and results of any Method 9 test performed;
6) Identification of all periods of exceeding an opacity standard; and
7) If no deviations occur during a semi-annual reporting period, the report shall contain a negative declaration.

For the natural gas-fired heaters (E45 and E46):

ii. There are no routine reporting requirements for this equipment. (See Comment 5)

c. **SO_2**

For the natural gas-fired heaters (E45 and E46):

There are no routine reporting requirements for this equipment. (See Comment 4)

d. **HAP** (40 CFR 63, Subpart DDDDD. For E45 and E46 heaters only)

Initial notification:

i. If the heaters are startup before January 31, 2013, the owner or operator shall submit an Initial Notification not later than 120 days after January 31, 2013. (40 CFR 63.7545(b))

ii. If the heaters are startup after January 31, 2013, the owner or operator shall submit an Initial Notification not later than 15 days after the actual date of startup of the affected source. (40 CFR 63.7545(c))

iii. For initial tune-up, the owner or operator shall submit a signed statement in the Initial Notification that indicates that the owner or operator conducted an initial tune-up of the boiler. For subsequent annual tune-ups, the owner or operator may submit only an annual compliance report. (40 CFR 63.7550(b))

U20 Comments

1. A one-time PM compliance demonstration has been performed for this equipment and the lb/hr standard cannot be exceeded uncontrolled.

2. This unit is not subject to 40 CFR 60, Subpart D_c – *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units*, since the heater does not generate steam.

3. LG&E Mill Creek Station is a major source of HAP. Therefore the heater is subject to the major source Boiler MACT, 40 CFR 63 Subpart DDDDD.

4. A one-time PM and SO_2 compliance demonstration has been performed for the heater, using AP-42 emission factors and combusting natural gas, and the emission standards under Regulation 7.06 for PM and SO_2 cannot be exceeded when combusting natural gas.

5. It has been determined that using a natural gas fired heater will inherently meet the 20% opacity standard. Therefore, the company is not required to perform periodic monitoring to demonstrate compliance with the opacity standard when combusting natural gas.

6. Per Regulation 5.01, section 1.6.7, the TAC emissions from the combustion of natural gas are considered to be “de minimis emissions” for the STAR Program. The other equipment for this unit is not subject to STAR since it does not have any TAC emissions.

7. LG&E submitted the parameter range for normal operation of the dust collector on August 29, 2013.

8. This unit was previously permitted under permit 35668-12-C and 35673-12-C. Limestone silo (E44-o) is added upon review of the construction application dated July 10, 2013.

Emission Unit U21: Coal handling facilities

U21 Applicable Regulations:

FEDERALLY ENFORCEABLE REGULATIONS		
Regulation	**Title**	**Applicable Sections**
6.09	Standards of Performance for Existing Process Operations	1, 2, 3, 4, 5
7.08	Standards of Performance for New Process Operations	1, 2, 3, 4
40 CFR 60, Subpart Y	Standards of Performance for Coal Preparation Plants	60.250, 60.251, 60.254, 60.255, 60.256, 60.257, 60.258

DISTRICT ONLY ENFORCEABLE REGULATIONS		
Regulation	**Title**	**Applicable Sections**
5.00	Definitions	1, 2
5.01	General Provisions	1 through 2
5.02	Adoption of National Emission Standards for Hazardous Air Pollutants	1, 3.95 and 4
5.14	Hazardous Air Pollutants and Source Categories	1, 2
5.20	Methodology for Determining Benchmark Ambient Concentration of a Toxic Air Contaminant	1 through 6
5.21	Environmental Acceptability for Toxic Air Contaminants	1 through 5
5.22	Procedures for Determining the Maximum Ambient Concentration of a Toxic Air Contaminant	1 through 5
5.23	Categories of Toxic Air Contaminants	1 through 6
7.02	Federal New Source Performance Standards Incorporated by Reference	1.1, 1.38, 2, 3, 4, 5

U21 Equipment:

Emission Point	Description	Applicable Regulation	Control ID	Stack ID
E47a	One (1) barge unloading operation, rated capacity 1,500 tons/hr (1980)	5.00, 5.01, 5.02, 5.14, 5.20, 5.21, 5.22, 5.23, 7.08, 40 CFR 60, Subpart Y	N/A	N/A
E47b	One (1) railcar unloading, rated capacity 2,400 tons/hr (1971)	5.00, 5.01, 5.02, 5.14, 5.20, 5.21, 5.22, 5.23, 6.09	N/A	N/A
E47c	One (1) coal radial stacker, rated capacity 1,500 tons/hr (1971)		N/A	N/A
E47d	Two (2) coal crushers, rated capacity 900 tons/hr for each (2014)	5.00, 5.01, 5.02, 5.14, 5.20, 5.21, 5.22, 5.23, 7.08, 40 CFR 60, Subpart Y	N/A	N/A
E47e-1 through E47e-16	Sixteen (16) coal belt conveyors, rated capacity 750 tons/hr for 40” belt conveyors and 2,400 tons/hr for 60” belt conveyor (1971)	5.00, 5.01, 5.02, 5.14, 5.20, 5.21, 5.22, 5.23, 6.09	N/A	N/A
E47f	One (1) coal storage pile (drop point emission) (1971)		N/A	N/A

U21 Control Devices:

There is no control device associated with this unit.

U21 Specific Conditions

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

a. **PM**

i. The owner or operator shall not allow PM emissions to exceed 55.8 lb/hr from barge unloading (E47a). (Regulation 7.08, section 3.1.2) (See Comment 1)

ii. The owner or operator shall not allow PM emissions to exceed 89.5 lb/hr from railcar unloading (E47b). (Regulation 6.09, section 3.2) (See Comment 1)

iii. The owner or operator shall not allow PM emissions to exceed 83.0 lb/hr from radial stacker (E47c). (Regulation 6.09, section 3.2) (See Comment 1)

iv. The owner or operator shall not allow PM emissions to exceed 51.4 lb/hr from each crusher (E47d). (Regulation 7.08, section 3.1.2) (See Comment 1)

v. The owner or operator shall not allow PM emissions to exceed 73.9 lb/hr from each of the 40" belt conveyors and 89.5 lb/hr from each of the 60" belt conveyors (E47e). (Regulation 6.09, section 3.2) (See Comment 1)

vi. The owner or operator shall not allow PM emissions to exceed 89.5 lb/hr from coal pile drop point (E47f). (Regulation 6.09, section 3.2) (See Comment 1)

b. **Opacity**

The owner or operator shall not allow visible emissions to equal or exceed 20% opacity. (Regulation 6.09, section 3.1) (Regulation 7.08, section 3.1.1)

c. **Standards of Performance for Coal Preparation and Processing Plants** (40 CFR 60, Subpart Y)

i. For emission point E47a (barge unloading):

The owner or operator shall not allow visible emissions to equal or exceed 20% opacity. (40 CFR 60.254(a))

ii. For emission point E47d (new crushers):

1) The owner or operator shall not allow visible emissions to equal or exceed 10% opacity. (40 CFR 60.254(b)(1))

2) The owner or operator must not cause to be discharged into the atmosphere from any mechanical vent on an affected facility gases which contain particulate matter in excess of 0.023 g/dscm (0.010 gr/dscf). (40 CFR 60.254(b)(2))

d. **TAC**

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 Comment 2)

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

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

a. **PM**

The owner or operator shall keep monthly records of the throughput of coal for each emission point.

b. **Opacity**

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

ii. At emission points where visible emissions are observed, the owner or operator shall initiate corrective action within eight hours of the initial observation. If 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 person conducting the survey, whether or not visible emissions were observed, and what if any corrective action was performed. If an emission point is not being operated during a given month, then no visible emission survey needs to be performed and a negative declaration shall be entered in the record.

c. **Standards of Performance for Coal Preparation and Processing Plants** (40 CFR 60, Subpart Y)

i. Performance tests and other compliance requirements (40 CFR 60.255)

1) An owner or operator of each affected facility that commenced construction, reconstruction, or modification on or before April 28, 2008, must conduct all performance tests required by 40 CFR 60.8 to demonstrate compliance with the applicable emission standards using the methods identified in 40 CFR 60.257. (40 CFR 60.255(a))

2) An owner or operator of each affected facility that commenced construction, reconstruction, or modification after April 28, 2008, must conduct performance tests according to the requirements of40 CFR 60.8 and the methods identified in 40 CFR 60.257 to demonstrate compliance with the applicable emissions standards in this subpart as specified in paragraphs (b)(1) and (2) of this section. (40 CFR 60.255(b))

(a) For each affected facility subject to a PM, SO_2, or combined NO_X and CO emissions standard, an initial performance test must be performed. Thereafter, a new performance test must be conducted according the requirements in paragraphs (b)(1)(i) through (iii) of this section, as applicable. (40 CFR 60.255(b)(1))

(i) If the results of the most recent performance test demonstrate that emissions from the affected facility are greater than 50 percent of the applicable emissions standard, a new performance test must be conducted within 12 calendar months of the date that the previous performance test was required to be completed. (40 CFR 60.255(b)(1)(i))

(ii) If the results of the most recent performance test demonstrate that emissions from the affected

facility are 50 percent or less of the applicable emissions standard, a new performance test must be conducted within 24 calendar months of the date that the previous performance test was required to be completed. (40 CFR 60.255(b)(1)(ii))

(iii) An owner or operator of an affected facility that has not operated for the 60 calendar days prior to the due date of a performance test is not required to perform the subsequent performance test until 30 calendar days after the next operating day.(40 CFR 60.255(b)(1)(iii))

(b) For each affected facility subject to an opacity standard, an initial performance test must be performed. Thereafter, a new performance test must be conducted according to the requirements in paragraphs (b)(2)(i) through (iii) of this section, as applicable, except as provided for in paragraphs (e) and (f) of this section. Performance test and other compliance requirements for coal truck dump operations are specified in paragraph (h) of this section. (40 CFR 60.255(b)(2))

(i) If any 6-minute average opacity reading in the most recent performance test exceeds half the applicable opacity limit, a new performance test must be conducted within 90 operating days of the date that the previous performance test was required to be completed. (40 CFR 60.255(b)(2)(i))

(ii) If all 6-minute average opacity readings in the most recent performance test are equal to or less than half the applicable opacity limit, a new performance test must be conducted within 12 calendar months of the date that the previous performance test was required to be completed. (40 CFR 60.255(b)(2)(ii))

(iii) An owner or operator of an affected facility continuously monitoring scrubber parameters as specified in 40 CFR 60.256(b)(2) is exempt from the requirements in paragraphs (b)(2)(i) and (ii) if opacity performance tests are conducted concurrently with (or within a 60-minute period of) PM performance tests. (40 CFR 60.255(b)(2)(iii))

3) If any affected coal processing and conveying equipment (e.g., breakers, crushers, screens, conveying systems), coal storage systems, or coal transfer and loading systems that commenced construction, reconstruction, or modification after April 28, 2008, are enclosed in a building, and emissions from the building do not exceed any of the standards in 40 CFR 60.254 that apply to the affected facility, then the facility shall be deemed to be in compliance with such standards. (40 CFR 60.255(c))

4) An owner or operator of an affected facility (other than a thermal dryer) that commenced construction, reconstruction, or modification after April 28, 2008, is subject to a PM emission standard and uses a control device with a design controlled potential PM emissions rate of 1.0 Mg (1.1 tons) per year or less is exempted from the requirements of paragraphs (b)(1)(i) and (ii) of this section provided that the owner or operator meets all of the conditions specified in paragraphs (d)(1) through (3) of this section. This exemption does not apply to thermal dryers. (40 CFR 60.255(d))

   (a) PM emissions, as determined by the most recent performance test, are less than or equal to the applicable limit, (40 CFR 60.255(d)(1))

   (b) The control device manufacturer's recommended maintenance procedures are followed, and (40 CFR 60.255(d)(2))

   (c) All 6-minute average opacity readings from the most recent performance test are equal to or less than half the applicable opacity limit or the monitoring requirements in paragraphs (e) or (f) of this section are followed. (40 CFR 60.255(d)(3))

5) For an owner or operator of a group of up to five of the same type of affected facilities that commenced construction, reconstruction, or modification after April 28, 2008, that are subject to PM emissions standards and use identical control devices, the Administrator or delegated authority may allow the owner or operator to use a single PM performance test for one of the affected control devices to demonstrate that the group of affected facilities is in compliance with the applicable emissions standards provided that the owner or operator meets all of the conditions specified in paragraphs (e)(1) through (3) of this section. (40 CFR 60.255(e))

(a) PM emissions from the most recent performance test for each individual affected facility are 90 percent or less of the applicable PM standard; (40 CFR 60.255(e)(1))

(b) The manufacturer's recommended maintenance procedures are followed for each control device; and (40 CFR 60.255(e)(2))

(c) A performance test is conducted on each affected facility at least once every 5 calendar years. (40 CFR 60.255(e)(3))

6) As an alternative to meeting the requirements in paragraph (b)(2) of this section, an owner or operator of an affected facility that commenced construction, reconstruction, or modification after April 28, 2008, may elect to comply with the requirements in paragraph (f)(1) or (f)(2) of this section. (40 CFR 60.255(f))

(a) Monitor visible emissions from each affected facility according to the requirements in paragraphs (f)(1)(i) through (iii) of this section. (40 CFR 60.255(f)(1))

(i) Conduct one daily 15-second observation each operating day for each affected facility (during normal operation) when the coal preparation and processing plant is in operation. Each observation must be recorded as either visible emissions observed or no visible emissions observed. Each observer determining the presence of visible emissions must meet the training requirements specified in 40 CFR 2.3 of Method 22 of appendix A-7 of this part. If visible emissions are observed during any 15-second observation, the owner or operator must adjust the operation of the affected facility and demonstrate within 24 hours that no visible emissions are observed from the affected facility. If visible emissions are observed, a Method 9, of appendix A- 4 of this part, performance test must be conducted within 45 operating days. (40 CFR 60.255(f)(1)(i))

(ii) Conduct monthly visual observations of all process and control equipment. If any deficiencies are observed, the necessary maintenance must be performed as expeditiously as possible. (40 CFR 60.255(f)(1)(ii))

(iii) Conduct a performance test using Method 9 of appendix A-4 of this part at least once every 5 calendar years for each affected facility. (40 CFR 60.255(f)(1)(iii))

(b) Prepare a written site-specific monitoring plan for a digital opacity compliance system for approval by the Administrator or delegated authority. The plan shall require observations of at least one digital image every 15 seconds for 10-minute periods (during normal operation) every operating day. An approvable monitoring plan must include a demonstration that the occurrences of visible emissions are not in excess of 5 percent of the observation period. For reference purposes in preparing the monitoring plan, see OAQPS "Determination of Visible Emission Opacity from Stationary Sources Using Computer-Based Photographic Analysis Systems." This document is available from the U.S. Environmental Protection Agency (U.S. EPA); Office of Air Quality and Planning Standards; Sector Policies and Programs Division; Measurement Group (D243-02), Research Triangle Park, NC 27711. This document is also available on the Technology Transfer Network (TTN) under Emission Measurement Center Preliminary Methods. The monitoring plan approved by the Administrator or delegated authority shall be implemented by the owner or operator. (40 CFR 60.255(f)(2))

7) As an alternative to meeting the requirements in paragraph (b)(2) of this section, an owner or operator of an affected facility that commenced construction, reconstruction, or modification after April 28, 2008, subject to a visible emissions standard under this subpart may install, operate, and maintain a continuous opacity monitoring system (COMS). Each COMS used to comply with provisions of this subpart must be installed, calibrated, maintained, and continuously operated according to the requirements in paragraphs (g)(1) and (2) of this section. (40 CFR 60.255(g))

(a) The COMS must meet Performance Specification 1 in 40 CFR part 60, appendix B. (40 CFR 60.255(g)(1))

(b) The COMS must comply with the quality assurance requirements in paragraphs (g)(2)(i) through (v) of this section. (40 CFR 60.255(g)(2))

(i) The owner or operator must automatically (intrinsic to the opacity monitor) check the zero and upscale

(span) calibration drifts at least once daily. For particular COMS, the acceptable range of zero and upscale calibration materials is as defined in the applicable version of Performance Specification 1 in 40 CFR part 60, appendix B. (40 CFR 60.255(g)(2)(i))

(ii) The owner or operator must adjust the zero and span whenever the 24-hour zero drift or 24-hour span drift exceeds 4 percent opacity. The COMS must allow for the amount of excess zero and span drift measured at the 24-hour interval checks to be recorded and quantified. The optical surfaces exposed to the effluent gases must be cleaned prior to performing the zero and span drift adjustments, except for systems using automatic zero adjustments. For systems using automatic zero adjustments, the optical surfaces must be cleaned when the cumulative automatic zero compensation exceeds 4 percent opacity. (40 CFR 60.255(g)(2)(ii))

(iii) The owner or operator must apply a method for producing a simulated zero opacity condition and an upscale (span) opacity condition using a certified neutral density filter or other related technique to produce a known obscuration of the light beam. All procedures applied must provide a system check of the analyzer internal optical surfaces and all electronic circuitry including the lamp and photodetector assembly. (40 CFR 60.255(g)(2)(iii))

(iv) Except during periods of system breakdowns, repairs, calibration checks, and zero and span adjustments, the COMS must be in continuous operation and must complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period. (40 CFR 60.255(g)(2)(iv))

(v) The owner or operator must reduce all data from the COMS to 6- minute averages. Six-minute opacity averages must be calculated from 36 or more data points equally spaced over each 6-minute period. Data recorded during periods of system

breakdowns, repairs, calibration checks, and zero and span adjustments must not be included in the data averages. An arithmetic or integrated average of all data may be used. (40 CFR 60.255(g)(2)(v))

ii. Continuous monitoring requirements (if applicable) (40 CFR 60.256)

1) The owner or operator of each affected facility constructed, reconstructed, or modified after April 28, 2008, that has one or more mechanical vents must install, calibrate, maintain, and continuously operate the monitoring devices specified in paragraphs (b)(1) through (3) of this section, as applicable to the mechanical vent and any control device installed on the vent. (40 CFR 60.256(b))

(a) For mechanical vents with fabric filters (baghouses) with design controlled potential PM emissions rates of 25 Mg (28 tons) per year or more, a bag leak detection system according to the requirements in paragraph (c) of this section. (40 CFR 60.256(b)(1))

(b) For mechanical vents with wet scrubbers, monitoring devices according to the requirements in paragraphs (b)(2)(i) through (iv) of this section. (40 CFR 60.256(b)(2))

(i) A monitoring device for the continuous measurement of the pressure loss through the venturi constriction of the control equipment. The monitoring device is to be certified by the manufacturer to be accurate within ± 1 inch water gauge. (40 CFR 60.256(b)(2)(i))

(ii) A monitoring device for the continuous measurement of the water supply flow rate to the control equipment. The monitoring device is to be certified by the manufacturer to be accurate within ± 5 percent of design water supply flow rate. (40 CFR 60.256(b)(2)(ii))

(iii) A monitoring device for the continuous measurement of the pH of the wet scrubber liquid. The monitoring device is to be certified by the manufacturer to be accurate within ± 5 percent of design pH. (40 CFR 60.256(b)(2)(iii))

(iv) An average value for each monitoring parameter

must be determined during each performance test. Each monitoring parameter must then be maintained within 10 percent of the value established during the most recent performance test on an operating day average basis. (40 CFR 60.256(b)(2)(iv))

(c) For mechanical vents with control equipment other than wet scrubbers, a monitoring device for the continuous measurement of the reagent injection flow rate to the control equipment, as applicable. The monitoring device is to be certified by the manufacturer to be accurate within ± 5 percent of design injection flow rate. An average reagent injection flow rate value must be determined during each performance test. The reagent injection flow rate must then be maintained within 10 percent of the value established during the most recent performance test on an operating day average basis. (40 CFR 60.256(b)(3))

2) Each bag leak detection system used to comply with provisions of this subpart must be installed, calibrated, maintained, and continuously operated according to the requirements in paragraphs (c)(1) through (3) of this section. (40 CFR 60.256(c))

(a) The bag leak detection system must meet the specifications and requirements in paragraphs (c)(1)(i) through (viii) of this section. (40 CFR 60.256(c)(1))

(i) The bag leak detection system must be certified by the manufacturer to be capable of detecting PM emissions at concentrations of 1 milligram per dry standard cubic meter (mg/dscm) (0.00044 grains per actual cubic foot (gr/acf)) or less. (40 CFR 60.256(c)(1)(i))

(ii) The bag leak detection system sensor must provide output of relative PM loadings. The owner or operator shall continuously record the output from the bag leak detection system using electronic or other means (e.g., using a strip chart recorder or a data logger). (40 CFR 60.256(c)(1)(ii))

(iii) The bag leak detection system must be equipped with an alarm system that will sound when the system detects an increase in relative particulate loading over the alarm set point established according to paragraph (c)(1)(iv) of this section, and

the alarm must be located such that it can be heard by the appropriate plant personnel. (40 CFR 60.256(c)(1)(iii))

(iv) In the initial adjustment of the bag leak detection system, the owner or operator must establish, at a minimum, the baseline output by adjusting the sensitivity (range) and the averaging period of the device, the alarm set points, and the alarm delay time. (40 CFR 60.256(c)(1)(iv))

(v) Following initial adjustment, the owner or operator must not adjust the averaging period, alarm set point, or alarm delay time without approval from the Administrator or delegated authority except as provided in paragraph (c)(2)(vi) of this section. (40 CFR 60.256(c)(1)(v))

(vi) Once per quarter, the owner or operator may adjust the sensitivity of the bag leak detection system to account for seasonal effects, including temperature and humidity, according to the procedures identified in the site-specific monitoring plan required by paragraph (c)(2) of this section. (40 CFR 60.256(c)(1)(vi))

(vii) The owner or operator must install the bag leak detection sensor downstream of the fabric filter. (40 CFR 60.256(c)(1)(vii))

(viii) Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors. (40 CFR 60.256(c)(1)(viii))

(b) The owner or operator must develop and submit to the Administrator or delegated authority for approval a site-specific monitoring plan for each bag leak detection system. This plan must be submitted to the Administrator or delegated authority 30 days prior to startup of the affected facility. The owner or operator must operate and maintain the bag leak detection system according to the site- specific monitoring plan at all times. Each monitoring plan must describe the items in paragraphs (c)(2)(i) through (vi) of this section. (40 CFR 60.256(c)(2))

(i) Installation of the bag leak detection system; (40

CFR 60.256(c)(2)(i))

(ii) Initial and periodic adjustment of the bag leak detection system, including how the alarm set-point will be established; (40 CFR 60.256(c)(2)(ii))

(iii) Operation of the bag leak detection system, including quality assurance procedures; (40 CFR 60.256(c)(2)(iii))

(iv) How the bag leak detection system will be maintained, including a routine maintenance schedule and spare parts inventory list; (40 CFR 60.256(c)(2)(iv))

(v) How the bag leak detection system output will be recorded and stored; and (40 CFR 60.256(c)(2)(v))

(vi) Corrective action procedures as specified in paragraph (c)(3) of this section. In approving the site-specific monitoring plan, the Administrator or delegated authority may allow the owner and operator more than 3 hours to alleviate a specific condition that causes an alarm if the owner or operator identifies in the monitoring plan this specific condition as one that could lead to an alarm, adequately explains why it is not feasible to alleviate this condition within 3 hours of the time the alarm occurs, and demonstrates that the requested time will ensure alleviation of this condition as expeditiously as practicable. (40 CFR 60.256(c)(2)(vi))

(c) For each bag leak detection system, the owner or operator must initiate procedures to determine the cause of every alarm within 1 hour of the alarm. Except as provided in paragraph (c)(2)(vi) of this section, the owner or operator must alleviate the cause of the alarm within 3 hours of the alarm by taking whatever corrective action(s) are necessary. Corrective actions may include, but are not limited to the following: (40 CFR 60.256(c)(3))

(i) Inspecting the fabric filter for air leaks, torn or broken bags or filter media, or any other condition that may cause an increase in PM emissions; (40 CFR 60.256(c)(3)(i))

(ii) Sealing off defective bags or filter media; (40 CFR 60.256(c)(3)(ii))

(iii) Replacing defective bags or filter media or otherwise repairing the control device; (40 CFR 60.256(c)(3)(iii))

(iv) Sealing off a defective fabric filter compartment; (40 CFR 60.256(c)(3)(iv))

(v) Cleaning the bag leak detection system probe or otherwise repairing the bag leak detection system; or (40 CFR 60.256(c)(3)(v))

(vi) Shutting down the process producing the PM emissions. (40 CFR 60.256(c)(3)(vi))

iii. Test methods and procedures (if applicable) (40 CFR 60.257)

1) The owner or operator must determine compliance with the applicable opacity standards as specified in paragraphs (a)(1) through (3) of this section. (40 CFR 60.257(a))

(a) Method 9 of appendix A-4 of this part and the procedures in 40 CFR 60.11 must be used to determine opacity, with the exceptions specified in paragraphs (a)(1)(i) and (ii). (40 CFR 60.257(a)(1))

(i) The duration of the Method 9 of appendix A-4 of this part performance test shall be 1 hour (ten 6-minute averages). (40 CFR 60.257(a)(1)(i))

(ii) If, during the initial 30 minutes of the observation of a Method 9 of appendix A-4 of this part performance test, all of the 6- minute average opacity readings are less than or equal to half the applicable opacity limit, then the observation period may be reduced from 1 hour to 30 minutes. (40 CFR 60.257(a)(1)(ii))

(b) To determine opacity for fugitive coal dust emissions sources, the additional requirements specified in paragraphs (a)(2)(i) through (iii) must be used. (40 CFR 60.257(a)(2))

(i) The minimum distance between the observer and

the emission source shall be 5.0 meters (16 feet), and the sun shall be oriented in the 140-degree sector of the back. (40 CFR 60.257(a)(2)(i))

(ii) The observer shall select a position that minimizes interference from other fugitive coal dust emissions sources and make observations such that the line of vision is approximately perpendicular to the plume and wind direction. (40 CFR 60.257(a)(2)(ii))

(iii) The observer shall make opacity observations at the point of greatest opacity in that portion of the plume where condensed water vapor is not present. Water vapor is not considered a visible emission. (40 CFR 60.257(a)(2)(iii))

(c) A visible emissions observer may conduct visible emission observations for up to three fugitive, stack, or vent emission points within a 15-second interval if the following conditions specified in paragraphs (a)(3)(i) through (iii) of this section are met. (40 CFR 60.257(a)(3))

(i) No more than three emissions points may be read concurrently. (40 CFR 60.257(a)(3)(i))

(ii) All three emissions points must be within a 70 degree viewing sector or angle in front of the observer such that the proper sun position can be maintained for all three points. (40 CFR 60.257(a)(3)(ii))

(iii) If an opacity reading for any one of the three emissions points is within 5 percent opacity from the applicable standard (excluding readings of zero opacity), then the observer must stop taking readings for the other two points and continue reading just that single point. (40 CFR 60.257(a)(3)(iii))

2) The owner or operator must conduct all performance tests required by 40 CFR 60.8 to demonstrate compliance with the applicable emissions standards specified in 40 CFR 60.252 according to the requirements in 40 CFR 60.8 using the applicable test methods and procedures in paragraphs (b)(1) through (8) of this section. (40 CFR 60.257(b))

(a) Method 1 or 1A of appendix A-4 of this part shall be used to select sampling port locations and the number of traverse points in each stack or duct. Sampling sites must be located at the outlet of the control device (or at the outlet of the emissions source if no control device is present) prior to any releases to the atmosphere. (40 CFR 60.257(b)(1))

(b) Method 2, 2A, 2C, 2D, 2F, or 2G of appendix A-4 of this part shall be used to determine the volumetric flow rate of the stack gas. (40 CFR 60.257(b)(2))

(c) Method 3, 3A, or 3B of appendix A-4 of this part shall be used to determine the dry molecular weight of the stack gas. The owner or operator may use ANSI/ASME PTC 19.10-1981, "Flue and Exhaust Gas Analyses (incorporated by reference—*see* 40 CFR 60.17) as an alternative to Method 3B of appendix A-2 of this part. (40 CFR 60.257(b)(3))

(d) Method 4 of appendix A-4 of this part shall be used to determine the moisture content of the stack gas. (40 CFR 60.257(b)(4))

(e) Method 5, 5B or 5D of appendix A-4 of this part or Method 17 of appendix A-7 of this part shall be used to determine the PM concentration as follows: (40 CFR 60.257(b)(5))

(i) The sampling time and sample volume for each run shall be at least 60 minutes and 0.85 dscm (30 dscf). Sampling shall begin no less than 30 minutes after startup and shall terminate before shutdown procedures begin. A minimum of three valid test runs are needed to comprise a PM performance test. (40 CFR 60.257(b)(5)(i))

(ii) Method 5 of appendix A of this part shall be used only to test emissions from affected facilities without wet flue gas desulfurization (FGD) systems. (40 CFR 60.257(b)(5)(ii))

(iii) Method 5B of appendix A of this part is to be used only after wet FGD systems. (40 CFR 60.257(b)(5)(iii))

(iv) Method 5D of appendix A-4 of this part shall be used for positive pressure fabric filters and other

similar applications (e.g., stub stacks and roof vents). (40 CFR 60.257(b)(5)(iv))

(v) Method 17 of appendix A-6 of this part may be used at facilities with or without wet scrubber systems provided the stack gas temperature does not exceed a temperature of 160 °C (320 °F). The procedures of sections 8.1 and 11.1 of Method 5B of appendix A-3 of this part may be used in Method 17 of appendix A-6 of this part only if it is used after a wet FGD system. Do not use Method 17 of appendix A-6 of this part after wet FGD systems if the effluent is saturated or laden with water droplets. (40 CFR 60.257(b)(5)(v))

iv. The owner or operator of a coal preparation and processing plant that commenced construction, reconstruction, or modification after April 28, 2008, shall maintain in a logbook (written or electronic) on-site and make it available upon request. The logbook shall record the following: (40 CFR 60.258(a))

1) The manufacturer's recommended maintenance procedures and the date and time of any maintenance and inspection activities and the results of those activities. Any variance from manufacturer recommendation, if any, shall be noted. (40 CFR 60.258(a)(1))

2) The date and time of periodic coal preparation and processing plant visual observations, noting those sources with visible emissions along with corrective actions taken to reduce visible emissions. Results from the actions shall be noted. (40 CFR 60.258(a)(2))

3) The amount and type of coal processed each calendar month. (40 CFR 60.258(a)(3))

4) The amount of chemical stabilizer or water purchased for use in the coal preparation and processing plant. (40 CFR 60.258(a)(4))

5) Monthly certification that the dust suppressant systems were operational when any coal was processed and that manufacturer's recommendations were followed for all control systems. Any variance from the manufacturer's recommendations, if any, shall be noted. (40 CFR 60.258(a)(5))

6) Monthly certification that the fugitive coal dust emissions control plan was implemented as described. Any variance from the plan, if any, shall be noted. A copy of the applicable fugitive coal dust emissions control plan and any letters from the Administrator

providing approval of any alternative control measures shall be maintained with the logbook. Any actions, e.g. objections, to the plan and any actions relative to the alternative control measures, e.g. approvals, shall be noted in the logbook as well. (40 CFR 60.258(a)(6))

7) For each bag leak detection system, the owner or operator must keep the records specified in paragraphs (a)(7)(i) through (iii) of this section. (40 CFR 60.258(a)(7))

(a) Records of the bag leak detection system output; (40 CFR 60.258(a)(7)(i))

(b) Records of bag leak detection system adjustments, including the date and time of the adjustment, the initial bag leak detection system settings, and the final bag leak detection settings; and (40 CFR 60.258(a)(7)(ii))

(c) The date and time of all bag leak detection system alarms, the time that procedures to determine the cause of the alarm were initiated, the cause of the alarm, an explanation of the actions taken, the date and time the cause of the alarm was alleviated, and whether the cause of the alarm was alleviated within 3 hours of the alarm. (40 CFR 60.258(a)(7)(iii))

8) A copy of any applicable monitoring plan for a digital opacity compliance system and monthly certification that the plan was implemented as described. Any variance from plan, if any, shall be noted. (40 CFR 60.258(a)(8))

9) During a performance test of a wet scrubber, and each operating day thereafter, the owner or operator shall record the measurements of the scrubber pressure loss, water supply flow rate, and pH of the wet scrubber liquid. (40 CFR 60.258(a)(9))

10) During a performance test of control equipment other than a wet scrubber, and each operating day thereafter, the owner or operator shall record the measurements of the reagent injection flow rate, as applicable. (40 CFR 60.258(a)(10))

d. **TAC**

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

ii. 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 re-evaluate the environmental acceptability and document the environmentally acceptable emissions.

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

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

a. **PM**

There are no routine reporting requirements for this equipment. (See comment 1)

b. **Opacity**

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

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

c. **Standards of Performance for Coal Preparation and Processing Plants** (40 CFR 60, Subpart Y)

i. For the purpose of reports required under section 60.7(c), any owner operator subject to the provisions of this subpart also shall report semiannually periods of excess emissions as follow: (40 CFR 60.258(b))

1) The owner or operator of an affected facility with a wet scrubber shall submit semiannual reports to the Administrator or delegated authority of occurrences when the measurements of the scrubber pressure loss, water supply flow rate, or pH of the wet scrubber liquid vary by more than 10 percent from the average determined during the most recent performance test. (40 CFR 60.258(b)(1))

2) The owner or operator of an affected facility with control equipment other than a wet scrubber shall submit semiannual reports to the Administrator or delegated authority of occurrences when the measurements of the reagent injection flow rate, as applicable, vary by more than 10 percent from the average

determined during the most recent performance test. (40 CFR 60.258(b)(2))

3) All 6-minute average opacities that exceed the applicable standard. (40 CFR 60.258(b)(3))

ii. The owner or operator of an affected facility shall submit the results of initial performance tests to the Administrator or delegated authority, consistent with the provisions of section 60.8. The owner or operator who elects to comply with the reduced performance testing provisions of sections 60.255(c) or (d) shall include in the performance test report identification of each affected facility that will be subject to the reduced testing. The owner or operator electing to comply with section 60.255(d) shall also include information which demonstrates that the control devices are identical. (40 CFR 60.258(c))

iii. After July 1, 2011, within 60 days after the date of completing each performance evaluation conducted to demonstrate compliance with this subpart, the owner or operator of the affected facility must submit the test data to EPA by successfully entering the data electronically into EPA's WebFIRE data base available at *http://cfpub.epa.gov/oarweb/index.cfm?action=fire.main*. For performance tests that cannot be entered into WebFIRE (i.e., Method 9 of appendix A-4 of this part opacity performance tests) the owner or operator of the affected facility must mail a summary copy to United States Environmental Protection Agency; Energy Strategies Group; 109 TW Alexander DR; mail code: D243-01; RTP, NC 27711. (40 CFR 60.258(d))

d. **TAC**

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

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

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

U21 Comments

1. 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.

2. Each TAC contained in coal is less than 0.1% by weight. According to Regulation 5.21, section 2.1, emissions of TACs from this coal handling operation are de minimis.

Emission Unit U22: Landfill

U22 Applicable Regulations:

FEDERALLY ENFORCEABLE REGULATIONS		
Regulation	**Title**	**Applicable Sections**
1.14	Control of Fugitive Particulate Emissions	1, 2, 3, 4, 5, 8, 9

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

U22 Equipment:

Emission Point	Description	Applicable Regulation	Control ID	Stack ID
E48a	Landfill haul roads	1.14	N/A	N/A
E48b	Landfill drop points	1.14	N/A	N/A
E48c	Landfill wind erosion emissions	1.14	N/A	N/A

U22 Control Devices:

Particulate emissions from landfill haul roads are controlled according to an approved plant-wide Fugitive Dust Control Plan. (See Attachment F)

U22 Specific Conditions

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

a. **PM**

The owner or operator shall not allow any materials to be handled, transported, or stored, or a road to be used without taking reasonable precautions to prevent particulate matter from becoming airborne beyond the work site. Such precautions shall include, where applicable, but shall not be limited to the following: (Regulation 1.14, section 2.1)

i. Using, where possible, water or chemicals for control of dust in the grading of roads or the clearing of land,

ii. Applying and maintaining asphalt, oil, water, or suitable chemicals on roads, materials stockpiles, and other surfaces which can create airborne dusts, (Regulation 1.14, section 2.1.2)

iii. Covering at all times, except when loading and unloading, open bodied trucks transporting materials likely to become airborne, (Regulation 1.14, section 2.1.4) (See Comment 1)

b. **Opacity**

i. The owner or operator shall not allow visible emissions to equal or exceed 20% opacity. (Regulation 1.14, section 2.3)

ii. The owner or operator shall not allow visible fugitive emissions beyond the lot line of the property on which the emissions originate. (Regulation 1.14, section 2.4)

c. **TAC**

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 Comment 2)

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

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

a. **PM**

i. The owner or operator shall keep records of type and amount of the materials transferred to the landfill area.

ii. The owner or operator shall keep records of vehicle miles traveled (VMT) and weights for the vehicles traveled on the landfill area.

b. **Opacity**

See Specific Condition S2.a.

c. **TAC**

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

ii. 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 re-evaluate the environmental acceptability and document the environmentally acceptable emissions.

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

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

a. **PM/ Opacity**

The owner or operator shall report any deviation from the attached Fugitive Dust Control Plan during the reporting period.

b. **TAC**

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

ii. For any conditions outside the analysis, the owner or operator shall re-analyze to determine whether these conditions comply with the STAR program. Changes to the air dispersion modeling program or meteorological data used in the most recent Environmental Acceptability

Demonstration do not trigger the requirement to re-analyze. (Regulation 5.21 sections 4.22 – 4.24)

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

U22 Comments

1. LG&E submitted a Fugitive Dust Control Plan for Paved & Unpaved Roads on June 28, 2013 and the District approved the plan on 06/05/2014. See Attachment F.

2. LG&E submitted a TAC Environmental Acceptability Demonstration for this unit on July 19 and July 31, 2013. It has been demonstrated that the risk values of this unit are in compliance with the EA Goals.

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
Fuel or Lubricating oils storage tanks with vapor pressure <10mm Hg @ 20 deg C	13	0.005 VOC	Regulation 1.02, Appendix A, 3.9.2
1,000 gallon storage tank for #1 fuel oil with annual turnover < 2X the capacity	1	0.001 VOC	Regulation 1.02, Appendix A, 3.25
Minor combustion sources <10 MMBtu/hr	25	0.79 NOx	Regulation 1.02, Appendix A, 1.1
Emergency relief vents for boiler steam supply	24	0	Regulation 1.02, Appendix A, 3.10
Lab exhaust systems	3	0.001 VOC	Regulation 1.02, Appendix A, 3.11
Portable kerosene storage tanks with capacity less than 500 gallons	1	3.5e-5 VOC	Regulation 1.02, Appendix A, 3.23
Ash pond with wet storage	1	0	Regulation 2.16, section 1.23
Cooling Towers for Unit 2 and Unit 3	2	3.35 PM10	Regulation 2.16, section 1.23
Stack piles (coal, limestone, gypsum piles)	3	1.66 PM10	Regulation 2.16, section 1.23
Turbine oil reservoir vapor extractor	4	0	Regulation 2.16, section 1.23
Hydrogen seal oil tank vent	4	0	Regulation 2.16, section 1.23
Gypsum handling equipment	1	4.69 PM10	Regulation 2.16, section 1.23
Gasoline storage tank, 3,000 gallons (previous U10, see unit IA1)	1	1.87 VOC	Regulation 2.16, section 1.23
Non-halogenated cold solvent parts washers with secondary reservoir (previous U11, see unit IA2)	8	0.33 VOC	Regulation 2.16, section 1.23
Emergency generators, 800 HP each (previous U13, see unit IA3)	2	4.93 NOx	Regulation 2.16, section 1.23
Fire pumps, 157 HP and 183 HP (See unit IA4)	2	1.42 NOx	Regulation 2.16, section 1.23
Emergency vent for U1 and U2 boilers	1	0.7 NOx	Regulation 2.16, section 1.23

1) Insignificant Activities identified in District Regulation 1.02 Appendix A may be subject to size or production rate disclosure requirements.

2) Insignificant Activities identified in District Regulation 1.02 Appendix A shall comply with generally applicable requirements.

3) Activities identified in Regulation 1.02, Appendix A, may not require a permit and may be insignificant with regard to application disclosure requirements but may still have generally applicable requirements that continue to apply to the source and must be included in the permit.

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) In lieu of recording annual throughputs and calculating actual annual emissions, the owner or operator may elect to report the pollutant Potential To Emit (PTE) quantity listed in the Insignificant Activities table, as the annual emission for each piece of equipment.

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

7) The owner or operator shall submit an updated list of Insignificant Activities whenever changes in equipment located at the facility occur that cause changes to the plant wide emissions.

Emission Unit IA1: Gasoline storage tank

IA1 Applicable Regulations:

FEDERALLY ENFORCEABLE REGULATIONS		
Regulation	**Title**	**Applicable Sections**
6.40	Standards of Performance for Gasoline Transfer to Motor Vehicles (Stage II Vapor Recovery)	1.3
7.15	Standards of Performance for Gasoline Transfer to New Service Station Storage Tanks (Stage I Vapor Recovery)	1, 2, 3.1, 3.3, 3.4, 3.6, 3.7, 3.8, and 5

IA1 Equipment:

Emission Point	Description	Applicable Regulation	Control ID
E20	One (1) Stage I gasoline refueling station, including one 3,000 gallon unleaded gasoline storage tank	6.40 and 7.15	N/A

IA1 Control Devices:

This unit is equipped with a Stage I vapor recovery system.

IA1 Specific Conditions

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

VOC (Regulation 7.15, section 3 and Regulation 6.40, section 1.3)

i. The owner or operator of an affected facility shall install, maintain, and operate the following devices on the storage tank: (Regulation 7.15, section 3.1)

1) Submerged fill pipe; (Regulation 7.15, section 3.1.1)
2) If the gasoline storage tank is equipped with a separate gauge well, a gauge well drop tube shall be installed which extends to within six inches of the bottom of the tank; (Regulation 7.15, section 3.1.2)
3) Vent line restrictions on the affected facility; and (Regulation 7.15, section 3.1.3)
4) Vapor balance system and vapor tight connections on the liquid fill and vapor return hoses. The cross-sectional area of the vapor return hose and any other vapor return passages in the circuit connecting the vapor space in the service station tank to that of the truck tank must be at least 50% of the liquid fill hose cross-sectional area for each tank and free of flow restrictions to achieve acceptable recovery. The vapor balance equipment must be maintained according to the manufacturer's specifications. The type, size and design of the vapor balance system are subject to the approval of the District. (Regulation 7.15, section 3.1.4)

ii. The owner or operator shall not allow delivery of fuel to the storage tanks until the vapor balance system is properly connected to the transport vehicle and the affected facility. (Regulation 7.15, section 3.3)

iii. No person shall deliver gasoline to a service station as defined in Regulation 7.15 without connecting the vapor return hose between the tank of the delivery truck and the storage tank receiving the product. The vapor balance system must be operating in accordance with the manufacturer's specifications. (Regulation 7.15, section 3.4)

iv. The owner or operator shall equip above ground tanks with dry breaks with any liquid spillage upon the line disconnect not exceeding 10 ml. (Regulation 7.15, section 3.7)

v. The owner or operator shall operate and maintain equipment with no defects and: (Regulation 7.15, section 3.8)

1) All fill tubes shall be equipped with vapor-tight covers including gaskets, (Regulation 7.15, section 3.8.1)
2) All dry breaks shall have vapor-tight seals and shall be equipped with vapor-tight covers or dust covers, (Regulation 7.15, section 3.8.2)
3) All vapor return passages shall be operated so there can be no obstruction of vapor passage from the storage tank back to the delivery vehicle, (Regulation 7.15, section 3.8.3)
4) All storage tank vapor return pipes and fill pipes without dry breaks shall be equipped with vapor-tight covers including gaskets, and (Regulation 7.15, section 3.8.4)
5) All hoses, fittings, and couplings shall be in a vapor-tight condition. (Regulation 7.15, section 3.8.5)

vi. The owner or operator shall not dispense more than 10,000 gallons per month based on the average volume of gasoline dispensed during any consecutive 12 months. (Regulation 6.40, section 1.1)

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.

VOC

The owner or operator shall keep a record of the amount of throughput of gasoline per month to determine compliance with Specific Condition S1.vi. (Regulation 6.40, section 3.1.1)

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

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

VOC

The owner or operator shall submit a report by April 15th every year showing that they are still exempt from Regulation 6.40. (Regulation 6.40, section 2.2.1)

IA1 Comments

The storage tank under this unit meets the definition of insignificant activities per Regulation 2.16, section 1.23. However, Regulation 6.40 or 7.15 applies to gasoline storage vessels. These tanks shall meet the requirements under Regulation 6.40 or 7.15.

Emission Unit IA2: Parts washers with secondary reservoirs

IA2 Applicable Regulations:

FEDERALLY ENFORCEABLE REGULATIONS		
Regulation	**Title**	**Applicable Sections**
6.18	Standards of Performance for Solvent metal Cleaning Equipment	1 through 6

IA2 Equipment:

Emission Point	Description	Applicable Regulation	Control ID
IE1 – IE8	Eight (8) parts washers each equipped with a secondary reservoir	6.18	N/A

IA2 Control Devices:

There are no control devices associated with emission unit IA2.

IA2 Specific Conditions

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

VOC

a. The owner or operator shall install, maintain, and operate the control equipment as follows: (Regulation 6.18, section 4.1)

i. The cold cleaner shall be equipped with a tightly fitting cover that is free of cracks, holes, or other defects. If the solvent is agitated or heated, then the cover shall be designed so that it can be easily operated with 1 hand. (Regulation 6.18, section 4.1.1)

ii. The cold cleaner shall be equipped with a drainage facility that is designed so that the solvent that drains off parts removed from the cleaner will return to the cold cleaner. The drainage facility may be external if the District determines that an internal type cannot fit into the cleaning system. (Regulation 6.18, section 4.1.2)

iii. A permanent, conspicuous label summarizing the operating requirements specified in Specific Condition S1.b. shall be installed on or near the cold cleaner. (Regulation 6.18, section 4.1.3)

iv. If used, the solvent spray shall be a fluid stream, not a fine, atomized, or shower type spray, at a pressure that does not cause excessive splashing. Flushing of parts using a flexible hose or other flushing device shall be performed only within the freeboard area of the cold cleaner. Solvent flow shall be directed downward to avoid turbulence at the air-solvent interface and to prevent solvent from splashing outside of the cold cleaner. (Regulation 6.18, section 4.1.4)

v. Work area fans shall be located and positioned so that they do not blow across the opening of the cold cleaner. (Regulation 6.18, section 4.1.6)

vi. The solvent-containing portion of the cold cleaner shall be free of all liquid leaks. Auxiliary cold cleaner equipment such as pumps, water separators, steam traps, or distillation units shall not have any visible liquid leaks, visible tears, or cracks. (Regulation 6.18, section 4.1.8)

b. The owner or operator shall observe at all times the following operating requirements: (Regulation 6.18, section 4.2)

i. Waste solvent shall neither be disposed of nor transferred to another party in a manner such that more than 20% by weight of the waste solvent can evaporate. Waste solvent shall be stored only in a covered container. A

covered container may contain a device that allows pressure relief, but does not allow liquid solvent to drain from the container. (Regulation 6.18, section 4.2.1)

ii. The solvent level in the cold cleaner shall not exceed the fill line. (Regulation 6.18, section 4.2.2)

iii. The cold cleaner cover shall be closed whenever a part is not being handled in the cold cleaner. (Regulation 6.18, section 4.2.3)

iv. Parts to be cleaned shall be racked or placed into the cold cleaner in a manner that will minimize drag-out losses. (Regulation 6.18, section 4.2.4)

v. Cleaned parts shall be drained for at least 15 seconds or until dripping ceases, whichever is longer. Parts having cavities or blind holes shall be tipped or rotated while the part is draining. During the draining, tipping, or rotating, the parts shall be positioned so that the solvent drains directly back to the cold cleaner. (Regulation 6.18, section 4.2.5)

vi. A spill during solvent transfer shall be cleaned immediately, and the wipe rags or other sorbent material shall be immediately stored in a covered container for disposal or recycling, unless enclosed storage of these items is not allowed by fire protection authorities. (Regulation 6.18, section 4.2.6)

vii. Sponges, fabric, wood, leather, paper products, and other absorbent material shall not be cleaned in a cold cleaner. (Regulation 6.18, section 4.2.7)

c. The owner or operator shall not operate a cold cleaner using a solvent with a vapor pressure that exceeds 1.0 mm Hg (0.019 psi) measured at 20°C (68°F). (Regulation 6.18, section 4.3.2)

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

VOC

a. The owner or operator shall maintain records that include the following for each purchase: (Regulation 6.18, section 4.4.2)

i. The name and address of the solvent supplier,
ii. The date of the purchase,
iii. The type of the solvent, and
iv. The vapor pressure of the solvent measured in mm Hg at 20°C (68°F).

b. All records required in Specific Condition S2.a shall be retained for 5 years and made available to the District upon request. (Regulation 6.18, section 4.4.3)

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

VOC

There are no routine compliance reporting requirements for Regulation 6.18.

IA2 Comments

The parts washers under this unit meet the definition of insignificant activities per Regulation 2.16, section 1.23. However, Regulation 6.18 applies to each cold cleaner that uses VOC to remove soluble impurities from metal surfaces. These parts washers shall meet the requirements under Regulation 6.18.

Emission Unit IA3: Two (2) emergency generators

IA3 Applicable Regulations:

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
40 CFR 60, Subpart IIII	Standards of Performance for Stationary Compression Ignition Internal Combustion Engines	60.4200 - 4219

IA3 Equipment:

Emission Point	Description	Applicable Regulation	Control ID	Stack ID
E36	One (1) Turning Gear diesel generator, make Caterpillar, model C18, rated at 800 HP (597 KW) with an internal 404 gallon diesel fuel tank. Model year 2007 (Tier 2)	40 CFR 63, Subpart ZZZZ, 40 CFR 60, Subpart IIII	N/A	N/A
E37	One (1) diesel generator for FGD Quench Water system, make Caterpillar, model 3412, rated at 800 HP (597 KW) with an internal 450 gallon diesel fuel tank. Model year 2005 (Tier 1)	40 CFR 63, Subpart ZZZZ		

IA3 Control Devices:

There are no control devices associated with this equipment.

IA3 Specific Conditions

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

a. **Unit Operation**

i. For E36: The owner or operator of 2007 model year and later emergency stationary CI ICE with a displacement of less than 30 liters per cylinder that are not fire pump engines shall comply with the emission standards for new nonroad CI engines in 40 CFR 60.4202, for all pollutants. (40 CFR 60.4205(b))

1) The stationary CI internal combustion engine manufacturers shall certify engines with a maximum engine power greater than or equal to 37 KW (50 HP) with the certification emission standards for new nonroad CI engines for the same model year and maximum engine power in 40 CFR 89.112 and 40 CFR 89.113 for all pollutants beginning in model year 2007. (40 CFR 60.4202(a)(2))

2) Exhaust emission standards and upper limit for family emission limits according 40 CFR 89.112(a) and (d):

unit: g/KW-hr	NO_x	HC	NMHC+ NO_x	CO	PM
Emission Standards	N/A	N/A	6.4	3.5	0.2
Family Emission Limits	N/A	N/A	10.5	N/A	0.54

ii. For E36: The owner or operator that must comply with the emission standards specified in 40 CFR 60, Subpart IIII shall do all of the following: (40 CFR 60.4211(a))

1) Operate and maintain the stationary CI internal combustion engine and control device according to the manufacturer's emission-related written instructions; (40 CFR 60.4211(a)(1))

2) Change only those emission-related settings that are permitted by the manufacturer; (40 CFR 60.4211(a)(2))

iii. For E36: The owner or operator shall purchase an engine certified to the emission standards in 40 CFR 60.4205(b), as applicable for the same model year and maximum engine power. The engine must be installed and configured according to the manufacturer’s specifications. (40 CFR 60.4211(c))

iv. For both E36 and E37: In order for the engine to be considered an emergency stationary ICE, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year, as described in 40 CFR 60.4211(f)(1) through (3), is prohibited. If the owner or operator does not operate the engine according to the requirements in 40 CFR 60.4211(f)(1) through (3), the engine will not be considered an emergency engine and must meet all requirements for non-emergency engines. (40 CFR 60.4211(f), 40 CFR 63.6640(f))

1) There is no time limit on the use of emergency stationary ICE in emergency situations. (40 CFR 60.4211(f)(1), 40 CFR 63.6640(f)(1))

2) The owner or operator may operate the emergency stationary ICE for any combination of the purposes specified in 40 CFR 60.4211(f)(2)(i) through (iii) for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by 40 CFR 60.4211(f)(3) counts as part of the 100 hours per calendar year allowed by this paragraph. (40 CFR 60.4211(f)(2), 40 CFR 63.6640(f)(2)).

(a) Emergency stationary ICE may be operated 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 operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year. (40 CFR 60.4211(f)(2)(i), 40 CFR 63.6640(f)(2)(i))

(b) Emergency stationary ICE may be operated for emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-3, Capacity and Energy Emergencies (incorporated by reference, see 40 CFR 60.17), 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 60.4211(f)(2)(ii), 40 CFR 63.6640(f)(2)(ii))

(c) Emergency stationary ICE may be operated for periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency. (40 CFR 60.4211(f)(2)(iii), 40 CFR 63.6640(f)(2)(iii)))

3) Emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in 40 CFR 60.4211(f)(2). Except as provided in 40 CFR 60.4211(f)(3)(i), the 50 hours per calendar year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity. (40 CFR 60.4211(f)(3), 40 CFR 63.6640(f)(3))

(a) The 50 hours per year for non-emergency situations can be used to supply power as part of a financial arrangement with another entity if all of the following conditions are met: (40 CFR 60.4211(f)(3)(i))

(i) The engine is dispatched by the local balancing authority or local transmission and distribution system operator; (40 CFR 60.4211(f)(3)(i)(A))

(ii) The dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region. (40 CFR 60.4211(f)(3)(i)(B))

(iii) The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines. (40 CFR 60.4211(f)(3)(i)(C))

(iv) The power is provided only to the facility itself or to support the local transmission and distribution system. (40 CFR 60.4211(f)(3)(i)(D))

(v) The owner or operator identifies and records the entity that dispatches the engine and the specific NERC, regional, state, public utility commission or local standards or guidelines that are being followed for dispatching the engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the engine owner or operator. (40 CFR 60.4211(f)(3)(i)(E))

v. For E37: At all times the owner or operator shall operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the owner or operator to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which 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 63.6605(b))

b. **SO_2**

i. For E36: The owner or operator shall not combust in the engine a nonroad diesel fuel that contains more than 15 ppm of sulfur. (40 CFR 60.4207(b)) (40 CFR 80.510(b)(1)(i))

ii. For E37: Beginning January 1, 2015, the owner or operator shall not combust in the engine a nonroad diesel fuel that contains more than 15 ppm of sulfur. The diesel fuel shall meet the requirements in 40 CFR 80.510(b) for nonroad diesel fuel, except that any existing diesel fuel purchased (or otherwise obtained) prior to January 1, 2015, may be used until depleted. (40 CFR 63.6604(c))

c. **HAP**

For both E36 and E37: The equipment listed in this emission unit is subject to 40 CFR 63, Subpart ZZZZ, however, there are no applicable HAP standards in this regulation. (See Comment 1)

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. **Unit Operation**

i. For E36: The owner or operator of an emergency stationary CI internal combustion engine that does not meet the standards applicable to non-emergency engines, the owner or operator shall install a non-resettable hour meter prior to startup of the engine. (40 CFR 60.4209(a))

ii. For E36: The owner or operator is not required to submit an initial notification. Starting with the model years in table 5 to this subpart, if the emergency engine does not meet the standards applicable to non-emergency engines in the applicable model year, the owner or operator shall keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. The owner must record the time of operation of the engine and the reason the engine was in operation during that time. (40 CFR 60.4214(b))

b. **SO_2**

The owner or operator shall maintain records of the fuel MSDS sheets and receipts showing dates, amounts of fuel purchased, sulfur content of fuel purchased and supplier's name and address, to show compliance with Specific Condition S1.b.

c. **HAP**

For both E36 and E37: There are no compliance monitoring or record keeping requirements for HAP. (See Comment 1)

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

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

a. **Unit Operation**

i. For E36: The owner or operator is not required to submit an initial notification. (40 CFR 60.4214(b))

ii. For E37:

1) The owner or operator shall submit an Initial Notification not later than 120 days after become subject to 40 CFR 63, Subpart ZZZZ. (40 CFR 63.6645(c))

2) If the owner or operator are required to submit an Initial Notification but are otherwise not affected by the requirements of

this subpart, the notification should include the information in 40 CFR 63.9(b)(2)(i) through (v), and a statement that your stationary RICE has no additional requirements and explain the basis of the exclusion. (40 CFR 63.6645(f))

b. **SO_2**

For both E36 and E37:

There are no routine compliance reporting requirements for this equipment.

c. **HAP**

For both E36 and E37:

There are no routine compliance reporting requirements for this equipment. (See Comment 1)

IA3 Comment

1. Both engines (E36 and E37) are subject to 40 CFR 63, Subpart ZZZZ, *National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*, because it involves a stationary reciprocating internal combustion engine (RICE) located at a major source of HAP emissions. The Turning Gear diesel generator is also subject 40 CFR 60, Subpart IIII.

2. The associated internal storage tank for diesel fuel is exempt from District permitting requirements in accordance with Regulation 1.02, section 3.9.2.

3. This unit was previously permitted under construction permit 426-07.

4. Potential emissions for this permitted operation are greatest for nitrogen oxides (NO_x). Based on AP-42 Emission Factors and 500 hours per year for an emergency generator, as defined by EPA, the potential NO_x emissions for this permitted operation is less than 5 tons per year.

Emission Unit IA4: Two (2) fire pump engines

IA4 Applicable Regulations:

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
40 CFR 60, Subpart IIII	Standards of Performance for Stationary Compression Ignition Internal Combustion Engines	60.4200 - 4219

IA4 Equipment:

Emission Point	Description	Applicable Regulation	Control ID	Stack ID
IE9	One (1) diesel fire pump engine, make Clarke, model JU4H-UFADY8, rated at 157 HP with a 187 gallon diesel fuel tank.	40 CFR 63, Subpart ZZZZ, 40 CFR 60, Subpart IIII	N/A	N/A
IE10	One (1) diesel fire pump engine, make Clarke, model JU6H-UFADY58, rated at 183 HP with a 300 gallon diesel fuel tank.			

IA4 Control Devices:

There are no control devices associated with this equipment.

IA4 Specific Conditions

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

a. **Unit Operation**

i. The owner or operator that must comply with the emission standards specified in 40 CFR 60, Subpart IIII shall do all of the following: (40 CFR 60.4211(a))

1) Operate and maintain the stationary CI internal combustion engine and control device according to the manufacturer's emission-related written instructions; (40 CFR 60.4211(a)(1))

2) Change only those emission-related settings that are permitted by the manufacturer; (40 CFR 60.4211(a)(2))

ii. The owner or operator shall purchase an engine certified to the emission standards in 40 CFR 60.4205(c), as applicable for the same model year and maximum engine power. The engine must be installed and configured according to the manufacturer’s specifications. (40 CFR 60.4211(c))

iii. Engine manufacturers shall certify the fire pump stationary CI engines to the emission standards in table 4 to 40 CFR 60, Subpart IIII, for all pollutants, for the same model year and NFPA nameplate power. (40 CFR 60.4202(d))

Fire pump engines for this unit are subject to following emission standards in g/KW-hr (g/HP-hr): (Table 4 to 40 CFR 60, Subpart IIII)

Equipment Description	Model Year	NMHC+ NO_x	CO	PM
IE9: 157 HP fire pump	2013	4.0 (3.0)	N/A	0.30 (0.22)
IE10: 183 HP fire pump	2013	4.0 (3.0)	N/A	0.20 (0.15)

iv. In order for the engine to be considered an emergency stationary ICE under this subpart, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year, as described in 40 CFR 60.4211(f)(1) through (3), is prohibited. If the owner or operator does not operate the engine according to the requirements in 40 CFR 60.4211(f)(1) through (3), the engine will not be considered an emergency engine under this subpart and must meet all requirements for non-emergency engines. (40 CFR 60.4211(f), 40 CFR 63.6640(f))

1) There is no time limit on the use of emergency stationary ICE in emergency situations. (40 CFR 60.4211(f)(1), 40 CFR 63.6640(f)(1))

2) The owner or operator may operate the emergency stationary ICE for any combination of the purposes specified in 40 CFR 60.4211(f)(2)(i) through (iii) for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by 40 CFR 60.4211(f)(3) counts as part of the 100 hours per calendar year allowed by this paragraph. (40 CFR 60.4211(f)(2), 40 CFR 63.6640(f)(2)).

(a) Emergency stationary ICE may be operated 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 operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year. (40 CFR 60.4211(f)(2)(i), 40 CFR 63.6640(f)(2)(i))

3) Emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing. (40 CFR 60.4211(f)(3), 40 CFR 63.6640(f)(3))

v. At all times the owner or operator shall operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the owner or operator to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which 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 63.6605(b))

b. **SO_2**

The owner or operator shall not combust in the engine a nonroad diesel fuel that contains more than 15 ppm of sulfur. (40 CFR 60.4207(b)) (40 CFR 80.510(b)(1)(i))

c. **HAP**

The equipment listed in this emission unit is subject to 40 CFR 63, Subpart ZZZZ, however, there are no HAP standards. (See Comment 1)

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. **Unit Operation**

The owner or operator is not required to submit an initial notification. The owner or operator shall keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. The owner must record the time of operation of the engine and the reason the engine was in operation during that time. (40 CFR 60.4214(b))

b. **SO_2**

The owner or operator shall maintain records of the fuel MSDS sheets and receipts showing dates, amounts of fuel purchased, sulfur content of fuel purchased and supplier's name and address, to show compliance with Specific Condition S1.e.

c. **HAP**

There are no compliance monitoring or record keeping requirements for HAP. (See Comment 1)

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

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

a. **Unit Operation**

There are no routine compliance reporting requirements for this equipment.

b. **SO_2**

There are no routine compliance reporting requirements for this equipment.

c. **HAP**

There are no routine compliance reporting requirements for this equipment. (See Comment 1)

IA4 Comment

1. This operation is subject to 40 CFR 63, Subpart ZZZZ, *National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*, because it involves a stationary reciprocating internal combustion engine (RICE) located at a major source of HAP emissions. The proposed new stationary RICE meets the definition in 40 CFR 63.6675 of an emergency stationary RICE, which, per 40 CFR 63.6590(c), shall meet the requirements of 40 CFR 63, Subpart ZZZZ and 40 CFR 60, Subpart IIII.

2. Fire pump engine is an emergency engine per 40 CFR 60, Subpart IIII, 60.4219, "Fire pump engine" means an emergency stationary internal combustion engine certified to NFPA requirements that is used to provide power to pump water for fire suppression or protection."

3. The associated storage tank for diesel fuel is exempt from District permitting requirements in accordance with Regulation 1.02, section 3.9.2.

4. Potential emissions for this permitted operation are greatest for nitrogen oxides (NO_x). Based on AP-42 Emission Factors and 500 hours per year for an emergency generator, as defined by EPA, the potential NO_x emissions for this permitted operation is less than 5 tons per year.

Emission Unit IA-EG: Emergency generators

IA-EG Applicable Regulations:

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
40 CFR 60, Subpart IIII	Standards of Performance for Stationary Compression Ignition Internal Combustion Engines	60.4200 - 4219

IA-EG Equipment:

Emission Point	Description	Applicable Regulation	Control ID	Stack ID
E-EG	Emergency diesel generators that installed after July 11, 2005 and manufactured after April 1, 2006, with a maximum engine power less than or equal to 500 HP and located at a major source of HAP.	40 CFR 63, Subpart ZZZZ, 40 CFR 60, Subpart IIII	N/A	N/A

IA-EG Control Devices:

There are no control devices associated with this equipment.

IA-EG Specific Conditions

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

a. **Unit operation**

i. The owner or operator of a pre-2007 model year emergency stationary CI ICE with a displacement of less than 10 liters per cylinder that are not fire pump engines shall comply with the emission standards in Table 1 to this subpart. (40 CFR 60.4205(a)) (See Table 1)

Table 1 Emission standards for Pre-2007 model (40 CFR 60, Subpart IIII)

Maximum engine power	**Emission standards in g/KW-hr (g/HP-hr)**				
	NMHC + NO_X	**HC**	**NO_X**	**CO**	**PM**
kW < 8 (hp < 11)	10.5 (7.8)			8.0 (6.0)	1.0 (0.75)
8 ≤ kW < 19 (11 ≤ hp < 25)	9.5 (7.1)			6.6 (4.9)	0.80 (0.60)
19 ≤ kW < 37 (25 ≤ hp < 50)	9.5 (7.1)			5.5 (4.1)	0.80 (0.60)
37 ≤ kW < 56 (50 ≤ hp < 75)			9.2 (6.9)		
56 ≤ kW < 75 (75 ≤ hp < 100)			9.2 (6.9)		
75 ≤ kW < 130 (100 ≤ hp < 175)			9.2 (6.9)		
130 ≤ kW < 225 (175 ≤ hp < 300)		1.3 (1.0)	9.2 (6.9)	11.4 (8.5)	0.54 (0.40)
225 ≤ kW < 375 (300 ≤ hp < 500)		1.3 (1.0)	9.2 (6.9)	11.4 (8.5)	0.54 (0.40)

ii. The owner or operator of a 2007 model year and later emergency stationary CI ICE with a displacement of less than 30 liters per cylinder that is not a fire pump engine shall comply with the emission standards (Table 2) obtained from 40 CFR 89.112, Table 1 for Tier 1 – 3 engines and 40 CFR 1039.101, Table 1 for Tier 4 engines, or the family emission limits (Table 3) obtained from 40 CFR 89.112, Table 2 for Tier 1 – 3 engines and 40 CFR 1039.101, Table 2 for Tier 4 engines, and smoke emission standards (Table 4) obtained from 40 CFR 89.113(a) for Tier 1-3 engines and 40 CFR 1039.105(b) for Tier 4 engines, for the same model year and maximum engine power for their 2007 model year and later emergency stationary CI ICE. (40 CFR 60.4205(b)) (40 CFR 60.4202)

Table 2 EPA Tier 1-4 Nonroad Diesel Engine Emission Standards[a], g/kW-hr (g/bhp-hr)

Maximum Engine Power	Tier	Model Year[b]	NO_x	HC	NMHC +NO_x	CO	PM
kW < 8 (hp < 11)	Tier 2/Tier 3	2005	-	-	7.5 (5.6)	8.0 (6.0)	0.8 (0.6)
	Tier 4	2008	-	-	7.5 (5.6)	8.0 (6.0)	0.4[c] (0.3)
8 ≤ kW < 19 (11 ≤ hp < 25)	Tier 2/Tier 3	2005	-	-	7.5 (5.6)	6.6 (4.9)	0.8 (0.6)
	Tier 4	2008	-	-	7.5 (5.6)	6.6 (4.9)	0.4 (0.3)
19 ≤ kW < 37 (25 ≤ hp < 50)	Tier 2/Tier 3	2004	-	-	7.5 (5.6)	5.5 (4.1)	0.6 (0.45)
	Tier 4	2008	-	-	7.5 (5.6)	5.5 (4.1)	0.3 (0.22)
		2013	-	-	4.7 (3.5)	5.5 (4.1)	0.03 (0.022)
37 ≤ kW < 56 (50 ≤ hp < 75)	Tier 2	2004	-	-	7.5 (5.6)	5.0 (3.7)	0.4 (0.3)
	Tier 3	2008	-	-	4.7 (3.5)	5.0 (3.7)	0.3[d] (0.22)
	Tier 4	2013	-	-	4.7 (3.5)	5.0 (3.7)	0.03 (0.022)
56 ≤ kW < 75 (75 ≤ hp < 100)	Tier 2	2004	-	-	7.5 (5.6)	5.0 (3.7)	0.4 (0.3)
	Tier 3	2008	-	-	4.7 (3.5)	5.0 (3.7)	0.4 (0.3)
	Tier 4	2012-2014[e]	0.4 (0.3)	0.19 (0.14)	-	5.0 (3.7)	0.02 (0.015)
75 ≤ kW < 130 (100 ≤ hp < 175)	Tier 2	2003	-	-	6.6 (4.9)	5.0 (3.7)	0.3 (0.2)
	Tier 3	2007	-	-	4.0 (3.0)	5.0 (3.7)	0.3 (0.2)
	Tier 4	2012-2014[e]	0.4 (0.3)	0.19 (0.14)	-	5.0 (3.7)	0.02 (0.015)
130 ≤ kW < 225 (175 ≤ hp < 300)	Tier 2	2003	-	-	6.6 (4.9)	3.5 (2.6)	0.2 (0.15)
	Tier 3	2006	-	-	4.0 (3.0)	3.5 (2.6)	0.2 (0.15)
	Tier 4	2011-2014[f]	0.4 (0.3)	0.19 (0.14)	-	3.5 (2.6)	0.02 (0.015)
225 ≤ kW ≤ 375 (300 ≤ hp ≤ 500)	Tier 3	2006	-	-	4.0 (3.0)	3.5 (2.6)	0.2 (0.15)
	Tier 4	2011-2014[f]	0.4 (0.3)	0.19 (0.14)	-	3.5 (2.6)	0.02 (0.015)

[a] Emission standards from 40 CFR 89.112 Table 1 for Tier 1-3 engines and 40 CFR 1039.101 Table 1 for Tier 4 engines.
[b] The model years listed indicate the model years for which the specified tier of limits take effect.
[c] Hand-startable, air-cooled, DI engines may be certified to Tier 2 standards through 2009 and to an optional PM standard of 0.6 g/kW-hr starting in 2010
[d] 0.4 g/kWh (Tier 2) if manufacturer complies with the 0.03 g/kW-hr standard from 2012
[e] PM/CO: full compliance from 2012; NO_x/HC: Option 1 (if banked Tier 2 credits used) – 50% engines shall comply in 2012-2013; Option 2 (if no Tier 2 credits claimed) – 25% engines shall comply in 2012-2014, with full compliance from 2014.12.31
[f] PM/CO: full compliance from 2011; NO_x/HC: 50% engines shall comply in 2011-2013

Table 3 EPA Tier 1-4 Nonroad Diesel Engine Family Emission Limits, g/kW-hr (g/bhp-hr)

Maximum Engine Power	Tier	Model Year[a]	NO_x	NMHC +NO_x	PM
kW < 8 (hp < 11)	Tier 2/Tier 3	2005	-	10.5 (7.8)	1.0 (0.7)
	Tier 4	-	-	10.5 (7.8)	0.8 (0.6)
8 ≤ kW < 19 (11 ≤ hp < 25)	Tier 2/Tier 3	2005	-	9.8 (7.3)	0.8 (0.6)
	Tier 4	-	-	9.5 (7.1)	0.8 (0.6)

Maximum Engine Power	Tier	Model Year[a]	NO_x	NMHC $+NO_x$	PM
19 ≤ kW < 37 (25 ≤ hp < 50)	Tier 2/Tier 3	2004	-	9.5 (7.1)	0.8 (0.6)
	Tier 4	-	-	7.5 (5.6)	0.05 (0.037)
37 ≤ kW < 56 (50 ≤ hp < 75)	Tier 2	2004	-	11.5 (8.6)	1.2 (0.9)
	Tier 3	2008	-	7.5 (5.6)	1.2 (0.9)
	Tier 4	-	-	7.5 (5.6)	0.05 (0.037)
56 ≤ kW < 75 (75 ≤ hp < 100)	Tier 2	2004	-	11.5 (8.6)	1.2 (0.9)
	Tier 3	2008	-	7.5 (5.6)	1.2 (0.9)
	Tier 4	-	0.8 (0.6)	-	0.04 (0.03)
75 ≤ kW < 130 (100 ≤ hp < 175)	Tier 2	2003	-	11.5 (8.6)	1.2 (0.9)
	Tier 3	2007	-	6.6 (4.9)	1.2 (0.9)
	Tier 4	-	0.8 (0.6)	-	0.04 (0.03)
130 ≤ kW < 225 (175 ≤ hp < 300)	Tier 2	2003	-	10.5 (7.8)	0.54 (0.04)
	Tier 3	2006	-	6.6 (4.9)	0.54 (0.4)
	Tier 4	-	0.8 (0.6)	-	0.04 (0.03)
225 ≤ kW ≤ 375 (300 ≤ hp ≤ 500)	Tier 3	2006	-	6.4 (4.8)	0.54 (0.4)
	Tier 4	-	0.8 (0.6)	-	0.04 (0.03)

Table 4 EPA Tier 1-4 Smoke Emission Standards

Maximum Engine Power	Tier	Smoke Emission Standards
0 < kW ≤ 375 (0 < hp ≤ 500)	Tier 1	(1) 20% during the acceleration mode (2) 15% during the lugging mode; or (3) 50% during the peaks in either the acceleration or lugging modes.
	Tier 2	
	Tier 3	
	Tier 4	

iii. The owner or operator of an emergency stationary CI ICE with a displacement of less than 30 liters per cylinder who conducts performance tests in-use shall meet the NTE standards as indicated in the Testing section of this permit. (40 CFR 60.4205(e))

iv. The owner or operator of any modified or reconstructed emergency stationary CI ICE subject to this subpart shall meet the emission standards applicable to the model year, maximum engine power, and displacement of the modified or reconstructed CI ICE that are specified in Table 2, Table 3, or the Testing section of this permit. (40 CFR 60.4205(f))

v. The owner or operator that is required comply with the emission standards specified in 40 CFR 60, Subpart IIII shall do all of the following: (40 CFR 60.4211(a))

1) Operate and maintain the stationary CI internal combustion engine and control device according to the manufacturer's emission-related written instructions; (40 CFR 60.4211(a)(1))

2) Change only those emission-related settings that are permitted by the manufacturer; (40 CFR 60.4211(a)(2))

vi. For a pre-2007 model year stationary CI internal combustion engine that shall comply with the emission standards specified in Table 1, the owner or operator shall demonstrate compliance according to one of the methods specified in paragraphs (b)(1) through (5) of this section. (40 CFR 60.4211(b))

1) Purchasing an engine certified according to 40 CFR part 89 or 40 CFR part 94, as applicable, for the same model year and maximum engine power. The engine shall be installed and configured according to the manufacturer's specifications. (40 CFR 60.4211(b)(1))

2) Keeping records of performance test results for each pollutant for a test conducted on a similar engine. The test shall have been conducted using the same methods specified in this subpart and these methods shall have been followed correctly. (40 CFR 60.4211(b)(2))

3) Keeping records of engine manufacturer data indicating compliance with the standards. (40 CFR 60.4211(b)(3))

4) Keeping records of control device vendor data indicating compliance with the standards. (40 CFR 60.4211(b)(4))

5) Conducting an initial performance test to demonstrate compliance with the emission standards according to the requirements specified in the Testing section of this permit, as applicable. (40 CFR 60.4211(b)(5))

vii. For a 2007 model year and later stationary CI internal combustion engine that shall comply with the emission standards specified in Table 2 and Table 3, the owner or operator shall purchase an engine certified to the emission standards in Table 2 and Table 3, as applicable for the same model year and maximum engine power. The engine shall be installed and configured according to the manufacturer’s specifications. (40 CFR 60.4211(c))

viii. For a modified or reconstructed stationary CI internal combustion engine that shall comply with the emission standards specified in Table 2, Table 3, or the Testing section of this permit, the owner or operator shall

demonstrate compliance according to one of the methods specified in paragraphs (e)(1) or (2) of this section. (40 CFR 60.4211(e))

1) Purchasing, or otherwise owning or operating, an engine certified to the emission standards in Table 2, Table 3, or the Testing section of this permit, as applicable. (40 CFR 60.4211(e)(1))

2) Conducting a performance test to demonstrate initial compliance with the emission standards according to the requirements specified in the Testing section of this permit, as appropriate. The test shall be conducted within 60 days after the engine commences operation after the modification or reconstruction. (40 CFR 60.4211(e)(2))

ix. In order for the engine to be considered an emergency stationary ICE under this subpart, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (f)(1) through (3) of this section, is prohibited. If the owner or operator does not operate the engine according to the requirements below, the engine will not be considered an emergency engine under this subpart and shall meet all requirements for non-emergency engines. (40 CFR 60.4211(f))

1) There is no time limit on the use of emergency stationary ICE in emergency situations. (40 CFR 60.4211(f)(1))

2) The owner or operator may operate the emergency stationary ICE for any combination of the purposes specified in 40 CFR 60.4211(f)(2)(i) through (iii) for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by 40 CFR 60.4211(f)(3) counts as part of the 100 hours per calendar year allowed by this paragraph. (40 CFR 60.4211(f)(2)).

(a) Emergency stationary ICE may be operated 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 operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local

standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year. (40 CFR 60.4211(f)(2)(i))

(b) Emergency stationary ICE may be operated for emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-3, Capacity and Energy Emergencies (incorporated by reference, see 40 CFR 60.17), 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 60.4211(f)(2)(ii))

(c) Emergency stationary ICE may be operated for periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency. (40 CFR 60.4211(f)(2)(iii))

3) Emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in 40 CFR 60.4211(f)(2). Except as provided in 40 CFR 60.4211(f)(3)(i), the 50 hours per calendar year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity. (40 CFR 60.4211(f)(3))

(a) The 50 hours per year for non-emergency situations can be used to supply power as part of a financial arrangement with another entity if all of the following conditions are met: (40 CFR 60.4211(f)(3)(i))

(i) The engine is dispatched by the local balancing authority or local transmission and distribution system operator; (40 CFR 60.4211(f)(3)(i)(A))

(ii) The dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region. (40 CFR

60.4211(f)(3)(i)(B))

(iii) The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines. (40 CFR 60.4211(f)(3)(i)(C))

(iv) The power is provided only to the facility itself or to support the local transmission and distribution system. (40 CFR 60.4211(f)(3)(i)(D))

(v) The owner or operator identifies and records the entity that dispatches the engine and the specific NERC, regional, state, public utility commission or local standards or guidelines that are being followed for dispatching the engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the engine owner or operator. (40 CFR 60.4211(f)(3)(i)(E))

b. **Fuel requirements**

Beginning October 1, 2010, the owner or operator of a stationary CI ICE subject to this subpart with a displacement of less than 30 liters per cylinder that uses diesel fuel shall use diesel fuel that meets the requirements of 40 CFR 80.510(b) for nonroad diesel fuel, except that any existing diesel fuel purchased (or otherwise obtained) prior to October 1, 2010, may be used until depleted: (40 CFR 60.4207(b))

1) Sulfur content: 15 parts per million (ppm) maximum for NR diesel fuel. (40 CFR 80.510(b)(1)(i))
2) A minimum cetane index of 40; or (40 CFR 80.510(b)(2)(i))
3) A maximum aromatic content of 35 volume percent. (40 CFR 80.510(b)(2)(ii))

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. **Unit Operation**

i. The owner or operator of an emergency stationary CI internal combustion engine that does not meet the standards applicable to non-emergency

engines shall install a non-resettable hour meter prior to startup of the engine. (40 CFR 60.4209(a))

ii. The owner or operator is not required to submit an initial notification. Starting with the model years in Table 5 to this subpart, if the emergency engine does not meet the standards applicable to non-emergency engines in the applicable model year, the owner or operator shall keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. The owner shall record the time of operation of the engine and the reason the engine was in operation during that time. (40 CFR 60.4214(b))

Table 5 Labeling and Recordkeeping Requirements for New Stationary Emergency Engines

Engine Power	Starting Model Year
$19 \leq kW < 56$ ($25 \leq hp < 75$)	2013
$56 \leq kW < 130$ ($75 \leq hp < 175$)	2012
$130 \leq kW \leq 375$ ($175 \leq hp \leq 500$)	2011

b. **Fuel requirements**

The owner or operator shall maintain records of the fuel MSDS sheets and receipts showing dates, amounts of fuel purchased, sulfur content of fuel purchased and supplier's name and address, to show compliance with Specific Condition S1.b.

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

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

a. **Unit Operation**

i. The owner or operator is not required to submit an initial notification. (40 CFR 60.4214(b))

ii. The owner or operator shall identify all periods of exceeding the hour limits specified in Specific Condition S1.a.ix during the reporting period. The compliance report shall include the following:

1) Identification of all periods during which a deviation occurred;
2) A description, including the magnitude, of the deviation;
3) If known, the cause of the deviation;

4) A description of all corrective actions taken to abate the deviation; and
5) If no deviations occur during a reporting period, the report shall contain a negative declaration.

iii. For an emergency stationary CI ICE with a maximum engine power more than 100 HP that operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in S1.a.ix.2)(b) and S1.a.ix.2)(c), or that operates for the purposes specified in S1.a.ix.3)(a), the owner or operator shall submit an annual report according to the requirements in the following paragraphs: (40 CFR 60.4214(d))

1) The report shall contain the following information: (40 CFR 60.4214(d)(1))

(a) Company name and address where the engine is located. (40 CFR 60.4214(d)(1)(i))

(b) Date of the report and beginning and ending dates of the reporting period. (40 CFR 60.4214(d)(1)(ii))

(c) Engine site rating and model year. (40 CFR 60.4214(d)(1)(iii))

(d) Latitude and longitude of the engine in decimal degrees reported to the fifth decimal place. (40 CFR 60.4214(d)(1)(iv))

(e) Hours operated for the purposes specified in 40 CFR 60.4211(f)(2)(ii) and (iii), including the date, start time, and end time for engine operation for the purposes specified in 40 CFR 60.4211(f)(2)(ii) and (iii). (40 CFR 60.4214(d)(1)(v))

(f) Number of hours the engine is contractually obligated to be available for the purposes specified in 40 CFR 60.4211(f)(2)(ii) and (iii). (40 CFR 60.4214(d)(1)(vi))

(g) Hours spent for operation for the purposes specified in 40 CFR 60.4211(f)(3)(i), including the date, start time, and end time for engine operation for the purposes specified in 40 CFR 60.4211(f)(3)(i). The report shall also identify the entity that dispatched the engine and the situation that necessitated the dispatch of the engine. (40 CFR 60.4214(d)(1)(vii))

2) The first report shall cover the calendar year 2015 and shall be submitted no later than March 31, 2016. Subsequent reports for each calendar year shall be submitted as required by your operating permit. (40 CFR 60.4214(d)(2))

3) The report shall be submitted electronically using the subpart specific reporting form in the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through 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 written report shall be submitted to the Administrator at the appropriate address listed in 40 CFR 60.4. (40 CFR 60.4214(d)(3))

b. **Fuel requirements**

There are no routine compliance reporting requirements for this equipment.

S4. **Testing** (Regulation 2.16, section 4.1.9.3)

a. **Testing requirements** (40 CFR 60, Subpart IIII)

The owner or operator of stationary CI ICE with a displacement of less than 30 liters per cylinder who conduct performance tests pursuant to this subpart shall do so according to the following paragraphs: (40 CFR 60.4212)

i. The performance test shall be conducted according to the in-use testing procedures in 40 CFR part 1039, subpart F, for stationary CI ICE with a displacement of less than 10 liters per cylinder, and according to 40 CFR part 1042, subpart F, for stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder. (40 CFR 60.4212(a))

ii. Exhaust emissions from stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR part 1039 shall not exceed the not-to-exceed (NTE) standards for the same model year and maximum engine power as required in 40 CFR 1039.101(e) and 40 CFR 1039.102(g)(1), except as specified in 40 CFR 1039.104(d). This requirement starts when NTE requirements take effect for nonroad diesel engines under 40 CFR part 1039. (40 CFR 60.4212(b))

iii. Exhaust emissions from stationary CI ICE that are complying with the emission standards for new CI engines in Table 2 or Table 3, as applicable, shall not exceed the NTE numerical requirements, rounded to

the same number of decimal places as the applicable standard in Table 2 or Table 3, determined from the following equation: (40 CFR 60.4212(c))

$$\text{NTE requirement for each pollutant} = (1.25) \times (\text{STD}) \qquad \text{(Eq. 1)}$$

Where:
STD = The standard specified for that pollutant in Table 2 or Table 3.

Alternatively, stationary CI ICE that are complying with the emission standards for new CI engines in Table 2 or Table 3 may follow the testing procedures specified in 40 CFR 60.4213 of this subpart, as appropriate.

iv. Exhaust emissions from stationary CI ICE that are complying with the emission standards for pre-2007 model year engines in Table 1 shall not exceed the NTE numerical requirements, rounded to the same number of decimal places as the applicable standard in Table 1, determined from the following equation: (40 CFR 60.4212(d))

Where:
STD = The standard specified for that pollutant in Table 1.

Alternatively, stationary CI ICE that are complying with the emission standards for pre-2007 model year engines in Table 1 may follow the testing procedures specified in 40 CFR 60.4213, as appropriate.

v. Exhaust emissions from stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR part 1042 shall not exceed the NTE standards for the same model year and maximum engine power as required in 40 CFR 1042.101(c). (40 CFR 60.4212(e))

b. **General testing requirements**

The owner or operator shall construct all equipment in such a manner that the following testing requirements can be performed.

i. The test shall be performed at 90% or higher of maximum capacity, or allowable/permitted capacity, or at a level of capacity which results in the greatest emissions and is representative of the operations. Failure to perform the test, at maximum capacity, allowable/permitted capacity, or at a level of capacity which resulted in the greatest emissions, may necessitate a re-test or necessitate a revision of the allowable/permitted capacity of the process equipment depending upon the difference between the testing results and the limit.

ii. The owner or operator shall submit written compliance test plans (protocol) for the test. They shall include the EPA test methods that will

be used for compliance testing, the process operating parameters that will be monitored during the performance test, and the control device performance indicators (e.g. pressure drop, minimum combustion chamber temperature) that will be monitored during the performance test. The compliance test plans shall be furnished to the District at least 30 days prior to the actual date of the performance test. Attached to the permit is a Protocol Checklist for Performance Test for the information to be submitted in the protocol.

iii. The owner or operator shall be responsible for obtaining and analyzing audit samples when the EPA Reference Method is used to analyze samples to demonstrate compliance with the source's emission regulation. The audit samples shall be available for verification by the District during the onsite testing. (See Comment 3)

iv. 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.

v. 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.

IA-EG Comment

5. This unit is is subject to 40 CFR 63, Subpart ZZZZ, *National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*, because it involves a stationary reciprocating internal combustion engine (RICE) located at a major source of HAP emissions. The proposed new stationary RICE meets the definition in 40 CFR 63.6675 of an emergency stationary RICE, which, per 40 CFR 63.6590(b)(1)(i), does not have to meet the requirements of 40 CFR 63 Subpart ZZZZ and of 40 CFR 63 Subpart A.

6. The associated storage tank for diesel fuel is exempt from District permitting requirements in accordance with Regulation 1.02, section 3.9.2.

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

8. Potential emissions for this permitted operation are greatest for nitrogen oxides (NO_x). Based on AP-42 Emission Factors and 500 hours per year for an emergency generator, as defined by EPA, the potential NO_x emissions for this permitted operation is less than 5 tons per year.

Attachment A - 40 CFR 63, Subpart UUUUU (MACT)

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)**

HAP

i. Compliance date: (40 CFR 63.9984)

1) Unit U1, U2, U3, and U4 are existing EGUs according to 40 CFR 63.9982(d), therefore the owner or operator shall comply with 40 CFR 63, Subpart UUUUU no later than April 16, 2016. (40 CFR 63.9984(b)) (See Comment 1 of Attachment A)

2) The owner or operator shall meet the notification requirements in 40 CFR63.10030 according to the schedule in 40 CFR63.10030 and in subpart A of this part (i.e., 40 CFR 63). Some of the notifications must be submitted before the owner or operator is required to comply with the emission limits and work practice standards in 40 CFR 63, Subpart UUUUU. (40 CFR 63.9984(c))

3) The owner or operator shall demonstrate that compliance has been achieved, by conducting the required performance tests and other activities, no later than 180 days after the compliance date. (40 CFR 63.9984(f))

ii. Emission limitations, work practice standards, and operating limits: (40 CFR 63.9991)

1) The owner or operator shall meet the requirements in the following paragraphs. The owner or operator shall meet these requirements at all times. (40 CFR 63.9991(a))

(a) The owner or operator shall meet each emission limit and work practice standard in Table 1 through 3 to 40 CFR 63, Subpart UUUUU that applies to the EGU, for each EGU at the source, except as provided under 40 CFR63.10009. (40 CFR 63.9991(a)(1))

Table 2 to Subpart UUUUU of Part 63 - Emission Limits for Existing EGUs [As stated in 40 CFR63.9991. The owner or operator shall comply with the following applicable emission limits][1] (Modified to include requirements for LG&E only)

If the EGU is in this subcategory	**For the following pollutants**	**The owner or operator shall meet the following emission limits and work practice standards**	**Using these requirements, as appropriate (e.g., specified sampling volume or test run duration) and limitations with the test methods in Table 5**
1. Coal-fired unit not low rank virgin coal	a. Filterable particulate matter (PM) …	3.0E–2 lb/MMBtu or 3.0E–1 lb/MWh [2] …	Collect a minimum of 1 dscm per run.
	OR Total non-Hg HAP metals …	OR 5.0E–5 lb/MMBtu or 5.0E–1 lb/GWh …	Collect a minimum of 1 dscm per run.
	OR Individual HAP metals		
	Antimony (Sb) …	8.0E–1 lb/TBtu or 8.0E–3 lb/GWh …	
	Arsenic (As) …	1.1E0 lb/TBtu or 2.0E–2 lb/GWh …	
	Beryllium (Be) …	2.0E–1 lb/TBtu or 2.0E–3 lb/GWh …	
	Cadmium (Cd) …	3.0E–1 lb/TBtu or 3.0E–3 lb/GWh …	
	Chromium (Cr) …	2.8E0 lb/TBtu or 3.0E–2 lb/GWh …	
	Cobalt (Co) …	8.0E–1 lb/TBtu or 8.0E–3 lb/GWh …	
	Lead (Pb) …	1.2E0 lb/TBtu or 2.0E–2 lb/GWh …	
	Manganese (Mn) …	4.0E0 lb/TBtu or 5.0E–2 lb/GWh …	
	Nickel (Ni) …	3.5E0 lb/TBtu or 4.0E–2 lb/GWh …	
	Selenium (Se) …	5.0E0 lb/TBtu or 6.0E–2 lb/GWh …	
	b. Hydrogen chloride (HCl) …	2.0E–3 lb/MMBtu or 2.0E–2 lb/MWh …	For Method 26A, collect a minimum of 0.75 dscm per run; for Method 26, collect a minimum of 120 liters per run. For ASTM D6348–03 [3] or method 320, sample for a minimum of 1 hour.
	OR Sulfur dioxide (SO2)[4]	2.0E–1 lb/MMBtu or 1.5E0 lb/MWh …	SO2 CEMS.

If the EGU is in this subcategory	For the following pollutants	The owner or operator shall meet the following emission limits and work practice standards	Using these requirements, as appropriate (e.g., specified sampling volume or test run duration) and limitations with the test methods in Table 5
	c. Mercury (Hg) …	1.2E0 lb/TBtu or 1.3E–2 lb/GWh …	LEE Testing for 30 days with 10 days maximum per Method 30B run or Hg CEMS or sorbent trap monitoring system only

1. For LEE emissions testing for total PM, total HAP metals, individual HAP metals, HCl, and HF, the required minimum sampling volume must be increased nominally by a factor of two.
2. Gross electric output.
3. Incorporated by reference, see 40 CFR 63.14.

Table 3 to Subpart UUUUU of Part 63 - Work Practice Standards[13] [As stated in 40 CFR 63.9991. The owner or operator shall comply with the following applicable work practice standards] (Modified to include requirements for LG&E only)

If the EGU is ...	The owner or operator shall meet the following . . .
1. An existing EGU …	Conduct a tune-up of the EGU burner and combustion controls at least each 36 calendar months, or each 48 calendar months if neural network combustion optimization software is employed, as specified in 40 CFR 63.10021(e).
3. A coal-fired, liquid oil-fired, or solid oil-derived fuel-fired EGU during startup …	The owner or operator shall operate all CMS during startup. Startup means either the first-ever firing of fuel in a boiler for the purpose of producing electricity, or the firing of fuel in a boiler after a shutdown event for any purpose. Startup ends when any of the steam from the boiler is used to generate electricity for sale over the grid or for any other purpose (including on site use). For startup of a unit, The owner or operator shall use clean fuels, either natural gas or distillate oil or a combination of clean fuels for ignition. Once the owner or operator converts to firing coal, residual oil, or solid oil-derived fuel, the owner or operator shall engage all of the applicable control technologies except dry scrubber and SCR. The owner or operator shall start the dry scrubber and SCR systems, if present, appropriately to comply with

[13] In this table, the work practice standards during startup and shutdown apply only the MATS.

If the EGU is ...	The owner or operator shall meet the following . . .
	relevant standards applicable during normal operation. The owner or operator shall comply with all applicable emissions limits at all times except for periods that meet the definitions of startup and shutdown in 40 CFR 63, Subpart UUUUU. 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 40 CFR 63.10011(g) and 40 CFR 63.10021(h) and (i).
4. A coal-fired, liquid oil-fired, or solid oil-derived fuel-fired EGU during shutdown …	The owner or operator shall operate all CMS during shutdown. Shutdown means the cessation of operation of a boiler for any purpose. Shutdown begins either when none of the steam from the boiler is used to generate electricity for sale over the grid or for any other purpose (including on-site use) or at the point of no fuel being fired in the boiler. Shutdown ends when there is both no electricity being generated and no fuel being fired in the boiler. During shutdown, The owner or operator shall operate all applicable control technologies while firing coal, residual oil, or solid oil-derived fuel. The owner or operator shall comply with all applicable emissions limits at all times except for periods that meet the definitions of startup and shutdown in 40 CFR 63, Subpart UUUUU. 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 40 CFR 63.10011(g) and 40 CFR 63.10021(h) and (i).

(b) The owner or operator shall meet each operating limit in Table 4 to 40 CFR 63, Subpart UUUUU that applies to the EGU. (40 CFR 63.9991(a)(2))

Table 4 to Subpart UUUUU of Part 63 - Operating Limits for EGUs [As stated in 40 CFR63.9991. The owner or operator shall comply with the applicable operating limits]

If the owner or operator demonstrates compliance using ...	The owner or operator shall meet these operating limits ...
1. PM CPMS …	Maintain the 30–boiler operating day rolling average PM CPMS output at or below the highest 1–hour average measured during the most recent performance test demonstrating compliance with the filterable PM, total non-mercury HAP metals (total HAP metals, for liquid oil fired units), or individual non-mercury HAP metals (individual HAP metals including Hg, for

If the owner or operator demonstrates compliance using ...	The owner or operator shall meet these operating limits ...
	liquid oil-fired units) emissions limitation(s).

2) As provided in 40 CFR63.6(g), the Administrator may approve use of an alternative to the work practice standards in this section. (40 CFR 63.9991(b))

3) The owner or operator may use the alternate SO_2 limit in Tables 1 and 2 to 40 CFR 63, Subpart UUUUU only if the EGU: (40 CFR 63.9991(c))

(a) Has a system using wet or dry flue gas desulfurization technology and SO_2 continuous emissions monitoring system (CEMS) installed on the unit; and (40 CFR 63.9991(c)(1))

(b) At all times, the owner or operator operates the wet or dry flue gas desulfurization technology installed on the unit consistent with 40 CFR 63.10000(b). (40 CFR 63.9991(c)(2))

iii. General requirements for complying with 40 CFR 63, Subpart UUUUU: (40 CFR 63.10000)

1) The owner or operator shall be in compliance with the emission limits and operating limits in 40 CFR 63, Subpart UUUUU. These limits apply to the owner or operator at all times except during periods of startup and shutdown; however, for coal-fired, liquid oil-fired, or solid oil-derived fuel-fired EGUs, the owner or operator is required to meet the work practice requirements in Table 3 to 40 CFR 63, Subpart UUUUU during periods of startup or shutdown. (40 CFR 63.10000(a))

2) At all times the owner or operator shall operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the EPA Administrator which 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 63.10000(b))

3) For coal-fired units, solid oil-derived fuel-fired units, and IGCC EGUs, initial performance testing is required for all pollutants, to demonstrate compliance with the applicable emission limits. (40 CFR 63.10000(c)(1))

(a) For a coal-fired or solid oil-derived fuel-fired EGU or IGCC EGU, the owner or operator may conduct the initial performance testing in accordance with 40 CFR63.10005(h), to determine whether the unit qualifies as a low emitting EGU (LEE) for one or more applicable emissions limits, with two exceptions: (40 CFR 63.10000(c)(1)(i))

(i) The owner or operator may not pursue the LEE option if the coal-fired, IGCC, or solid oil-derived fuel-fired EGU is equipped with an acid gas scrubber and has a main stack and bypass stack exhaust configuration, and (40 CFR 63.10000(c)(1)(i)(A))

(ii) The owner or operator may not pursue the LEE option for Hg if the coal-fired, solid oil-derived fuel fired EGU or IGCC EGU is new. (40 CFR 63.10000(c)(1)(i)(B))

(b) For a qualifying LEE for Hg emissions limits, the owner or operator shall conduct a 30–day performance test using Method 30B at least once every 12 calendar months to demonstrate continued LEE status. (40 CFR 63.10000(c)(1)(ii))

(c) For a qualifying LEE of any other applicable emissions limits, the owner or operator shall conduct a performance test at least once every 36 calendar months to demonstrate continued LEE status. (40 CFR 63.10000(c)(1)(iii))

(d) If the coal-fired or solid oil-derived fuel-fired EGU or IGCC EGU does not qualify as a LEE for total non-mercury HAP metals, individual non-mercury HAP metals, or filterable particulate matter (PM), the owner or operator shall demonstrate compliance through an initial performance test and the owner or operator shall monitor continuous performance through either use of a particulate matter continuous parametric monitoring system (PM CPMS), a PM CEMS, or for an existing EGU compliance

performance testing repeated quarterly. (40 CFR 63.10000(c)(1)(iv))

(e) If the coal-fired or solid oil-derived fuel-fired EGU does not qualify as a LEE for hydrogen chloride (HCl), the owner or operator may demonstrate initial and continuous compliance through use of an HCl CEMS, installed and operated in accordance with Appendix B to 40 CFR 63, Subpart UUUUU. As an alternative to HCl CEMS, the owner or operator may demonstrate initial and continuous compliance by conducting an initial and periodic quarterly performance stack test for HCl. If the EGU uses wet or dry flue gas desulfurization technology (this includes limestone injection into a fluidized bed combustion unit), the owner or operator may apply a second alternative to HCl CEMS by installing and operating a sulfur dioxide (SO_2) CEMS installed and operated in accordance with part 75 of this chapter to demonstrate compliance with the applicable SO_2 emissions limit. (40 CFR 63.10000(c)(1)(v))

(f) If the coal-fired or solid oil-derived fuel-fired EGU does not qualify as a LEE for Hg, the owner or operator shall demonstrate initial and continuous compliance through use of a Hg CEMS or a sorbent trap monitoring system, in accordance with appendix A to 40 CFR 63, Subpart UUUUU. (40 CFR 63.10000(c)(1)(vi))

4) Site-specific monitoring plan:

(a) If the owner or operator demonstrates compliance with any applicable emissions limit through use of a continuous monitoring system (CMS), where a CMS includes a continuous parameter monitoring system (CPMS) as well as a continuous emissions monitoring system (CEMS), the owner or operator shall develop a site-specific monitoring plan and submit this site-specific monitoring plan, if requested, at least 60 days before the initial performance evaluation (where applicable) of the CMS. This requirement also applies to the owner or operator if the owner or operator petitions the Administrator for alternative monitoring parameters under 40 CFR63.8(f). This requirement to develop and submit a site-specific monitoring plan does not apply to affected sources with existing monitoring plans that apply to CEMS and CPMS prepared under Appendix B to part 60 or part 75 of this chapter, and that meet the requirements of 40

CFR63.10010. Using the process described in 40 CFR63.8(f)(4), the owner or operator may request approval of monitoring system quality assurance and quality control procedures alternative to those specified in this paragraph of this section and, if approved, include those in the site-specific monitoring plan. The monitoring plan must address the provisions in paragraphs (d)(2) through (5) of this section. (40 CFR 63.10000(d)(1))

(b) The site-specific monitoring plan shall include the information specified in paragraphs (d)(5)(i) through (d)(5)(vii) of this section. Alternatively, the requirements of paragraphs (d)(5)(i) through (d)(5)(vii) are considered to be met for a particular CMS or sorbent trap monitoring system if: (40 CFR 63.10000(d)(2))

(i) The CMS or sorbent trap monitoring system is installed, certified, maintained, operated, and quality-assured either according to part 75 of this chapter, or appendix A or B to 40 CFR 63, Subpart UUUUU; and (40 CFR 63.10000(d)(2)(i))

(ii) The recordkeeping and reporting requirements of part 75 of this chapter, or appendix A or B to 40 CFR 63, Subpart UUUUU, that pertain to the CMS are met. (40 CFR 63.10000(d)(2)(ii))

(c) If requested by the Administrator, the owner or operator shall submit the monitoring plan (or relevant portion of the plan) at least 60 days before the initial performance evaluation of a particular CMS, except where the CMS has already undergone a performance evaluation that meets the requirements of 40 CFR63.10010 (e.g., if the CMS was previously certified under another program). (40 CFR 63.10000(d)(3))

(d) The owner or operator shall operate and maintain the CMS according to the site-specific monitoring plan. (40 CFR 63.10000(d)(4))

(e) The provisions of the site-specific monitoring plan must address the following items: (40 CFR 63.10000(d)(5))

(i) Installation of the CMS or sorbent trap monitoring system 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). See 40 CFR63.10010(a) for further details. For PM CPMS installations, follow the procedures in 40 CFR63.10010(h). (40 CFR 63.10000(d)(5)(i))

(ii) Performance and equipment specifications for the sample interface, the pollutant concentration or parametric signal analyzer, and the data collection and reduction systems. (40 CFR 63.10000(d)(5)(ii))

(iii) Schedule for conducting initial and periodic performance evaluations. (40 CFR 63.10000(d)(5)(iii))

(iv) Performance evaluation procedures and acceptance criteria (e.g., calibrations), including quality control program in accordance with the general requirements of 40 CFR63.8(d). (40 CFR 63.10000(d)(5)(iv))

(v) On-going operation and maintenance procedures, in accordance with the general requirements of 40 CFR63.8(c)(1)(ii), (c)(3), and (c)(4)(ii). (40 CFR 63.10000(d)(5)(v))

(vi) Conditions that define a CMS that is out of control consistent with 40 CFR63.8(c)(7)(i) and for responding to out of control periods consistent with 40 CFR63.8(c)(7)(ii) and (c)(8). (40 CFR 63.10000(d)(5)(vi))

(vii) On-going recordkeeping and reporting procedures, in accordance with the general requirements of 40 CFR63.10(c), (e)(1), and (e)(2)(i), or as specifically required under 40 CFR 63, Subpart UUUUU. (40 CFR 63.10000(d)(5)(vii))

5) As part of the demonstration of continuous compliance, the owner or operator shall perform periodic tune-ups of the EGU(s), according to 40 CFR63.10021(e). (40 CFR 63.10000(e))

iv. Affirmative defense for exceedence of emission limit during malfunction (40 CFR 63.10001)

In response to an action to enforce the standards set forth in 40 CFR 63.9991 the owner or operator may assert an affirmative defense to a claim for civil penalties for exceedances of such standards that are caused by malfunction, as defined at 40 CFR 63.2. Appropriate penalties may be assessed, however, if the owner or operator fails to meet the burden of proving all of the requirements in the affirmative defense. The affirmative defense shall not be available for claims for injunctive relief.

1) To establish the affirmative defense in any action to enforce such a limit, the owner or operator shall timely meet the notification requirements in paragraph (b) of this section, and must prove by a preponderance of evidence that: (40 CFR 63.10001(a))

(a) The excess emissions: (40 CFR 63.10001(a)(1))

(i) Were caused by a sudden, infrequent, and unavoidable failure of air pollution control and monitoring equipment, process equipment, or a process to operate in a normal or usual manner, and

(ii) Could not have been prevented through careful planning, proper design or better operation and maintenance practices; and

(iii) Did not stem from any activity or event that could have been foreseen and avoided, or planned for; and

(iv) Were not part of a recurring pattern indicative of inadequate design, operation, or maintenance; and

(b) Repairs were made as expeditiously as possible when the applicable emission limitations were being exceeded. Off-shift and overtime labor were used, to the extent practicable to make these repairs; and (40 CFR 63.10001(a)(2))

(c) The frequency, amount and duration of the excess emissions (including any bypass) were minimized to the maximum extent practicable during periods of such emissions; and (40 CFR 63.10001(a)(3))

(d) If the excess emissions resulted from a bypass of control equipment or a process, then the bypass was unavoidable to prevent loss of life, personal injury, or severe property damage; and (40 CFR 63.10001(a)(4))

(e) All possible steps were taken to minimize the impact of the excess emissions on ambient air quality, the environment and human health; and (40 CFR 63.10001(a)(5))

(f) All emissions monitoring and control systems were kept in operation if at all possible, consistent with safety and good air pollution control practices; and (40 CFR 63.10001(a)(6))

(g) All of the actions in response to the excess emissions were documented by properly signed, contemporaneous operating logs; and (40 CFR 63.10001(a)(7))

(h) At all times, the affected source was operated in a manner consistent with good practices for minimizing emissions; and (40 CFR 63.10001(a)(8))

(i) A written root cause analysis has been prepared, the purpose of which is to determine, correct, and eliminate the primary causes of the malfunction and the excess emissions resulting from the malfunction event at issue. The analysis shall also specify, using best monitoring methods and engineering judgment, the amount of excess emissions that were the result of the malfunction. (40 CFR 63.10001(a)(9))

2) Notification: The owner or operator of the affected source experiencing an exceedance of its emission limit(s) during a malfunction shall notify the Administrator by telephone or facsimile (FAX) transmission as soon as possible, but no later than two business days after the initial occurrence of the malfunction or, if it is not possible to determine within two business days whether the malfunction caused or contributed to an exceedance, no later than two business days after the owner or operator knew or should have known that the malfunction caused or contributed to an exceedance, but, in no event later than two business days after the end of the averaging period, if it wishes to avail itself of an affirmative defense to civil penalties for that malfunction. The owner or operator seeking to assert an affirmative defense shall also submit a written report to the Administrator within 45 days of the initial occurrence of the exceedance of the standard in 40 CFR 63.9991 to demonstrate, with all necessary supporting documentation, that it has met the requirements set forth in paragraph (a) of this section. The owner or operator may seek an extension of this deadline for up to 30 additional days by submitting a written request to the Administrator before the

expiration of the 45 day period. Until a request for an extension has been approved by the Administrator, the owner or operator is subject to the requirement to submit such report within 45 days of the initial occurrence of the exceedance. (40 CFR 63.10001(b))

v. General Provisions: (40 CFR 63.10040)

Table 9 to 40 CFR 63, Subpart UUUUU shows which parts of the General Provisions in 40 CFR63.1 through 63.15 apply to the owner or operator.

Table 9 to Subpart UUUUU of Part 63 – Applicability of General Provisions to Subpart UUUUU [As stated in 40 CFR63.10040. The owner or operator shall comply with the applicable General Provisions according to the following]

Citation	Subject	Applies to subpart UUUUU
40 CFR 63.1	Applicability	Yes.
40 CFR 63.2	Definitions	Yes. Additional terms defined in 40 CFR 63.10042.
40 CFR 63.3	Units and Abbreviations	Yes.
40 CFR 63.4	Prohibited Activities and Circumvention	Yes.
40 CFR 63.5	Preconstruction Review and Notification Requirements	Yes.
40 CFR 63.6(a), (b)(1)-(b)(5), (b)(7), (c), (f)(2)-(3), (g), (h)(2)-(h)(9), (i), (j)	Compliance with Standards and Maintenance Requirements	Yes.
40 CFR 63.6(e)(1)(i)	General Duty to minimize emissions	No. See 40 CFR 63.10000(b) for general duty requirement.
40 CFR 63.6(e)(1)(ii)	Requirement to correct malfunctions ASAP	No.
40 CFR 63.6(e)(3)	SSM Plan requirements	No.
40 CFR 63.6(f)(1)	SSM exemption	No.
40 CFR 63.6(h)(1)	SSM exemption	No.
40 CFR 63.7(a), (b), (c), (d), (e)(2)-(e)(9), (f), (g), and (h)	Performance Testing Requirements	Yes.
40 CFR 63.7(e)(1)	Performance testing	No. See 40 CFR 63.10007.
40 CFR 63.8	Monitoring Requirements	Yes.
63.8(c)(1)(i)	General duty to minimize emissions and CMS operation	No. See 40 CFR 63.10000(b) for general duty requirement.
40 CFR 63.8(c)(1)(iii)	Requirement to develop SSM Plan for CMS	No.
40 CFR 63.8(d)(3)	Written procedures for CMS	Yes, except for last sentence, which refers to an SSM plan. SSM plans are not required.
40 CFR 63.9	Notification requirements	Yes, except for the 60-day

Citation	Subject	Applies to subpart UUUUU
		notification prior to conducting a performance test in 40 CFR 63.9(d); instead use a 30-day notification period per 40 CFR 63.10030(d).
40 CFR 63.10(a), (b)(1), (c), (d)(1)-(2), (e), and (f)	Recordkeeping and Reporting Requirements	Yes, except for the requirements to submit written reports under 40 CFR 63.10(e)(3)(v).
40 CFR 63.10(b)(2)(i)	Recordkeeping of occurrence and duration of startups and shutdowns	No.
40 CFR 63.10(b)(2)(ii)	Recordkeeping of malfunctions	No. See 63.10001 for recordkeeping of (1) occurrence and duration and (2) actions taken during malfunction.
40 CFR 63.10(b)(2)(iii)	Maintenance records	Yes.
40 CFR 63.10(b)(2)(iv)	Actions taken to minimize emissions during SSM	No.
40 CFR 63.10(b)(2)(v)	Actions taken to minimize emissions during SSM	No.
40 CFR 63.10(b)(2)(vi)	Recordkeeping for CMS malfunctions	Yes.
40 CFR 63.10(b)(2)(vii)-(ix)	Other CMS requirements	Yes.
40 CFR 63.10(b)(3),and (d)(3)-(5)		No.
40 CFR 63.10(c)(7)	Additional recordkeeping requirements for CMS—identifying exceedances and excess emissions	Yes.
40 CFR 63.10(c)(8)	Additional recordkeeping requirements for CMS—identifying exceedances and excess emissions	Yes.
40 CFR 63.10(c)(10)	Recording nature and cause of malfunctions	No. See 63.10032(g) and (h) for malfunctions recordkeeping requirements.
40 CFR 63.10(c)(11)	Recording corrective actions	No. See 63.10032(g) and (h) for malfunctions recordkeeping requirements.
40 CFR 63.10(c)(15)	Use of SSM Plan	No.
40 CFR 63.10(d)(5)	SSM reports	No. See 63.10021(h) and (i) for malfunction reporting

Citation	Subject	Applies to subpart UUUUU
		requirements.
40 CFR 63.11	Control Device Requirements	No.
40 CFR 63.12	State Authority and Delegation	Yes.
40 CFR 63.13-63.16	Addresses, Incorporation by Reference, Availability of Information, Performance Track Provisions	Yes.
40 CFR 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)**

HAP

Testing and Initial Compliance Requirements:

i. Initial compliance requirements and date to conduct performance tests: (40 CFR 63.10005)

1) General requirements: For each of the affected EGUs, the owner or operator shall demonstrate initial compliance with each applicable emissions limit in Table 1 or 2 of 40 CFR 63, Subpart UUUUU through performance testing. Where two emissions limits are specified for a particular pollutant (e.g., a heat input based limit in lb/MMBtu and an electrical output-based limit in lb/MWh), the owner or operator may demonstrate compliance with either emission limit. For a particular compliance demonstration, the owner or operator may be required to conduct one or more of the following activities in conjunction with performance testing: collection of hourly electrical load data (megawatts); establishment of operating limits according to 40 CFR 63.10011 and Tables 4 and 7 to 40 CFR 63, Subpart UUUUU; and CMS performance evaluations. In all cases, the owner or operator shall demonstrate initial compliance no later than the applicable date in paragraph (f) of this section for tune-up work practices for existing EGUs, in 40 CFR 63.9984 for other requirements for existing EGUs, and in paragraph (g) of this section for all requirements for new EGUs. (40 CFR 63.10005(a))

(a) To demonstrate initial compliance with an applicable emissions limit in Table 1 or 2 to 40 CFR 63, Subpart UUUUU using stack testing, the initial performance test generally consists of three runs at specified process operating conditions using approved methods. If the owner or operator is required to establish operating limits (see paragraph (d) of this section and Table 4 to 40 CFR 63, Subpart UUUUU), the owner or operator shall collect all applicable parametric data during the performance test period. Also, if the owner or operator chooses to comply with an electrical output-based emission limit, the owner or operator shall collect hourly electrical load data during the test period. (40 CFR 63.10005(a)(1))

(b) To demonstrate initial compliance using either a CMS that measures HAP concentrations directly (i.e., an Hg, HCl, or HF CEMS, or a sorbent trap monitoring system) or an SO_2 or PM CEMS, the initial performance test consists of 30 boiler operating days of data collected by the initial compliance demonstration date specified in 40 CFR 63.10005 with the certified monitoring system. (40 CFR 63.10005(a)(2))

(i) The 30–boiler operating day CMS performance test must demonstrate compliance with the applicable Hg, HCl, HF, PM, or SO_2 emissions limit in Table 1 or 2 to 40 CFR 63, Subpart UUUUU. (40 CFR 63.10005(a)(2)(i))

(ii) If the owner or operator chooses to comply with an electrical output-based emission limit, the owner or operator shall collect hourly electrical load data during the performance test period. (40 CFR 63.10005(a)(2)(ii))

2) Performance testing requirements: If the owner or operator chooses to use performance testing to demonstrate initial compliance with the applicable emissions limits in Tables 1 and 2 to 40 CFR 63, Subpart UUUUU for the EGUs, the owner or operator shall conduct the tests according to 40 CFR 63.10007 and Table 5 to 40 CFR 63, Subpart UUUUU. For the purposes of the initial compliance demonstration, the owner or operator may use test data and results from a performance test conducted prior to the date on which compliance is required as specified in 40 CFR 63.9984, provided that the following conditions are fully met: (40 CFR 63.10005(b))

(a) For a performance test based on stack test data, the test was conducted no more than 12 calendar months prior to the date on which compliance is required as specified in 40 CFR 63.9984; (40 CFR 63.10005(b)(1))

(b) For a performance test based on data from a certified CEMS or sorbent trap monitoring system, the test consists of all valid CMS data recorded in the 30 boiler operating days immediately preceding that date; (40 CFR 63.10005(b)(2))

(c) The performance test was conducted in accordance with all applicable requirements in 40 CFR 63.10007 and Table 5 to 40 CFR 63, Subpart UUUUU; (40 CFR 63.10005(b)(3))

(d) A record of all parameters needed to convert pollutant concentrations to units of the emission standard (e.g., stack flow rate, diluent gas concentrations, hourly electrical loads) is available for the entire performance test period; and (40 CFR 63.10005(b)(4))

(e) For each performance test based on stack test data, the owner or operator certify, and keep documentation demonstrating, that the EGU configuration, control devices, and fuel(s) have remained consistent with conditions since the prior performance test was conducted. (40 CFR 63.10005(b)(5))

3) Operating limits: In accordance with 40 CFR 63.10010 and Table 4 to 40 CFR 63, Subpart UUUUU, the owner or operator may be required to establish operating limits using PM CPMS and using site-specific monitoring for certain liquid oil-fired units as part of the initial compliance demonstration. (40 CFR 63.10005(c))

4) CMS requirements: If, for a particular emission or operating limit, the owner or operator is required to (or elect to) demonstrate initial compliance using a continuous monitoring system, the CMS must pass a performance evaluation prior to the initial compliance demonstration. If a CMS has been previously certified under another state or federal program and is continuing to meet the on-going quality-assurance (QA) requirements of that program, then, provided that the certification and QA provisions of that program meet the applicable requirements of 40 CFR 63.10010(b) through (h), an additional performance evaluation of the CMS is not

required under 40 CFR 63, Subpart UUUUU. (40 CFR 63.10005(d))

(a) For an affected coal-fired, solid oil-derived fuel-fired, or liquid oil-fired EGU, the owner or operator may demonstrate initial compliance with the applicable SO_2, HCl, or HF emissions limit in Table 1 or 2 to 40 CFR 63, Subpart UUUUU through use of an SO_2, HCl, or HF CEMS installed and operated in accordance with part 75 to this chapter or Appendix B to 40 CFR 63, Subpart UUUUU, as applicable. The owner or operator may also demonstrate compliance with a filterable PM emission limit in Table 1 or 2 to 40 CFR 63, Subpart UUUUU through use of a PM CEMS installed, certified, and operated in accordance with 40 CFR 63.10010(i). Initial compliance is achieved if the arithmetic average of 30–boiler operating days of quality-assured CEMS data, expressed in units of the standard (see 40 CFR63.10007(e)), meets the applicable SO_2, PM, HCl, or HF emissions limit in Table 1 or 2 to 40 CFR 63, Subpart UUUUU. Use Equation 19–19 of Method 19 in appendix A–7 to part 60 of this chapter to calculate the 30–boiler operating day average emissions rate. (Note: for this calculation, the term E_{hj} in Equation 19–19 must be in the same units of measure as the applicable HCl or HF emission limit in Table 1 or 2 to 40 CFR 63, Subpart UUUUU). (40 CFR 63.10005(d)(1))

(b) For affected coal-fired or solid oil-derived fuel-fired EGUs that demonstrate compliance with the applicable emission limits for total nonmercury HAP metals, individual non-mercury HAP metals, total HAP metals, individual HAP metals, or filterable PM listed in Table 1 or 2 to 40 CFR 63, Subpart UUUUU using initial performance testing and continuous monitoring with PM CPMS: (40 CFR 63.10005(d)(2))

(i) The owner or operator shall demonstrate initial compliance no later than the applicable date specified in 40 CFR 63.9984(f) for existing EGUs and in paragraph (g) of this section for new EGUs. (40 CFR 63.10005(d)(2)(i))

(ii) The owner or operator shall demonstrate continuous compliance with the PM CPMS site-specific operating limit that corresponding to the results of the performance test demonstrating compliance

with the pollutant with which the owner or operator choose to comply. (40 CFR 63.10005(d)(2)(ii))

(iii) The owner or operator shall repeat the performance test annually for the selected pollutant emissions limit and reassess and adjust the site-specific operating limit in accordance with the results of the performance test. (40 CFR 63.10005(d)(2)(iii))

(c) For affected EGUs that are either required to or elect to demonstrate initial compliance with the applicable Hg emission limit in Table 1 or 2 of 40 CFR 63, Subpart UUUUU using Hg CEMS or sorbent trap monitoring systems, initial compliance must be demonstrated no later than the applicable date specified in 40 CFR 63.9984(f) for existing EGUs and in paragraph (g) of this section for new EGUs. Initial compliance is achieved if the arithmetic average of 30–boiler operating days of quality-assured CEMS (or sorbent trap monitoring system) data, expressed in units of the standard (see section 6.2 of appendix A to 40 CFR 63, Subpart UUUUU), meets the applicable Hg emission limit in Table 1 or 2 to 40 CFR 63, Subpart UUUUU. (40 CFR 63.10005(d)(3))

5) Tune-ups. All affected EGUs are subject to the work practice standards in Table 3 of 40 CFR 63, Subpart UUUUU. As part of the initial compliance demonstration, the owner or operator shall conduct a performance tune-up of the EGU according to 40 CFR 63.10021(e). (40 CFR 63.10005(e))

6) For existing affected sources a tune-up may occur prior to April 16, 2012, so that existing sources without neural networks have up to 42 calendar months (3 years from promulgation plus 180 days) or, in the case of units employing neural network combustion controls, up to 54 calendar months (48 months from promulgation plus 180 days) after the date that is specified for the source in 40 CFR 63.9984 and according to the applicable provisions in 40 CFR 63.7(a)(2) as cited in Table 9 to 40 CFR 63, Subpart UUUUU to demonstrate compliance with this requirement. If a tune-up occurs prior to such date, the source must maintain adequate records to show that the tune-up met the requirements of this standard. (40 CFR 63.10005(f))

7) Low emitting EGUs. (40 CFR 63.10005(h))

The provisions of this paragraph (h) apply to pollutants with emissions limits from new EGUs except Hg and to all pollutants with emissions limits from existing EGUs. You may not pursue this compliance option if your existing EGU is equipped with an acid gas scrubber and has a main stack and bypass stack exhaust configuration.

(a) An EGU may qualify for low emitting EGU (LEE) status for Hg, HCl, HF, filterable PM, total non-Hg HAP metals, or individual non-Hg HAP metals (or total HAP metals or individual HAP metals, for liquid oil-fired EGUs) if the owner or operator collect performance test data that meet the requirements of this paragraph (h), and if those data demonstrate: (40 CFR 63.10005(h)(1))

(i) For all pollutants except Hg, performance test emissions results less than 50 percent of the applicable emissions limits in Table 1 or 2 to 40 CFR 63, Subpart UUUUU for all required testing for 3 consecutive years; or (40 CFR 63.10005(h)(1)(i))

(ii) For Hg emissions from an existing EGU, either: (40 CFR 63.10005(h)(1)(ii)

(A) Average emissions less than 10 percent of the applicable Hg emissions limit in Table 2 to 40 CFR 63, Subpart UUUUU (expressed either in units of lb/TBtu or lb/GWh); or (40 CFR 63.10005(h)(1)(ii)(A))

(B) Potential Hg mass emissions of 29.0 or fewer pounds per year and compliance with the applicable Hg emission limit in Table 2 to 40 CFR 63, Subpart UUUUU (expressed either in units of lb/TBtu or lb/GWh). (40 CFR 63.10005(h)(1)(ii)(B))

(b) For all pollutants except Hg, the owner or operator shall conduct all required performance tests described in 40 CFR 63.10007 to demonstrate that a unit qualifies for LEE status. (40 CFR 63.10005(h)(2))

(i) When conducting emissions testing to demonstrate LEE status, the owner or operator shall increase the minimum sample volume specified in Table 1 or 2

nominally by a factor of two. (40 CFR 63.10005(h)(2)(i))

(ii) Follow the instructions in 40 CFR 63.10007(e) and Table 5 to 40 CFR 63, Subpart UUUUU to convert the test data to the units of the applicable standard. (40 CFR 63.10005(h)(2)(ii))

(c) For Hg, the owner or operator shall conduct a 30-boiler operating day performance test using Method 30B in appendix A-8 to part 60 of this chapter to determine whether a unit qualifies for LEE status. Locate the Method 30B sampling probe tip at a point within the 10 percent centroidal area of the duct at a location that meets Method 1 in appendix A-1 to part 60 of this chapter and conduct at least three nominally equal length test runs over the 30-boiler operating day test period. Collect Hg emissions data continuously over the entire test period (except when changing sorbent traps or performing required reference method QA procedures), under all process operating conditions. You may use a pair of sorbent traps to sample the stack gas for no more than 10 days. (40 CFR 63.10005(h)(3))

(i) Depending on whether the owner or operator intend to assess LEE status for Hg in terms of the lb/TBtu or lb/GWh emission limit in Table 2 to 40 CFR 63, Subpart UUUUU or in terms of the annual Hg mass emissions limit of 29.0 lb/year, the owner or operator will have to collect some or all of the following data during the 30-boiler operating day test period (see paragraph (h)(3)(iii) of this section): (40 CFR 63.10005(h)(3)(i))

(A) Diluent gas (CO_2 or O_2) data, using either Method 3A in appendix A-3 to part 60 of this chapter or a diluent gas monitor that has been certified according to part 75 of this chapter. (40 CFR 63.10005(h)(3)(i)(A))

(B) Stack gas flow rate data, using either Method 2, 2F, or 2G in appendices A-1 and A-2 to part 60 of this chapter, or a flow rate monitor that has been certified according to part 75 of this chapter. (40 CFR 63.10005(h)(3)(i)(B))

(C) Stack gas moisture content data, using either Method 4 in appendix A-1 to part 60 of this chapter, or a moisture monitoring system that has been certified according to part 75 of this chapter. Alternatively, an appropriate fuel-specific default moisture value from 40 CFR 75.11(b) of this chapter may be used in the calculations or the owner or operator may petition the Administrator under 40 CFR 75.66 of this chapter for use of a default moisture value for non-coal-fired units. (40 CFR 63.10005(h)(3)(i)(C))

(D) Hourly electrical load data (megawatts), from facility records. (40 CFR 63.10005(h)(3)(i)(D))

(ii) If the owner or operator use CEMS to measure CO_2 (or O_2) concentration, and/or flow rate, and/or moisture, record hourly average values of each parameter throughout the 30-boiler operating day test period. If the owner or operator opt to use EPA reference methods rather than CEMS for any parameter, the owner or operator shall perform at least one representative test run on each operating day of the test period, using the applicable reference method. (40 CFR 63.10005(h)(3)(ii))

(iii) Calculate the average Hg concentration, in $\mu g/m^3$ (dry basis), for the 30-boiler operating day performance test, as the arithmetic average of all Method 30B sorbent trap results. Also calculate, as applicable, the average values of CO_2 or O_2 concentration, stack gas flow rate, stack gas moisture content, and electrical load for the test period. Then: (40 CFR 63.10005(h)(3)(iii))

(A) To express the test results in units of lb/TBtu, follow the procedures in 40 CFR 63.10007(e). Use the average Hg concentration and diluent gas values in the calculations. (40 CFR 63.10005(h)(3)(iii)(A))

(B) To express the test results in units of lb/GWh, use Equations A-3 and A-4 in section 6.2.2 of appendix A to 40 CFR 63, Subpart UUUUU, replacing the hourly values "C_h ", "Q_h ", "B_{ws} " and "$(MW)_h$ " with the average values of these parameters from the performance test. (40 CFR 63.10005(h)(3)(iii)(B))

(C) To calculate pounds of Hg per year, use one of the following methods: (40 CFR 63.10005(h)(3)(iii)(C))

(1) Multiply the average lb/TBtu Hg emission rate (determined according to paragraph (h)(3)(iii)(A) of this section) by the maximum potential annual heat input to the unit (TBtu), which is equal to the maximum rated unit heat input (TBtu/hr) times 8,760 hours. If the maximum rated heat input value is expressed in units of MMBtu/hr, multiply it by 10^{-6} to convert it to TBtu/hr; or (40 CFR 63.10005(h)(3)(iii)(C)(1))

(2) Multiply the average lb/GWh Hg emission rate (determined according to paragraph (h)(3)(iii)(B) of this section) by the maximum potential annual electricity generation (GWh), which is equal to the maximum rated electrical output of the unit (GW) times 8,760 hours. If the maximum rated electrical output value is expressed in units of MW, multiply it by 10^{-3} to convert it to GW; or (40 CFR 63.10005(h)(3)(iii)(C)(2))

(3) If an EGU has a federally-enforceable permit limit on either the annual heat input or the number of annual operating hours, the owner or operator may modify the calculations in paragraph (h)(3)(iii)(C)(1) of this section by replacing the maximum potential annual

heat input or 8,760 unit operating hours with the permit limit on annual heat input or operating hours (as applicable). (40 CFR 63.10005(h)(3)(iii)(C)(3))

(d) For a group of affected units that vent to a common stack, the owner or operator may either assess LEE status for the units individually by performing a separate emission test of each unit in the duct leading from the unit to the common stack, or the owner or operator may perform a single emission test in the common stack. If the owner or operator choose the common stack testing option, the units in the configuration qualify for LEE status if: (40 CFR 63.10005(h)(4))

(i) The emission rate measured at the common stack is less than 50 percent (10 percent for Hg) of the applicable emission limit in Table 1 or 2 to 40 CFR 63, Subpart UUUUU; or (40 CFR 63.10005(h)(4)(i))

(ii) For Hg from an existing EGU, the applicable Hg emission limit in Table 2 to 40 CFR 63, Subpart UUUUU is met and the potential annual mass emissions, calculated according to paragraph (h)(3)(iii) of this section (with some modifications), are less than or equal to 29.0 pounds times the number of units sharing the common stack. Base your calculations on the combined heat input capacity of all units sharing the stack (i.e., either the combined maximum rated value or, if applicable, a lower combined value restricted by permit conditions or operating hours). (40 CFR 63.10005(h)(4)(ii))

(e) For an affected unit with a multiple stack or duct configuration in which the exhaust stacks or ducts are downstream of all emission control devices, the owner or operator shall perform a separate emission test in each stack or duct. The unit qualifies for LEE status if: (40 CFR 63.10005(h)(5))

(i) The emission rate, based on all test runs performed at all of the stacks or ducts, is less than 50 percent (10 percent for Hg) of the applicable emission limit in Table 1 or 2 to 40 CFR 63, Subpart UUUUU; or (40 CFR 63.10005(h)(5)(i))

(ii) For Hg from an existing EGU, the applicable Hg emission limit in Table 2 to 40 CFR 63, Subpart UUUUU is met and the potential annual mass emissions, calculated according to paragraph (h)(3)(iii) of this section, are less than or equal to 29.0 pounds. Use the average Hg emission rate from paragraph (h)(5)(i) of this section in your calculations. (40 CFR 63.10005(h)(5)(ii))

8) Startup and shutdown for coal-fired or solid oil derived-fired units: The owner or operator shall follow the requirements given in Table 3 to 40 CFR 63, Subpart UUUUU. (40 CFR 63.10005(j))

9) The owner or operator shall submit a Notification of Compliance Status summarizing the results of the initial compliance demonstration, as provided in 40 CFR63.10030. (40 CFR 63.10005(k))

ii. Date to conduct subsequent performance tests or tune-ups: (40 CFR 63.10006)

1) For liquid oil-fired, solid oil-derived fuel-fired and coal-fired EGUs and IGCC units using PM CPMS to monitor continuous performance with an applicable emission limit as provided for under 40 CFR 63.10000(c), the owner or operator shall conduct all applicable performance tests according to Table 5 to 40 CFR 63, Subpart UUUUU and 40 CFR 63.10007 at least every year. (40 CFR 63.10006(a))

Table 5 to Subpart UUUUU of Part 63 - Performance Testing Requirements [As stated in 40 CFR63.10007. The owner or operator shall comply with the following requirements for performance testing for existing, new or reconstructed affected sources 1] (Modified to include applicable requirements, see Subpart UUUUUU for other options)

To conduct a performance test for the following pollutant . . .	**Using ...**	**The owner or operator shall perform the following activities, as applicable to the input- or output-based emission limit . . .**	**Using ...**
1. Filterable Particulate matter (PM) …	Emissions Testing	a. Select sampling ports location and the number of traverse points	Method 1 at Appendix A-1 to part 60 of this chapter.
		b. Determine velocity and volumetric flow-rate of the stack gas	Method 2, 2A, 2C, 2F, 2G or 2H at Appendix A-1 or A-2 to part 60 of this chapter.

To conduct a performance test for the following pollutant . . .	Using ...	The owner or operator shall perform the following activities, as applicable to the input- or output-based emission limit . . .	Using ...
		c. Determine oxygen and carbon dioxide concentrations of the stack gas	Method 3A or 3B at Appendix A-2 to part 60 of this chapter, or ANSI/ASME PTC 19.10-1981. [3]
		d. Measure the moisture content of the stack gas	Method 4 at Appendix A-3 to part 60 of this chapter.
		e. Measure the filterable PM concentration	Method 5 at Appendix A-3 to part 60 of this chapter.
			For positive pressure fabric filters, Method 5D at Appendix A-3 to part 60 of this chapter for filterable PM emissions.
			Note that the Method 5 front half temperature shall be 160 ° ± 14 ° C (320 ° ± 25 ° F).
		f. Convert emissions concentration to lb/MMBtu or lb/MWh emissions rates	Method 19 F-factor methodology at Appendix A-7 to part 60 of this chapter, or calculate using mass emissions rate and electrical output data (see 40 CFR 63.10007(e)).
	OR PM CEMS	a. Install, certify, operate, and maintain the PM CEMS	Performance Specification 11 at Appendix B to part 60 of this chapter and Procedure 2 at Appendix F to Part 60 of this chapter.
		b. Install, certify, operate, and maintain the diluent gas, flow rate, and/or moisture monitoring systems	Part 75 of this chapter and 40 CFR40 CFR 63.10010(a), (b), (c), and (d).
		c. Convert hourly emissions concentrations to 30 boiler operating day rolling average lb/MMBtu or lb/MWh emissions rates	Method 19 F-factor methodology at Appendix A-7 to part 60 of this chapter, or calculate using mass emissions rate and electrical output data (see 40 CFR 63.10007(e)).
2. Total or individual non-Hg HAP metals	Emissions Testing	a. Select sampling ports location and the number of traverse points	Method 1 at Appendix A-1 to part 60 of this chapter.
		b. Determine velocity and volumetric flow-rate of the stack gas	Method 2, 2A, 2C, 2F, 2G or 2H at Appendix A-1 or A-2 to part 60 of this chapter.
		c. Determine oxygen and carbon dioxide concentrations of the stack gas	Method 3A or 3B at Appendix A-2 to part 60 of this chapter, or ANSI/ASME PTC 19.10-1981.[3]
		d. Measure the moisture content of the stack gas	Method 4 at Appendix A-3 to part 60 of this chapter.

To conduct a performance test for the following pollutant . . .	Using ...	The owner or operator shall perform the following activities, as applicable to the input- or output-based emission limit . . .	Using ...
		e. Measure the HAP metals emissions concentrations and determine each individual HAP metals emissions concentration, as well as the total filterable HAP metals emissions concentration and total HAP metals emissions concentration	Method 29 at Appendix A-8 to part 60 of this chapter. For liquid oil-fired units, Hg is included in HAP metals and the owner or operator may use Method 29, Method 30B at Appendix A-8 to part 60 of this chapter; for Method 29, the owner or operator shall report the front half and back half results separately.
		f. Convert emissions concentrations (individual HAP metals, total filterable HAP metals, and total HAP metals) to lb/MMBtu or lb/MWh emissions rates	Method 19 F-factor methodology at Appendix A-7 to part 60 of this chapter, or calculate using mass emissions rate and electrical output data (see 40 CFR 63.10007(e)).
3. Hydrogen chloride (HCl) and hydrogen fluoride (HF)	Emissions Testing	a. Select sampling ports location and the number of traverse points	Method 1 at Appendix A-1 to part 60 of this chapter.
		b. Determine velocity and volumetric flow-rate of the stack gas	Method 2, 2A, 2C, 2F, 2G or 2H at Appendix A-1 or A-2 to part 60 of this chapter.
		c. Determine oxygen and carbon dioxide concentrations of the stack gas	Method 3A or 3B at Appendix A-2 to part 60 of this chapter, or ANSI/ASME PTC 19.10-1981.[3]
		d. Measure the moisture content of the stack gas	Method 4 at Appendix A-3 to part 60 of this chapter.
		e. Measure the HCl and HF emissions concentrations	Method 26 or Method 26A at Appendix A-8 to part 60 of this chapter or Method 320 at Appendix A to part 63 of this chapter or ASTM 6348-03 [3] with (1) additional quality assurance measures in footnote [4] and (2) spiking levels nominally no greater than two times the level corresponding to the applicable emission limit. Method 26A must be used if there are entrained water droplets in the exhaust stream.
		f. Convert emissions concentration to lb/MMBtu or lb/MWh emissions rates	Method 19 F-factor methodology at Appendix A-7 to part 60 of this chapter, or calculate using mass emissions rate and electrical output data (see 40 CFR 63.10007(e)).
	OR HCl and/or HF	a. Install, certify, operate, and maintain the HCl or HF CEMS	Appendix B of 40 CFR 63, Subpart UUUUU.

To conduct a performance test for the following pollutant . . .	Using ...	The owner or operator shall perform the following activities, as applicable to the input- or output-based emission limit . . .	Using ...
	CEMS	b. Install, certify, operate, and maintain the diluent gas, flow rate, and/or moisture monitoring systems	Part 75 of this chapter and 40 CFR40 CFR 63.10010(a), (b), (c), and (d).
		c. Convert hourly emissions concentrations to 30 boiler operating day rolling average lb/MMBtu or lb/MWh emissions rates	Method 19 F-factor methodology at Appendix A-7 to part 60 of this chapter, or calculate using mass emissions rate and electrical output data (see 40 CFR 63.10007(e)).
4. Mercury (Hg) …	Emissions Testing …	a. Select sampling ports location and the number of traverse points	Method 1 at Appendix A-1 to part 60 of this chapter or Method 30B at Appendix A-8 for Method 30B point selection.
		b. Determine velocity and volumetric flow-rate of the stack gas	Method 2, 2A, 2C, 2F, 2G or 2H at Appendix A-1 or A-2 to part 60 of this chapter.
		c. Determine oxygen and carbon dioxide concentrations of the stack gas	Method 3A or 3B at Appendix A-1 to part 60 of this chapter, or ANSI/ASME PTC 19.10-1981. [3]
		d. Measure the moisture content of the stack gas	Method 4 at Appendix A-3 to part 60 of this chapter.
		e. Measure the Hg emission concentration	Method 30B at Appendix A-8 to part 60 of this chapter, ASTM D6784 [3], or Method 29 at Appendix A-8 to part 60 of this chapter; for Method 29, the owner or operator shall report the front half and back half results separately.
		f. Convert emissions concentration to lb/TBtu or lb/GWh emission rates	Method 19 F-factor methodology at Appendix A-7 to part 60 of this chapter, or calculate using mass emissions rate and electrical output data (see 40 CFR 63.10007(e)).
	OR Hg CEMs	a. Install, certify, operate, and maintain the CEMS	Sections 3.2.1 and 5.1 of Appendix A of 40 CFR 63, Subpart UUUUU.
		b. Install, certify, operate, and maintain the diluent gas, flow rate, and/or moisture monitoring systems	Part 75 of this chapter and 40 CFR40 CFR 63.10010(a), (b), (c), and (d).
		c. Convert hourly emissions concentrations to 30 boiler operating day rolling average lb/TBtu or lb/GWh emissions rates	Section 6 of Appendix A to 40 CFR 63, Subpart UUUUU.

To conduct a performance test for the following pollutant . . .	Using ...	The owner or operator shall perform the following activities, as applicable to the input- or output-based emission limit . . .	Using ...
	OR Sorbent trap monitoring systems...	a. Install, certify, operate, and maintain the sorbent trap monitoring system	Sections 3.2.2 and 5.2 of Appendix A to 40 CFR 63, Subpart UUUUU.
		b. Install, operate, and maintain the diluent gas, flow rate, and/or moisture monitoring systems	Part 75 of this chapter and 40 CFR40 CFR 63.10010(a), (b), (c), and (d).
		c. Convert emissions concentrations to 30 boiler operating day rolling average lb/TBtu or lb/GWh emissions rates	Section 6 of Appendix A to 40 CFR 63, Subpart UUUUU.
	OR LEE testing	a. Select sampling ports location and the number of traverse points	Single point located at the 10% centroidal area of the duct at a port location per Method 1 at Appendix A-1 to part 60 of this chapter or Method 30B at Appendix A-8 for Method 30B point selection.
		b. Determine velocity and volumetric flow-rate of the stack gas	Method 2, 2A, 2C, 2F, 2G, or 2H at Appendix A-1 or A-2 to part 60 of this chapter or flow monitoring system certified per Appendix A of 40 CFR 63, Subpart UUUUU.
		c. Determine oxygen and carbon dioxide concentrations of the stack gas	Method 3A or 3B at Appendix A-1 to part 60 of this chapter, or ANSI/ASME PTC 19.10-1981,[3] or diluent gas monitoring systems certified according to Part 75 of this chapter.
		d. Measure the moisture content of the stack gas	Method 4 at Appendix A-3 to part 60 of this chapter, or moisture monitoring systems certified according to part 75 of this chapter.
		e. Measure the Hg emission concentration	Method 30B at Appendix A-8 to part 60 of this chapter; perform a 30 operating day test, with a maximum of 10 operating days per run (*i.e.*, per pair of sorbent traps) or sorbent trap monitoring system or Hg CEMS certified per Appendix A of 40 CFR 63, Subpart UUUUU.
		f. Convert emissions concentrations from the LEE test to lb/TBtu or lb/GWh emissions rates	Method 19 F-factor methodology at Appendix A-7 to part 60 of this chapter, or calculate using mass emissions rate and electrical output data (see 40 CFR 63.10007(e)).

To conduct a performance test for the following pollutant . . .	Using ...	The owner or operator shall perform the following activities, as applicable to the input- or output-based emission limit . . .	Using ...
		g. Convert average lb/TBtu or lb/GWh Hg emission rate to lb/year, if the owner or operator are attempting to meet the 22.0 lb/year threshold	Potential maximum annual heat input in TBtu or potential maximum electricity generated in GWh.
5. Sulfur dioxide (SO2) …	SO_2 CEMS …	a. Install, certify, operate, and maintain the CEMS	Part 75 of this chapter and 40 CFR40 CFR 63.10010(a) and (f).
		b. Install, operate, and maintain the diluent gas, flow rate, and/or moisture monitoring systems	Part 75 of this chapter and 40 CFR40 CFR 63.10010(a), (b), (c), and (d).
		c. Convert hourly emissions concentrations to 30 boiler operating day rolling average lb/MMBtu or lb/MWh emissions rates	Method 19 F-factor methodology at Appendix A-7 to part 60 of this chapter, or calculate using mass emissions rate and electrical output data (see 40 CFR 63.10007(e)).

2) For affected units meeting the LEE requirements of 40 CFR 63.10005(h), the owner or operator shall repeat the performance test once every 3 years (once every year for Hg) according to Table 5 and 40 CFR 63.10007. Should subsequent emissions testing results show the unit does not meet the LEE eligibility requirements, LEE status is lost. If this should occur: (40 CFR 63.10006(b))

(a) For all pollutant emission limits except for Hg, the owner or operator shall conduct emissions testing quarterly, except as otherwise provided in 40 CFR 63.10021(d)(1). (40 CFR 63.10006(b)(1))

(b) For Hg, the owner or operator shall install, certify, maintain, and operate a Hg CEMS or a sorbent trap monitoring system in accordance with appendix A to 40 CFR 63, Subpart UUUUU, within 6 calendar months of losing LEE eligibility. Until the Hg CEMS or sorbent trap monitoring system is installed, certified, and operating, the owner or operator shall conduct Hg emissions testing quarterly, except as otherwise provided in 40 CFR 63.10021(d)(1). You must have 3 calendar years of testing and CEMS or sorbent trap monitoring system data that satisfy the LEE emissions criteria to reestablish LEE status. (40 CFR 63.10006(b)(2))

3) Except where paragraphs (a) or (b) of this section apply, or where the owner or operator install, certify, and operate a PM CEMS to demonstrate compliance with a filterable PM emissions limit, for liquid oil-, solid oil-derived fuel-, coal-fired and IGCC EGUs, the owner or operator shall conduct all applicable periodic emissions tests for filterable PM, individual, or total HAP metals emissions according to Table 5 to 40 CFR 63, Subpart UUUUU, 40 CFR 63.10007, and 40 CFR 63.10000(c), except as otherwise provided in 40 CFR 63.10021(d)(1). (40 CFR 63.10006(c))

4) Except where paragraph (b) of this section applies, for solid oil-derived fuel- and coal-fired EGUs that do not use either an HCl CEMS to monitor compliance with the HCl limit or an SO_2 CEMS to monitor compliance with the alternate equivalent SO_2 emission limit, the owner or operator shall conduct all applicable periodic HCl emissions tests according to Table 5 to 40 CFR 63, Subpart UUUUU and 40 CFR 63.10007 at least quarterly, except as otherwise provided in 40 CFR 63.10021(d)(1). (40 CFR 63.10006(d))

5) Unless the owner or operator follow the requirements listed in paragraphs (g) and (h) of this section, performance tests required at least every 3 calendar years must be completed within 35 to 37 calendar months after the previous performance test; performance tests required at least every year must be completed within 11 to 13 calendar months after the previous performance test; and performance tests required at least quarterly must be completed within 80 to 100 calendar days after the previous performance test, except as otherwise provided in 40 CFR 63.10021(d)(1). (40 CFR 63.10006(f))

6) If the owner or operator elects to demonstrate compliance using emissions averaging under 40 CFR 63.10009, the owner or operator shall continue to conduct performance stack tests at the appropriate frequency given in section (c) through (f) of this section. (40 CFR 63.10006(g))

7) If a performance test on a non-mercury LEE shows emissions in excess of 50 percent of the emission limit and if the owner or operator choose to reapply for LEE status, the owner or operator shall conduct performance tests at the appropriate frequency given in section (c) through (e) of this section for that pollutant until all performance tests over a consecutive 3-year period show compliance with the LEE criteria. (40 CFR 63.10006(h))

8) If the owner or operator is required to meet an applicable tune-up work practice standard, the owner or operator shall conduct a performance tune-up according to 40 CFR 63.10021 (e). (40 CFR 63.10006(i))

(a) For EGUs not employing neural network combustion optimization during normal operation, each performance tune-up specified in 40 CFR 63.10021(e) must be no more than 36 calendar months after the previous performance tune-up. (40 CFR 63.10006(i)(1))

(b) For EGUs employing neural network combustion optimization systems during normal operation, each performance tune-up specified in 40 CFR 63.10021(e) must be no more than 48 calendar months after the previous performance tune-up. (40 CFR 63.10006(i)(2))

9) The owner or operator shall report the results of performance tests and performance tune-ups within 60 days after the completion of the performance tests and performance tune-ups. The reports for all subsequent performance tests must include all applicable information required in 40 CFR 63.10031. (40 CFR 63.10006(j))

iii. Methods and other procedures used for the performance tests: (40 CFR 63.10007)

1) Except as otherwise provided in this section, the owner or operator shall conduct all required performance tests according to 40 CFR 63.7(d), (e), (f), and (h). The owner or operator shall also develop a site-specific test plan according to the requirements in 40 CFR 63.7(c). (40 CFR 63.10007(a))

(a) If the owner or operator uses CEMS (Hg, HCl, SO_2 , or other) to determine compliance with a 30–boiler operating day rolling average emission limit, the owner or operator shall collect data for all nonexempt unit operating conditions (see 40 CFR 63.10011(g) and Table 3 to 40 CFR 63, Subpart UUUUU). (40 CFR 63.10007(a)(1))

(b) If the owner or operator conducts performance testing with test methods in lieu of continuous monitoring, operate the unit at maximum normal operating load conditions during each periodic (e.g., quarterly) performance test. Maximum normal operating load will be generally between 90 and 110 percent of design capacity but should be representative

of site specific normal operations during each test run. (40 CFR 63.10007(a)(2))

(c) For establishing operating limits with particulate matter continuous parametric monitoring system (PM CPMS) to demonstrate compliance with a PM or non Hg metals emissions limit, operate the unit at maximum normal operating load conditions during the performance test period. Maximum normal operating load will be generally between 90 and 110 percent of design capacity but should be representative of site specific normal operations during each test run. (40 CFR 63.10007(a)(3))

2) The owner or operator shall conduct each performance test (including traditional 3–run stack tests, 30–boiler operating day tests based on CEMS data (or sorbent trap monitoring system data), and 30–boiler operating day Hg emission tests for LEE qualification) according to the requirements in Table 5 to 40 CFR 63, Subpart UUUUU. (40 CFR 63.10007(b))

3) If the owner or operator chooses to comply with the filterable PM emission limit and demonstrate continuous performance using a PM CPMS for an applicable emission limit as provided for in 40 CFR 63.10000(c), The owner or operator shall also establish an operating limit according to 40 CFR 63.10011(b), 63.10023, and Tables 4 and 6 to 40 CFR 63, Subpart UUUUU. Should the owner or operator desire to have operating limits that correspond to loads other than maximum normal operating load, the owner or operator shall conduct testing at those other loads to determine the additional operating limits. (40 CFR 63.10007(c))

4) Except for a 30–boiler operating day performance test based on CEMS (or sorbent trap monitoring system) data, where the concept of test runs does not apply, the owner or operator shall conduct a minimum of three separate test runs for each performance test, as specified in 40 CFR 63.7(e)(3). Each test run must comply with the minimum applicable sampling time or volume specified in Table 1 or 2 to 40 CFR 63, Subpart UUUUU. Sections 63.10005(d) and (h), respectively, provide special instructions for conducting performance tests based on CEMS or sorbent trap monitoring systems, and for conducting emission tests for LEE qualification. (40 CFR 63.10007(d))

5) To use the results of performance testing to determine compliance with the applicable emission limits in Table 1 or 2 to 40 CFR 63, Subpart UUUUU, proceed as follows: (40 CFR 63.10007(e))

(a) Except for a 30–boiler operating day performance test 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 63.10007(e)(1))

(b) If the limits are expressed in lb/MMBtu or lb/TBtu, the owner or operator shall use the F-factor methodology and equations in sections 12.2 and 12.3 of EPA Method 19 in appendix A–7 to part 60 of this chapter. In cases where an appropriate F-factor is not listed in Table 19–2 of Method 19, the owner or operator may use F-factors from Table 1 in section 3.3.5 of appendix F to part 75 of this chapter, or F-factors derived using the procedures in section 3.3.6 of appendix to part 75 of this chapter. Use the following factors to convert the pollutant concentrations measured during the initial performance tests to units of lb/scf, for use in the applicable Method 19 equations: (40 CFR 63.10007(e)(2))

(i) Multiply SO_2 ppm by 1.66×10^{-7};
(ii) Multiply HCl ppm by 9.43×10^{-8};
(iii) Multiply HF ppm by 5.18×10^{-8};
(iv) Multiply HAP metals concentrations (mg/dscm) by 6.24×10^{-8}; and
(v) Multiply Hg concentrations (μg/scm) by 6.24×10^{-11}.

(c) To determine compliance with emission limits expressed in lb/MWh or lb/GWh, the owner or operator shall first calculate the pollutant mass emission rate during the performance test, in units of lb/h. For Hg, if a CEMS or sorbent trap monitoring system is used, use Equation A–2 or A–3 in appendix A to 40 CFR 63, Subpart UUUUU (as applicable). In all other cases, use an equation that has the general form of Equation A–2 or A–3, replacing the value of K with 1.66×10^{-7} lb/scf-ppm for SO_2, 9.43×10^{-8} lb/scf-

ppm for HCl (if an HCl CEMS is used), 5.18 x 10^{-8}lb/scf-ppm for HF (if an HF CEMS is used), or 6.24 x 10^{-8}lb-scm/mg-scf for HAP metals and for HCl and HF (when performance stack testing is used), and defining C_h as the average SO_2 , HCl, or HF concentration in ppm, or the average HAP metals concentration in mg/dscm. This calculation requires stack gas volumetric flow rate (scfh) and (in some cases) moisture content data (see 40 CFR 63.10005(h)(3) and 63.10010). Then, if the applicable emission limit is in units of lb/GWh, use Equation A–4 in appendix A to 40 CFR 63, Subpart UUUUU to calculate the pollutant emission rate in lb/GWh. In this calculation, define $(M)_h$ as the calculated pollutant mass emission rate for the performance test (lb/h), and define $(MW)_h$ as the average electrical load during the performance test (megawatts). If the applicable emission limit is in lb/MWh rather than lb/GWh, omit the 10^3 term from Equation A–4 to determine the pollutant emission rate in lb/MWh. (40 CFR 63.10007(e)(3))

6) Upon request, the owner or operator shall make available to the EPA Administrator such records as may be necessary to determine whether the performance tests have been done according to the requirements of this section. (40 CFR 63.10007(f))

iv. Use emissions averaging to comply with 40 CFR 63, Subpart UUUUU. (40 CFR 63.10009)

1) General eligibility (40 CFR 63.10009(a))

(a) You may use emissions averaging as described in paragraph (a)(2) of this section as an alternative to meeting the requirements of 40 CFR 63.9991 for filterable PM, SO_2 , HF, HCl, non-Hg HAP metals, or Hg on an EGU-specific basis if: (40 CFR 63.10009(a)(1))

(i) You have more than one existing EGU in the same subcategory located at one or more contiguous properties, belonging to a single major industrial grouping, which are under common control of the same person (or persons under common control); and (40 CFR 63.10009(a)(1)(i))

(ii) You use CEMS (or sorbent trap monitoring systems for determining Hg emissions) or quarterly emissions testing for demonstrating compliance. (40

CFR 63.10009(a)(1)(ii))

(b) You may demonstrate compliance by emissions averaging among the existing EGUs in the same subcategory, if your averaged Hg emissions for EGUs in the "unit designed for coal ≥ 8,300 Btu/lb" subcategory are equal to or less than 1.0 lb/TBtu or 1.1E-2 lb/GWh or if your averaged emissions of individual, other pollutants from other subcategories of such EGUs are equal to or less than the applicable emissions limit in Table 2, according to the procedures in this section. Note that except for Hg emissions from EGUs in the "unit designed for coal ≥ 8,300 Btu/lb" subcategory, the averaging time for emissions averaging for pollutants is 30 days (rolling daily) using data from CEMS or a combination of data from CEMS and manual performance testing. The averaging time for emissions averaging for Hg from EGUs in the "unit designed for coal ≥ 8,300 Btu/lb" subcategory is 90 days (rolling daily) using data from CEMS, sorbent trap monitoring, or a combination of monitoring data and data from manual performance testing. For the purposes of this paragraph, 30- (or 90-day) group boiler operating days is defined as a period during which at least one unit in the emissions averaging group has operated 30 (or 90) days. You must calculate the weighted average emissions rate for the group in accordance with the procedures in this paragraph using the data from all units in the group including any that operate fewer than 30 (or 90) days during the preceding 30 (or 90) group boiler days. (40 CFR 63.10009(a)(2))

(i) You may choose to have your EGU emissions averaging group meet either the heat input basis (MMBtu or TBtu, as appropriate for the pollutant) or gross electrical output basis (MWh or GWh, as appropriate for the pollutant). (40 CFR 63.10009(a)(2)(i))

(ii) You may not mix bases within your EGU emissions averaging group. (40 CFR 63.10009(a)(2)(ii))

(iii) You may use emissions averaging for affected units in different subcategories if the units vent to the atmosphere through a common stack (see paragraph (m) of this section). (40 CFR 63.10009(a)(2)(iii))

2) Equations (40 CFR 63.10009(b))

Use the following equations when performing calculations for your EGU emissions averaging group:

(a) Group eligibility equations (40 CFR 63.10009(b)(1))

$$WAERm = \frac{\left[\sum_{i=1}^{p}\left[\sum_{i=1}^{n}(Herm_i \times Rmm_i)\right]_p\right] + \sum_{i=1}^{m}(Ter_i \times Rmt_i)}{\left[\sum_{i=1}^{p}\left[\sum_{i=1}^{n} Rmm_i\right]_p\right] + \sum_{i=1}^{m} Rmt_i} \quad (Eq.\ 1a)$$

Where:

WAERm = Weighted average emissions rate maximum in terms of lb/heat input or lb/gross electrical output,

$Herm_i$ = Hourly emissions rate (*e.g.*, lb/MMBtu, lb/MWh) from CEMS or sorbent trap monitoring for hour i,

Rmm_i = Maximum rated heat input or gross electrical output of unit i in terms of heat input or gross electrical output,

p = number of EGUs in emissions averaging group that rely on CEMS,

n = number of hourly rates collected over 30-group boiler operating days,

Ter_i = Emissions rate from most recent test of unit i in terms of lb/heat input or lb/gross electrical output,

Rmt_i = Maximum rated heat input or gross electrical output of unit i in terms of lb/heat input or lb/gross electrical output, and

m = number of EGUs in emissions averaging group that rely on emissions testing.

$$WAERm = \frac{\left[\sum_{i=1}^{p}\left[\sum_{i=1}^{n}(Herm_i \times Smm_i \times Cfm_i)\right]_p\right] + \sum_{i=1}^{m}(Ter_i \times Smt_i \times Cft_i)}{\left[\sum_{i=1}^{p}\left[\sum_{i=1}^{n} Smm_i \times Cfm_i\right]_p\right] + \sum_{i=1}^{m} Smt_i \times Cft_i} \quad (Eq.\ 1b)$$

Where:

variables with similar names share the descriptions for Equation 1a,

Smm_i = maximum steam generation in units of pounds from unit i that uses CEMS or sorbent trap monitoring,

Cfm_i = conversion factor, calculated from the most recent emissions test results, in units of heat input per pound of steam generated or gross electrical output per pound of steam generated, from unit i that uses CEMS or sorbent trap monitoring,

Smt_i = maximum steam generation in units of pounds from unit i that uses emissions testing, and
Cft_i = conversion factor, calculated from the most recent emissions test results, in units of heat input per pound of steam generated or gross electrical output per pound of steam generated, from unit i that uses emissions testing.

(b) Weighted 30-boiler operating day rolling average emissions rate equations for pollutants other than Hg. Use equation 2a or 2b to calculate the 30 day rolling average emissions daily. (40 CFR 63.10009(b)(2))

$$WAER = \frac{\sum_{i=1}^{p}\left[\sum_{i=1}^{n}(Her_i \times Rm_i)\right]_p + \sum_{i=1}^{m}(Ter_i \times Rt_i)}{\sum_{i=1}^{p}\left[\sum_{i=1}^{n}(Rm_i)\right]_p + \sum_{i=1}^{m} Rt_i} \quad (Eq.2a)$$

Where:

Her_i = hourly emission rate (e.g., lb/MMBtu, lb/MWh) from unit i's CEMS for the preceding 30-group boiler operating days,
Rm_i = hourly heat input or gross electrical output from unit i for the preceding 30-group boiler operating days,
p = number of EGUs in emissions averaging group that rely on CEMS or sorbent trap monitoring,
n = number of hourly rates collected over 30-group boiler operating days,
Ter_i = Emissions rate from most recent emissions test of unit i in terms of lb/heat input or lb/gross electrical output,
Rt_i = Total heat input or gross electrical output of unit i for the preceding 30-boiler operating days, and
m = number of EGUs in emissions averaging group that rely on emissions testing.

$$WAER = \frac{\sum_{i=1}^{p}\left[\sum_{i=1}^{n}(Her_i \times Sm_i \times Cfm_i)\right]_p + \sum_{i=1}^{m}(Ter_i \times St_i \times Cft_i)}{\sum_{i=1}^{p}\left[\sum_{i=1}^{n}(Sm_i \times Cfm_i)\right]_p + \sum_{i=1}^{m} St_i \times Cft_i} \quad (Eq.2b)$$

Where:

variables with similar names share the descriptions for Equation 2a,
Sm_i = steam generation in units of pounds from unit i that uses CEMS for the preceding 30-group boiler operating days,
Cfm_i = conversion factor, calculated from the most recent compliance test results, in units of heat input per pound of steam generated or gross electrical output per pound of

steam generated, from unit i that uses CEMS from the preceding 30 group boiler operating days,
St_i = steam generation in units of pounds from unit i that uses emissions testing, and
Cft_i = conversion factor, calculated from the most recent compliance test results, in units of heat input per pound of steam generated or gross electrical output per pound of steam generated, from unit i that uses emissions testing.

(c) Weighted 90-boiler operating day rolling average emissions rate equations for Hg emissions from EGUs in the "coal-fired unit not low rank virgin coal" subcategory. Use equation 3a or 3b to calculate the 90-day rolling average emissions daily. (40 CFR 63.10009(b)(3))

$$WAER = \frac{\sum_{i=1}^{p}\left[\sum_{i=1}^{n}(Her_i \times Rm_i)\right]_p + \sum_{i=1}^{m}(Ter_i \times Rt_i)}{\sum_{i=1}^{p}\left[\sum_{i=1}^{n}(Rm_i)\right]_p + \sum_{i=1}^{m} Rt_i} \quad (Eq.3a)$$

Where:
Her_i = hourly emission rate from unit i's CEMS or Hg sorbent trap monitoring system for the preceding 90-group boiler operating days,
Rm_i = hourly heat input or gross electrical output from unit i for the preceding 90-group boiler operating days,
p = number of EGUs in emissions averaging group that rely on CEMS,
n = number of hourly rates collected over the 90-group boiler operating days,
Ter_i = Emissions rate from most recent emissions test of unit i in terms of lb/heat input or lb/gross electrical output,
Rt_i = Total heat input or gross electrical output of unit i for the preceding 90-boiler operating days, and
m = number of EGUs in emissions averaging group that rely on emissions testing.

$$WAER = \frac{\sum_{i=1}^{p}\left[\sum_{i=1}^{n}(Her_i \times Sm_i \times Cfm_i)\right]_p + \sum_{i=1}^{m}(Ter_i \times St_i \times Cft_i)}{\sum_{i=1}^{p}\left[\sum_{i=1}^{n}(Sm_i \times Cfm_i)\right]_p + \sum_{i=1}^{m} St_i \times Cft_i} \quad (Eq.3b)$$

Where:
variables with similar names share the descriptions for Equation 2a,
Sm_i = steam generation in units of pounds from unit i that uses CEMS or a Hg sorbent trap monitoring for the preceding 90-group boiler operating days,

Cfm_i = conversion factor, calculated from the most recent compliance test results, in units of heat input per pound of steam generated or gross electrical output per pound of steam generated, from unit i that uses CEMS or sorbent trap monitoring from the preceding 90-group boiler operating days,
St_i = steam generation in units of pounds from unit i that uses emissions testing, and
Cft_i = conversion factor, calculated from the most recent emissions test results, in units of heat input per pound of steam generated or gross electrical output per pound of steam generated, from unit i that uses emissions testing.

3) Separate stack requirements (40 CFR 63.10009(c))

For a group of two or more existing EGUs in the same subcategory that each vent to a separate stack, the owner or operator may average filterable PM, SO_2 , HF, HCl, non-Hg HAP metals, or Hg emissions to demonstrate compliance with the limits in Table 2 to 40 CFR 63, Subpart UUUUU if the owner or operator satisfy the requirements in paragraphs (d) through (j) of this section.

4) For each existing EGU in the averaging group: (40 CFR 63.10009(d))

(a) The emissions rate achieved during the initial performance test for the HAP being averaged must not exceed the emissions level that was being achieved 180 days after April 16, 2015, or the date on which emissions testing done to support your emissions averaging plan is complete (if the Administrator does not require submission and approval of your emissions averaging plan), or the date that the owner or operator begin emissions averaging, whichever is earlier; or (40 CFR 63.10009(d)(1))

(b) The control technology employed during the initial performance test must not be less than the design efficiency of the emissions control technology employed 180 days after April 16, 2015 or the date that the owner or operator begin emissions averaging, whichever is earlier. (40 CFR 63.10009(d)(2))

5) The weighted-average emissions rate from the existing EGUs participating in the emissions averaging option must be in compliance with the limits in Table 2 to 40 CFR 63, Subpart UUUUU at all times following the compliance date specified 180

days after April 16, 2015, or the date on which the owner or operator complete the emissions measurements used to support your emissions averaging plan (if the Administrator does not require submission and approval of your emissions averaging plan), or the date that the owner or operator begin emissions averaging, whichever is earlier. (40 CFR 63.10009(e))

6) Emissions averaging group eligibility demonstration. You must demonstrate the ability for the EGUs included in the emissions averaging group to demonstrate initial compliance according to paragraph (f)(1) or (2) of this section using the maximum normal operating load of each EGU and the results of the initial performance tests. For this demonstration and prior to submitting your emissions averaging plan, if requested, the owner or operator shall conduct required emissions monitoring for 30 days of boiler operation and any required manual performance testing to calculate an initial weighted average emissions rate in accordance with this section. Should the Administrator require approval, the owner or operator shall submit your proposed emissions averaging plan and supporting data at least 120 days before April 16, 2015. If the Administrator requires approval of your plan, the owner or operator may not begin using emissions averaging until the Administrator approves your plan. (40 CFR 63.10009(f))

(a) You must use Equation 1a in paragraph (b) of this section to demonstrate that the maximum weighted average emissions rates of filterable PM, HF, SO_2 , HCl, non-Hg HAP metals, or Hg emissions from the existing units participating in the emissions averaging option do not exceed the emissions limits in Table 2 to 40 CFR 63, Subpart UUUUU. (40 CFR 63.10009(f)(1))

(b) If the owner or operator are not capable of monitoring heat input or gross electrical output, and the EGU generates steam for purposes other than generating electricity, the owner or operator may use Equation 1b of this section as an alternative to using Equation 1a of this section to demonstrate that the maximum weighted average emissions rates of filterable PM, HF, SO_2 , HCl, non-Hg HAP metals, or Hg emissions from the existing units participating in the emissions averaging group do not exceed the emission limits in Table 2 to 40 CFR 63, Subpart UUUUU. (40 CFR 63.10009(f)(2))

7) You must determine the weighted average emissions rate in units of the applicable emissions limit on a 30 day rolling average (90

day rolling average for Hg) basis according to paragraphs (g)(1) through (2) of this section. The first averaging period begins on 30 (or 90 for Hg) days after February 16, 2015 or the date that the owner or operator begin emissions averaging, whichever is earlier. (40 CFR 63.10009(g))

(a) You must use Equation 2a or 3a of paragraph (b) of this section to calculate the weighted average emissions rate using the actual heat input or gross electrical output for each existing unit participating in the emissions averaging option. (40 CFR 63.10009(g)(1))

(b) If the owner or operator are not capable of monitoring heat input or gross electrical output, the owner or operator may use Equation 2b or 3b of paragraph (b) of this section as an alternative to using Equation 2a of paragraph (b) of this section to calculate the average weighted emission rate using the actual steam generation from the units participating in the emissions averaging option. (40 CFR 63.10009(g)(2))

8) 63.10009(h) CEMS (or sorbent trap monitoring) use. (40 CFR 63.10009(h))

If an EGU in your emissions averaging group uses CEMS (or a sorbent trap monitor for Hg emissions) to demonstrate compliance, the owner or operator shall use those data to determine the 30 (or 90) group boiler operating day rolling average emissions rate.

9) Emissions testing (40 CFR 63.10009(i))

If the owner or operator use manual emissions testing to demonstrate compliance for one or more EGUs in your emissions averaging group, the owner or operator shall use the results from the most recent performance test to determine the 30 (or 90) day rolling average. You may use CEMS or sorbent trap data in combination with data from the most recent manual performance test in calculating the 30 (or 90) group boiler operating day rolling average emissions rate.

10) Emissions averaging plan. (40 CFR 63.10009(j))

You must develop an implementation plan for emissions averaging according to the following procedures and requirements in paragraphs (j)(1) and (2) of this section.

(a) You must include the information contained in paragraphs (j)(1)(i) through (v) of this section in your implementation plan for all the emissions units included in an emissions averaging: (40 CFR 63.10009(j)(1))

(i) The identification of all existing EGUs in the emissions averaging group, including for each either the applicable HAP emission level or the control technology installed as of 180 days after February 16, 2015, or the date on which the owner or operator complete the emissions measurements used to support your emissions averaging plan (if the Administrator does not require submission and approval of your emissions averaging plan), or the date that the owner or operator begin emissions averaging, whichever is earlier; and the date on which the owner or operator are requesting emissions averaging to commence; (40 CFR 63.10009(j)(1)(i))

(ii) The process weighting parameter (heat input, gross electrical output, or steam generated) that will be monitored for each averaging group; (40 CFR 63.10009(j)(1)(ii))

(iii) The specific control technology or pollution prevention measure to be used for each emission EGU in the averaging group and the date of its installation or application. If the pollution prevention measure reduces or eliminates emissions from multiple EGUs, the owner or operator shall identify each EGU; (40 CFR 63.10009(j)(1)(iii))

(iv) The means of measurement (*e.g.*, CEMS, sorbent trap monitoring, manual performance test) of filterable PM, SO_2 , HF, HCl, individual or total non-Hg HAP metals, or Hg emissions in accordance with the requirements in 40 CFR 63.10007 and to be used in the emissions averaging calculations; and (40 CFR 63.10009(j)(1)(iv))

(v) A demonstration that emissions averaging can produce compliance with each of the applicable emission limit(s) in accordance with paragraph (b)(1) of this section. (40 CFR 63.10009(j)(1)(v))

(b) If the Administrator requests the owner or operator to submit the plan for review and approval, the owner or operator shall submit a complete implementation plan at least 120 days before April 16, 2015. If the Administrator requests the owner or operator to submit the plan for review and approval, the owner or operator shall receive approval before initiating emissions averaging. (40 CFR 63.10009(j)(2))

(i) The Administrator shall use following criteria in reviewing and approving or disapproving the plan: (40 CFR 63.10009(j)(2)(i))

(A) Whether the content of the plan includes all of the information specified in paragraph (j)(1) of this section; and (40 CFR 63.10009(j)(2)(i)(A))

(B) Whether the plan presents information sufficient to determine that compliance will be achieved and maintained. (40 CFR 63.10009(j)(2)(i)(B))

(ii) The Administrator shall not approve an emissions averaging implementation plan containing any of the following provisions: (40 CFR 63.10009(j)(2)(ii))

(A) Any averaging between emissions of different pollutants or between units located at different facilities; or (40 CFR 63.10009(j)(2)(ii)(A))

(B) The inclusion of any emissions unit other than an existing unit in the same subcategory. (40 CFR 63.10009(j)(2)(ii)(B))

11) Common stack requirements (40 CFR 63.10009(k))

For a group of two or more existing affected units, each of which vents through a single common stack, the owner or operator may average emissions to demonstrate compliance with the limits in Table 2 to 40 CFR 63, Subpart UUUUU if the owner or operator satisfy the requirements in paragraph (l) or (m) of this section.

12) For a group of two or more existing units in the same subcategory and which vent through a common emissions control system to a common stack that does not receive emissions from units in other subcategories or categories, the owner or operator may treat such averaging group as a single existing unit for purposes of 40 CFR 63, Subpart UUUUU and comply with the requirements of 40 CFR 63, Subpart UUUUU as if the group were a single unit. (40 CFR 63.10009(l))

13) For all other groups of units subject to paragraph (k) of this section, the owner or operator may elect to conduct manual performance tests according to procedures specified in 40 CFR 63.10007 in the common stack. If emissions from affected units included in the emissions averaging and from other units not included in the emissions averaging (*e.g.*, in a different subcategory) or other nonaffected units all vent to the common stack, the owner or operator shall shut down the units not included in the emissions averaging and the nonaffected units or vent their emissions to a different stack during the performance test. Alternatively, the owner or operator may conduct a performance test of the combined emissions in the common stack with all units operating and show that the combined emissions meet the most stringent emissions limit. You may also use a CEMS or sorbent trap monitoring to apply this latter alternative to demonstrate that the combined emissions comply with the most stringent emissions limit on a continuous basis. (40 CFR 63.10009(m))

14) Combination requirements. The common stack of a group of two or more existing EGUs in the same subcategory subject to paragraph (k) of this section may be treated as a single stack for purposes of paragraph (c) of this section and included in an emissions averaging group subject to paragraph (c) of this section. (40 CFR 63.10009(n))

v. Monitoring, installation, operation, and maintenance requirements: (40 CFR 63.10010)

1) Flue gases from the affected units under 40 CFR 63, Subpart UUUUU exhaust to the atmosphere through a variety of different configurations, including but not limited to individual stacks, a common stack configuration or a main stack plus a bypass stack. For the CEMS, PM CPMS, and sorbent trap monitoring systems used to provide data under 40 CFR 63, Subpart UUUUU, the continuous monitoring system installation requirements for these exhaust configurations are as follows: (40 CFR 63.10010(a))

(a) Single unit-single stack configurations. For an affected unit that exhausts to the atmosphere through a single, dedicated stack, the owner or operator shall either install the required CEMS, PM CPMS, and sorbent trap monitoring systems in the stack or at a location in the ductwork downstream of all emissions control devices, where the pollutant and diluents concentrations are representative of the emissions that exit to the atmosphere. (40 CFR 63.10010(a)(1))

(b) Unit utilizing common stack with other affected unit(s). When an affected unit utilizes a common stack with one or more other affected units, but no non-affected units, the owner or operator shall either: (40 CFR 63.10010(a)(2))

(i) Install the required CEMS, PM CPMS, and sorbent trap monitoring systems in the duct leading to the common stack from each unit; or (40 CFR 63.10010(a)(2)(i))

(ii) Install the required CEMS, PM CPMS, and sorbent trap monitoring systems in the common stack. (40 CFR 63.10010(a)(2)(ii))

(c) Unit(s) utilizing common stack with non-affected unit(s). (40 CFR 63.10010(a)(3))

(i) When one or more affected units shares a common stack with one or more non-affected units, the owner or operator shall either: (40 CFR 63.10010(a)(3)(i))

(A) Install the required CEMS, PM CPMS, and sorbent trap monitoring systems in the ducts leading to the common stack from each affected unit; or (40CFR63.10010(a)(3)(i)(A))

(B) Install the required CEMS, PM CPMS, and sorbent trap monitoring systems described in this section in the common stack and attribute all of the emissions measured at the common stack to the affected unit(s). (40CFR63.10010(a)(3)(i)(B))

(ii) If the owner or operator chooses the common stack monitoring option: (40 CFR 63.10010(a)(3)(ii))

(A) For each hour in which valid data are obtained for all parameters, the owner or operator shall calculate the pollutant emission rate and (40CFR63.10010(a)(3)(ii)(A))

(B) The owner or operator shall assign the calculated pollutant emission rate to each unit that shares the common stack. (40CFR63.10010(a)(3)(ii)(B))

(d) Unit with a main stack and a bypass stack: If the exhaust configuration of an affected unit consists of a main stack and a bypass stack, the owner or operator shall install CEMS on both the main stack and the bypass stack, or, if it is not feasible to certify and quality-assure the data from a monitoring system on the bypass stack, the owner or operator shall install a CEMS only on the main stack and count bypass hours of deviation from the monitoring requirements. (40 CFR 63.10010(a)(4))

(e) Unit with a common control device with multiple stack or duct configuration. If the flue gases from an affected unit, which is configured such that emissions are controlled with a common control device or series of control devices, are discharged to the atmosphere through more than one stack or are fed into a single stack through two or more ducts, the owner or operator may: (40 CFR 63.10010(a)(5))

(i) Install required CEMS, PM CPMS, and sorbent trap monitoring systems in each of the multiple stacks; (40 CFR 63.10010(a)(5)(i))

(ii) Install required CEMS, PM CPMS, and sorbent trap monitoring systems in each of the ducts that feed into the stack; (40 CFR 63.10010(a)(5)(ii))

(iii) Install required CEMS, PM CPMS, and sorbent trap monitoring systems in one of the multiple stacks or ducts and monitor the flows and dilution rates in all multiple stacks or ducts in order to determine total exhaust gas flow rate and pollutant mass emissions rate in accordance with the applicable limit; or (40 CFR 63.10010(a)(5)(iii))

(iv) In the case of multiple ducts feeding into a single stack, install CEMS, PM CPMS, and sorbent trap

monitoring systems in the single stack as described in paragraph (a)(1) of this section. (40 CFR 63.10010(a)(5)(iv))

(f) Unit with multiple parallel control devices with multiple stacks: If the flue gases from an affected unit, which is configured such that emissions are controlled with multiple parallel control devices or multiple series of control devices are discharged to the atmosphere through more than one stack, the owner or operator shall install the required CEMS, PM CPMS, and sorbent trap monitoring systems described in each of the multiple stacks. The owner or operator shall calculate hourly flow-weighted average pollutant emission rates for the unit as follows: (40 CFR 63.10010(a)(6))

(i) Calculate the pollutant emission rate at each stack or duct for each hour in which valid data are obtained for all parameters; (40 CFR 63.10010(a)(6)(i))

(ii) Multiply each calculated hourly pollutant emission rate at each stack or duct by the corresponding hourly stack gas flow rate at that stack or duct; (40 CFR 63.10010(a)(6)(ii))

(iii) Sum the products determined under paragraph (a)(6)(ii) of this section; and (40 CFR 63.10010(a)(6)(iii))

(iv) Divide the result obtained in paragraph (a)(6)(iii) of this section by the total hourly stack gas flow rate for the unit, summed across all of the stacks or ducts. (40 CFR 63.10010(a)(6)(iv))

2) If the owner or operator use an oxygen (O_2) or carbon dioxide (CO_2) CEMS to convert measured pollutant concentrations to the units of the applicable emissions limit, the O_2 or CO_2 concentrations shall be monitored at a location that represents emissions to the atmosphere, *i.e.*, at the outlet of the EGU, downstream of all emission control devices. You must install, certify, maintain, and operate the CEMS according to part 75 of this chapter. Use only quality-assured O_2 or CO_2 data in the emissions calculations; do not use part 75 substitute data values. (40 CFR 63.10010(b))

3) If the owner or operator is required to use a stack gas flow rate monitor, either for routine operation of a sorbent trap monitoring system or to convert pollutant concentrations to units of an electrical output-based emission standard in Table 1 or 2 to 40 CFR 63, Subpart UUUUU, the owner or operator shall install, certify, operate, and maintain the monitoring system and conduct on-going quality-assurance testing of the system according to part 75 of this chapter. Use only unadjusted, quality-assured flow rate data in the emissions calculations. Do not apply bias adjustment factors to the flow rate data and do not use substitute flow rate data in the calculations. (40 CFR 63.10010(c))

4) If the owner or operator is required to make corrections for stack gas moisture content when converting pollutant concentrations to the units of an emission standard in Table 1 of 2 to 40 CFR 63, Subpart UUUUU, the owner or operator shall install, certify, operate, and maintain a moisture monitoring system in accordance with part 75 of this chapter. Alternatively, for coal-fired units, the owner or operator may use appropriate fuel-specific default moisture values from 40 CFR 75.11(b) of this chapter to estimate the moisture content of the stack gas or the owner or operator may petition the Administrator under 40 CFR 75.66 of this chapter for use of a default moisture value for non-coal-fired units. If the owner or operator install and operate a moisture monitoring system, do not use substitute moisture data in the emissions calculations. (40 CFR 63.10010(d))

5) If the owner or operator use an HCl and/or HF CEMS, the owner or operator shall install, certify, operate, maintain, and quality-assure the data from the monitoring system in accordance with appendix B to 40 CFR 63, Subpart UUUUU. Calculate and record a 30-boiler operating day rolling average HCl or HF emission rate in the units of the standard, updated after each new boiler operating day. Each 30-boiler operating day rolling average emission rate is the average of all the valid hourly HCl or HF emission rates in the preceding 30 boiler operating days (see section 9.4 ofappendix B to 40 CFR 63, Subpart UUUUU). (40 CFR 63.10010(e))

6) If the owner or operator uses an SO_2 CEMS:

(a) If the owner or operator uses an SO_2 CEMS, the owner or operator shall install the monitor at the outlet of the EGU, downstream of all emission control devices, and the owner or operator shall certify, operate, and maintain the CEMS according to part 75 of this chapter. (40 CFR 63.10010(f)(1))

(b) For on-going QA, the SO_2 CEMS must meet the applicable daily, quarterly, and semiannual or annual requirements in sections 2.1 through 2.3 of appendix B to part 75 of this chapter, with the following addition: The owner or operator shall perform the linearity checks required in section 2.2 of appendix B to part 75 of this chapter if the SO_2 CEMS has a span value of 30 ppm or less. (40 CFR 63.10010(f)(2))

(c) Calculate and record a 30–boiler operating day rolling average SO_2 emission rate in the units of the standard, updated after each new boiler operating day. Each 30–boiler operating day rolling average emission rate is the average of all of the valid SO_2 emission rates in the preceding 30 boiler operating days. (40 CFR 63.10010(f)(3))

(d) Use only unadjusted, quality-assured SO_2 concentration values in the emissions calculations; do not apply bias adjustment factors to the part 75 SO_2 data and do not use part 75 substitute data values. (40 CFR 63.10010(f)(4))

7) If the owner or operator use a Hg CEMS or a sorbent trap monitoring system, the owner or operator shall install, certify, operate, maintain and quality-assure the data from the monitoring system in accordance with appendix A to 40 CFR 63, Subpart UUUUU. You must calculate and record a 30- (or, if alternate emissions averaging is used, 90-) boiler operating day rolling average Hg emission rate, in units of the standard, updated after each new boiler operating day. Each 30- (or, if alternate emissions averaging is used, 90-) boiler operating day rolling average emission rate, calculated according to section 6.2 of appendix A to the subpart, is the average of all of the valid hourly Hg emission rates in the preceding 30- (or, if alternate emissions averaging is used, a 90-) boiler operating days. Section 7.1.4.3 of appendix A to 40 CFR 63, Subpart UUUUU explains how to reduce sorbent trap monitoring system data to an hourly basis. (40 CFR 63.10010(g))

8) If the owner or operator uses a PM CPMS to demonstrate continuous compliance with an operating limit, the owner or operator shall install, calibrate, maintain, and operate the PM CPMS and record the output of the system as specified in paragraphs (h)(1) through (5) of this section. (40 CFR 63.10010(h))

(a) Install, calibrate, operate, and maintain the PM CPMS according to the procedures in the approved site-specific monitoring plan developed in accordance with 40 CFR 63.10000(d), and meet the requirements in paragraphs (h)(1)(i) through (iii) of this section. (40 CFR 63.10010(h)(1))

(i) The operating principle of the PM CPMS must be based on in-stack or extractive light scatter, light scintillation, beta attenuation, or mass accumulation detection of the exhaust gas or representative sample. The reportable measurement output from the PM CPMS may be expressed as milliamps, stack concentration, or other raw data signal. (40 CFR 63.10010(h)(1)(i))

(ii) The PM CPMS must have a cycle time (i.e., period required to complete sampling, measurement, and reporting for each measurement) no longer than 60 minutes. (40 CFR 63.10010(h)(1)(ii))

(iii) The PM CPMS must be capable, at a minimum, of detecting and responding to particulate matter concentrations of 0.5 mg/acm. (40 CFR 63.10010(h)(1)(iii))

(b) For a new unit, complete the initial PM CPMS performance evaluation no later than October 13, 2012 or 180 days after the date of initial startup, whichever is later. For an existing unit, complete the initial performance evaluation no later than October 13, 2015. (40 CFR 63.10010(h)(2))

(c) Collect PM CPMS hourly average output data for all boiler operating hours except as indicated in paragraph (h)(5) of this section. Express the PM CPMS output as milliamps, PM concentration, or other raw data signal value. (40 CFR 63.10010(h)(3))

(d) Calculate the arithmetic 30–boiler operating day rolling average of all of the hourly average PM CPMS output collected during all nonexempt boiler operating hours data (*e.g.*, milliamps, PM concentration, raw data signal). (40 CFR 63.10010(h)(4))

(e) The owner or operator shall collect data using the PM CPMS at all times the process unit is operating and at the

intervals specified in paragraph (h)(1)(ii) of this section, except for periods of monitoring system malfunctions, repairs associated with monitoring system malfunctions, required monitoring system quality assurance or quality control activities (including, as applicable, calibration checks and required zero and span adjustments), and any scheduled maintenance as defined in the site-specific monitoring plan. (40 CFR 63.10010(h)(5))

(f) The owner or operator shall use all the data collected during all boiler operating hours in assessing the compliance with the operating limit except: (40 CFR 63.10010(h)(6))

(i) Any data collected during monitoring system malfunctions, repairs associated with monitoring system malfunctions, or required monitoring system quality assurance or quality control activities conducted during monitoring system malfunctions are not used in calculations (report any such periods in the annual deviation report); (40 CFR 63.10010(h)(6)(i))

(ii) Any data collected during periods when the monitoring system is out of control as specified in the site-specific monitoring plan, repairs associated with periods when the monitoring system is out of control, or required monitoring system quality assurance or quality control activities conducted during out-of-control periods are not used in calculations (report emissions or operating levels and report any such periods in the annual deviation report); (40 CFR 63.10010(h)(6)(ii))

(iii) Any data recorded during periods of startup or shutdown. (40 CFR 63.10010(h)(6)(iii))

(g) The owner or operator shall record and make available upon request results of PM CPMS system performance audits, as well as the dates and duration of periods from when the PM CPMS is out of control until completion of the corrective actions necessary to return the PM CPMS to operation consistent with the site-specific monitoring plan. (40 CFR 63.10010(h)(7))

9) If the owner or operator chooses to comply with the PM filterable emissions limit in lieu of metal HAP limits, the owner or operator may choose to install, certify, operate, and maintain a PM CEMS and record the output of the PM CEMS as specified in paragraphs (i)(1) through (5) of this section. The compliance limit will be expressed as a 30–boiler operating day rolling average of the numerical emissions limit value applicable for the unit in tables 1 or 2 to 40 CFR 63, Subpart UUUUU. (40 CFR 63.10010(i))

(a) Install and certify the PM CEMS according to the procedures and requirements in Performance Specification 11—Specifications and Test Procedures for Particulate Matter Continuous Emission Monitoring Systems at Stationary Sources in Appendix B to part 60 of this chapter, using Method 5 at Appendix A–3 to part 60 of this chapter and ensuring that the front half filter temperature shall be 160° ± 14°C (320° ± 25°F). The reportable measurement output from the PM CEMS must be expressed in units of the applicable emissions limit (*e.g.*, lb/MMBtu, lb/MWh). (40 CFR 63.10010(i)(1))

(b) Operate and maintain the PM CEMS according to the procedures and requirements in Procedure 2—Quality Assurance Requirements for Particulate Matter Continuous Emission Monitoring Systems at Stationary Sources in Appendix F to part 60 of this chapter. (40 CFR 63.10010(i)(2))

(i) The owner or operator shall conduct the relative response audit (RRA) for the PM CEMS at least once annually. (40 CFR 63.10010(i)(2)(i))

(ii) The owner or operator shall conduct the relative correlation audit (RCA) for the PM CEMS at least once every 3 years. (40 CFR 63.10010(i)(2)(ii))

(c) Collect PM CEMS hourly average output data for all boiler operating hours except as indicated in paragraph (i) of this section. (40 CFR 63.10010(i)(3))

(d) Calculate the arithmetic 30–boiler operating day rolling average of all of the hourly average PM CEMS output data collected during all nonexempt boiler operating hours. (40 CFR 63.10010(i)(4))

(e) The owner or operator shall collect data using the PM CEMS at all times the process unit is operating and at the intervals specified in paragraph (a) of this section, except for periods of monitoring system malfunctions, repairs associated with monitoring system malfunctions, and required monitoring system quality assurance or quality control activities. (40 CFR 63.10010(i)(5))

(i) The owner or operator shall use all the data collected during all boiler operating hours in assessing the compliance with the operating limit except: (40 CFR 63.10010(i)(5)(i))

(A) Any data collected during monitoring system malfunctions, repairs associated with monitoring system malfunctions, or required monitoring system quality assurance or control activities conducted during monitoring system malfunctions in calculations and report any such periods in the annual deviation report; (40 CFR 63.10010(i)(5)(i)(A))

(B) Any data collected during periods when the monitoring system is out of control as specified in the site-specific monitoring plan, repairs associated with periods when the monitoring system is out of control, or required monitoring system quality assurance or control activities conducted during out of control periods in calculations used to report emissions or operating levels and report any such periods in the annual deviation report; (40 CFR 63.10010(i)(5)(i)(B))

(C) Any data recorded during periods of startup or shutdown. (40 CFR 63.10010(i)(5)(i)(C))

(ii) The owner or operator shall record and make available upon request results of PM CEMS system performance audits, dates and duration of periods when the PM CEMS is out of control to completion of the corrective actions necessary to return the PM CEMS to operation consistent with the site-specific monitoring plan. (40 CFR 63.10010(i)(5)(ii))

vi. Demonstrate initial compliance with the emissions limits and work practice standards: (40 CFR 63.10011)

1) The owner or operator shall demonstrate initial compliance with each emissions limit that applies to the owner or operator by conducting performance testing. (40 CFR 63.10011(a))

2) If the owner or operator is subject to an operating limit in Table 4 to 40 CFR 63, Subpart UUUUU, the owner or operator demonstrates initial compliance with HAP metals or filterable PM emission limit(s) through performance stack tests and the owner or operator elect to use a PM CPMS to demonstrate continuous performance, or if, for a liquid oil-fired unit, and the owner or operator uses quarterly stack testing for HCl and HF plus site-specific parameter monitoring to demonstrate continuous performance, the owner or operator shall also establish a site-specific operating limit, in accordance with Table 4 to 40 CFR 63, Subpart UUUUU, 40 CFR 63.10007, and Table 6 to 40 CFR 63, Subpart UUUUU. The owner or operator may use only the parametric data recorded during successful performance tests (i.e., tests that demonstrate compliance with the applicable emissions limits) to establish an operating limit. (40 CFR 63.10011(b))

Table 6 to Subpart UUUUU of Part 63 - 63—Establishing PM CPMS Operating Limits
[As stated in 40 CFR63.10007. The owner or operator shall comply with the following requirements for establishing operating limits]

If the owner or operator has an applicable emission limit for . . .	**And the owner or operator choose to establish PM CPMS operating limits,the owner or operator shall...**	**And . . .**	**Using . . .**	**According to the following procedures...**
Particulate matter (PM), total non-mercury HAP metals, individual non-mercury HAP metals, total HAP metals, individual HAP metals …	Install, certify, maintain, and operate a PM CPMS for monitoring emissions discharged to the atmosphere according to 40 CFR63.10010(h)(1) …	Establish a site-specific operating limit in units of PM CPMS output signal (e.g., milliamps, mg/acm, or other raw signal) …	Data from the PM CPMS and the PM or HAP metals performance tests …	1. Collect PM CPMS output data during the entire period of the performance tests. 2. Record the average hourly PM CPMS output for each test run in the three run performance test. 3. Determine the highest 1–hour average PM CPMS

If the owner or operator has an applicable emission limit for . . .	And the owner or operator choose to establish PM CPMS operating limits,the owner or operator shall...	And . . .	Using . . .	According to the following procedures...
				measured during the performance test demonstrating compliance with the filterable PM or HAP metals emissions limitations.

3) Use CEMS:

(a) If the owner or operator uses CEMS or sorbent trap monitoring systems to measure a HAP (e.g., Hg or HCl) directly, the first 30–boiler operating day (or, if alternate emissions averaging is used for Hg, the 90-boiler operating day) rolling average emission rate obtained with certified CEMS after the applicable date in 40 CFR 63.9984 (or, if applicable, prior to that date, as described in 40 CFR63.10005(b)(2)), expressed in units of the standard, is the initial performance test. Initial compliance is demonstrated if the results of the performance test meet the applicable emission limit in Table 1 or 2 to 40 CFR 63, Subpart UUUUU. (40 CFR 63.10011(c)(1))

(b) For a unit that uses a CEMS to measure SO_2 or PM emissions for initial compliance, the first 30 boiler operating day average emission rate obtained with certified CEMS after the applicable date in 40 CFR 63.9984 (or, if applicable, prior to that date, as described in 40 CFR 63.10005(b)(2)), expressed in units of the standard, is the initial performance test. Initial compliance is demonstrated if the results of the performance test meet the applicable SO_2 or filterable PM emission limit in Table 1 or 2 to 40 CFR 63, Subpart UUUUU. (40 CFR 63.10011(c)(2))

4) For candidate LEE units, use the results of the performance testing described in 40 CFR 63.10005(h) to determine initial compliance with the applicable emission limit(s) in Table 1 or 2 to 40 CFR 63, Subpart UUUUU and to determine whether the unit qualifies for LEE status. (40 CFR 63.10011(d))

5) The owner or operator shall submit a Notification of Compliance Status containing the results of the initial compliance demonstration, according to 40 CFR 63.10030(e). (40 CFR 63.10011(e))

6) Cleanest fuel:

(a) The owner or operator shall determine the fuel whose combustion produces the least uncontrolled emissions, i.e., the cleanest fuel, either natural gas or distillate oil, that is available on site or accessible nearby for use during periods of startup or shutdown. (40 CFR 63.10011(f)(1))

(b) Your cleanest fuel, either natural gas or distillate oil, for use during periods of startup or shutdown determination may take safety considerations into account. (40 CFR 63.10011(f)(2))

7) The owner or operator shall follow the startup or shutdown requirements given in Table 3 for each coal-fired, liquid oil-fired, and solid oil-derived fuel-fired EGU. (40 CFR 63.10011(g))

Continuous Compliance Requirements:

vii. Monitor and collect data to demonstrate continuous compliance: (40 CFR 63.10020)

1) The owner or operator shall monitor and collect data according to this section and the site-specific monitoring plan required by 40 CFR 63.10000(d). (40 CFR 63.10020(a))

2) The owner or operator shall operate the monitoring system and collect data at all required intervals at all times that the affected EGU is operating, except for periods of monitoring system malfunctions or out-of-control periods (see 40 CFR 63.8(c)(7) of this part), and required monitoring system quality assurance or quality control activities, including, as applicable, calibration checks and required zero and span adjustments. The owner or operator is required to affect monitoring system repairs in response to monitoring system malfunctions and to return the monitoring system to operation as expeditiously as practicable. (40 CFR 63.10020(b))

3) The owner or operator may not use data recorded during EGU startup or shutdown or monitoring system malfunctions or monitoring system out-of-control periods, repairs associated with

monitoring system malfunctions or monitoring system out-of-control periods, or required monitoring system quality assurance or control activities in calculations used to report emissions or operating levels. The owner or operator shall use all the data collected during all other periods in assessing the operation of the control device and associated control system. (40 CFR 63.10020(c))

4) Except for periods of monitoring system malfunctions or monitoring system out-of-control periods, repairs associated with monitoring system malfunctions or monitoring system out-of-control periods, and required monitoring system quality assurance or quality control activities including, as applicable, calibration checks and required zero and span adjustments), failure to collect required data is a deviation from the monitoring requirements. (40 CFR 63.10020(d))

viii. Demonstrate continuous compliance with the emission limitations, operating limits, and work practice standards: (40 CFR 63.10021)

1) The owner or operator shall demonstrate continuous compliance with each emissions limit, operating limit, and work practice standard in Tables 1 through 4 to 40 CFR 63, Subpart UUUUU that applies to the owner or operator, according to the monitoring specified in Tables 6 and 7 to 40 CFR 63, Subpart UUUUU and paragraphs (b) through (g) of this section. (40 CFR 63.10021(a))

2) Except as otherwise provided in 40 CFR 63.10020(c), if the owner or operator uses a CEMS to measure SO_2, PM, HCl, HF, or Hg emissions, or using a sorbent trap monitoring system to measure Hg emissions, the owner or operator shall demonstrate continuous compliance by using all quality-assured hourly data recorded by the CEMS (or sorbent trap monitoring system) and the other required monitoring systems (e.g., flow rate, CO_2, O_2, or moisture systems) to calculate the arithmetic average emissions rate in units of the standard on a continuous 30–boiler operating day (or, if alternate emissions averaging is used for Hg, 90- boiler operating day) rolling average basis, updated at the end of each new boiler operating day. Use Equation 8 to determine the 30– (or, if applicable, 90-) boiler operating day rolling average. (40 CFR 63.10021(b))

$$Boiler\ operating\ day\ average = \frac{\sum_{i=1}^{n} \mathrm{Her_i}}{n} \quad \text{(Eq.8)}$$

Where:

Her_i is the hourly emissions rate for hour i and n is the number of hourly emissions rate values collected over 30- (or, if applicable, 90-) boiler operating days.

3) If the owner or operator uses a PM CPMS data to measure compliance with an operating limit in Table 4 to 40 CFR 63, Subpart UUUUU, the owner or operator shall record the PM CPMS output data for all periods when the process is operating and the PM CPMS is not out-of-control. The owner or operator shall demonstrate continuous compliance by using all quality-assured hourly average data collected by the PM CPMS for all operating hours to calculate the arithmetic average operating parameter in units of the operating limit (*e.g.*, milliamps, PM concentration, raw data signal) on a 30 operating day rolling average basis, updated at the end of each new boiler operating day. Use Equation 9 to determine the 30 boiler operating day average. (40 CFR 63.10021(c))

$$30\ boiler\ operating\ day\ average = \frac{\sum_{i=1}^{n} Hpv_i}{n} \qquad \text{(Eq.9)}$$

Where:

Hpv_i is the hourly parameter value for hour i and n is the number of valid hourly parameter values collected over 30 boiler operating days.

4) If the owner or operator use quarterly performance testing to demonstrate compliance with one or more applicable emissions limits in Table 1 or 2 to 40 CFR 63, Subpart UUUUU, the owner or operator (40 CFR 63.10021(d))

(a) May skip performance testing in those quarters during which less than 168 boiler operating hours occur, except that a performance test must be conducted at least once every calendar year. (40 CFR 63.10021(d)(1))

(b) Must conduct the performance test as defined in Table 5 to 40 CFR 63, Subpart UUUUU and calculate the results of the testing in units of the applicable emissions standard; and (40 CFR 63.10021(d)(2))

(c) Must conduct site-specific monitoring for a liquid oil-fired unit to ensure compliance with the HCl and HF emission limits in Tables 1 and 2 to 40 CFR 63, Subpart UUUUU, in accordance with the requirements of 40 CFR 63.10000(c)(2)(iii). The monitoring must meet the general operating requirements provided in 40 CFR 63.10020(a). (40 CFR 63.10021(d)(3))

5) If the owner or operator shall conduct periodic performance tune-ups of the EGU(s), as specified in paragraphs (e)(1) through (9) of this section, perform the first tune-up as part of the initial compliance demonstration. Notwithstanding this requirement, the owner or operator may delay the first burner inspection until the next scheduled unit outage provided the owner or operator meet the requirements of 40 CFR 63.10005. Subsequently, the owner or operator shall perform an inspection of the burner at least once every 36 calendar months unless the EGU employs neural network combustion optimization during normal operations in which case the owner or operator shall perform an inspection of the burner and combustion controls at least once every 48 calendar months. (40 CFR 63.10021(e))

(a) As applicable, inspect the burner and combustion controls, and clean or replace any components of the burner or combustion controls as necessary upon initiation of the work practice program and at least once every required inspection period. Repair of a burner or combustion control component requiring special order parts may be scheduled as follows: (40 CFR 63.10021(e)(1))

(i) Burner or combustion control component parts needing replacement that affect the ability to optimize NO_x and CO must be installed within 3 calendar months after the burner inspection, (40 CFR 63.10021(e)(1)(i))

(ii) Burner or combustion control component parts that do not affect the ability to optimize NO_x and CO may be installed on a schedule determined by the operator; (40 CFR 63.10021(e)(1)(ii))

(b) As applicable, inspect the flame pattern and make any adjustments to the burner or combustion controls necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available, or in accordance with best combustion engineering practice for that burner type; (40 CFR 63.10021(e)(2))

(c) As applicable, observe the damper operations as a function of mill and/or cyclone loadings, cyclone and pulverizer coal feeder loadings, or other pulverizer and coal mill performance parameters, making adjustments and effecting

repair to dampers, controls, mills, pulverizers, cyclones, and sensors; (40 CFR 63.10021(e)(3))

(d) As applicable, evaluate windbox pressures and air proportions, making adjustments and effecting repair to dampers, actuators, controls, and sensors; (40 CFR 63.10021(e)(4))

(e) Inspect the system controlling the air-to-fuel ratio and ensure that it is correctly calibrated and functioning properly. Such inspection may include calibrating excess O_2 probes and/or sensors, adjusting overfire air systems, changing software parameters, and calibrating associated actuators and dampers to ensure that the systems are operated as designed. Any component out of calibration, in or near failure, or in a state that is likely to negate combustion optimization efforts prior to the next tune-up, should be corrected or repaired as necessary; (40 CFR 63.10021(e)(5))

(f) Optimize combustion to minimize generation of CO and NO_x . This optimization should be consistent with the manufacturer's specifications, if available, or best combustion engineering practice for the applicable burner type. NO_x optimization includes burners, overfire air controls, concentric firing system improvements, neural network or combustion efficiency software, control systems calibrations, adjusting combustion zone temperature profiles, and add-on controls such as SCR and SNCR; CO optimization includes burners, overfire air controls, concentric firing system improvements, neural network or combustion efficiency software, control systems calibrations, and adjusting combustion zone temperature profiles; (40 CFR 63.10021(e)(6))

(g) While operating at full load or the predominantly operated load, measure the concentration in the effluent stream of CO and NO_x in ppm, by volume, and oxygen in volume percent, before and after the tune-up 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). The owner or operator may use portable CO, NO_x and O_2 monitors for this measurement. EGU's employing neural network optimization systems need only provide a single pre- and post-tune-up value rather than continual

values before and after each optimization adjustment made by the system; (40 CFR 63.10021(e)(7))

(h) Maintain on-site and submit, if requested by the Administrator, an annual report containing the information in paragraphs (e)(1) through (e)(9) of this section including: (40 CFR 63.10021(e)(8))

(i) The concentrations of CO and NO_x in the effluent stream in ppm by volume, and oxygen in volume percent, measured before and after an adjustment of the EGU combustion systems; (40 CFR 63.10021(e)(8)(i))

(ii) A description of any corrective actions taken as a part of the combustion adjustment; and (40 CFR 63.10021(e)(8)(ii))

(iii) The type(s) and amount(s) of fuel used over the 12 calendar months prior to an adjustment, but only if the unit was physically and legally capable of using more than one type of fuel during that period; and (40 CFR 63.10021(e)(8)(iii))

(i) Report the dates of the initial and subsequent tune-ups as follows: (40 CFR 63.10021(e)(9))

(i) If the first required tune-up is performed as part of the initial compliance demonstration, report the date of the tune-up in hard copy (as specified in 40 CFR 63.10030) and electronically (as specified in 40 CFR 63.10031). Report the date of each subsequent tune-up electronically (as specified in 40 CFR 63.10031). (40 CFR 63.10021(e)(9)(i))

(ii) If the first tune-up is not conducted as part of the initial compliance demonstration, but is postponed until the next unit outage, report the date of that tune-up and all subsequent tune-ups electronically, in accordance with 40 CFR 63.10031. (40 CFR 63.10021(e)(9)(ii))

6) The owner or operator shall submit the reports required under 40 CFR 63.10031 and, if applicable, the reports required under appendices A and B to 40 CFR 63, Subpart UUUUU. The electronic reports required by appendices A and B to 40 CFR 63, Subpart UUUUU must be sent to the Administrator electronically

in a format prescribed by the Administrator, as provided in 40 CFR 63.10031. CEMS data (except for PM CEMS and any approved alternative monitoring using a HAP metals CEMS) shall be submitted using EPA's Emissions Collection and Monitoring Plan System (ECMPS) Client Tool. Other data, including PM CEMS data, HAP metals CEMS data, and CEMS performance test detail reports, shall be submitted in the file format generated through use of EPA's Electronic Reporting Tool, the Compliance and Emissions Data Reporting Interface, or alternate electronic file format, all as provided for under 40 CFR63.10031. (40 CFR 63.10021(f))

7) The owner or operator shall report each instance in which the owner or operator did not meet an applicable emissions limit or operating limit in Tables 1 through 4 to 40 CFR 63, Subpart UUUUU or failed to conduct a required tune-up. These instances are deviations from the requirements of 40 CFR 63, Subpart UUUUU. These deviations must be reported according to 40 CFR 63.10031. (40 CFR 63.10021(g))

8) The owner or operator shall keep records as specified in 40 CFR 63.10032 during periods of startup and shutdown. (40 CFR 63.10021(h))

9) The owner or operator shall provide reports as specified in 40 CFR 63.10031 concerning activities and periods of startup and shutdown. (40 CFR 63.10021(i))

ix. Demonstrate continuous compliance under the emissions averaging provision: (40 CFR 63.10022)

1) Following the compliance date, the owner or operator must demonstrate compliance with 40 CFR 63, Subpart UUUUU on a continuous basis by meeting the requirements of paragraphs (a)(1) through (3) of this section. (40 CFR 63.10022(a))

(a) For each 30- (or 90-) day rolling average period, demonstrate compliance with the average weighted emissions limit for the existing units participating in the emissions averaging option as determined in 40 CFR 63.10009(f) and (g); (40 CFR 63.10022(a)(1))

(b) For each existing unit participating in the emissions averaging option that is equipped with PM CPMS, maintain the average parameter value at or below the operating limit

established during the most recent performance test; (40 CFR 63.10022(a)(2))

(c) For each existing unit participating in the emissions averaging option venting to a common stack configuration containing affected units from other subcategories, maintain the appropriate operating limit for each unit as specified in Table 4 to 40 CFR 63, Subpart UUUUU that applies. (40 CFR 63.10022(a)(3))

2) Any instance where the owner or operator fails to comply with the continuous monitoring requirements in paragraphs (a)(1) through (3) of this section is a deviation. (40 CFR 63.10022(b))

x. Establish PM CPMS operating limit and determine compliance with it: (40 CFR 63.10023)

1) During the initial performance test or any such subsequent performance test that demonstrates compliance with the filterable PM, individual non-mercury HAP metals, or total non-mercury HAP metals limit (or for liquid oil-fired units, individual HAP metals or total HAP metals limit, including Hg) in Table 1 or 2, record all hourly average output values (e.g., milliamps, stack concentration, or other raw data signal) from the PM CPMS for the periods corresponding to the test runs (e.g., nine 1–hour average PM CPMS output values for three 3–hour test runs). (40 CFR 63.10023(a))

2) Determine the operating limit as the highest 1–hour average PM CPMS output value recorded during the performance test. The owner or operator shall verify an existing or establish a new operating limit after each repeated performance test. (40 CFR 63.10023(b))

3) The owner or operator shall operate and maintain the process and control equipment such that the 30 operating day average PM CPMS output does not exceed the operating limit determined in paragraphs (a) and (b) of this section. (40 CFR 63.10023(c))

xi. Record keeping requirements: (40 CFR 63.10032)

1) The owner or operator shall keep records according to paragraphs (a)(1) and (2) of this section. If the owner or operator is required to (or elect to) continuously monitor Hg and/or HCl and/or HF emissions, the owner or operator shall also keep the records

required under appendix A and/or appendix B to 40 CFR 63, Subpart UUUUU. (40 CFR 63.10032(a))

(a) A copy of each notification and report that the owner or operator submitted to comply with 40 CFR 63, Subpart UUUUU, including all documentation supporting any Initial Notification or Notification of Compliance Status or compliance report that the owner or operator submitted, according to the requirements in 40 CFR 63.10 (b)(2)(xiv). (40 CFR 63.10032(a)(1))

(b) Records of performance stack tests, fuel analyses, or other compliance demonstrations and performance evaluations, as required in 40 CFR 63.10 (b)(2)(viii). (40 CFR 63.10032(a)(2))

2) For each CEMS and CPMS, the owner or operator shall keep records according to paragraphs (b)(1) through (4) of this section. (40 CFR 63.10032(b))

(a) Records described in 40 CFR 63.10(b)(2)(vi) through (xi). (40 CFR 63.10032(b)(1))

(b) Previous (i.e., superseded) versions of the performance evaluation plan as required in 40 CFR 63.8(d)(3). (40 CFR 63.10032(b)(2))

(c) Request for alternatives to relative accuracy test for CEMS as required in 40 CFR 63.8(f)(6)(i). (40 CFR 63.10032(b)(3))

(d) Records of the date and time that each deviation started and stopped and whether the deviation occurred during a period of startup, shutdown, or malfunction or during another period. (40 CFR 63.10032(b)(4))

3) The owner or operator shall keep the records required in Table 7 to 40 CFR 63, Subpart UUUUU including records of all monitoring data and calculated averages for applicable PM CPMS operating limits to show continuous compliance with each emission limit and operating limit that applies to the owner or operator. (40 CFR 63.10032(c))

Table 7 to Subpart UUUUU of Part 63 - Demonstrating Continuous Compliance [As stated in 40 CFR63.10021. The owner or operator shall show continuous compliance with the emission limitations for affected sources according to the following]

If the owner or operator uses one of the following to meet applicable emissions limits, operating limits, or work practice standards . . .	**The owner or operator demonstrate continuous compliance by . . .**
1. CEMS to measure filterable PM, SO_2 , HCl, HF, or Hg emissions, or using a sorbent trap monitoring system to measure Hg	Calculating the 30- (or 90-) boiler operating day rolling arithmetic average emissions rate in units of the applicable emissions standard basis at the end of each boiler operating day using all of the quality assured hourly average CEMS or sorbent trap data for the previous 30- (or 90-) boiler operating days, excluding data recorded during periods of startup or shutdown.
2. PM CPMS to measure compliance with a parametric operating limit	Calculating the 30- (or 90-) boiler operating day rolling arithmetic average of all of the quality assured hourly average PM CPMS output data (e.g., milliamps, PM concentration, raw data signal) collected for all operating hours for the previous 30- (or 90-) boiler operating days, excluding data recorded during periods of startup or shutdown.
3. Site-specific monitoring using CMS for liquid oil-fired EGUs for HCl and HF emission limit monitoring	If applicable, by conducting the monitoring in accordance with an approved site-specific monitoring plan.
4. Quarterly performance testing for coal-fired, solid oil derived fired, or liquid oil-fired EGUs to measure compliance with one or more non-PM (or its alternative emission limits) applicable emissions limit in Table 1 or 2, or PM (or its alternative emission limits) applicable emissions limit in Table 2	Calculating the results of the testing in units of the applicable emissions standard.
5. Conducting periodic performance tune-ups of your EGU(s)	Conducting periodic performance tune-ups of your EGU(s), as specified in 40 CFR 63.10021(e).
6. Work practice standards for coal-fired, liquid oil-fired, or solid oil-derived fuel-fired EGUs during startup	Operating in accordance with Table 3.
7. Work practice standards for coal-fired, liquid oil-fired, or solid oil-derived fuel-fired EGUs during shutdown	Operating in accordance with Table 3.

4) For each EGU subject to an emission limit, the owner or operator shall also keep the records in paragraphs (d)(1) through (3) of this section. (40 CFR 63.10032(d))

(a) The owner or operator shall keep records of monthly fuel use by each EGU, including the type(s) of fuel and amount(s) used. (40 CFR 63.10032(d)(1))

(b) If the owner or operator combusts non-hazardous secondary materials that have been determined not to be solid waste pursuant to 40 CFR 241.3(b)(1), the owner or operator shall keep a record which documents how the secondary material meets each of the legitimacy criteria. If the owner or operator combusts a fuel that has been processed from a discarded non-hazardous secondary material pursuant to 40 CFR 241.3(b)(2), the owner or operator shall keep records as to how the operations that produced the fuel satisfies the definition of processing in 40 CFR 241.2. If the fuel received a non-waste determination pursuant to the petition process submitted under 40 CFR 241.3(c), the owner or operator shall keep a record which documents how the fuel satisfies the requirements of the petition process. (40 CFR 63.10032(d)(2))

(c) For an EGU that qualifies as an LEE under 40 CFR 63.10005(h), the owner or operator shall keep annual records that document that the emissions in the previous stack test(s) continue to qualify the unit for LEE status for an applicable pollutant, 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 pollutant to increase within the past year. (40 CFR 63.10032(d)(3))

5) If the owner or operator elects to average emissions consistent with 40 CFR 63.10009, the owner or operator shall additionally keep a copy of the emissions averaging implementation plan required in 40 CFR 63.10009(g), all calculations required under 40 CFR 63.10009, including daily records of heat input or steam generation, as applicable, and monitoring records consistent with 40 CFR 63.10022. (40 CFR 63.10032(e))

6) The owner or operator shall keep records of the occurrence and duration of each startup and/or shutdown. (40 CFR 63.10032(f))

7) The owner or operator shall keep records of the occurrence and duration of each malfunction of an operation (i.e., process equipment) or the air pollution control and monitoring equipment. (40 CFR 63.10032(g))

8) The owner or operator shall keep records of actions taken during periods of malfunction to minimize emissions in accordance with 40 CFR 63.10000(b), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation. (40 CFR 63.10032(h))

9) The owner or operator shall keep records of the type(s) and amount(s) of fuel used during each startup or shutdown. (40 CFR 63.10032(i))

10) If the owner or operator elects to establish that an EGU qualifies as a limited-use liquid oil-fired EGU, the owner or operator shall keep records of the type(s) and amount(s) of fuel use in each calendar quarter to document that the capacity factor limitation for that subcategory is met. (40 CFR 63.10032(j))

xii. Record keeping form and time period: (40 CFR 63.10033)

1) Your records must be in a form suitable and readily available for expeditious review, according to 40 CFR 63.10(b)(1). (40 CFR 63.10033(a))

2) As specified in 40 CFR 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 63.10033(b))

3) The owner or operator shall keep each record on site for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to 40 CFR 63.10(b)(1). The owner or operator can keep the records off site for the remaining 3 years. (40 CFR 63.10033(c))

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

HAP

i. Notifications and date to submit the notifications: (40 CFR 63.10030)

1) The owner or operator shall submit all of the notifications in 40 CFR 63.7(b) and (c), 63.8 (e), (f)(4) and (6), and 63.9 (b) through (h) that apply to the owner or operator by the dates specified. (40 CFR 63.10030(a))

2) As specified in 40 CFR 63.9(b)(2), if the owner or operator starts up the affected source before April 16, 2012, the owner or operator shall submit an Initial Notification not later than 120 days after April 16, 2012. (40 CFR 63.10030(b))

3) As specified in 40 CFR 63.9(b)(4) and (b)(5), if the owner or operator starts up the new or reconstructed affected source on or after April 16, 2012, the owner or operator shall submit an Initial Notification not later than 15 days after the actual date of startup of the affected source. (40 CFR 63.10030(c))

4) When the owner or operator is required to conduct a performance test, the owner or operator shall submit a Notification of Intent to conduct a performance test at least 30 days before the performance test is scheduled to begin. (40 CFR 63.10030(d))

5) When the owner or operator is required to conduct an initial compliance demonstration as specified in 40 CFR 63.10011(a), the owner or operator shall submit a Notification of Compliance Status according to 40 CFR 63.9(h)(2)(ii). The Notification of Compliance Status report must contain all the information specified in paragraphs (e)(1) through (7), as applicable. (40 CFR 63.10030(e))

(a) A description of the affected source(s) including identification of which subcategory the source is in, the design capacity of the source, a description of the add-on controls used on the source, description of the fuel(s) burned, including whether the fuel(s) were determined by the owner or operator or EPA through a petition process to be a non-waste under 40 CFR 241.3, whether the fuel(s) were processed from discarded non-hazardous secondary materials within the meaning of 40 CFR 241.3, and justification for the selection of fuel(s) burned during the performance test. (40 CFR 63.10030(e)(1))

(b) Summary of the results of all performance tests and fuel analyses and calculations conducted to demonstrate initial compliance including all established operating limits. (40 CFR 63.10030(e)(2))

(c) Identification of whether the owner or operator plans to demonstrate compliance with each applicable emission limit through performance testing; fuel moisture analyses; performance testing with operating limits (e.g., use of PM

CPMS); CEMS; or a sorbent trap monitoring system. (40 CFR 63.10030(e)(3))

(d) Identification of whether the owner or operator plans to demonstrate compliance by emissions averaging. (40 CFR 63.10030(e)(4))

(e) A signed certification that the owner or operator has met all applicable emission limits and work practice standards. (40 CFR 63.10030(e)(5))

(f) If the owner or operator had a deviation from any emission limit, work practice standard, or operating limit, the owner or operator shall also submit a brief description of the deviation, the duration of the deviation, emissions point identification and the cause of the deviation in the Notification of Compliance Status report. (40 CFR 63.10030(e)(6))

(g) In addition to the information required in 40 CFR 63.9(h)(2), the notification of compliance status must include the following: (40 CFR 63.10030(e)(7))

(i) A summary of the results of the annual performance tests and documentation of any operating limits that were reestablished during this test, if applicable. If the owner or operator is conducting stack tests once every 3 years consistent with 40 CFR 63.10006(b), the date of the last three stack tests, a comparison of the emission level the owner or operator achieved in the last three stack tests to the 50 percent emission limit threshold required in 40 CFR 63.10006(i), and a statement as to whether there have been any operational changes since the last stack test that could increase emissions. (40 CFR 63.10030(e)(7)(i))

(ii) Certifications of compliance, as applicable, and must be signed by a responsible official stating: (40 CFR 63.10030(e)(7)(ii))

(A) "This EGU complies with the requirements in 40 CFR 63.10021(a) to demonstrate continuous compliance." And (40 CFR 63.10030(e)(7)(ii)(A))

(B) "No secondary materials that are solid waste were combusted in any affected unit." (40 CFR 63.10030(e)(7)(ii)(B))

ii. Reports and the date to submit the reports: (40 CFR 63.10031)

1) The owner or operator shall submit each report in Table 8 to 40 CFR 63, Subpart UUUUU that applies to the owner or operator. If the owner or operator is required to (or elect to) continuously monitor Hg and/or HCl and/or HF emissions, the owner or operator shall also submit the electronic reports required under appendix A and/or appendix B to the subpart, at the specified frequency. (40 CFR 63.10031(a))

Table 8 to Subpart UUUUU of Part 63 - Reporting Requirements [As stated in 40 CFR63.10031. The owner or operator shall comply with the following requirements for reports]

The owner or operator shall submit a . . .	**The report must contain . . .**	**The owner or operator shall submit the report**
1. Compliance report …	a. Information required in 40 CFR 63.10031(c)(1) through (4); and b. If there are no deviations from any emission limitation (emission limit and operating limit) that applies to the owner or operator and there are no deviations from the requirements for work practice standards in Table 3 to 40 CFR 63, Subpart UUUUU that apply to the owner or operator, 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, and operating parameter monitoring systems, were out-of control as specified in 40 CFR 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 the owner or operator has a deviation from any emission limitation (emission limit and operating limit) or work practice standard during the reporting period, the report must contain the information in 40 CFR 63.10031(d). If there were periods during which the CMSs, including continuous emissions monitoring systems and continuous parameter monitoring systems, were out-of-control, as specified in 40 CFR 63.8(c)(7), the report must contain the information in 40 CFR 63.10031(e) …	Semiannually according to the requirements in 40 CFR 63.10031(b).

2) Unless the Administrator (APCD) has approved a different schedule for submission of reports under 40 CFR 63.10(a), the owner or operator shall submit each report by the date in Table 8 to 40 CFR 63, Subpart UUUUU and according to the requirements in

paragraphs (b)(1) through (5) of this section. (40 CFR 63.10031(b))

(a) The first compliance report must cover the period beginning on the compliance date that is specified for the affected source in 40 CFR 63.9984 and ending on June 30 or December 31, whichever date is the first date that occurs at least 180 days after the compliance date that is specified for the source in 40 CFR 63.9984. (40 CFR 63.10031(b)(1))

(b) The first compliance report must be postmarked or submitted electronically 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 the source in 40 CFR 63.9984. (40 CFR 63.10031(b)(2))

(c) 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. (40 CFR 63.10031(b)(3))

(d) Each subsequent compliance report must be postmarked or submitted electronically no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period. (40 CFR 63.10031(b)(4))

(e) For each affected source that is subject to permitting regulations pursuant to part 70 or part 71 of this chapter, and if the permitting authority has established dates for submitting semiannual reports pursuant to 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), the owner or operator may submit the first and subsequent compliance reports according to the dates the permitting authority has established instead of according to the dates in paragraphs (b)(1) through (4) of this section. (40 CFR 63.10031(b)(5))

3) The compliance report must contain the information required in paragraphs (c)(1) through (4) of this section. (40 CFR 63.10031(c))

(a) The information required by the summary report located in 63.10(e)(3)(vi). (40 CFR 63.10031(c)(1))

(b) The total fuel use by each affected source subject to an emission limit, for each calendar month within the semiannual reporting period, including, but not limited to, a

description of the fuel, whether the fuel has received a non-waste determination by EPA or the basis for concluding that the fuel is not a waste, and the total fuel usage amount with units of measure. (40 CFR 63.10031(c)(2))

(c) Indicate whether the owner or operator burned new types of fuel during the reporting period. If the owner or operator did burn new types of fuel the owner or operator shall include the date of the performance test where that fuel was in use. (40 CFR 63.10031(c)(3))

(d) Include the date of the most recent tune-up for each unit subject to the requirement to conduct a performance tune-up according to 40 CFR63.10021(e). Include the date of the most recent burner inspection if it was not done every 36 (or 48) months and was delayed until the next scheduled unit shutdown. (40 CFR 63.10031(c)(4))

4) For each excess emissions occurring at an affected source where the owner or operator is using a CMS to comply with that emission limit or operating limit, the owner or operator shall include the information required in 40 CFR63.10(e)(3)(v) in the compliance report specified in section (c). (40 CFR 63.10031(d))

5) Each affected source that has obtained a Title V operating permit pursuant to part 70 or part 71 of this chapter must report all deviations as defined in 40 CFR 63, Subpart UUUUU in the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A). If an affected source submits a compliance report pursuant to Table 8 to 40 CFR 63, Subpart UUUUU along with, or as part of, the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), and the compliance report includes all required information concerning deviations from any emission limit, operating limit, or work practice requirement in 40 CFR 63, Subpart UUUUU, submission of the compliance report satisfies any obligation to report the same deviations in the semiannual monitoring report. Submission of a compliance report does not otherwise affect any obligation the affected source may have to report deviations from permit requirements to the permit authority. (40 CFR 63.10031(e))

6) As of January 1, 2012, and within 60 days after the date of completing each performance test, the owner or operator shall submit the results of the performance tests required by 40 CFR 63, Subpart UUUUU to EPA's WebFIRE database by using the

Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) (www.epa.gov/cdx). Performance test data must be submitted in the file format generated through use of EPA's Electronic Reporting Tool (ERT) (see http://www.epa.gov/ttn/chief/ert/index.html). Only data collected using those 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 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 EPA via CDX as described earlier in this paragraph. At the discretion of the delegated authority, the owner or operator shall also submit these reports, including the confidential business information, to the delegated authority in the format specified by the delegated authority. (40 CFR 63.10031(f))

(a) Within 60 days after the date of completing each CEMS (SO_2, PM, HCl, HF, and Hg) performance evaluation test, as defined in 40 CFR 63.2 and required by 40 CFR 63, Subpart UUUUU, the owner or operator shall submit the relative accuracy test audit (RATA) data (or, for PM CEMS, RCA and RRA data) required by 40 CFR 63, Subpart UUUUU to EPA's WebFIRE database by using the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) (www.epa.gov/cdx). The RATA data shall be submitted in the file format generated through use of EPA's Electronic Reporting Tool (ERT) (http://www.epa.gov/ttn/chief/ert/index.html). Only RATA data compounds listed on the ERT Web site are subject to this requirement. Owners or operators who claim that some of the information being submitted for RATAs is confidential business information (CBI) shall 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) by registered letter to EPA and the same ERT file with the CBI omitted to EPA via CDX as described earlier in this

paragraph. The compact disk or other commonly used electronic storage media shall 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. At the discretion of the delegated authority, owners or operators shall also submit these RATAs to the delegated authority in the format specified by the delegated authority. Owners or operators shall submit calibration error testing, drift checks, and other information required in the performance evaluation as described in 40 CFR 63.2 and as required in this chapter. (40 CFR 63.10031(f)(1))

(b) For a PM CEMS, PM CPMS, or approved alternative monitoring using a HAP metals CEMS, within 60 days after the reporting periods ending on March 31st, June 30th, September 30th, and December 31st, the owner or operator shall submit quarterly reports to EPA's WebFIRE database by using the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) (www.epa.gov/cdx). The owner or operator shall use the appropriate electronic reporting form in CEDRI or provide an alternate electronic file consistent with EPA's reporting form output format. For each reporting period, the quarterly reports must include all of the calculated 30–boiler operating day rolling average values derived from the CEMS and PM CPMS. (40 CFR 63.10031(f)(2))

(c) Reports for an SO_2 CEMS, a Hg CEMS or sorbent trap monitoring system, an HCl or HF CEMS, and any supporting monitors for such systems (such as a diluent or moisture monitor) shall be submitted using the ECMPS Client Tool, as provided for in Appendices A and B to 40 CFR 63, Subpart UUUUU and 40 CFR 63.10021(f). (40 CFR 63.10031(f)(3))

(d) Submit the compliance reports required under paragraphs (c) and (d) of this section and the notification of compliance status required under 40 CFR 63.10030(e) to EPA's WebFIRE database by using the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) (www.epa.gov/cdx). The owner or operator shall use the appropriate electronic reporting form in CEDRI or provide

an alternate electronic file consistent with EPA's reporting form output format. (40 CFR 63.10031(f)(4))

(e) All reports required by 40 CFR 63, Subpart UUUUU not subject to the requirements in paragraphs (f)(1) through (4) of this section must be sent to the Administrator at the appropriate address listed in 40 CFR 63.13. If acceptable to both the Administrator and the owner or operator of a source, these reports may be submitted on electronic media. The Administrator retains the right to require submittal of reports subject to paragraphs (f)(1), (2), and (3) of this section in paper format. (40 CFR 63.10031(f)(5))

7) If the owner or operator had a malfunction during the reporting period, the compliance report must include the number, duration, and a brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded. (40 CFR 63.10031(g))

Comments

1. According to 40 CFR 63.9984(b), the compliance date for an existing EGU is April 16, 2015. LG&E requested a year extension and the District has approved the request for the extension per (40 CFR 63.6(i)(4)(i)). Therefore the compliance date for the EGUs under this construction is April 16, 2016.

Attachment B - Testing Requirements for New Control Devices for EGUs

Specific Conditions

PM/ SO_2/ H_2SO_4/ Hg

a. **Determination of monitoring parameters**

i. The owner or operator shall establish a site-specific minimum PAC injection rate operating limit during a performance test for mercury, according to the following requirements:[14]

1) You must collect activated carbon injection rate data every 15 minutes during the entire period of the performance tests.

2) Determine the hourly average activated carbon injection rate by computing the hourly averages using all of the 15-minute readings taken during each performance test.

3) Determine the lowest hourly average established during the performance test as your operating limit. When your unit operates at lower loads, multiply your activated carbon injection rate by the load fraction (e.g., actual heat input divided by heat input during performance test, for 50 percent load, multiply the injection rate operating limit by 0.5) to determine the required injection rate.

ii. The owner or operator shall determine the appropriate pressure drop range across the baghouse that will be used as the indicators of normal operation of the control devices.

1) The owner or operator shall monitor and record pressure drop across the baghouse at least once each per operating day. The owner or operator shall establish an appropriate pressure drop range for the normal operation of the baghouse after ninety (90) consecutive days of observation.

2) The owner or operator shall submit to the District the established appropriate ranges of the pressure drop for the baghouse. The report shall be submitted within 30 days following the end of the 90 day monitoring period.

[14] The requirements of establishing operating limit for PAC injection refer to Table 7 to 40 CFR 63, Subpart DDDDD.

b. **Tests for control efficiency** (Regulation 2.16, section 4.1.9.1)

i. The owner or operator shall perform tests with appropriate EPA Reference Method performance test within 180 days of achieving normal operation[15] on the inlet and outlet of the new control devices PJFF (for PM), FGD (for SO_2), Dry sorbent injection (for acid control), and PAC Injection (for Mercury) in order to determine their control efficiencies.

ii. The owner or operator shall conduct all performance tests in such a manner that the following testing requirements can be achieved.

1) The test shall be performed at 90% or higher of maximum capacity, or allowable/permitted capacity, or at a level of capacity which results in the greatest emissions that is representative of the operations. Failure to perform the test, at maximum capacity, allowable/permitted capacity, or at a level of capacity which resulted in the greatest emissions, may necessitate a re-test or necessitate a revision of the allowable/permitted capacity of the process equipment depending upon the difference between the testing results and the limit.

2) The owner or operator shall submit written test plans (protocol) for the control efficiency testing. They shall include the EPA test methods that will be used for performance evaluation testing, the process operating parameters that will be monitored during the performance test, and the control device performance indicators (e.g. pressure drop, minimum combustion chamber temperature) that will be monitored during the performance test. The test plans shall be furnished to the District at least 30 days prior to the actual date of the performance test.

3) 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.

4) 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.

5) The owner or operator shall provide written notification to the District of the actual date of initial startup. The written notification shall be postmarked within 15 days of achieving normal operation.

[15] Normal operation is defined as "after the shakedown period and when the unit is operating for the purpose of generating electricity."

c. **Test methods required in 40 CFR 60, Subpart D** (use if applicable to U3, U4)

i. In conducting the performance tests required in 40 CFR 60.8, and subsequent performance tests as requested by the EPA Administrator, the owner or operator shall use as reference methods and procedures the test methods in appendix A of this part or other methods and procedures as specified in 40 CFR 60.46, except as provided in 40 CFR 60.8(b). Acceptable alternative methods and procedures are given in paragraph (d) of 40 CFR 60.46. (40 CFR 60.46(a))

ii. The owner or operator shall determine compliance with the PM and SO_2 standards in 40 CFR 60.42, 60.43, and 60.44 as follows: (40 CFR 60.46(b))

1) The emission rate (E) of PM and SO_2 shall be computed for each run using the following equation: (40 CFR 60.46(b)(1))

$$E = CF_d \frac{20.9}{20.9 - \%O_2}$$

Where:
E = Emission rate of pollutant, ng/J (1b/million Btu);
C = Concentration of pollutant, ng/dscm (1b/dscf);
$\%O_2$ = O_2 concentration, percent dry basis; and
F_d= Factor as determined from Method 19 of appendix A of this part.

2) Method 5 of appendix A of this part shall be used to determine the PM concentration (C) at affected facilities without wet flue-gas-desulfurization (FGD) systems and Method 5B of appendix A of this part shall be used to determine the PM concentration (C) after FGD systems. (40 CFR 60.46(b)(2))

(a) The sampling time and sample volume for each run shall be at least 60 minutes and 0.85 dscm (30 dscf). The probe and filter holder heating systems in the sampling train shall be set to provide an average gas temperature of 160 ± 14 ° C (320 ± 25 ° F). (40 CFR 60.46(b)(2)(i))

(b) The emission rate correction factor, integrated or grab sampling and analysis procedure of Method 3B of appendix A of this part shall be used to determine the O_2 concentration ($\%O_2$). The O_2 sample shall be obtained simultaneously with, and at the same traverse points as, the particulate sample. If the grab sampling procedure is used, the O_2 concentration for the run shall be the arithmetic

mean of the sample O_2 concentrations at all traverse points. (40 CFR 60.46(b)(2)(ii))

(c) If the particulate run has more than 12 traverse points, the O_2 traverse points may be reduced to 12 provided that Method 1 of appendix A of this part is used to locate the 12 O_2 traverse points. (40 CFR 60.46(b)(2)(iii))

3) Method 9 of appendix A of this part and the procedures in 40 CFR 60.11 shall be used to determine opacity. (40 CFR 60.46(b)(3))

4) Method 6 of appendix A of this part shall be used to determine the SO_2 concentration. (40 CFR 60.46(b)(4))

(a) The sampling site shall be the same as that selected for the particulate sample. The sampling location in the duct shall be at the centroid of the cross section or at a point no closer to the walls than 1 m (3.28 ft). The sampling time and sample volume for each sample run shall be at least 20 minutes and 0.020 dscm (0.71 dscf). Two samples shall be taken during a 1-hour period, with each sample taken within a 30-minute interval. (40 CFR 60.46(b)(4)(i))

(b) The emission rate correction factor, integrated sampling and analysis procedure of Method 3B of appendix A of this part shall be used to determine the O_2 concentration (%O_2). The O_2 sample shall be taken simultaneously with, and at the same point as, the SO_2 sample. The SO_2 emission rate shall be computed for each pair of SO_2 and O_2 samples. The SO_2 emission rate (E) for each run shall be the arithmetic mean of the results of the two pairs of samples. (40 CFR 60.46(b)(4)(ii))

5) Method 7 of appendix A of this part shall be used to determine the NO_x concentration. (40 CFR 60.46(b)(5))

(a) The sampling site and location shall be the same as for the SO_2 sample. Each run shall consist of four grab samples, with each sample taken at about 15-minute intervals. (40 CFR 60.46(b)(5)(i))

(b) For each NO_x sample, the emission rate correction factor, grab sampling and analysis procedure of Method 3B of appendix A of this part shall be used to determine the O_2 concentration (%O_2). The sample shall be taken simultaneously with, and at the same point as, the NO_x sample. (40 CFR 60.46(b)(5)(ii))

(c) The NO_x emission rate shall be computed for each pair of NO_x and O_2 samples. The NO_x emission rate (E) for each run shall be the arithmetic mean of the results of the four pairs of samples. (40 CFR 60.46(b)(5)(iii))

iii. The owner or operator may use the following as alternatives to the reference methods and procedures in 40 CFR 60.46 or in other sections as specified: (40 CFR 60.46(d))

1) The emission rate (E) of PM, SO_2 and NO_x may be determined by using the Fc factor, provided that the following procedure is used: (40 CFR 60.46(d)(1))

(a) The emission rate (E) shall be computed using the following equation: (40 CFR 60.46(d)(1)(i))

$$E = CF_c \frac{100}{\%CO_2}$$

Where:
E = Emission rate of pollutant, ng/J (lb/MMBtu);
C = Concentration of pollutant, ng/dscm (lb/dscf);
$\%CO_2$= CO_2 concentration, percent dry basis; and
F_c= Factor as determined in appropriate sections of Method 19 of appendix A of this part.

(b) If and only if the average F_c factor in Method 19 of appendix A of this part is used to calculate E and either E is from 0.97 to 1.00 of the emission standard or the relative accuracy of a continuous emission monitoring system is from 17 to 20 percent, then three runs of Method 3B of appendix A of this part shall be used to determine the O_2 and CO_2 concentration according to the procedures in paragraph (b)(2)(ii), (4)(ii), or (5)(ii) of 40 CFR 60.46. Then if F_o(average of three runs), as calculated from the equation in Method 3B of appendix A of this part, is more than ± 3 percent than the average F_o value, as determined from the average values of F_d and F_c in Method 19 of appendix A of this part, *i.e.*, F_{oa}= 0.209 (F_{da}/F_{ca}), then the following procedure shall be followed: (40 CFR 60.46(d)(1)(ii))

(i) When F_o is less than 0.97 F_{oa}, then E shall be increased by that proportion under 0.97 F_{oa}, *e.g.*, if F_o is 0.95 F_{oa}, E shall be increased by 2 percent.

This recalculated value shall be used to determine compliance with the emission standard. (40 CFR 60.46(d)(1)(ii)(A))

(ii) When F_o is less than 0.97 F_{oa} and when the average difference (d) between the continuous monitor minus the reference methods is negative, then E shall be increased by that proportion under 0.97 F_{oa}, *e.g.*, if F_o is 0.95 F_{oa}, E shall be increased by 2 percent. This recalculated value shall be used to determine compliance with the relative accuracy specification. (40 CFR 60.46(d)(1)(ii)(B))

(iii) When F_o is greater than 1.03 F_{oa} and when the average difference d is positive, then E shall be decreased by that proportion over 1.03 F_{oa}, *e.g.*, if F_o is 1.05 F_{oa}, E shall be decreased by 2 percent. This recalculated value shall be used to determine compliance with the relative accuracy specification. (40 CFR 60.46(d)(1)(ii)(C))

2) For Method 5 or 5B of appendix A–3 of this part, Method 17 of appendix A–6 of this part may be used at facilities with or without wet FGD systems if the stack gas temperature at the sampling location does not exceed an average temperature of 160 ° C (320 ° F). The procedures of sections 8.1 and 11.1 of Method 5B of appendix A–3 of this part may be used with Method 17 of appendix A–6 of this part only if it is used after wet FGD systems. Method 17 of appendix A–6 of this part shall not be used after wet FGD systems if the effluent gas is saturated or laden with water droplets. (40 CFR 60.46(d)(2))

3) Particulate matter and SO_2 may be determined simultaneously with the Method 5 of appendix A of this part train provided that the following changes are made: (40 CFR 60.46(d)(3))

(a) The filter and impinger apparatus in sections 2.1.5 and 2.1.6 of Method 8 of appendix A of this part is used in place of the condenser (section 2.1.7) of Method 5 of appendix A of this part. (40 CFR 60.46(d)(3)(i))

(b) All applicable procedures in Method 8 of appendix A of this part for the determination of SO_2(including moisture) are used. (40 CFR 60.46(d)(3)(ii))

4) For Method 6 of appendix A of this part, Method 6C of appendix A of this part may be used. Method 6A of appendix A of this part may also be used whenever Methods 6 and 3B of appendix A of this part data are specified to determine the SO_2 emission rate, under the conditions in paragraph (d)(1) of 40 CFR 60.46. (40 CFR 60.46(d)(4))

5) For Method 7 of appendix A of this part, Method 7A, 7C, 7D, or 7E of appendix A of this part may be used. If Method 7C, 7D, or 7E of appendix A of this part is used, the sampling time for each run shall be at least 1 hour and the integrated sampling approach shall be used to determine the O_2 concentration ($\%O_2$) for the emission rate correction factor. (40 CFR 60.46(d)(5))

6) For Method 3 of appendix A of this part, Method 3A or 3B of appendix A of this part may be used. (40 CFR 60.46(d)(6))

7) For Method 3B of appendix A of this part, Method 3A of appendix A of this part may be used. (40 CFR 60.46(d)(7))

Attachment C - 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 D - NO_x RACT Plan - Amendment 1

1. The oxides of nitrogen (NO_x, expressed as NO_2) emission from each utility boiler shall not exceed the rate as specified below, based upon a rolling 30-day average:

   Unit 1 0.47 lb/mmBtu of heat input
   Unit 2 0.47 lb/mmBtu of heat input
   Unit 3 0.52 lb/mmBtu of heat input
   Unit 4 0.52 lb/mmBtu of heat input

2. The NO_x emission rate for each utility boiler shall be determined using the methods and procedures specified in NO_x RACT Plan Appendix A - Amendment 1, except that any reference to an annual average shall be read as a rolling 30-day average.

3. The Louisville Gas and Electric Company Mill Creek Generating Station (LG&E/MCGS) shall install, maintain, and operate a NO_x continuous emissions monitoring system (CEMS) for each utility boiler and shall keep records and submit reports and other notifications as specified in NO_x RACT Plan Appendix A - Amendment 1.

4. The LG&E/MCGS 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 calendar quarter. 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 calendar quarter, the report shall contain a negative declaration. Each report shall be submitted within 30 days following the end of the calendar quarter.

5. In lieu of the requirements in this NO_x RACT Plan, the LG&E/MCGS 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 had 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 had 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 a1/10-18-00 effective 1-1-01.

Appendix A to NO_x RACT Plan - Amendment 1
Requirements for NO_x CEMS

I. General Operating Requirements

A. Primary measurement requirements. The LG&E/MCGS shall, for each utility boiler, install, certify, operate, and maintain, in accordance with the requirements of 40 CFR 75, an oxides of nitrogen (NO_x) continuous emission monitoring system (CEMS), consisting of a NO_x pollutant concentration monitor and an oxygen (O_2) or carbon dioxide (CO_2) diluent gas monitor, with an automated data acquisition and handling system for measuring and recording NO_x concentration (in parts per million [ppm]), O_2 or CO_2 concentration (in percent O_2 or CO_2) and NO_x emission rate (in lb/mmBtu of heat input) discharged to the atmosphere. Any reference in this Appendix to an annual average shall be read as a rolling 30-day average. The LG&E/MCGS shall account for total NO_x emissions, both nitrogen oxide (NO) and nitrogen dioxide (NO_2), either by monitoring for both NO and NO_2 or by monitoring for NO only and adjusting the emissions data to account for NO_2.

B. Primary equipment performance requirements. The LG&E/MCGS shall ensure that each CEMS used to demonstrate compliance with the NO_x emission limit meets the equipment, installation, and performance specifications in 40 CFR 75 Appendix A, and is maintained according to the quality assurance and quality control procedures in 40 CFR 75 Appendix B. The NO_x emission rate for each utility boiler shall be recorded as lb/mmBtu of heat input.

C. Primary equipment hourly operating requirements.

1. The LG&E/MCGS shall ensure that all CEMS are in operation and monitoring the emissions from the associated utility boiler at all times that the utility boiler combusts any fuel except during a period of any of the following:
   a. Calibration, quality assurance, or preventive maintenance, any of which is performed pursuant to 40 CFR 75.21, 40 CFR 75 Appendix B, District regulations, District permit conditions, or this NO_x RACT Plan, or
   b. Repair, backups of data from the data acquisition and handling system, or recertification, any of which is performed pursuant to 40 CFR 75.20.
2. The LG&E/MCGS shall ensure that the following requirements are met:
   a. Each CEMS and component thereof is capable of completing a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute interval. The LG&E/MCGS shall reduce all volumetric flow, CO_2 concentration, O_2 concentration, NO_x concentration, and NO_x emission rate data collected by the monitors to hourly averages. Hourly averages shall be computed using at least one data point in each 15- minute quadrant of an hour during which the utility boiler combusted fuel during that quadrant of the hour. Notwithstanding this requirement, an hourly average may be computed from at least two data points separated by a minimum of 15 minutes (where the unit operates for more than one quadrant of the hour) if data are unavailable as a result of the performance of any activity specified in paragraph I.C.1. of this Appendix. The LG&E/MCGS shall use all valid measurements or data points collected during an hour to calculate the hourly averages. All data points collected during an hour shall be, to the extent practicable, evenly spaced over the hour.
   b. Failure of a CO_2 or O_2 diluent concentration monitor, flow monitor, or NO_X pollutant concentration monitor to acquire the minimum number of data points for calculation of an hourly average shall result in the failure to obtain a valid hour of data and the loss of such component data for the entire hour. An hourly average NO_x emission rate in lb/mmBtu of heat input is valid only if the minimum number of data points are acquired by both the pollutant concentration monitor (NO_x) and the diluent monitor (CO_2 or O_2). If a valid hour of data is not obtained, the owner or operator shall estimate and record emissions, moisture, or flow data for the missing hour by means of the automated data acquisition and handling system, in accordance with the applicable procedure for missing data substitution in 40 CFR 75 Subpart D .

D. Optional backup monitor requirements. If the LG&E/MCGS chooses to use two or more CEMS, each of which is capable of monitoring the same stack or duct at a specific utility boiler, then the LG&E/MCGS shall designate one CEMS

as the primary monitoring system and shall record this designation in the monitoring plan. The LG&E/MCGS shall designate any other CEMS as a backup CEMS in the monitoring plan. Any other backup CEMS shall be designated as a redundant backup CEMS, non-redundant backup CEMS, or reference method CEMS, as described in 40 CFR 75.20(d). When the certified primary monitoring system is operating and not out-of-control as defined in 40 CFR 75.24, only data from the certified primary monitoring system shall be reported as valid, quality-assured data. Thus, data from a backup CEMS may be reported as valid, quality-assured data only when a backup CEMS is operating and not out-of-control as defined in 40 CFR 75.24 or in the applicable reference method in 40 CFR 60 Appendix A and when the certified primary monitoring system is not operating or is operating but out-of-control. A particular monitor may be designated both as a certified primary monitor for one unit and as a certified redundant backup monitor for another unit.

E. **Minimum measurement capability requirements.** Each CEMS and component thereof shall be capable of accurately measuring, recording, and reporting data, and shall not incur a full scale exceedance, except as provided in section 2.1.2.5 of 40 CFR 75 Appendix A.

F. The LG&E/MCGS shall not operate a utility boiler so as to discharge, or allow to be discharged, emissions of NO_x to the atmosphere without accounting for all such emissions in accordance with the methods and procedures specified in this Appendix.

G. The LG&E/MCGS shall not disrupt the CEMS, any portion thereof, or any other approved emission monitoring method, and thereby avoid monitoring and recording NO_x emissions discharged into the atmosphere, except for periods of recertification or periods when calibration, quality assurance testing, or maintenance is performed in accordance with the provisions of this Appendix.

H. The LG&E/MCGS shall not retire or permanently discontinue use of the CEMS, any component thereof, or any other approved emission monitoring system under this Appendix except under any one of the following circumstances:

1. The LG&E/MCGS is monitoring NO_x emissions from the utility boiler with another certified monitoring system approved in accordance with the provisions of paragraph I.D. of this Appendix, or
2. The LG&E/MCGS submits notification of the date of certification testing of a replacement monitoring system.

I. The quality assurance and quality control requirements in 40 CFR 75.21 that apply to NO_x pollutant concentration monitors and diluent gas monitors shall be met. A NO_x pollutant concentration monitor for determining NO_x emissions shall meet the same certification testing requirements, quality assurance requirements, and bias test requirements as those specified in 40 CFR 75 for an SO_2 pollutant concentration monitor.

J. **Moisture correction.** If a correction for the stack gas moisture content is needed to properly calculate the NO_x emission rate in lb/mmBtu of heat input (i.e., if the NO_x pollutant concentration monitor measures on a different moisture basis from the diluent monitor), LG&E/MCGS shall either report a fuel-specific default moisture value for each utility boiler operating hour, as provided in 40 CFR 75.11(b)(1), or shall install, operate, maintain, and quality assure a continuous moisture monitoring system, as defined in 40 CFR 75.11(b)(2). Notwithstanding this requirement, if Equation 19-3, 19-4 or 19-8 in Method 19 in Appendix A to 40 CFR Part 60 is used to measure NO_x emission rate, the following fuel-specific default moisture percentages shall be used in lieu of the default values specified in 40 CFR 75.11(b)(1): 5.0%, for anthracite coal; 8.0% for bituminous coal; 12.0% for sub-bituminous coal; 13.0% for lignite coal; and 15.0% for wood.

II. Specific Provisions for Monitoring NO_x Emission Rate (NO_x and diluent gas monitors)

A. The LG&E/MCGS shall meet the general operating requirements in 40 CFR 75.10 for a NO_x CEMS for each utility boiler. The diluent gas monitor in the NO_x CEMS may measure either O_2 or CO_2 concentration in the flue gases.

B. The LG&E/MCGS shall calculate hourly and rolling 30-day NO_x emission rates (in lb/mmBtu of heat input) by combining the NO_x concentration (in ppm), diluent concentration (in percent O_2 or CO_2), and percent moisture (if applicable) measurements according to the procedures in 40 CFR 75 Appendix F.

III. Monitoring plan

The LG&E/MCGS shall prepare and maintain a monitoring plan as specified in 40 CFR 75.53. The monitoring plan shall be submitted to the District no later than 45 days prior to the first scheduled certification test.

IV. Recordkeeping Provisions

A. The LG&E/MCGS shall maintain for each utility boiler a file of all measurements, data, reports, and other information required by this Appendix at the stationary source in a form suitable for inspection for at least 5 years from the date of each record. This file shall contain the following information:

1. The data and information required in paragraph IV.B. of this Appendix,
2. The component data and information used to calculate values required in paragraph IV.B. of this Appendix,
3. The current monitoring plan as specified in 40 CFR 75.53, and
4. The quality control plan as described in 40 CFR 75 Appendix B.

B. **NO_x emission record provisions.** The LG&E/MCGS shall record hourly the following information as measured and reported from the certified primary

monitor, certified back-up or certified portable monitor, or other approved method of emissions determination for each utility boiler:

1. Date and hour,
2. Hourly average NO_x concentration (ppm, rounded to the nearest tenth),
3. Hourly average diluent gas concentration (percent O_2 or percent CO_2, rounded to the nearest tenth),
4. Hourly average NO_x emission rate (lb/mmBtu of heat input, rounded to nearest hundredth),
5. Hourly average NO_x emission rate (lb/mmBtu of heat input, rounded to nearest hundredth) adjusted for bias, if a bias adjustment factor is required by 40 CFR 75.24 (d),
6. Percent monitoring system data availability (recorded to the nearest tenth of a percent), calculated pursuant to 40 CFR 75.32,
7. Method of determination for hourly average NO_x emission rate using Codes 1-55 in 40 CFR 75.57 Table 4A, and
8. Unique code identifying emissions formula used to derive hourly average NO_x emission rate, as provided for in 40 CFR 75.53.

V. Certification, Quality Assurance, and Quality Control Record Provisions

A. For each NO_x pollutant concentration monitor and diluent gas monitor, the LG&E/MCGS shall record the following:

1. Results of all trial runs and certification tests and quality assurance activities and measurements (including all reference method field test sheets, charts, records of combined system responses, laboratory analyses, and example calculations) necessary to substantiate compliance with all relevant requirements of this Appendix,
2. Bias test results as specified in 40 CFR 75, Appendix A, section 7.6.4,
3. The appropriate bias adjustment factor as follows:
   a. The value derived from Equations A-11 and A-12 in 40 CFR 75 Appendix A for any monitoring system or component that failed the bias test, or
   b. A value of 1.0 for any monitoring system or component that passed the bias test, and
4. The component/system identification code.

B. For each NO_x pollutant concentration monitor and diluent gas monitor, the LG&E/MCGS shall record the following for all daily and 7-day calibration error tests, including any follow-up tests after corrective action:

1. Instrument span and span scale,
2. Date and hour,
3. Reference value (i.e., calibration gas concentration or reference signal value, in ppm or other appropriate units),
4. Observed value (monitor response during calibration, in ppm or other appropriate units), (flag if using alternative performance specification for low emitters or differential pressure monitors),

5. Percent calibration error (rounded to the nearest tenth of a percent),
6. Calibration gas level,
7. Test number and reason for test,
8. For 7-day calibrations tests for certification or recertification, a certification from the cylinder gas vendor or CEMS vendor that calibration gases as defined in 40 CFR 72.2 and 40 CFR 75 Appendix A were used to conduct calibration error testing,
9. Description of any adjustments, corrective actions, or maintenance following a test,
10. For quality test for off-line calibration, whether the unit is off-line or on-line, and
11. The component/system identification code.

C. For each NO_x pollutant concentration monitor and diluent gas monitor, the LG&E/MCGS shall record the following for the initial and all subsequent linearity checks, including any follow-up tests after corrective action:

1. Instrument span and span scale,
2. Calibration gas level,
3. Date, hour, and minute of each gas injection at each calibration gas level,
4. Reference value (i.e., reference gas concentration for each gas injection at each calibration gas level, in ppm or other appropriate units),
5. Observed value (monitor response to each reference gas injection at each calibration gas level, in ppm or other appropriate units),
6. Mean of reference values and mean of measured values at each calibration gas level
7. Linearity error at each of the reference gases concentrations (rounded to the nearest tenth of a percent), (flag if using alternative performance specification),
8. Test number and reason for test (flag if aborted test),
9. Description of any adjustments, corrective action, or maintenance prior to a passed test or following a failed test,
10. The number of out-of-control hours, if any, following any tests, and
11. The component/system identification code.

D. For each NO_x pollutant concentration monitor and diluent gas monitor, the LG&E/MCGS shall record the following information for the initial and all subsequent relative accuracy tests and test audits:

1. Reference method(s) used,
2. Individual test run data from the relative accuracy test audit for the NO_x pollutant concentration monitor or diluent gas monitor, including:
    a. Date, hour, and minute of beginning of test run,
    b. Date, hour, and minute of end of test run,
    c. Monitoring system identification code,
    d. Test number and reason for test,
    e. Operating load level (low, mid, high, or normal, as appropriate) and number of load levels comprising test,

f. Normal load indicator for flow RATAs (except for peaking units),
g. Units of measure,
h. Run number,
i. Run data from CEMS being tested, in the appropriate units of measure,
j. Run data for reference method, in the appropriate units of measure,
k. Flag value (0, 1, or 9, as appropriate) indicating whether run has been used in calculating relative accuracy and bias values or whether the test was aborted prior to completion,
l. Average gross unit load (expressed as a total gross unit load rounded to the nearest MWe or as steam load rounded to the nearest thousand lb/hr), and
m. Flag to indicate whether an alternative performance specification has been used,

3. Calculations and tabulated results, as follows:
   a. Arithmetic mean of the monitoring system measurement values, reference method values, and of their differences, as specified in Equation A-7 in 40 CFR 75 Appendix A,
   b. Standard deviation, as specified in Equation A-8 in 40 CFR 75 Appendix A,
   c. Confidence coefficient, as specified in Equation A-9 in 40 CFR 75 Appendix A,
   d. Statistical "t" value used in calculations,
   e. Relative accuracy test results, as specified in Equation A-10 in 40 CFR 75 Appendix A,
   f. Bias test results as specified in section 7.6.4 in 40 CFR 75 Appendix A,
   g. Bias adjustment factor from Equation A-12 in 40 CFR 75 Appendix A for any monitoring system or component that failed the bias test (except as otherwise provided in section 7.6.5 in 40 CFR 75 Appendix A) and 1.000 for any monitoring system or component that passed the bias test,
   h. F-factor value(s) used to convert NO_x pollutant concentration and diluent gas (O_2 or CO_2) concentration measurements into NO_x emission rates (in lb/mmBtu),
   i. The raw data and calculated results for any stratification tests performed in accordance with sections 6.5.6.1 through 6.5.6.3 in 40 CFR 75 Appendix A, and
   j. For moisture monitoring systems, the coefficient "K" factor or other mathematical algorithm used to adjust the monitoring system with respect to the reference method,
4. Description of any adjustment, corrective action, or maintenance prior to a passed test or following a failed or aborted test,
5. For each run of each test using Method 7E or 3A in Appendix A of 40 CFR 60 to determine NO_x, CO_2, or O_2 concentration the following:
   a. Pollutant or diluent gas being measured,

b. Span of reference method analyzer,
c. Type of reference method system (e.g., extractive or dilution type),
d. Reference method dilution factor (dilution type systems, only),
e. Reference gas concentration (low, mid, and high gas levels) used for the 3-point, pre-test analyzer calibration error test (or, for dilution type reference method systems, for the 3-point, pre-test system calibration error test) and for any subsequent recalibrations,
f. Analyzer responses to the zero-, mid-, and high-level calibration gases during the 3-point pre-test analyzer (or system) calibration error test and during any subsequent recalibration(s),
g. Analyzer calibration error at each gas level (zero, mid, and high) for the 3-point, pre-test analyzer (or system) calibration error test and for any subsequent recalibration(s) (percent of span value),
h. Upscale gas concentration (mid or high gas level) used for each pre-run or post-run system bias check or, for dilution type reference method systems, for each pre-run or post-run system calibration error check,
i. Analyzer response to the calibration gas for each pre-run or post-run system bias (or system calibration error) check,
j. The arithmetic average of the analyzer responses to the zero-level gas, for each pair of pre- and post-run system bias (or system calibration error) checks,
k. The arithmetic average of the analyzer responses to the upscale calibration gas, for each pair of pre- and post-run system bias (or system calibration error) checks,
l. The results of each pre-run and each post-run system bias (or system calibration error) check using the zero-level gas (percentage of span value),
m. The results of each pre-run and each post-run system bias (or system calibration error) check using the upscale calibration gas (percentage of span value),
n. Calibration drift and zero drift of analyzer during each RATA run (percentage of span value),
o. Moisture basis of the reference method analysis,
p. Moisture content of stack gas, in percent, during each test run (if needed to convert to moisture basis of CEMS being tested),
q. Unadjusted (raw) average pollutant or diluent gas concentration for each run,
r. Average pollutant or diluent gas concentration for each run, corrected for calibration bias (or calibration error) and, if applicable, corrected for moisture,
s. The F-factor used to convert reference method data to units of lb/mmBtu (if applicable)
t. Date(s) of the latest analyzer interference test(s),
u. Results of the latest analyzer interference test(s),
v. Date of the latest NO_2 to NO conversion test (Method 7E only),

w. Results of the latest NO_2 to NO conversion test (Method 7E only), and

x. For each calibration gas cylinder used during each RATA, record the cylinder gas vendor, cylinder number, expiration date, pollutant(s) in the cylinder, and

6. The number of out-of-control hours, if any, following any tests, and
7. The component/system identification code.

VI. Notifications

A. The LG&E/MCGS or a designated representative shall submit notice to the District for the following purposes, as required by this Appendix:

1. Initial certification and recertification test notifications. Written notification shall be submitted of initial certification tests, recertification tests, and revised test dates as specified in 40 CFR 75.20 for continuous emission monitoring systems, except for testing only of the data acquisition and handling system, and
2. Notification of initial certification testing. Initial certification test notifications shall be submitted not later than 45 days prior to the first scheduled day of initial certification testing. Testing may be performed on a date other than that already provided in a notice under this subparagraph as long as notice of the new date is provided either in writing or by telephone or other means at least 7 days prior to the original scheduled test date or the revised test date, whichever is earlier.

B. For retesting following a loss of certification under 40 CFR 75.20(a)(5) or for recertification under 40 CFR 75.20(b), notice of testing shall be submitted either in writing or by telephone at least 7 days prior to the first scheduled day of testing, except that in emergency situations when testing is required following an uncontrollable failure of equipment that results in lost data, notice shall be sufficient if provided within 2 business days following the date when testing is scheduled. Testing may be performed on a date other than that already provided in a notice under this subparagraph as long as notice of the new date is provided by telephone or other means at least 2 business days prior to the original scheduled test date or the revised test date, whichever is earlier.

C. Notwithstanding the notice requirements of paragraph B. above, the LG&E/MCGS may elect to repeat a certification test immediately, without advance notification, whenever the LG&E/MCGS has determined during the certification testing that a test was failed or that a second test is necessary in order to attain a reduced relative accuracy test frequency.

D. Written notice shall be submitted, either by mail or facsimile, of the date of periodic relative accuracy testing performed under 40 CFR Part 75 Appendix B no later than 21 days prior to the first scheduled day of testing. Testing may be performed on a date other than that already provided in a notice under this

subparagraph as long as notice of the new date is provided either in writing or by telephone or other means acceptable to the District, and the notice is provided as soon as practicable after the new testing date is known, but no later than 24 hours in advance of the new date of testing.

E. Notwithstanding the notice requirements under paragraph D. above, the LG&E/MCGS may elect to repeat a periodic relative accuracy test immediately, without additional notification whenever the LG&E/MCGS has determined that a test was failed, or that a second test is necessary in order to attain a reduced relative accuracy test frequency. If an observer from the District is present when a test is rescheduled, the observer may waive all notification requirements under paragraph D. above for the rescheduled test.

VII. Quarterly reports

A. The LG&E/MCGS shall, within 30 days following the end of each calendar quarter, submit a report to the District that includes the following data and information for each utility boiler:

1. The information and hourly data required in this Appendix, including all emissions and quality assurance data, and
2. Average NO_x emission rate (lb/mmBtu of heat input, rounded to the nearest hundredth) during the rolling 30-day averaging periods.

B. The LG&E/MCGS shall submit a certification in support of each quarterly emissions monitoring report. This certification shall indicate whether the monitoring data submitted were recorded in accordance with the requirements of this Appendix. In the event of any missing data periods, this certification shall include a description of the measures taken to minimize or eliminate the causes for the missing data periods.

Attachment E - 40 CFR 75, Subpart G

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

Specific Conditions

S1. **Reporting Requirements for Continuous Emission Monitoring**

a. **General provisions** (40 CFR 75.60)

i. If requested in writing (or by electronic mail) by the applicable EPA Regional Office, appropriate State, and/or appropriate local air pollution control agency, the designated representative shall submit a hardcopy RATA report within 45 days after completing a required semiannual or annual RATA according to section 2.3.1 of appendix B to this part (for standard RATA frequencies and reduced RATA frequencies), or within 15 days of receiving the request, whichever is later. The designated representative shall report the hardcopy information required by 40 CFR 75.59(a)(9), as specified in Condition S1.a..ii., to the applicable EPA Regional Office, appropriate State, and/or appropriate local air pollution control agency that requested the RATA report. (40 CFR 75.60(b)(6))

ii. When hardcopy relative accuracy test reports, certification reports, recertification reports, or semiannual or annual reports for gas or flow rate CEMS, the reports shall include, at a minimum, the following elements (as applicable to the type(s) of test(s) performed): (40 CFR 75.59(a)(9))

1) Summarized test results. (40 CFR 75.59(a)(9)(i))

2) DAHS printouts of the CEMS data generated during the calibration error, linearity, cycle time, and relative accuracy tests. (40 CFR 75.59(a)(9)(ii))

3) For pollutant concentration monitor or diluent monitor relative accuracy tests at normal operating load: (40 CFR 75.59(a)(9)(iii))

(a) The raw reference method data from each run, i.e., the data under paragraph (a)(7)(iv)(Q) of 40 CFR 75.59 (usually in the form of a computerized printout, showing a series of one-minute readings and the run average); (40 CFR 75.59(a)(9)(iii)(A))

(b) The raw data and results for all required pre-test, post-test, pre-run and post-run quality assurance checks (*i.e.*, calibration gas injections) of the reference method

analyzers, i.e., the data under paragraphs (a)(7)(iv)(E) through (a)(7)(iv)(N) of 40 CFR 75.59 (supporting information for RATA using Method 6C, 7E, or 3A); (40 CFR 75.59(a)(9)(iii)(B))

(c) The raw data and results for any moisture measurements made during the relative accuracy testing, i.e., the data under paragraphs (a)(7)(v)(A) through (a)(7)(v)(O) of 40 CFR 75.59 (supporting information for RATA using Method 4); and (40 CFR 75.59(a)(9)(iii)(C))

(d) Tabulated, final, corrected reference method run data (*i.e.*, the actual values used in the relative accuracy calculations), along with the equations used to convert the raw data to the final values and example calculations to demonstrate how the test data were reduced. (40 CFR 75.59(a)(9)(iii)(D))

4) For relative accuracy tests for flow monitors: (40 CFR 75.59(a)(9)(iv))

(a) The raw flow rate reference method data, from Reference Method 2 (or its allowable alternatives) under appendix A to part 60 of this chapter, including auxiliary moisture data (often in the form of handwritten data sheets), i.e., the data under paragraphs (a)(7)(ii)(A) through (a)(7)(ii)(T), paragraphs (a)(7)(iii)(A) through (a)(7)(iii)(M), and, if applicable, paragraphs (a)(7)(v)(A) through (a)(7)(v)(O) of 40 CFR 75.59 (supporting information for RATA using Method 2 and Method 4) ; and (40 CFR 75.59(a)(9)(iv)(A))

(b) The tabulated, final volumetric flow rate values used in the relative accuracy calculations (determined from the flow rate reference method data and other necessary measurements, such as moisture, stack temperature and pressure), along with the equations used to convert the raw data to the final values and example calculations to demonstrate how the test data were reduced. (40 CFR 75.59(a)(9)(iv)(B))

5) Calibration gas certificates for the gases used in the linearity, calibration error, and cycle time tests and for the calibration gases used to quality assure the gas monitor reference method data during the relative accuracy test audit. (40 CFR 75.59(a)(9)(v))

6) Laboratory calibrations of the source sampling equipment. (40 CFR 75.59(a)(9)(vi))

7) A copy of the test protocol used for the CEMS certifications or recertifications, including narrative that explains any testing abnormalities, problematic sampling, and analytical conditions that required a change to the test protocol, and/or solutions to technical problems encountered during the testing program. (40 CFR 75.59(a)(9)(vii))

8) Diagrams illustrating test locations and sample point locations (to verify that locations are consistent with information in the monitoring plan). Include a discussion of any special traversing or measurement scheme. The discussion shall also confirm that sample points satisfy applicable acceptance criteria. (40 CFR 75.59(a)(9)(viii))

9) Names of key personnel involved in the test program, including test team members, plant contacts, agency representatives and test observers on site. (40 CFR 75.59(a)(9)(vix))

10) For testing involving use of EPA Protocol gases, the owner or operator shall record in electronic and hardcopy format the following information, as applicable: (40 CFR 75.59(a)(9)(x))

(a) On and after September 26, 2011, for each gas monitor, for both low and high measurement ranges, record the following information for the mid-level or high-level EPA Protocol gas (as applicable) that is used for daily calibration error tests, and the low-, mid-, and high-level gases used for quarterly linearity checks. For O_2 , if purified air is used as the high-level gas for daily calibrations or linearity checks, record the following information for the low- and mid-level EPA Protocol gas used for linearity checks, instead: (40 CFR 75.59(a)(9)(x)(A))

(i) Gas level code; (40 CFR 75.59(a)(9)(x)(A)(1))
(ii) A code for the type of EPA Protocol gas used; (40 CFR 75.59(a)(9)(x)(A)(2))
(iii) The PGVP vendor ID issued by EPA for the EPA Protocol gas production site that supplied the EPA Protocol gas cylinder; (40 CFR 75.59(a)(9)(x)(A)(3))
(iv) The expiration date for the EPA Protocol gas cylinder; and (40 CFR 75.59(a)(9)(x)(A)(4))
(v) The cylinder number. (40 CFR 75.59(a)(9)(x)(A)(5))

(b) On and after September 26, 2011, for each usage of Reference Method 3A in appendix A-2 to part 60 of this chapter, or Method 6C or 7E in appendix A-4 to part 60 of this chapter performed using EPA Protocol gas for the certification, recertification, routine quality assurance or diagnostic testing (reportable diagnostics, only) of a Part 75 monitoring system, record the information required by paragraphs (a)(9)(x)(A)(*1*) through (*5*) of 40 CFR 75.59. See Condition S1.a.ii.(10)(a){(i) through (v). (40 CFR 75.59(a)(9)(x)(B))

11) On and after March 27, 2012, for all RATAs performed pursuant to 40 CFR 75.74(c)(2)(ii), section 6.5 of appendix A to this part and section 2.3.1 of appendix B to this part, and for all NO_X emission testing performed pursuant to section 2.1 of appendix E to this part, or 40 CFR 75.19(c)(1)(iv), the owner or operator shall record the following information as provided by the AETB: (40 CFR 75.59(a)(9)(xi))

(a) The name, telephone number and e-mail address of the Air Emission Testing Body; (40 CFR 75.59(a)(9)(xi)(A))

(b) The name of each on-site Qualified Individual, as defined in 40 CFR 72.2 of this chapter; (40 CFR 75.59(a)(9)(xi)(B))

(c) For the reference method(s) that were performed, the date(s) that each on-site Qualified Individual took and passed the relevant qualification exam(s) required by ASTM D7036-04 (incorporated by reference, *see* 40 CFR 75.6); and (40 CFR 75.59(a)(9)(xi)(C))

(d) The name and e-mail address of each qualification exam provider. (40 CFR 75.59(a)(9)(xi)(D))

b. **Notifications** (40 CFR 75.61)

i. *Initial certification and recertification test notifications*. The owner or operator or designated representative for an affected unit shall submit written notification of initial certification tests and revised test dates as specified in 75.20 (Initial certification and recertification procedures) for continuous emission monitoring systems, for alternative monitoring systems under subpart E of this part, or for excepted monitoring systems under appendix E to this part, except as provided in paragraphs (a)(1)(iii) and (a)(1)(iv) of 40 CFR 75.61. (40 CFR75.61(a)(1))

1) Notification of initial certification testing and full recertification. Initial certification test notifications and notifications of full recertification testing under 40 CFR 75.20(b)(2) shall be submitted not later than 21 days prior to the first scheduled day of certification or recertification testing. In emergency situations when full recertification testing is required following an uncontrollable failure of equipment that results in lost data, notice shall be sufficient if provided within 2 business days following the date when testing is scheduled. Testing may be performed on a date other than that already provided in a notice under this subparagraph as long as notice of the new date is provided either in writing or by telephone or other means at least 7 days prior to the original scheduled test date or the revised test date, whichever is earlier. (40 CFR75.61(a)(1)(i))

2) Notification of certification retesting, and partial recertification testing. For retesting required following a loss of certification under 40 CFR 75.20(a)(5) or for partial recertification testing required under 40 CFR 75.20(b)(2), notice of the date of any required RATA testing or any required retesting under section 2.3 in appendix E to this part shall be submitted either in writing or by telephone at least 7 days prior to the first scheduled day of testing; except that in emergency situations when testing is required following an uncontrollable failure of equipment that results in lost data, notice shall be sufficient if provided within 2 business days following the date when testing is scheduled. Testing may be performed on a date other than that already provided in a notice under this subparagraph as long as notice of the new date is provided by telephone or other means at least 2 business days prior to the original scheduled test date or the revised test date, whichever is earlier. (40 CFR75.61(a)(1)(ii))

3) Repeat of testing without notice. Notwithstanding the above notice requirements, the owner or operator may elect to repeat a certification or recertification test immediately, without advance notification, whenever the owner or operator has determined during the certification or recertification testing that a test was failed or must be aborted, or that a second test is necessary in order to attain a reduced relative accuracy test frequency. (40 CFR75.61(a)(1)(iii))

ii. *New unit, newly affected unit, new stack, or new flue gas desulfurization system operation notification*. The designated representative for an affected unit shall submit written notification: For a new unit or a newly affected unit, of the planned date when a new unit or newly affected unit

will commence commercial operation, or becomes affected, or, for new stack or flue gas desulfurization system, of the planned date when a new stack or flue gas desulfurization system will be completed and emissions will first exit to the atmosphere. (40 CFR75.61(a)(2))

1) Notification of the planned date shall be submitted not later than 45 days prior to the date the unit commences commercial operation or becomes affected, or not later than 45 days prior to the date when a new stack or flue gas desulfurization system exhausts emissions to the atmosphere. (40 CFR75.61(a)(2)(i))

2) If the date when the unit commences commercial operation or becomes affected, or the date when the new stack or flue gas desulfurization system exhausts emissions to the atmosphere, whichever is applicable, changes from the planned date, a notification of the actual date shall be submitted not later than 7 days following: The date the unit commences commercial operation or becomes affected, or the date when a new stack or flue gas desulfurization system exhausts emissions to the atmosphere. (40 CFR75.61(a)(2)(ii))

iii. *Unit shutdown and recommencement of commercial operation*. For an affected unit that will be shut down on the relevant compliance date specified in 40 CFR 75.4 or in a State or Federal pollutant mass emissions reduction program that adopts the monitoring and reporting requirements of this part, if the owner or operator is relying on the provisions in 40 CFR 75.4(d) to postpone certification testing, the designated representative for the unit shall submit notification of unit shutdown and recommencement of commercial operation as follows: (40 CFR75.61(a)(3))

1) For planned unit shutdowns (e.g., extended maintenance outages), written notification of the planned shutdown date shall be provided at least 21 days prior to the applicable compliance date, and written notification of the planned date of recommencement of commercial operation shall be provided at least 21 days in advance of unit restart. If the actual shutdown date or the actual date of recommencement of commercial operation differs from the planned date, written notice of the actual date shall be submitted no later than 7 days following the actual date of shutdown or of recommencement of commercial operation, as applicable; (40 CFR75.61(a)(3)(i))

2) For unplanned unit shutdowns (e.g., forced outages), written notification of the actual shutdown date shall be provided no more than 7 days after the shutdown, and written notification of the planned date of recommencement of commercial operation shall be

provided at least 21 days in advance of unit restart. If the actual date of recommencement of commercial operation differs from the expected date, written notice of the actual date shall be submitted no later than 7 days following the actual date of recommencement of commercial operation. (40 CFR75.61(a)(3)(ii))

iv. *Periodic relative accuracy test audits*. The owner or operator or designated representative of an affected unit shall submit written notice of the date of periodic relative accuracy testing performed under section 2.3.1 of appendix B to this part, no later than 21 days prior to the first scheduled day of testing. Testing may be performed on a date other than that already provided in a notice under this subparagraph as long as notice of the new date is provided either in writing or by telephone or other means acceptable to the respective State agency or office of EPA, and the notice is provided as soon as practicable after the new testing date is known, but no later than twenty-four (24) hours in advance of the new date of testing. (40 CFR75.61(a)(5))

1) Written notification under paragraph (a) (5) of 40 CFR 75.61 may be provided either by mail or by facsimile. In addition, written notification may be provided by electronic mail, provided that the respective State agency or office of EPA agrees that this is an acceptable form of notification. (40 CFR75.61(a)(5)(i))

2) Notwithstanding the notice requirements under paragraph (a)(5) of 40 CFR 75.61, the owner or operator may elect to repeat a periodic relative accuracy test, appendix E restest, or low mass emissions unit retest immediately, without additional notification whenever the owner or operator has determined that a test was failed, or that a second test is necessary in order to attain a reduced relative accuracy test frequency. (40 CFR75.61(a)(5)(ii))

v. *Certification deadline date for new or newly affected units*. The designated representative of a new or newly affected unit shall provide notification of the date on which the relevant deadline for initial certification is reached, either as provided in 75.4(b) or 75.4(c), or as specified in a State or Federal SO_2 or NO_X mass emission reduction program that incorporates by reference, or otherwise adopts, the monitoring, recordkeeping, and reporting requirements of subpart F, G, or H of this part. The notification shall be submitted no later than 7 calendar days after the applicable certification deadline is reached. (40 CFR75.61(a)(8))

c. **Monitoring plan submittals** (40 CFR 75.62)

i. Submission (40 CFR 75.62(a))

1) *Electronic*. Using the format specified in paragraph (c) of 40 CFR 75.62, the designated representative for an affected unit shall submit a complete, electronic, up-to-date monitoring plan file (except for hardcopy portions identified in paragraph (a)(2) of 40 CFR 75.62) to the Administrator as follows: no later than 21 days prior to the initial certification tests; at the time of each certification or recertification application submission; and (prior to or concurrent with) the submittal of the electronic quarterly report for a reporting quarter where an update of the electronic monitoring plan information is required, either under 40 CFR 75.53(b) or elsewhere in this part. (40 CFR 75.62(a)(1))

2) *Hardcopy*. The designated representative shall submit all of the hardcopy information required under 40 CFR 75.53 to the appropriate EPA Regional Office and the appropriate State and/or local air pollution control agency prior to initial certification. Thereafter, the designated representative shall submit hardcopy information only if that portion of the monitoring plan is revised. The designated representative shall submit the required hardcopy information as follows: no later than 21 days prior to the initial certification test; with any certification or recertification application, if a hardcopy monitoring plan change is associated with the certification or recertification event; and within 30 days of any other event with which a hardcopy monitoring plan change is associated, pursuant to 40 CFR 75.53(b). Electronic submittal of all monitoring plan information, including hardcopy portions, is permissible provided that a paper copy of the hardcopy portions can be furnished upon request. (40 CFR 75.62(a)(2))

ii. Contents. Monitoring plans shall contain the information specified in 40 CFR 75.53 of this part (Requirements of Monitoring Plan for CEMS). See Condition S1.c.iii. (40 CFR 75.62(b))

iii. Monitoring plan (40 CFR 75.53)

1) General provisions (40 CFR 75.53(a))

(a) On and after January 1, 2009, the owner or operator shall meet the requirements of paragraphs (a), (b), (g), and (h) of 40 CFR 75.53 only. In addition, the provisions in paragraphs (g) and (h) of 40 CFR 75.53 that support a regulatory option provided in another section of this part must be followed if the regulatory option is used prior to January 1, 2009. (40 CFR 75.53(a)(1))

(b) The owner or operator of an affected unit shall prepare and maintain a monitoring plan. Except as provided in paragraphs (f) or (h) of 40 CFR 75.53 (as applicable), a monitoring plan shall contain sufficient information on the continuous emission or opacity monitoring systems, excepted methodology under 40 CFR 75.19 (Optional SO_2, NOx, and CO_2 emissions calculation for low mass emissions units), or excepted monitoring systems under appendix D or E to this part and the use of data derived from these systems to demonstrate that all unit SO_2 emissions, NO_X emissions, CO_2 emissions, and opacity are monitored and reported. (40 CFR 75.53(a)(2))

2) Whenever the owner or operator makes a replacement, modification, or change in the certified CEMS, continuous opacity monitoring system, excepted methodology under 40 CFR 75.19, excepted monitoring system under appendix D or E to this part, or alternative monitoring system under subpart E of this part, including a change in the automated data acquisition and handling system or in the flue gas handling system, that affects information reported in the monitoring plan (e.g., a change to a serial number for a component of a monitoring system), then the owner or operator shall update the monitoring plan, by the applicable deadline specified in 40 CFR 75.62 (Monitoring plan submittals) or elsewhere in this part. (40 CFR 75.53(b))

3) Contents of the monitoring plan (40 CFR 75.53(g))

The requirements of paragraphs (g) and (h) of this section shall be met on and after January 1, 2009. Notwithstanding this requirement, the provisions of paragraphs (g) and (h) of 40 CFR 75.53 may be implemented prior to January 1, 2009, as follows. Each monitoring plan shall contain the information in paragraph (g)(1) of 40 CFR 75.53 in electronic format and the information in paragraph (g)(2) of 40 CFR 75.53 in hardcopy format. Electronic storage of all monitoring plan information, including the hardcopy portions, is permissible provided that a paper copy of the information can be furnished upon request for audit purposes.

(a) Electronic (40 CFR 75.53(g)(1))

(i) The facility ORISPL number developed by the Department of Energy and used in the National Allowance Data Base (or equivalent facility ID number assigned by EPA, if the facility does not have an ORISPL number). Also provide the

following information for each unit and (as applicable) for each common stacks and/or pipe, and each multiple stack and/or pipe involved in the monitoring plan: (40 CFR 75.53(g)(1)(i))

(A) A representation of the exhaust configuration for the units in the monitoring plan. On and after April 27, 2011, provide the activation date and deactivation date (if applicable) of the configuration. Provide the ID number of each unit and assign a unique ID number to each common stack, common pipe multiple stack and/or multiple pipe associated with the unit(s) represented in the monitoring plan. For common and multiple stacks and/or pipes, provide the activation date and deactivation date (if applicable) of each stack and/or pipe; (40 CFR 75.53(g)(1)(i)(A))

(B) Identification of the monitoring system location(s) (e.g., at the unit-level, on the common stack, at each multiple stack, etc.). Provide an indicator (“flag”) if the monitoring location is at a bypass stack or in the ductwork (breeching); (40 CFR 75.53(g)(1)(i)(B))

(C) The stack exit height (ft) above ground level and ground level elevation above sea level, and the inside cross-sectional area (ft2) at the flue exit and at the flow monitoring location (for units with flow monitors, only). Also use appropriate codes to indicate the material(s) of construction and the shape(s) of the stack or duct cross-section(s) at the flue exit and (if applicable) at the flow monitor location. On and after April 27, 2011, provide the activation date and deactivation date (if applicable) for the information in this paragraph (g)(1)(i)(C); (40 CFR 75.53(g)(1)(i)(C))

(D) The type(s) of fuel(s) fired by each unit. Indicate the start and (if applicable) end date of combustion for each type of fuel, and

whether the fuel is the primary, secondary, emergency, or startup fuel; (40 CFR 75.53(g)(1)(i)(D))

(E) The type(s) of emission controls that are used to reduce SO2, NOX, and particulate emissions from each unit. Also provide the installation date, optimization date, and retirement date (if applicable) of the emission controls, and indicate whether the controls are an original installation; (40 CFR 75.53(g)(1)(i)(E))

(F) Maximum hourly heat input capacity of each unit. On and after April 27, 2011, provide the activation date and deactivation date (if applicable) for this parameter; and (40 CFR 75.53(g)(1)(i)(F))

(G) A non-load based unit indicator (if applicable) for units that do not produce electrical or thermal output. (40 CFR 75.53(g)(1)(i)(G))

(ii) For each monitored parameter (e.g., SO_2, NO_X, flow, etc.) at each monitoring location, specify the monitoring methodology and the missing data approach for the parameter. If the unmonitored bypass stack approach is used for a particular parameter, indicate this by means of an appropriate code. Provide the activation date/hour, and deactivation date/hour (if applicable) for each monitoring methodology and each missing data approach. (40 CFR 75.53(g)(1)(ii))

(iii) For each required continuous emission monitoring system, each fuel flowmeter system, and each continuous opacity monitoring system, identify and describe the major monitoring components in the monitoring system (e.g., gas analyzer, flow monitor, opacity monitor, moisture sensor, fuel flowmeter, DAHS software, etc.). Other important components in the system (e.g., sample probe, PLC, data logger, etc.) may also be represented in the monitoring plan, if necessary. Provide the following specific information about each component and monitoring

system: (40 CFR 75.53(g)(1)(iii))

(A) For each required monitoring system: (40 CFR 75.53(g)(1)(iii)(A))

(I) Assign a unique, 3-character alphanumeric identification code to the system; (40 CFR 75.53(g)(1)(iii)(A)(1))

(II) Indicate the parameter monitored by the system; (40 CFR 75.53(g)(1)(iii)(A)(2))

(III) Designate the system as a primary, redundant backup, non-redundant backup, data backup, or reference method backup system, as provided in 40 CFR 75.10(e) (Optional backup monitor requirements); and (40 CFR 75.53(g)(1)(iii)(A)(3))

(IV) Indicate the system activation date/hour and deactivation date/hour (as applicable). (40 CFR 75.53(g)(1)(iii)(A)(4))

(B) For each component of each monitoring system represented in the monitoring plan: (40 CFR 75.53(g)(1)(iii)(B))

(I) Assign a unique, 3-character alphanumeric identification code to the component; (40 CFR 75.53(g)(1)(iii)(B)(1))

(II) Indicate the manufacturer, model and serial number; (40 CFR 75.53(g)(1)(iii)(B)(3))

(III) Designate the component type; (40 CFR 75.53(g)(1)(iii)(B)(3))

(IV) For dual-span applications, indicate whether the analyzer component ID represents a high measurement scale,

a low scale, or a dual range; (40 CFR 75.53(g)(1)(iii)(B)(4))

(V) For gas analyzers, indicate the moisture basis of measurement; (40 CFR 75.53(g)(1)(iii)(B)(5))

(VI) Indicate the method of sample acquisition or operation, (e.g., extractive pollutant concentration monitor or thermal flow monitor); and (40 CFR 75.53(g)(1)(iii)(B)(6))

(VII) Indicate the component activation date/hour and deactivation date/hour (as applicable). (40 CFR 75.53(g)(1)(iii)(B)(7))

(iv) Explicit formulas, using the component and system identification codes for the primary monitoring system, and containing all constants and factors required to derive the required mass emissions, emission rates, heat input rates, etc. from the hourly data recorded by the monitoring systems. Formulas using the system and component ID codes for backup monitoring systems are required only if different formulas for the same parameter are used for the primary and backup monitoring systems (e.g., if the primary system measures pollutant concentration on a different moisture basis from the backup system). Provide the equation number or other appropriate code for each emissions formula (e.g., use code F–1 if Equation F–1 in appendix F to this part is used to calculate SO_2 mass emissions). Also identify each emissions formula with a unique three character alphanumeric code. The formula effective start date/hour and inactivation date/hour (as applicable) shall be included for each formula. The owner or operator of a unit for which the optional low mass emissions excepted methodology in 40 CFR 75.19 is being used is not required to report such formulas. (40 CFR 75.53(g)(1)(iv))

(v) For each parameter monitored with CEMS, provide the following information: (40 CFR 75.53(g)(1)(v))

(A) Measurement scale (high or low); (40 CFR 75.53(g)(1)(v)(A))

(B) Maximum potential value (and method of calculation). If NO_X emission rate in lb/mmBtu is monitored, calculate and provide the maximum potential NO_X emission rate in addition to the maximum potential NO_X concentration; (40 CFR 75.53(g)(1)(v)(B))

(C) Maximum expected value (if applicable) and method of calculation; (40 CFR 75.53(g)(1)(v)(C))

(D) Span value(s) and full-scale measurement range(s); (40 CFR 75.53(g)(1)(v)(D))

(E) Daily calibration units of measure; (40 CFR 75.53(g)(1)(v)(E))

(F) Effective date/hour, and (if applicable) inactivation date/hour of each span value. On and after April 27, 2011, provide the activation date and deactivation date (if applicable) for the measurement scale and dual span information in paragraphs (g)(1)(v)(A), (g)(1)(v)(G), and (g)(1)(v)(H) of 40 CFR 75.53; (40 CFR 75.53(g)(1)(v)(F))

(G) An indication of whether dual spans are required. If two span values are required, then, on and after April 27, 2011, indicate whether an autoranging analyzer is used to represent the two measurement scales; and (40 CFR 75.53(g)(1)(v)(G))

(H) The default high range value (if applicable) and the maximum allowable low-range value for this option. (40 CFR 75.53(g)(1)(v)(H))

(vi) If the monitoring system or excepted methodology provides for the use of a constant, assumed, or default value for a parameter under specific

circumstances, then include the following information for each such value for each parameter: (40 CFR 75.53(g)(1)(vi))

(A) Identification of the parameter; (40 CFR 75.53(g)(1)(vi)(A))

(B) Default, maximum, minimum, or constant value, and units of measure for the value; (40 CFR 75.53(g)(1)(vi)(B))

(C) Purpose of the value; (40 CFR 75.53(g)(1)(vi)(C))

(D) Indicator of use, i.e., during controlled hours, uncontrolled hours, or all operating hours; (40 CFR 75.53(g)(1)(vi)(D))

(E) Type of fuel; (40 CFR 75.53(g)(1)(vi)(E))

(F) Source of the value; (40 CFR 75.53(g)(1)(vi)(F))

(G) Value effective date and hour; (40 CFR 75.53(g)(1)(vi)(G))

(H) Date and hour that the value is no longer effective (if applicable); (40 CFR 75.53(g)(1)(vi)(H))

(I) For units using the excepted methodology under 40 CFR 75.19, the applicable SO_2 emission factor; and (40 CFR 75.53(g)(1)(vi)(I))

(J) On and after April 27, 2011, group identification code. (40 CFR 75.53(g)(1)(vi)(J))

(vii) Unless otherwise specified in section 6.5.2.1 of appendix A to this part, for each unit or common stacks on which hardware CEMS are installed: (40 CFR 75.53(g)(1)(vii))

(A) Maximum hourly gross load (in MW, rounded to the nearest MW, or steam load in

1000 lb/hr (i.e., klb/hr), rounded to the nearest klb/hr, or thermal output in mmBtu/hr, rounded to the nearest mmBtu/hr), for units that produce electrical or thermal output; (40 CFR 75.53(g)(1)(vii)(A))

(B) The upper and lower boundaries of the range of operation (as defined in section 6.5.2.1 of appendix A to this part), expressed in megawatts, thousands of lb/hr of steam, mmBtu/hr of thermal output, or ft/sec (as applicable); (40 CFR 75.53(g)(1)(vii)(B))

(C) Except for peaking units, identify the most frequently and second most frequently used load (or operating) levels (i.e., low, mid, or high) in accordance with section 6.5.2.1 of appendix A to this part, expressed in megawatts, thousands of lb/hr of steam, mmBtu/hr of thermal output, or ft/sec (as applicable); (40 CFR 75.53(g)(1)(vii)(C))

(D) Except for peaking units, an indicator of whether the second most frequently used load (or operating) level is designated as normal in section 6.5.2.1 of appendix A to this part; (40 CFR 75.53(g)(1)(vii)(D))

(E) The date of the data analysis used to determine the normal load (or operating) level(s) and the two most frequently-used load (or operating) levels (as applicable); and (40 CFR 75.53(g)(1)(vii)(E))

(F) Activation and deactivation dates and hours, when the maximum hourly gross load, boundaries of the range of operation, normal load (or operating) level(s) or two most frequently-used load (or operating) levels change and are updated. (40 CFR 75.53(g)(1)(vii)(F))

(b) Hardcopy (40 CFR 75.53(g)(2))

(i) Information, including (as applicable):

Identification of the test strategy; protocol for the relative accuracy test audit; other relevant test information; calibration gas levels (percent of span) for the calibration error test and linearity check; calculations for determining maximum potential concentration, maximum expected concentration (if applicable), maximum potential flow rate, maximum potential NO_X emission rate, and span; and apportionment strategies under 40 CFR 75.10 through 75.18. (40 CFR 75.53(g)(2)(i))

(ii) Description of site locations for each monitoring component in the continuous emission or opacity monitoring systems, including schematic diagrams and engineering drawings specified in paragraphs (e)(2)(iv) and (e)(2)(v) of 40 CFR 75.53 and any other documentation that demonstrates each monitor location meets the appropriate siting criteria. (40 CFR 75.53(g)(2)(ii))

(iii) A data flow diagram denoting the complete information handling path from output signals of CEMS components to final reports. (40 CFR 75.53(g)(2)(iii))

(iv) For units monitored by a continuous emission or opacity monitoring system, a schematic diagram identifying entire gas handling system from boiler to stack for all affected units, using identification numbers for units, monitoring systems and components, and stacks corresponding to the identification numbers provided in paragraphs (g)(1)(i) and (g)(1)(iii) of 40 CFR 75.53. The schematic diagram must depict stack height and the height of any monitor locations. Comprehensive and/or separate schematic diagrams shall be used to describe groups of units using a common stack. (40 CFR 75.53(g)(2)(iv))

(v) For units monitored by a continuous emission or opacity monitoring system, stack and duct engineering diagrams showing the dimensions and location of fans, turning vanes, air preheaters, monitor components, probes, reference method sampling ports, and other equipment that affects the monitoring system location, performance, or quality

control checks. (40 CFR 75.53(g)(2)(v))

d. **Initial certification or recertification application** (40 CFR 75.63)

i. Submission (40 CFR 75.63(a))

The designated representative for an affected unit or a combustion source shall submit applications and reports as follows:

1) Recertifications and diagnostic testing (40 CFR 75.63(a)(2))

(a) Within 45 days after completing all recertification tests under 40 CFR 75.20(b), submit to the Administrator the electronic information required by paragraph (b)(1) of 40 CFR 75.63. Except for subpart E applications for alternative monitoring systems or unless specifically requested by the Administrator, do not submit a hardcopy of the test data and results to the Administrator. (40 CFR 75.63(a)(2)(i))

(b) Within 45 days after completing all recertification tests under 40 CFR 75.20(b), submit the hardcopy information required by paragraph (b)(2) of 40 CFR 75.63 to the applicable EPA Regional Office and the appropriate State and/or local air pollution control agency. The applicable EPA Regional Office or appropriate State or local air pollution control agency may waive the requirement to provide hardcopy recertification test and data results. The applicable EPA Regional Office or the appropriate State or local air pollution control agency may also discontinue the waiver and reinstate the requirement of this paragraph to provide a hardcopy report of the recertification test data and results. (40 CFR 75.63(a)(2)(ii))

(c) Notwithstanding the requirements of paragraphs (a)(2)(i) and (a)(2)(ii) of 40 CFR 75.63, for an event for which the Administrator determines that only diagnostic tests (*see* 40 CFR 75.20(b)) are required rather than recertification testing, no hardcopy submittal is required; however, the results of all diagnostic test(s) shall be submitted prior to or concurrent with the electronic quarterly report required under 40 CFR 75.64. Notwithstanding the requirement of 40 CFR 75.59(e), for DAHS (missing data and formula) verifications, no hardcopy submittal is required; the owner or operator shall keep these test results on-site in a format suitable for inspection. (40 CFR 75.63(a)(2)(iii))

ii. Contents (40 CFR 75.63(b))

Each application for recertification shall contain the following information, as applicable:

1) Electronic (75.63(b)(1))

(a) A complete, up-to-date version of the electronic portion of the monitoring plan, according to 40 CFR 75.53(e) and (f), in the format specified by the Administrator. (75.63(b)(1)(i))

(b) The results of the test(s) required by 40 CFR 75.20, including the type of test conducted, testing date, information required by 40 CFR 75.59 (Certification, quality assurance, and quality control record provisions), and the results of any failed tests that affect data validation. (75.63(b)(1)(ii))

2) Hardcopy (75.63(b)(2))

(a) Any changed portions of the hardcopy monitoring plan information required under 40 CFR 75.53(e) and (f). Electronic submittal of all monitoring plan information, including the hardcopy portions, is permissible, provided that a paper copy can be furnished upon request. (75.63(b)(2)(i))

(b) The results of the test(s) required by 40 CFR 75.20, including the type of test conducted, testing date, information required by 40 CFR 75.59(a)(9) (See Condition S1.a.ii.), and the results of any failed tests that affect data validation. (75.63(b)(2)(ii))

(c) Designated representative signature certifying the accuracy of the submission. (75.63(b)(2)(ii))

iii. Format (40 CFR 75.63(c))

The electronic portion of each certification or recertification application shall be submitted in a format to be specified by the Administrator. The hardcopy test results shall be submitted in a format suitable for review and shall include the information in 40 CFR 75.59(a)(9) (See Condition S1.a.ii.)

e. **Quarterly reports** (40 CFR 75.64)

i. Electronic submission (40 CFR 75.64(a))

The designated representative for an affected unit shall electronically report the data and information in paragraphs (a) and (c) of 40 CFR 75.64 to the Administrator quarterly, beginning with the data from the earlier of the calendar quarter corresponding to the date of provisional certification or the calendar quarter corresponding to the relevant deadline for initial certification in 40 CFR 75.4(a), and (c). The initial quarterly report shall contain hourly data beginning with the hour of provisional certification or the hour corresponding to the relevant certification deadline, whichever is earlier. For any provisionally-certified monitoring system, 40 CFR 75.20(a)(3) shall apply for initial certifications, and 40 CFR 75.20(b)(5) shall apply for recertifications. Each electronic report must be submitted to the Administrator within 30 days following the end of each calendar quarter. On and after January 1, 2009, the owner or operator shall meet the requirements of paragraphs (a)(3) through (a)(15) of 40 CFR 75.64 only. Each electronic report shall also include the date of report generation. (The electronic quarterly reports are submitted to EPA)

1) Facility identification information, including: (40 CFR 75.64(a)(3))

(a) Facility/ORISPL number; (40 CFR 75.64(a)(3)(i))
(b) Calendar quarter and year for the data contained in the report; and (40 CFR 75.64(a)(3)(ii))
(c) Version of the electronic data reporting format used for the report. (40 CFR 75.64(a)(3)(iii))

2) In accordance with 40 CFR 75.62(a)(1), if any monitoring plan information required in 40 CFR 75.53 (monitoring plan requirements) requires an update, either under 40 CFR 75.53(b) or elsewhere in this part, submission of the electronic monitoring plan update shall be completed prior to or concurrent with the submittal of the quarterly electronic data report for the appropriate quarter in which the update is required. (40 CFR 75.64(a)(4))

3) The daily calibration error test and daily interference check information required in 75.59(a)(1) and (a)(2) must always be included in the electronic quarterly emissions report. All other certification, quality assurance, and quality control information in 75.59 that is not excluded from electronic reporting under paragraph (a)(2) or (a)(7) of 40 CFR 75.64 shall be submitted separately, either prior to or concurrent with the submittal of the relevant electronic quarterly emissions report. However, reporting of the information in 75.59(a)(9)(x) is not required until September

26, 2011, and reporting of the information in 75.59(a)(15), (b)(6), and (d)(4) is not required until March 27, 2012. (40 CFR 75.64(a)(5))

4) The information and hourly data required in 40 CFR 75.57 through 75.59 (General recordkeeping provisions; General recordkeeping for specific situations; Certification, quality assurance, and quality control record provisions), and daily calibration error test data, daily interference check, and off-line calibration demonstration information required in 40 CFR 75.59(a)(1) and (2). (40 CFR 75.64(a)(6))

5) Notwithstanding the requirements of paragraphs (a)(4) through (a)(6) of 40 CFR 75.64, the following information is excluded from electronic reporting: (40 CFR 75.64(a)(7))

(a) Descriptions of adjustments, corrective action, and maintenance; (40 CFR 75.64(a)(7)(i))

(b) Information which is incompatible with electronic reporting (e.g., field data sheets, lab analyses, quality control plan); (40 CFR 75.64(a)(7)(ii))

(c) Opacity data listed in 40 CFR 75.57(f), and in 40 CFR 75.59(a)(8); (40 CFR 75.64(a)(7)(iii))

(d) For units with SO_2 or NO_X add-on emission controls that do not elect to use the approved site-specific parametric monitoring procedures for calculation of substitute data, the information in 40 CFR 75.58(b)(3); (40 CFR 75.64(a)(7)(iv))

(e) Information required by 40 CFR 75.57(h) concerning the causes of any missing data periods and the actions taken to cure such causes; (40 CFR 75.64(a)(7)(v))

(f) Hardcopy monitoring plan information required by 40 CFR 75.53 and hardcopy test data and results required by 40 CFR 75.59; (40 CFR 75.64(a)(7)(vi))

(g) Records of flow monitor and moisture monitoring system polynomial equations, coefficients, or “K” factors required by 40 CFR 75.59(a)(5)(vi) or 40 CFR 75.59(a)(5)(vii); (40 CFR 75.64(a)(7)(vii))

(h) Daily fuel sampling information required by 40 CFR 75.58(c)(3)(i) for units using assumed values under appendix D of this part; (40 CFR 75.64(a)(7)(viii))

(i) Information required by 40 CFR 75.59(b)(1)(vi), (vii), (viii), (ix), and (xiii), and (b)(2)(iii) and (iv) concerning fuel flowmeter accuracy tests and transmitter/transducer accuracy tests; (40 CFR 75.64(a)(7)(ix))

(j) Stratification test results required as part of the RATA supplementary records under 40 CFR 75.59(a)(7); (40 CFR 75.64(a)(7)(x))

(k) Data and results of RATAs that are aborted or invalidated due to problems with the reference method or operational problems with the unit and data and results of linearity checks that are aborted or invalidated due to problems unrelated to monitor performance; (40 CFR 75.64(a)(7)(xi))

(l) Supplementary RATA information required under 40 CFR 75.59(a)(7)(i) through 40 CFR 75.59(a)(7)(v) (supporting information for RATA), except that: (40 CFR 75.64(a)(7)(xii))

(i) The applicable data elements under 40 CFR 75.59(a)(7)(ii)(A) through (T) and under 40 CFR 75.59(a)(7)(iii)(A) through (M) (supporting information for RATA using Method 2) shall be reported for flow RATAs at circular or rectangular stacks (or ducts) in which angular compensation for yaw and/or pitch angles is used (*i.e.*, Method 2F or 2G in appendices A–1 and A–2 to part 60 of this chapter), with or without wall effects adjustments; (40 CFR 75.64(a)(7)(xii)(A))

(ii) The applicable data elements under 40 CFR 75.59(a)(7)(ii)(A) through (T) and under 40 CFR 75.59(a)(7)(iii)(A) through (M) (supporting information for RATA using Method 2) shall be reported for any flow RATA run at a circular stack in which Method 2 in appendices A–1 and A–2 to part 60 of this chapter is used and a wall effects adjustment factor is determined by direct measurement; (40 CFR 75.64(a)(7)(xii)(B))

(iii) The data under 40 CFR 75.59(a)(7)(ii)(T) (supporting information for RATA using Method 2)

shall be reported for all flow RATAs at circular stacks in which Method 2 in appendices A–1 and A–2 to part 60 of this chapter is used and a default wall effects adjustment factor is applied. (40 CFR 75.64(a)(7)(xii)(C))

6) Tons (rounded to the nearest tenth) of SO_2 emitted during the quarter and cumulative SO_2 emissions for the calendar year. (40 CFR 75.64(a)(8))

7) Average NO_X emission rate (lb/mmBtu, rounded to the nearest thousandth) during the quarter and cumulative NO_X emission rate for the calendar year. (40 CFR 75.64(a)(9))

8) Tons of CO_2 emitted during quarter and cumulative CO_2 emissions for calendar year. (40 CFR 75.64(a)(10))

9) Total heat input (mmBtu) for quarter and cumulative heat input for calendar year. (40 CFR 75.64(a)(11))

10) Unit or stack or common pipe header operating hours for quarter and cumulative unit or stack or common pipe header operating hours for calendar year. (40 CFR 75.64(a)(12))

ii. Compliance certification (40 CFR 75.64(c))

The designated representative shall submit a certification in support of each quarterly emissions monitoring report based on reasonable inquiry of those persons with primary responsibility for ensuring that all of the unit's emissions are correctly and fully monitored. The certification shall indicate whether the monitoring data submitted were recorded in accordance with the applicable requirements of this part including the quality control and quality assurance procedures and specifications of this part and its appendices, and any such requirements, procedures and specifications of an applicable excepted or approved alternative monitoring method. For a unit with add-on emission controls, the designated representative shall also include a certification, for all hours where data are substituted following the provisions of 40 CFR 75.34(a)(1) (missing data substitution procedures for units with add-on emission controls), that the add-on emission controls were operating within the range of parameters listed in the monitoring plan and that the substitute values recorded during the quarter do not systematically underestimate SO_2 or NO_X emissions, pursuant to 40 CFR 75.34 (Missing Data Substitution Procedure).

iii. Method of submission (40 CFR 75.64(f))

Beginning with the quarterly report for the first quarter of the year 2001, all quarterly reports shall be submitted to EPA by direct computer-to-computer electronic transfer via EPA-provided software, unless otherwise approved by the Administrator.

iv. At his or her discretion, the DR may include important explanatory text or comments with an electronic quarterly report submittal, so long as the information is provided in a format that is compatible with the other data required to be reported under 40 CFR 75.64. (40 CFR 75.64(g))

f. **Opacity reports** (40 CFR 75.65)

The owner or operator or designated representative shall report excess emissions of opacity recorded under 40 CFR 75.57(f) (opacity recordkeeping requirements) to the applicable State or local air pollution control agency.

Attachment F - Fugitive Dust Control Plan for Paved & Unpaved Roads
(Submitted 6/28/2013 and Approved 6/5/2014)

Executive Summary

Louisville Gas and Electric Company (LG&E) is required to maintain and operate the Mill Creek Generating Station in a manner consistent with good air pollution control practices for minimizing emissions, as defined in KRS Chapter 77 Air Pollution Control.

This Fugitive Dust Control Plan has been prepared to comply with the requirements of Regulation 1.14 of the Louisville Metro Air Pollution Control District (LMAPCD) and has been developed at the request of the LMAPCD.

Louisville Metro
Air Pollution Control District
850 Barret Ave.
Louisville, KY 40204-1745
502-574-6000

Introduction

This plan identifies measures to control fugitive particulate emissions from paved and unpaved roads at LG&E's Mill Creek Generating Station, 14660 Dixie Highway. This plan is divided into three sections:

1. Site Description
2. Control measures to minimize fugitive particulate emissions
3. Primary Contact List

The Plant Manager is responsible for implementing the procedures outlined in this Fugitive Dust Control Plan. This Plan will be maintained within the Environmental files at the Mill Creek Generating Station.

Plant Manager: Mike Kirkland

Section 1 – Site Description

LG&E's Mill Creek Generating Station (Mill Creek) is located in southwestern Louisville at 14660 Dixie Highway. Mill Creek generates electric energy for local and remote distribution. Coal is the primary fuel utilized in electric generation at Mill Creek. Coal is delivered on the site by rail car and barge with shipments either placed in a storage pile or fed directly to the electric generation process.

The Mill Creek site consists of approximately 500 acres along the Ohio River. The existing operation is spread throughout the property. The primary emission generating activities at the

facility consist of four operational coal-fired boilers (emission units U1, U2, U3 and U4), used for generation of electricity via steam turbines and generators. All boiler units are equipped with electrostatic precipitators (ESP), flue gas desulfurization systems (FGD), and low NOx burners for emission control. Units 3 and 4 are also equipped with Selective Catalytic Reduction (SCR).

The Mill Creek site utilizes unpaved roads and parking lots, and paved roads for its daily operational needs. See attached Mill Creek Site Map.

Unpaved Roads

Unpaved roads at the Mill Creek site are typically graveled with #57 grade aggregate. Other grades of gravel can be used upon the approval of the District. Unpaved roads access should be limited to contractors, employees, agency personnel, and others that may be provided access in the course of performing required operational duties.

Potential fugitive dust from unpaved roads may be caused by:

- Dry road conditions;
- Wind erosion;
- Vehicle traffic; and
- Material fallout from vehicle traffic.

Paved Roads

The paved roads are asphalt or concrete surfaced. Paved roads access should be limited to contractors, employees, agency personnel, and others that may be provided access in the course of performing required operational duties.

Potential fugitive dust from paved roads may include:

- Material tracked from unpaved surfaces onto paved roads by vehicle traffic; and
- Material fallout from vehicle traffic.
- Construction activities.

Section 2 - Control Measures to Minimize Fugitive Particulate Emissions

The following measures will be implemented to control dust from unpaved and paved roads.

Site Monitoring

- In the event dry weather persists, the frequency of watering will be adjusted to control fugitive dust emissions. Monitoring is performed throughout each business day by multiple LG&E and contract personnel. Areas that require additional/beyond normal attention will be logged by the water truck driver(s). Additional/beyond normal conditions are defined as periods of time outside daily business hours and during extreme weather events.

- If it is determined that weather conditions have contributed to the control of fugitive dust emissions, watering operations may be suspended until such time as it appears necessary for the control of fugitive dust emissions. In addition, watering operations will be suspended if watering has contributed to unsafe conditions for either equipment or personnel.

Unpaved Roads

- Mill Creek utilizes water truck(s) to keep the roadways and entrance and exit areas within the site wet in order to control fugitive dust emissions. An additional water truck, as-needed, will be used during the summer months (typically June through September) as a back-up or to assist with watering efforts during hot/windy weather.
- The watering operations will be at a frequency of at least once every two hours for the active unpaved roads (i.e., scheduled to be used for the whole shift). Further, the facility will water more frequently if there is visible evidence of fugitive dust emissions (e.g., dust clouds resulting from wind). The only exception to the once per two hours of water operations is when the unpaved roads are not active (i.e., scheduled not to be used for the whole shift) or during times when precipitation such as rainfall, snow, and ice have adequately suppressed the dust or have contributed to unsafe conditions for equipment or personnel. (See Section 2 Site Monitoring on Page 3.)
- Mill Creek will maintain daily records for the watering operations performed on all unpaved roads, or a statement that rain occurred. If a statement that rain occurred is made it shall include the start and stop time of rainfall. All records shall include the date, and name of the person making the entry.

Paved Roads

- All passenger vehicles, including employee vehicles entering and leaving the site, will be limited to paved roads and parking lots to prevent the generation of dust, unless required for direct performance of operational duties. Should operational duties cause dust to transfer to paved roads, the material will be cleaned using a water truck side spray or wet street sweeper or water hose, as needed.
- Roads will be maintained in such a manner as to prevent the tracking of debris onto any public roads.
- Mill Creek utilizes water truck(s) to keep the paved roadways, entrance areas, and exit areas within the site wet in order to control fugitive dust emissions. An additional water truck will be used, as-needed, during the summer months (typically June through September) as a back-up or to assist with watering efforts during hot/windy weather.
- For 8 hours per weekday, watering operations will be continuous until the roads are saturated. Weekend operation will be planned on an as-needed basis, based on weather forecast.

Construction Activities

- To minimize the material track-out and transfer onto paved roads, construction vehicles will be cleaned periodically to reduce the accumulation of material.

- Additional watering of the roadways used for construction activities (e.g., controls upgrade project), during extremely dry weather conditions, will be done on an as-needed basis. This determination will be made on a timely basis by appropriate facility personnel. (Also see Section 2 Site Monitoring on Page 3.)
- Mitigation procedures may include wetting of the material to prevent fugitive emissions from trucks hauling dry material likely to become airborne. All trucks leaving Mill Creek property are required to be covered.
- The main plant road from Gate 3 to Gate 5 will use a wet street sweeper, as needed.
- All waste materials generated during construction will be collected and stored in labeled metal or plastic dumpsters and removed from the construction site by a licensed waste management contractor.

Section 3 - Primary Contact List

Personnel involved in activities that produce fugitive particulate emissions are expected to comply with the requirements listed within this Mill Creek Fugitive Dust Control Plan. The following primary contact list is intended for use only by personnel employed by the LMAPCD and is being provided for LMAPCD's use as needed to obtain information regarding any questions or issues surrounding the processes contained within this plan. In the absence of the plant manager, all operation, production and maintenance managers and on-shift operation supervisors have full authority to make the necessary fugitive dust emission mitigation decisions. The contacts listed below are appropriate during and after business hours.

1) Production Leader, 24 Hour Support, Mill Creek Station
502-933-6700 (Office)

2) Michelle Beumel, Environmental Coordinator, Mill Creek Station
502-933-6527 (Office)

3) Brandan Burfict, Environmental Engineer, Environmental Air Section
502-627-2791 (Office)

4) Mike Stevens, Production Supervisor/Compliance, Mill Creek Station
502-933-6518 (Office)

5) Mike Kirkland, Plant Manager, Mill Creek Station
502-933-6565 (Office)

6) Steve Noland, Manager, Environmental Air Section, LGE/KU
502-627-2940 (Office)

LG&E Mill Creek Station
Fugitive Dust Control Plan for Paved and Unpaved Roads
5/6/2014

Paved Roads
Unpaved Roads
Additional Potential Source Areas

Attachment G - Control Device Efficiencies and Determination Methods

Unit ID	Control ID	Description	Control Efficiency	Control Efficiency Determination Methods [1, 2]
U1	C1	ESP	N/A	Annual test used for compliance demonstration
	C2	FGD (old)	N/A	CEMS used for compliance demonstration
	C3	dust collector	90%	Option 1.
	C26	PAC/Sorbent/PJFF/ Liquid Additives	TBD	Option 3. Stack test required by construction permit
	C27	FGD (new)	N/A	CEMS used for compliance demonstration
U2	C4	ESP	N/A	Annual test used for compliance demonstration
	C5	FGD (old)	N/A	CEMS used for compliance demonstration
	C6	dust collector	90%	Option 1.
	C28	PAC/Sorbent/PJFF/ Liquid Additives	TBD	Option 3. Stack test required by construction permit
U3	C7	ESP	N/A	Annual test used for compliance demonstration
	C8	FGD (old)	N/A	CEMS used for compliance demonstration
	C9	dust collector	90%	Option 1.
	C22	SCR	N/A	CEMS used for compliance demonstration
	C29	PAC/Sorbent/PJFF/ Liquid Additives	TBD	Option 3. Stack test required by construction permit
	C39	FGD (new)	N/A	CEMS used for compliance demonstration
U4	C10	ESP	N/A	Annual test used for compliance demonstration
	C11	FGD (old)	N/A	CEMS used for compliance demonstration
	C12	dust collector	90%	Option 1.
	C23	SCR	N/A	CEMS used for compliance demonstration
	C30	PAC Sorbent PJFF Liquid Additives	97.7% 99.4% 99.8% TBD	Option 3. Stack test conducted Jan. 20 through 22, Feb. 5 and 6, 2015.
	C31	FGD (new)	N/A	CEMS used for compliance demonstration
U8	C15	Baghouse	95%	Option 1.
	C16	Baghouse	95%	Option 1.
	C24	Baghouse	95%	Option 1.
	C25	Baghouse	95%	Option 1.
	C37	Filter	95%	Option 1.
	C38	Filter	95%	Option 1.
U9	C19	Baghouse	95%	Option 1.
	C20	Baghouse	95%	Option 1.
	C21	Baghouse	95%	Option 1.
U16	C32	Bin vent filters	99%	Option 2, received 9/13/2013

Unit ID	Control ID	Description	Control Efficiency	Control Efficiency Determination Methods [1, 2]
U17	C33	Bin vent filters	99%	Option 2, received 9/13/2013
U18	C34	Bin vent filters	99%	Option 2, received 9/13/2013
U20	C36	Baghouse	N/A	Processing baghouse
U15, 22		Watering	70%	Option 1. Watering unpaved roads once every two hours.

Note:

1. Options for control efficiency determination:
   Option 1: Use District pre-approved control efficiency
   Option 2: Submit a signature guarantee from the control device manufacture stating the control device efficiency
   Option 3: Perform stack test. See Note 3 for general testing requirements.

2. Until the District receives a signature guarantee from the control device manufacturer stating the control device efficiency is higher (Option 2), or an approved stack test (Option 3), the pre-approved efficiency (Option 1) will be used in all calculations to demonstrate compliance with applicable standards and calculations for emission inventory.

3. General Testing Requirements (Regulation 2.16, section 4.1.9.1)

   Plant-wide the owner or operator shall retest all control devices within ten (10) years since the most recent District accepted performance test or within 180 days after the effective date of the permit if no previous test has been performed. For equipment which has been tested but not within ten years prior to the effective date of this permit the Company may submit within 90 days of the effective date of this permit, contingent on approval by the District, a schedule which shall at a minimum propose testing for all affected equipment within this permit cycle. Thereafter the Company shall retest each affected device at least once every 10 years. Devices of adequately similar design and filter media may be represented by a common performance test contingent upon review and approval by the District of the testing protocol. In lieu of the control efficiency testing, unless required by a Federal Regulation, the owner or operator may submit a signature guarantee from the control device manufacture stating the control device efficiency.

   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.

   If performance testing is not completed by the required date, then the company shall calculate emissions using expired test result data or 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.

   The owner or operator shall construct all equipment in such a manner that the following testing requirements can be performed.

   i. The owner or operator shall perform an EPA Reference Method (or equivalent methods that approved by the District) performance test. The test shall be performed at 90% or higher of maximum capacity, or allowable/permitted capacity, or at a level of capacity which results in the greatest emissions and is representative of the operations. Failure to perform the test, at maximum capacity, allowable/permitted capacity, or at a level of capacity which resulted in the greatest

emissions, may necessitate a re-test or necessitate a revision of the allowable/permitted capacity of the process equipment depending upon the difference between the testing results and the limit.

ii. The owner or operator shall perform a capture efficiency test using EPA guidelines. In lieu of performing a capture efficiency test, the owner or operator may submit a reasonable estimate of capture efficiency with thorough justification subject to approval by the District.

iii. The owner or operator shall submit written compliance test plans (protocol) for the control efficiency and capture efficiency. They shall include the EPA test methods that will be used for compliance testing, the process operating parameters that will be monitored during the performance test, and the control device performance indicators (e.g. pressure drop, minimum combustion chamber temperature) that will be monitored during the performance test. The compliance test plans shall be furnished to the District at least 30 days prior to the actual date of the performance test. Attached to the permit is a Protocol Checklist for Performance Test for the information to be submitted in the protocol.

iv. The owner or operator shall be responsible for obtaining and analyzing audit samples when the EPA Reference Method is used to analyze samples to demonstrate compliance with the source's emission regulation. The audit samples shall be available for verification by the District during the onsite testing.

v. The owner or operator shall provide the District at least 10 days prior notice of any performance test to afford the District the opportunity to have an observer present.

vi. The owner or operator shall furnish the District with a written report of the results of the performance test within 60 days following the actual date of completion of the performance test.

vii. The owner or operator shall provide written notification to the District of the actual date of initial startup (only required for new equipment). The written notification shall be postmarked within 15 days after the effective date of the permit.

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

TITLE IV
PHASE II ACID RAIN PERMIT

Permit No.: 176-97-AR (R4) Plant ID: 0127

Effective Date: 7/31/2014 Expiration Date: 7/31/2019

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

Louisville Gas & Electric Company
Mill Creek Generating Station
14660 Dixie Highway
Louisville, KY 40272

Statutory and Regulatory Authorities: In accordance with KRS Chapter 77 and Titles IV and V of the Clean Air Act, the Air Pollution Control District of Jefferson County issues this permit pursuant to Regulations 2.16, 6.47, and 7.82.

Application No.: N/A Application Received: 12/13/1995

Permit Writer: Yiqiu Lin

Administratively Complete: 2/11/1996

Acid Rain Permit Revisions/Changes

Revision No.	Issue Date	Public Notice Date	Type	Attachment No./Page No.	Description
Initial	12/17/1997	N/A	Initial	Entire Permit	Initial Issuance
R1	12/31/1998	N/A	Significant	Entire Permit	Added language and SO2 allowances to the tables for each unit
R2	06/01/2003	N/A	Reissuance	Entire Permit	Reissuance of the permit
R3	06/15/2012	N/A	Reissuance	Entire Permit	Reissuance of the permit
R4	7/31/2014	06/05/2014	Renewal	Entire Permit	Renewal of the permit

Acid Rain Permit Conditions

1. SO_2 Allowance Allocations and NO_x Requirements for Unit U1

Unit U1: SO2 Allowances	**SO2 Allowances for Years 2008 – 2009 (tons)**	**SO2 Allowances for Years 2010 and Beyond (tons)**
Table 2 of 40 CFR 73	8,080*	7,696*

Unit U1: NOx Requirements	
NOx Limit	Pursuant to 40 CFR 76, the Kentucky Division for Air Quality approves a Phase II NO_x Compliance Plan which includes a Phase II NO_x Averaging Plan for Unit 1. This plan is effective for calendar year 2013 through 2017. Under the compliance plan, this unit's annual average NO_x emission rate for each year, determined in accordance with 40 CFR 75, shall not exceed the alternative contemporaneous emissions limitation (ACEL) of 0.40 lb/MMBtu in accordance with 40 CFR 76.11(d)(1)(i). If one or more of the units does not meet the requirement under 40 CFR 76.11(d)(1)(i), the owner or operator shall demonstrate that the actual Btu-weighted annual average emission rate for the units in the NOx Averaging Plan is less than or equal to the Btu-weighted annual average rate for the same units, in accordance with 40 CFR 76.11(d)(1)(ii). In addition to the described NO_x compliance plan, this unit shall comply with all other applicable requirements of 40 CFR part 76, including the duty to reapply for a NO_x compliance plan and requirements covering excess emissions.

* The number of allowances actually held by an affected source in a unit account may differ from the number allocated by U.S. EPA. Neither of the aforementioned conditions necessitates a revision to the unit SO_2 allowance allocations identified in this permit (See 40 CFR 72.84). The number of allowances allocated to Phase II affected units by US EPA may change under 40 CFR Part 73.

2. SO_2 Allowance Allocations and NO_x Requirements for Unit U2

Unit U2: SO2 Allowances	**SO2 Allowances for Years 2008 – 2009 (tons)**	**SO2 Allowances for Years 2010 and Beyond (tons)**
Table 2 of 40 CFR 73	8,140*	7,855*

Unit U2: NOx Requirements	
NOx Limit	Pursuant to 40 CFR 76, the Kentucky Division for Air Quality approves a Phase II NO_x Compliance Plan which includes a Phase II NO_x Averaging Plan for Unit 2. This plan is effective for calendar year 2013 through 2017. Under the compliance plan, this unit's annual average NO_x emission rate for each year, determined in accordance with 40 CFR 75, shall not exceed the alternative contemporaneous emissions limitation (ACEL) of 0.40 lb/MMBtu in accordance with 40 CFR 76.11(d)(1)(i). If one or more of the units does not meet the requirement under 40 CFR 76.11(d)(1)(i), the owner or operator shall demonstrate that the actual Btu-weighted annual average emission rate for the units in the NOx Averaging Plan is less than or equal to the Btu-weighted annual average rate for the same units, in accordance with 40 CFR 76.11(d)(1)(ii). In addition to the described NO_x compliance plan, this unit shall comply with all other applicable requirements of 40 CFR part 76, including the duty to reapply for a NO_x compliance plan and requirements covering excess emissions.

* The number of allowances actually held by an affected source in a unit account may differ from the number allocated by U.S. EPA. Neither of the aforementioned conditions necessitates a revision to the unit SO_2 allowance allocations identified in this permit (See 40 CFR 72.84). The number of allowances allocated to Phase II affected units by US EPA may change under 40 CFR part 73.

3. SO_2 Allowance Allocations and NO_x Requirements for Unit U3

Unit U3: SO2 Allowances	**SO2 Allowances for Years 2008 – 2009 (tons)**	**SO2 Allowances for Years 2010 and Beyond (tons)**
Table 2 of 40 CFR 73	10,979*	11,001*

Unit U3: NOx Requirements	
NOx Limit	Pursuant to 40 CFR 76, the Kentucky Division for Air Quality approves a Phase II NO_x Compliance Plan which includes a Phase II NO_x Averaging Plan for Unit 3. This plan is effective for calendar year 2013 through 2017. Under the compliance plan, this unit's annual average NO_x emission rate for each year, determined in accordance with 40 CFR 75, shall not exceed the alternative contemporaneous emissions limitation (ACEL) of 0.46 lb/MMBtu in accordance with 40 CFR 76.11(d)(1)(i). If one or more of the units does not meet the requirement under 40 CFR 76.11(d)(1)(i), the owner or operator shall demonstrate that the actual Btu-weighted annual average emission rate for the units in the NOx Averaging Plan is less than or equal to the Btu-weighted annual average rate for the same units, in accordance with 40 CFR 76.11(d)(1)(ii). In addition to the described NO_x compliance plan, this unit shall comply with all other applicable requirements of 40 CFR part 76, including the duty to reapply for a NO_x compliance plan and requirements covering excess emissions.

* The number of allowances actually held by an affected source in a unit account may differ from the number allocated by U.S. EPA. Neither of the aforementioned conditions necessitates a revision to the unit SO_2 allowance allocations identified in this permit (See 40 CFR 72.84). The number of allowances allocated to Phase II affected units by US EPA may change under 40 CFR part 73.

4. SO_2 Allowance Allocations and NO_x Requirements for Unit U4

Unit U4: SO2 Allowances	**SO2 Allowances for Years 2008 – 2009 (tons)**	**SO2 Allowances for Years 2010 and Beyond (tons)**
Table 2 of 40 CFR 73	13,618*	13,645*

Unit U4: NOx Requirements	
NOx Limit	Pursuant to 40 CFR 76, the Kentucky Division for Air Quality approves a Phase II NO_x Compliance Plan which includes a Phase II NO_x Averaging Plan for Unit 4. This plan is effective for calendar year 2013 through 2017. Under the compliance plan, this unit's annual average NO_x emission rate for each year, determined in accordance with 40 CFR 75, shall not exceed the alternative contemporaneous emissions limitation (ACEL) of 0.46 lb/MMBtu in accordance with 40 CFR 76.11(d)(1)(i). If one or more of the units does not meet the requirement under 40 CFR 76.11(d)(1)(i), the owner or operator shall demonstrate that the actual Btu-weighted annual average emission rate for the units in the NOx Averaging Plan is less than or equal to the Btu-weighted annual average rate for the same units, in accordance with 40 CFR 76.11(d)(1)(ii). In addition to the described NO_x compliance plan, this unit shall comply with all other applicable requirements of 40 CFR part 76, including the duty to reapply for a NO_x compliance plan and requirements covering excess emissions.

* The number of allowances actually held by an affected source in a unit account may differ from the number allocated by U.S. EPA. Neither of the aforementioned conditions necessitates a revision to the unit SO_2 allowance allocations identified in this permit (See 40 CFR 72.84). The number of allowances allocated to Phase II affected units by US EPA may change under 40 CFR part 73.

Comments, Notes, and Justifications:

None

Permit Application:

The Louisville Gas & Electric Company submitted Phase II Permit Application for the Mill Creek Generating Station, dated December 7, 1995, and signed by Chris Hermann. The owners and operators of Louisville Gas and Electric Company must comply with the standard requirements and special provisions set forth in the application.

NO_x Compliance Plan:

Pursuant to 40 CFR 76, the Kentucky Division for Air Quality approves a Phase II NO_x Compliance Plan for Louisville Gas & Electric Company. The owners and operators of Louisville Gas & Electric Company must comply with the alternative contemporaneous emissions limitation for NO_x 0.40 lb/MMBtu for tagentially fired boilers and 0.46 lb/MMBtu for dry bottom wall-fired boilers. Each affected unit in an approved averaging plan is in compliance with the Acid Rain emission limitation for NOX under the plan only if the requirements under 40 CFR 76.11(d)(1) are met.