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

Title V Operating Permit

Permit No.: 175-00-TV (R3) Plant ID: 126

Effective Date: 11/18/2014 Expiration Date: 11/30/2019

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
Cane Run Generating Station
5252 Cane Run Road
Louisville, KY 40232

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.:	36402	Application Received: 4/30/2007
	56083; 62295; 62496	5/30/2013; 2/7/2014; 2/14/2014
	64558; 65291; 66701	4/29/2014; 5/30/2014; 8/27/2014
	66718; 73735	8/27/2014; 10/6/2015

Permit Writer: Yiqiu Lin

Administratively Complete: 6/30/2007

Date of Public Notice: 08/30/2014

Date of proposed permit: 08/30/2014

Air Pollution Control Officer
November 12, 2015

TABLE OF CONTENTS

Title V Permit Revisions/Changes 6

List of Permit Renewal/Revision Applications 6

Abbreviations and Acronyms 7

Preamble 8

General Conditions 9

Emission Unit U4: Electric Utility Steam Generating Unit (EGU) and Coal Silos – EGU 4 17
- U4 Applicable Regulations: 17
- U4 Equipment: 18
- U4 Control Devices: 18
- U4 Specific Conditions 20
- U4 Comments 36

Emission Unit U5: Electric Utility Steam Generating Unit (EGU) and Coal Silos – EGU 5 39
- U5 Applicable Regulations: 39
- U5 Equipment: 40
- U5 Control Devices: 41
- U5 Specific Conditions 42
- U5 Comments 58

Emission Unit U6: Electric Utility Steam Generating Unit (EGU) and Coal Silos – EGU 6 60
- U6 Applicable Regulations: 60
- U6 Equipment: 61
- U6 Control Devices: 61
- U6 Specific Conditions 63
- U6 Comments 79

Emission Unit U7: Sludge processing plant 81
- U7 Applicable Regulations: 81
- U7 Equipment: 81
- U7 Control Devices: 82
- U7 Specific Conditions 84
- U7 Comments 90

Emission Unit U8: Unit 6 SDRS soda ash storage silo 92
- U8 Applicable Regulations: 92
- U8 Equipment: 92
- U8 Control Devices: 92
- U8 Specific Conditions 93
- U8 Comments 96

Emission Unit U10: Coal handling facilities 97

U10 Applicable Regulations: 97
U10 Equipment: 97
U10 Control Devices: 98
U10 Specific Conditions 99
U10 Comments 103

Emission Unit U11: Gas turbine GT11 104
U11 Applicable Regulations: 104
U11 Equipment: 104
U11 Control Devices: 104
U11 Specific Conditions 105
U11 Comments 110

Emission Unit U14: Porta batch units 111
U14 Applicable Regulations: 111
U14 Equipment: 111
U14 Control Devices: 111
U14 Specific Conditions 112
U14 Comments 114

Emission Unit U15: Natural gas-fired combined cycle (NGCC) unit – EGU 7 115
U15 Applicable Regulations: 115
U15 Equipment: 116
U15 Control Devices: 117
U15 Specific Conditions 118
U15 Comments 136

Emission Unit U16: Natural gas-fired auxiliary boiler 138
U16 Applicable Regulations: 138
U16 Equipment: 138
U16 Control Devices: 139
U16 Specific Conditions 140
U16 Comments 143

Emission Unit U18: Emergency generator 144
U18 Applicable Regulations: 144
U18 Equipment: 144
U18 Control Devices: 145
U18 Specific Conditions 146
U18 Comments 151

Emission Unit U19: Haul Roads 152
U19 Applicable Regulations: 152
U15 Equipment: 152
U19 Control Devices: 152
U19 Specific Conditions 153
U19 Comments 154

Emission Unit U20: Landfill 155
U20 Applicable Regulations: 155
U20 Equipment: 155
U20 Control Devices: 155
U20 Specific Conditions 156
U20 Comments 158

Permit Shield 159

Off-Permit Documents 159

Alternative Operating Scenario 159

Insignificant Activities 159

Emission Unit IA1: Gasoline storage tank 161
IA1 Applicable Regulations: 161
IA1 Equipment: 161
IA1 Control Devices: 161
IA1 Specific Conditions 162
IA1 Comments 164

Emission Unit IA2: Parts washers with secondary reservoirs 165
IA2 Applicable Regulations: 165
IA2 Equipment: 165
IA2 Control Devices: 165
IA2 Specific Conditions 166
IA2 Comments 168

Emission Unit IA-EG: Emergency generators 169
IA-EG Applicable Regulations: 169
IA-EG Equipment: 169
IA-EG Control Devices: 169
IA-EG Specific Conditions 170
IA-EG Comment 181

Attachment A - Protocol Checklist for a Performance Test 182

Attachment B - NOx RACT Plan - Amendment 2 184
Part 1 of NOx RACT Plan 184
Part 2 of NOx RACT Plan 185
Appendix A to NO_x RACT Plan 188

Attachment C - Plant-wide Odor, Fugitive Dust, and Maintenance Emissions Control Plan Cane Run Generating Station 198
Executive Summary 198
Introduction 198
Section 1 – Site Description 198

Section 2 - Description of Potential Sources of Dust or Odor at Cane Run Generating Station 199
Section 3 - Control Measures to Minimize Emissions 202
Section 4 - Primary Contact List 209

Attachment D - 40 CFR 75, Subpart G 211
Specific Conditions 211

Attachment E - Control Device Efficiencies and Determination Methods 235

PHASE II ACID RAIN PERMIT 238
Acid Rain Permit Revisions/Changes 239
Acid Rain Permit Conditions 240
Comments, Notes, and Justifications: 244
Permit Application: 244
NO_x Compliance Plan: 244

Title V Permit Revisions/Changes

Revision No.	Issue Date	Public Notice Date	Type	Attachment No./Page No.	Description
Initial	10/1/2002	12/17/2000	Initial	Entire Permit	Initial Permit Issuance
R1	10/1/2002	12/17/2000	Administrative	Preamble, Insignificant Activities, E2, E4, E6	Updated preamble and insignificant activities. Removed Method 22 from emission points E2, E4, and E6
R2	11/18/2014	08/30/2014	Renewal and Revision	Entire Permit	Permit renewal; R.O. change and addition; Acid Rain permit revision; Incorporate construction permit 244-02, 608-07, 609-07, 643-07, 119-07, 30501-11, 31791-11, 34410-12
R3	11/12/2015	N/A	Administrative Revision	Page 117, 132	Update pressure drop range for U15 catalytic oxidizers.

List of Permit Renewal/Revision Applications

Application Received Date	Application Number	Description
4/30/2007	36402	TV Permit Renewal Application
5/30/2013	56083	Incorporate two parts washers into TV permit
2/7/2014	62295	Incorporate NGCC and associate units into TV permit
2/14/2014	62496	Incorporate NGCC and associate units into TV permit
4/29/2014	64558	CAIR permit application
5/30/2014	65291	CAIR permit application revision
8/27/2014	66701	Modify installation dates for coal handling equipment
8/27/2014	66718	Modify throughputs for North Bin Silo, Unit 4/5 SPP Flyash Silo, Unit 4/5 SPP Lime Silo, Unit 6 SPP Flyash Silo, Unit 6 SPP Lime Silo, and Unit 6 SDRS Soda Ash Storage Silo
10/6/2015	73735	Appropriate parameter range for normal operation of Unit 15 (CR7) catalytic oxidizer, C23 and C24

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
ESP	- Electrostatic Precipitator
FGD	- Flue-gas Desulfurization
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
RICE	- Reciprocating Internal Combustion Engines
SIC	- Standard Industrial Classification
SIP	- State Implementation Plan
SO_2	- Sulfur dioxide
STAR	- Strategic Toxic Air Reduction
TAC	- Toxic Air Contaminant
UTM	- Universal Transverse Mercator
VOC	- Volatile Organic Compound
w.c.	- water column
year	- any period of twelve consecutive months, unless "calendar year" is specified
yr	- year, or any 12 consecutive-month period, as determined by context

Preamble

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

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

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

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

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

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

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

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

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

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

General Conditions

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

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

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

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

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

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

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

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

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

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

5. **Emergency Provision**

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

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

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

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

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

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

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

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

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

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

9. **Enforcement Action Defense**

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

20. **Permit Renewal, Expiration and Application** - Permit renewal, expiration and application procedural requirements shall be in accordance with Regulation 2.16,

sections 4.1.8.2 and 5.3. This permit may only be renewed in accordance with section 5.3.

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

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

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

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

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

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

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

    d. Noncompliance with Regulation 1.07, section 4.2; or

    e. Noncompliance with KRS Chapter 77.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Regulation	Title
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 U4: Electric Utility Steam Generating Unit (EGU) and Coal Silos – EGU 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
6.07	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

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

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

U4 Equipment:

Emission Point	Description	Applicable Regulation	Control ID	Stack ID
E1	One (1) dry bottom wall-fired boiler with low NOx burner, make Combustion Engineering, model Type RR, nominal rating 1,639 MMBtu/hr, using pulverized coal as the primary fuel and natural gas as the 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	C1, C2	S4
E2	Four (4) coal silos, make American Air Filter, model Type D, controlled by centrifugal dust collector and equipped with four (4) coal mills, make CE (Raymond), model 683 Type "RS" Bowl Mill.	5.00, 5.01, 5.02, 5.14, 5.20, 5.21, 5.22, 5.23, 6.09	C7	S1
Note: The owner or operator shall shut down this unit (U4) prior to November 1, 2015 when the new emission unit U15, U16, and U18 complete shakedown and becomes operational.				

U4 Control Devices:

ID	Description	Performance Indicator	Stack ID
C1	One (1) custom-built electrostatic precipitator (ESP), make Research Cottrell	PM emission data from PM CEMS (if PM CEMS is not used to demonstrate compliance)	S4

ID	Description	Performance Indicator	Stack ID
C2	One (1) Flue Gas Desulfurization (FGD) unit for SO_2 control using limestone scrubbing liquor, make American Air Filter/Burns & McDonnel	N/A (See Comment 9)	
C7	One (1) centrifugal dust collector, make American Air Filter	N/A (See Comment 4)	S1

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 heat input on an annual average basis, as specified in Acid Rain Permit No.144-97-AR (R3) 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 0.52 lb/MMBtu heat input based upon a rolling 30-day average. (See NOx RACT, Attachment B) (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 heat input based on a three hour rolling average. (Regulation 6.07, section 4.1)

ii. The owner or operator shall comply with the annual SO_2 emission allowances specified in Acid Rain Permit No.144-97-AR (R3). (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. (Regulation 2.16, section 4.1.1) (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 lb/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. (Regulation 2.16, section 4.1.1) (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	Weekly VE/Method 9, or Certified COMS	N/A (See Comment 9)
Option 2	Annual testing	Weekly VE/Method 9, or Certified COMS	PM CEMS

iv. For coal silos (E2), the owner or operator shall not exceed an allowable particulate emission rate of 86.9 lbs/hr, based on actual operating hours on a calendar day, 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. (Regulation 6.02, section 6.1 and section 15)

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 5)

ii. The owner or operator shall not allow TAC emissions for the boiler (E1) to exceed the TAC emission standards listed in the following table. (Regulation 5.21, section 4.2 and section 4.3) (See Comment 8)

TAC Name	CAS #	TAC Limits Determination		
		(lbs/hr)	(lbs/yr)	Basis of Limits
Biphenyl	92-52-4	0.232	206	De Minimis
Naphthalene	91-20-3	0.016	13.9	De Minimis
Acetaldehyde	75-07-0	0.243	216	De Minimis
Acetophenone	98-86-2	189	168,000	De Minimis
Acrolein (Propenal)	107-02-8		27.3	Controlled PTE
Benzene	71-43-2	0.24	216	De Minimis
Benzyl Chloride	100-44-7	0.011	9.6	De Minimis
Bis(2-ethylhexyl)phthalate (DEHP) (DOP)	117-81-7	0.23	202	De Minimis
Bromoform	75-25-2	0.49	437	De Minimis
Carbon disulfide	75-15-0	378	336,000	De Minimis
2-Chloroacetophenone	532-27-4	0.016	14.4	De Minimis
Chlorobenzene	108-90-7	540	480,000	De Minimis
Chloroform	67-66-3	0.023	20.6	De Minimis
Cumene	98-82-8	0.054	48	De Minimis
Dimethyl sulfate	77-78-1		32.5	Controlled PTE
2,4-Dinitrotoluene	121-14-2	0.0059	5.28	De Minimis
Ethyl benzene	100-41-4	0.22	192	De Minimis
Ethyl chloride	75-00-3	54	48,000	De Minimis
Ethylene dichloride	107-06-2		27.1	Controlled PTE
Ethylene dibromide	106-93-4		37.3	Controlled PTE
Formaldehyde	50-00-0		37.3	Controlled PTE
Hexane	110-54-3	378	336,000	De Minimis
Isophorone	78-59-1	2.00	1,776	De Minimis
Methyl bromide	74-83-9	2.7	2,400	De Minimis
Methyl chloride	74-87-3	48.6	43,200	De Minimis
Methyl hydrazine	60-34-4		115	Controlled PTE
Methyl methacrylate	80-62-6	378	336,000	De Minimis
Methyl-tert-butylether	1634-04-4	2.079	1,848	De Minimis
Methylene chloride	75-09-2	54	48,000	De Minimis
Phenol	108-95-2	108	96,000	De Minimis
Propionaldehyde	123-38-6	4.32	3,840	De Minimis
Styrene	100-42-5	0.918	816	De Minimis
Tetrachloroethylene (Perc)	127-18-4	2.079	1,848	De Minimis

TAC Name	CAS #	TAC Limits Determination		
		(lbs/hr)	(lbs/yr)	Basis of Limits
Toluene	108-88-3	2700	2,400,000	De Minimis
Xylene	1330-20-7	54	48,000	De Minimis
Vinyl Acetate	108-05-4	171.72	152,640	De Minimis
Hydrochloric acid	7647-01-0		14,493	Controlled PTE
Hydrogen fluoride	7664-39-3		6,908	Controlled PTE
Antimony compounds	7440-36-0	0.756	672	De Minimis
Arsenic compounds	7440-38-2		178	Controlled PTE
Beryllium compounds	7440-41-7		15.7	Controlled PTE
Cadmium compounds	7440-43-9		23.3	Controlled PTE
Chromium VI	7440-47-3		40.9	Controlled PTE
Chromium III	16065-83-1	0.1	110	De Minimis
Cobalt compounds	7440-48-4		35.8	Controlled PTE
Cyanide compounds	57-12-5	4.86	4,320	De Minimis
Lead compounds	7439-92-1		219	Controlled PTE
Manganese compounds	7439-96-5		264	Controlled PTE
Mercury compounds	7439-97-6	0.162	144	De Minimis
Nickel compounds	7440-02-0		184	Controlled PTE
Selenium compounds	7782-49-2	10.8	9,600	De Minimis

f. **Unit Operation**

The owner or operator shall shut down the existing emission unit U4, U5, U6, U7, U8, U10, IA1 (previous U9), two parts washers of IA2 (previous U12), and U14 prior to November 1, 2015 when the new emission unit U15, U16, and U18 complete shakedown and become operational. Any replacement unit that requires shakedown becomes operational only after a reasonable shakedown period, not to exceed 180 days. (Regulation 2.05) (40 CFR 52.21(b)(3)(viii)) (See Comment 12)

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.144-97-AR

(R3). 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 and 40 CFR Part 76, section 76.14. (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))

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 this section; 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. When the Clean Air Interstate Rule or the applicable NO_x cap and trade program(s) are in effect, the owner or operator shall monitor the NO_x emissions to demonstrate compliance the NO_x limitations or allowances as specified in the effective rules. (Regulation 2.16, sections 4.1.9.1 and 4.1.9.2) (See Comment 11)

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 this section. (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 this section. (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 this section, as provided in 40 CFR 75.53. (40 CFR 75.57(c)(4)(iv))

iii. When the Clean Air Interstate Rule or the applicable SO_2 cap and trade program(s) are in effect, the owner or operator shall monitor the SO_2 emissions to demonstrate compliance the SO_2 limitations or allowances as specified in the effective rules. (Regulation 2.16, sections 4.1.9.1 and 4.1.9.2) (See Comment 11)

c. **PM**

i. The owner or operator 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 6)

(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.

3) The owner or operator shall keep records of which option was used to demonstrate compliance with PM standards.

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 6)

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.

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 5)

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 7)

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 minimum data requirements for these reports are outlined in Regulation 6.02, section 16.1. (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. 144-97-AR (R3), 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 D)

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.

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. 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 from the computer tape or cards. (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.144-97-AR (R3), 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 D)

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) 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. 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) 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)

2) 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) 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)

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.144-97-AR (R3), 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 D) (Regulation 6.47, section 3.4 and 3.5 referencing 40 CFR Parts 75 and 76)

iii. For coal silos (E2):

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 Specific Condition S2.e.iii.

U4 Comments

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

2. LG&E's proposal for removing COMS for Unit 3 and 4 at Mill Creek station was accepted in a letter from EPA dated Feb. 28, 2007. The District accordingly approved LG&E's request for removing COMS for Unit 4, 5, and 6 for Cane Run providing PM CEMS are appropriately installed for these units.

3. The SO_2 and PM emissions can exceed 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 monitoring, recordkeeping, or reporting is required to demonstrate compliance with the applicable PM standards.

5. LG&E Cane Run 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 Summary	All existing & new		All new P/PE	
Industrial Total R_C	**4.01**	< 75		< 38
Non-Ind. Total R_C	**4.01**	< 7.5		< 3.8
Industrial Max. R_{NC}	**0.10**	< 3.0		
Non-Ind. Max. R_{NC}	**0.10**	< 1.0		

		R_{NC} Total		U4		U5		U6		U11		U20	
		Indus.	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}
Total R_C/ Max. R_{NC}		**0.10**	**0.10**	**1.22**		**1.47**		**0.99**		**0.10**		**0.24**	
Arsenic and arsenic comp	7440-38-2	0.03	0.03	0.59	0.01	0.71	0.01	0.48	0.01	0.03	0.00	0.23	0.00
Cadmium and cadmium co	7440-43-9	0.00	0.00	0.03	0.00	0.04	0.00	0.03	0.00	0.00	0.00	0.00	0.00
Chromium hexavalent & C	7440-47-3	0.01	0.01	0.37	0.00	0.45	0.00	0.30	0.00	0.07	0.00	0.00	0.00
Formaldehyde	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
Nickel and nickel compour	7440-02-0	0.03	0.03	0.04	0.01	0.04	0.01	0.03	0.01	0.00	0.00	0.00	0.00
Cobalt and cobalt compou	7440-48-4	0.01	0.01	0.07	0.00	0.08	0.00	0.06	0.00	0.00	0.00	0.01	0.00
Hydrochloric acid [Hydrog	7647-01-0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hydrofluoric acid [Hydrog	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
Lead compounds1	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
Manganese and Mangane	7439-96-5	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
Acrolein	107-02-8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Beryllium and beryllium co	7440-41-7	0.00	0.00	0.03	0.00	0.03	0.00	0.02	0.00	0.00	0.00	0.00	0.00
Ethylene dibromide [1,2-D	106-93-4	0.00	0.00	0.02	0.00	0.02	0.00	0.01	0.00	0.00	0.00	0.00	0.00
Ethylene dichloride [1,2-D	107-06-2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dimethyl sulfate	77-78-1	0.00	0.00	0.06	0.00	0.07	0.00	0.05	0.00	0.00	0.00	0.00	0.00
Methylhydrazine	60-34-4	0.10	0.10	0.01	0.03	0.01	0.04	0.01	0.03	0.00	0.00	0.00	0.00

6. The coal-fired boilers are subject to 40 CFR Part 64 - Compliance Assurance Monitoring (CAM) for Major Stationary Source since SO2, 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 8/18/2014, LG&E submitted a revised CAM Plan in which SO2 and NOx CEMS are used for compliance demonstration. PM CEMS is used to demonstrate compliance or provide an indication of continuous PM control.

7. 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

8. 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, De Minimis is listed 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, control PTE is used as limit. TAC emissions for the coal silos (E2) are de minimis according to Regulation 5.21, section 2.1.

9. This unit is equipped with CEMS for NOx, SO2, and PM. According to the District's letter dated November 1, 2005, parametric monitoring of the ESP, FGD, and PJFF injection for this unit is removed as such monitoring would no longer be required for demonstration of compliance.

10. According to 40 CFR 63.9984(b), the compliance date for an existing EGU is April 16, 2015. The District approved LG&E's request for the extension of the compliance date per

(40 CFR 63.6(i)(4)(i)). The compliance date for the EGUs at this plant is November 1, 2015.

11. LG&E submitted a CAIR permit application on April 29, 2014 and submitted a revised application on May 30, 2014 for coal-fired boiler U4, U5, U6 and NGCC unit U15. In June, 2014, the U.S. Supreme Court filed a motion with the U.S. Court of Appeals for the D.C. Circuit to lift the stay of the Cross State Air Pollution Rule. While the Court considers the motion, CAIR remains in place and no immediate action from States or affected sources is expected.

12. The existing emission unit U4, U5, U6, U7, U8, U10, IA1 (previous U9), two parts washers of IA2 (previous U12), and U14 shall be shut down within the contemporaneous period of the NGCC unit construction project in order to have their emission decreases to be eligible for PSD/NSR netting analysis. According to 40 CFR 52.21(b)(3)(ii), the contemporaneous period is defined as "between the date five years before construction on the particular change commences and the date that the increase from the particular change occurs". In this permit the term "operational" means "normal operations" as defined in 40 CFR 52.21.

Emission Unit U5: Electric Utility Steam Generating Unit (EGU) and Coal Silos – EGU 5

U5 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
7.08	Standards of Performance for New Process Operations	1, 2, 3, 4, 5, 6
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

DISTRICT ONLY ENFORCEABLE REGULATIONS		
Regulation	**Title**	**Applicable Sections**
5.00	Definitions	1, 2

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

U5 Equipment:

Emission Point	Description	Applicable Regulation	Control ID	Stack ID
E3	One (1) dry bottom wall-fired boiler with low NOx burner, make Riley Stoker, model 3469 Type Reheat, nominal rating 1,875 MMBtu/hr, using pulverized coal as the primary fuel and natural gas as the 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 72-78	C3, C4	S5
E4	Three (3) coal silos, make American Air Filter, model Type D, controlled by centrifugal dust collector and equipped with three (3) coal mills, make CE (Raymond), model 763 Type “RS” Bowl Mills.	5.00, 5.01, 5.02, 5.14, 5.20, 5.21, 5.22, 5.23, 6.09, 7.08	C8	S2
Note: The owner or operator shall shut down this unit (U5) prior to November 1, 2015 when the new emission unit U15, U16, and U18 complete shakedown and becomes operational.				

U5 Control Devices:

ID	Description	Performance Indicator	Stack ID
C3	One (1) custom-built electrostatic precipitator (ESP) for PM control, make Southern Environmental, model Custom Built.	PM emission data from PM CEMS (if PM CEMS is not used to demonstrate compliance)	S5
C4	One (1) Flue Gas Desulfurization (FGD) for SO_2 control, make American Air Filter/Burns & McDonnel, model Custom Built	N/A (See Comment 9)	
C8	One (1) dry centrifugal dust collector, make American Air Filter, model Type D.	N/A (See Comment 4)	S2

U5 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 heat input on an annual average basis, as specified in Acid Rain Permit No.144-97-AR (R3) 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 0.52 lb/MMBtu heat input based upon a rolling 30-day average. (See NOx RACT, Attachment B) (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 heat input based on a three hour rolling average. (Regulation 6.07, section 4.1)

ii. The owner or operator shall comply with the annual SO_2 emission allowances specified in Acid Rain Permit No.144-97-AR (R3). (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. (Regulation 2.16, section 4.1.1) (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 lb/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. (Regulation 2.16, section 4.1.1) (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	Weekly VE/Method 9, or Certified COMS	N/A (See Comment 9)
Option 2	Annual testing	Weekly VE/Method 9, or Certified COMS	PM CEMS

iv. For the coal silos (E4), the owner or operator shall not exceed an allowable particulate emission rate of 86.9 lbs/hr, based on actual operating hours on a calendar day, from three 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. (Regulation 6.02, section 6.1 and section 15)

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) (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 5)

ii. The owner or operator shall not allow TAC emissions for the boiler (E3) to exceed the TAC emission standards listed in the following table. (Regulation 5.21, section 4.2 and section 4.3) (See Comment 8)

TAC Name	CAS #	TAC Limits Determination		
		(lbs/hr)	(lbs/yr)	Basis of Limits
Biphenyl	92-52-4	0.232	206	De Minimis
Naphthalene	91-20-3	0.016	13.9	De Minimis
Acetaldehyde	75-07-0	0.243	216	De Minimis
Acetophenone	98-86-2	189	168,000	De Minimis
Acrolein (Propenal)	107-02-8		31.2	Controlled PTE
Benzene	71-43-2	0.24	216	De Minimis
Benzyl Chloride	100-44-7	0.011	9.6	De Minimis
Bis(2-ethylhexyl)phthalate (DEHP) (DOP)	117-81-7	0.23	202	De Minimis
Bromoform	75-25-2	0.49	437	De Minimis
Carbon disulfide	75-15-0	378	336,000	De Minimis
2-Chloroacetophenone	532-27-4	0.016	14.4	De Minimis
Chlorobenzene	108-90-7	540	480,000	De Minimis
Chloroform	67-66-3	0.023	20.6	De Minimis
Cumene	98-82-8	0.054	48	De Minimis
Dimethyl sulfate	77-78-1		37.2	Controlled PTE
2,4-Dinitrotoluene	121-14-2	0.0059	5.28	De Minimis
Ethyl benzene	100-41-4	0.22	192	De Minimis
Ethyl chloride	75-00-3	54	48,000	De Minimis
Ethylene dichloride	107-06-2		31.0	Controlled PTE
Ethylene dibromide	106-93-4		42.7	Controlled PTE
Formaldehyde	50-00-0		42.7	Controlled PTE
Hexane	110-54-3	378	336,000	De Minimis
Isophorone	78-59-1	2.00	1,776	De Minimis
Methyl bromide	74-83-9	2.7	2,400	De Minimis
Methyl chloride	74-87-3	48.6	43,200	De Minimis
Methyl hydrazine	60-34-4		132	Controlled PTE
Methyl methacrylate	80-62-6	378	336,000	De Minimis
Methyl-tert-butylether	1634-04-4	2.079	1,848	De Minimis
Methylene chloride	75-09-2	54	48,000	De Minimis
Phenol	108-95-2	108	96,000	De Minimis
Propionaldehyde	123-38-6	4.32	3,840	De Minimis
Styrene	100-42-5	0.918	816	De Minimis
Tetrachloroethylene (Perc)	127-18-4	2.079	1,848	De Minimis

TAC Name	CAS #	TAC Limits Determination		
		(lbs/hr)	(lbs/yr)	Basis of Limits
Toluene	108-88-3	2700	2,400,000	De Minimis
Xylene	1330-20-7	54	48,000	De Minimis
Vinyl Acetate	108-05-4	171.72	152,640	De Minimis
Hydrochloric acid	7647-01-0		16,580	Controlled PTE
Hydrogen fluoride	7664-39-3		7,903	Controlled PTE
Antimony compounds	7440-36-0	0.756	672	De Minimis
Arsenic compounds	7440-38-2		204	Controlled PTE
Beryllium compounds	7440-41-7		17.9	Controlled PTE
Cadmium compounds	7440-43-9		26.7	Controlled PTE
Chromium VI	7440-47-3		46.8	Controlled PTE
Chromium III	16065-83-1	0.1	110	De Minimis
Cobalt compounds	7440-48-4		40.9	Controlled PTE
Cyanide compounds	57-12-5	4.86	4,320	De Minimis
Lead compounds	7439-92-1		250	Controlled PTE
Manganese compounds	7439-96-5		301	Controlled PTE
Mercury compounds	7439-97-6	0.162	144	De Minimis
Nickel compounds	7440-02-0		210	Controlled PTE
Selenium compounds	7782-49-2	10.8	9,600	De Minimis

f. **Unit Operation**

The owner or operator shall shut down the existing emission unit U4, U5, U6, U7, U8, U10, IA1 (previous U9), two parts washers of IA2 (previous U12), and U14 prior to November 1, 2015 when the new emission unit U15, U16, and U18 complete shakedown and become operational. Any replacement unit that requires shakedown becomes operational only after a reasonable shakedown period, not to exceed 180 days. (Regulation 2.05) (40 CFR 52.21(b)(3)(viii)) (See Comment 12)

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.144-97-AR

(R3). 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 and 40 CFR Part 76, section 76.14. (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))

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 this section; 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. When the Clean Air Interstate Rule or the applicable NO_x cap and trade program(s) are in effect, the owner or operator shall monitor the NO_x emissions to demonstrate compliance the NO_x limitations or allowances as specified in the effective rules. (Regulation 2.16, sections 4.1.9.1 and 4.1.9.2) (See Comment 11)

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 this section. (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 this section. (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 this section, as provided in 40 CFR 75.53. (40 CFR 75.57(c)(4)(iv))

iii. When the Clean Air Interstate Rule or the applicable SO_2 cap and trade program(s) are in effect, the owner or operator shall monitor the SO_2 emissions to demonstrate compliance the SO_2 limitations or allowances as specified in the effective rules. (Regulation 2.16, sections 4.1.9.1 and 4.1.9.2) (See Comment 11)

c. **PM**

i. The owner or operator 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 6)

(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.

3) The owner or operator shall keep records of which option was used to demonstrate compliance with PM standards.

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 6)

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 6)

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.

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 5)

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 7)

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 minimum data requirements for these reports are outlined in Regulation 6.02, section 16.1. (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.144-97-AR (R3), 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 D)

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.

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. 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 from the computer tape or cards. (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.144-97-AR (R3), 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 D)

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) 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. 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) 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)

2) 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) 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)

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.144-97-AR (R3), 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 D) (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 Specific Condition S2.e.iii**Error! Reference source not found.**.

U5 Comments

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

2. LG&E's proposal for removing COMS for Unit 3 and 4 at Mill Creek station was accepted in a letter from EPA dated Feb. 28, 2007. The District accordingly approved LG&E's request for removing COMS for Unit 4, 5, and 6 for Cane Run 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.

5. 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 table under U4 Comment 5 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.

6. The coal-fired boilers are subject to 40 CFR Part 64 - Compliance Assurance Monitoring (CAM) for Major Stationary Source since SO2, 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 8/18/2014, LG&E submitted a revised CAM Plan in which SO2 and NOx CEMS are used for compliance demonstration. PM CEMS is used to demonstrate compliance or provide an indication of continuous PM control.

7. 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

8. 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, 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, control PTE is used as limit. TAC emissions for the coal bunker (E2) are de minimis according to Regulation 5.21, section 2.1.

9. This unit is equipped with CEMS for NOx, SO2, and PM. According to the District's letter dated November 1, 2005, parametric monitoring of the ESP, FGD, and PJFF injection for this unit is removed as such monitoring would no longer be required for demonstration of compliance.

10. According to 40 CFR 63.9984(b), the compliance date for an existing EGU is April 16, 2015. The District approved LG&E's request for the extension of the compliance date per (40 CFR 63.6(i)(4)(i)). The compliance date for the EGUs at this plant is November 1, 2015.

11. LG&E submitted a CAIR permit application on April 29, 2014 and submitted a revised application on May 30, 2014 for coal-fired boiler U4, U5, U6 and NGCC unit U15. In June, 2014, the U.S. Supreme Court filed a motion with the U.S. Court of Appeals for the D.C. Circuit to lift the stay of the Cross State Air Pollution Rule. While the Court considers the motion, CAIR remains in place and no immediate action from States or affected sources is expected.

12. The existing emission unit U4, U5, U6, U7, U8, U10, IA1 (previous U9), two parts washers of IA2 (previous U12), and U14 shall be shut down within the contemporaneous period of the NGCC unit construction project in order to have their emission decreases to be eligible for PSD/NSR netting analysis. According to 40 CFR 52.21(b)(3)(ii), the contemporaneous period is defined as "between the date five years before construction on the particular change commences and the date that the increase from the particular change occurs". In this permit the term "operational" means "normal operations" as defined in 40 CFR 52.21.

Emission Unit U6: Electric Utility Steam Generating Unit (EGU) and Coal Silos – EGU 6

U6 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

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

DISTRICT ONLY ENFORCEABLE REGULATIONS		
Regulation	**Title**	**Applicable Sections**
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

U6 Equipment:

Emission Point	Description	Applicable Regulation	Control ID	Stack ID
E5	One (1) tangentially fired boiler with low NOx burner, make Combustion Engineering, model Type CCRR, nominal rating 2,453 MMBtu/hr, using pulverized coal as the primary fuel and natural gas as the 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 72-78	C5, C6	S6
E6	Five (5) coal silos, make American Air Filter, model Type D, controlled by centrifugal dust collector and equipped with five (5) coal mills, make CE (Raymond), model 703 Type "RS" Bowl Mills.	5.00, 5.01, 5.02, 5.14, 5.20, 5.21, 5.22, 5.23, 6.09	C9	S3
Note: The owner or operator shall shut down this unit (U6) prior to November 1, 2015 when the new emission unit U15, U16, and U18 complete shakedown and becomes operational.				

U6 Control Devices:

ID	Description	Performance Indicator	Stack ID
C5	One (1) custom-built electrostatic precipitator (ESP), make Buell	PM emission data from PM CEMS (if PM CEMS is not used to demonstrate compliance)	S6

ID	Description	Performance Indicator	Stack ID
C6	One (1) Flue Gas Desulfurization (FGD) unit for SO_2 control using limestone scrubbing liquor, CEA/Burns & McDonnel	N/A (See Comment 9)	
C9	One (1) centrifugal dust collector, make American Air Filter, model Type D	N/A (See Comment 4)	S3

U6 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 heat input on an annual average basis, as specified in Acid Rain Permit No.144-97-AR (R3) 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 heat input based upon a rolling 30-day average. (See NOx RACT, Attachment B) (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 heat input based on a three hour rolling average. (Regulation 6.07, section 4.1)

ii. The owner or operator shall comply with the annual SO_2 emission allowance specified in Acid Rain Permit No.144-97-AR (R3). (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. (Regulation 2.16, section 4.1.1) (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 lb/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. (Regulation 2.16, section 4.1.1) (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	Weekly VE/Method 9, or Certified COMS	N/A (See Comment 9)
Option 2	Annual testing	Weekly VE/Method 9, or Certified COMS	PM CEMS

iv. For the coal silos (E6), the owner or operator shall not exceed an allowable particulate emission rate of 86.9 lbs/hr, based on actual operating hours on a calendar day, 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 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. (Regulation 6.02, section 6.1 and section 15)

iii. 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)

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 5)

ii. The owner or operator shall not allow TAC emissions for the boiler (E1) to exceed the TAC emission standards listed in the following table. (Regulation 5.21, section 4.2 and section 4.3) (See Comment 8)

TAC Name	CAS #	TAC Limits Determination		
		(lbs/hr)	(lbs/yr)	Basis of Limits
Biphenyl	92-52-4	0.232	206	De Minimis
Naphthalene	91-20-3	0.016	13.9	De Minimis
Acetaldehyde	75-07-0	0.243	216	De Minimis
Acetophenone	98-86-2	189	168,000	De Minimis
Acrolein (Propenal)	107-02-8		40.8	Controlled PTE
Benzene	71-43-2	0.24	216	De Minimis
Benzyl Chloride	100-44-7	0.011	9.6	De Minimis
Bis(2-ethylhexyl)phthalate (DEHP) (DOP)	117-81-7	0.23	202	De Minimis
Bromoform	75-25-2	0.49	437	De Minimis
Carbon disulfide	75-15-0	378	336,000	De Minimis
2-Chloroacetophenone	532-27-4	0.016	14.4	De Minimis
Chlorobenzene	108-90-7	540	480,000	De Minimis
Chloroform	67-66-3	0.023	20.6	De Minimis
Cumene	98-82-8	0.054	48	De Minimis
Dimethyl sulfate	77-78-1		48.7	Controlled PTE
2,4-Dinitrotoluene	121-14-2	0.0059	5.28	De Minimis
Ethyl benzene	100-41-4	0.22	192	De Minimis
Ethyl chloride	75-00-3	54	48,000	De Minimis
Ethylene dichloride	107-06-2		40.5	Controlled PTE
Ethylene dibromide	106-93-4		55.9	Controlled PTE
Formaldehyde	50-00-0		55.9	Controlled PTE
Hexane	110-54-3	378	336,000	De Minimis
Isophorone	78-59-1	2.00	1,776	De Minimis
Methyl bromide	74-83-9	2.7	2,400	De Minimis
Methyl chloride	74-87-3	48.6	43,200	De Minimis
Methyl hydrazine	60-34-4		172	Controlled PTE
Methyl methacrylate	80-62-6	378	336,000	De Minimis
Methyl-tert-butylether	1634-04-4	2.079	1,848	De Minimis
Methylene chloride	75-09-2	54	48,000	De Minimis
Phenol	108-95-2	108	96,000	De Minimis
Propionaldehyde	123-38-6	4.32	3,840	De Minimis
Styrene	100-42-5	0.918	816	De Minimis
Tetrachloroethylene (Perc)	127-18-4	2.079	1,848	De Minimis

TAC Name	CAS #	TAC Limits Determination		
		(lbs/hr)	(lbs/yr)	Basis of Limits
Toluene	108-88-3	2700	2,400,000	De Minimis
Xylene	1330-20-7	54	48,000	De Minimis
Vinyl Acetate	108-05-4	171.72	152,640	De Minimis
Hydrochloric acid	7647-01-0		21,732	Controlled PTE
Hydrogen fluoride	7664-39-3		10,349	Controlled PTE
Antimony compounds	7440-36-0	0.756	672	De Minimis
Arsenic compounds	7440-38-2		266	Controlled PTE
Beryllium compounds	7440-41-7		23.4	Controlled PTE
Cadmium compounds	7440-43-9		34.9	Controlled PTE
Chromium VI	7440-47-3		61.2	Controlled PTE
Chromium III	16065-83-1		140	Controlled PTE
Cobalt compounds	7440-48-4		53.6	Controlled PTE
Cyanide compounds	57-12-5	4.86	4,320	De Minimis
Lead compounds	7439-92-1		328	Controlled PTE
Manganese compounds	7439-96-5		394	Controlled PTE
Mercury compounds	7439-97-6	0.162	144	De Minimis
Nickel compounds	7440-02-0		275	Controlled PTE
Selenium compounds	7782-49-2	10.8	9,600	De Minimis

f. **Unit Operation**

The owner or operator shall shut down the existing emission unit U4, U5, U6, U7, U8, U10, IA1 (previous U9), two parts washers of IA2 (previous U12), and U14 prior to November 1, 2015 when the new emission unit U15, U16, and U18 complete shakedown and become operational. Any replacement unit that requires shakedown becomes operational only after a reasonable shakedown period, not to exceed 180 days. (Regulation 2.05) (40 CFR 52.21(b)(3)(viii)) (See Comment 12)

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.144-97-AR

(R3). 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 and 40 CFR Part 76, section 76.14. (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))

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 this section; 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. When the Clean Air Interstate Rule or the applicable NO_x cap and trade program(s) are in effect, the owner or operator shall monitor the NO_x emissions to demonstrate compliance the NO_x limitations or allowances as specified in the effective rules. (Regulation 2.16, sections 4.1.9.1 and 4.1.9.2) (See Comment 11)

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 this section. (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 this section. (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 this section, as provided in 40 CFR 75.53. (40 CFR 75.57(c)(4)(iv))

iii. When the Clean Air Interstate Rule or the applicable SO_2 cap and trade program(s) are in effect, the owner or operator shall monitor the SO_2 emissions to demonstrate compliance the SO_2 limitations or allowances as specified in the effective rules. (Regulation 2.16, sections 4.1.9.1 and 4.1.9.2) (See Comment 11)

c. **PM**

i. The owner or operator 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 6)

(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.

3) The owner or operator shall keep records of which option was used to demonstrate compliance with PM standards.

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 6)

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 6)

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.

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 (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 5)

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 7)

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 minimum data requirements for these reports are outlined in Regulation 6.02, section 16.1. (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.144-97-AR (R3), 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 D)

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. 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 from the computer tape or cards. (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.144-97-AR (R3), 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 D)

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) 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. 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) 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)

2) 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) 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)

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.144-97-AR (R3), 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 D) (Regulation 6.47, section 3.4 and 3.5 referencing 40 CFR Parts 75 and 76)

iii. For coal silos (E6):

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 Specific Condition S2.e.iii.

U6 Comments

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

2. LG&E's proposal for removing COMS for Unit 3 and 4 at Mill Creek station was accepted in a letter from EPA dated Feb. 28, 2007. The District accordingly approved LG&E's request for removing COMS for Unit 4, 5, and 6 for Cane Run 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.

5. 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 table under U4 Comment 5 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.

6. The coal-fired boilers are subject to 40 CFR Part 64 - Compliance Assurance Monitoring (CAM) for Major Stationary Source since SO2, 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 8/18/2014, LG&E submitted a revised CAM Plan in which SO2 and NOx CEMS are used for compliance demonstration. PM CEMS is used to demonstrate compliance or provide an indication of continuous PM control.

7. 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

8. 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, 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, control PTE is used as limit. TAC emissions for the coal bunker (E2) are de minimis according to Regulation 5.21, section 2.1.

9. This unit is equipped with CEMS for NOx, SO2, and PM. According to the District's letter dated November 1, 2005, parametric monitoring of the ESP, FGD, and PJFF injection for this unit is removed as such monitoring would no longer be required for demonstration of compliance.

10. According to 40 CFR 63.9984(b), the compliance date for an existing EGU is April 16, 2015. The District approved LG&E's request for the extension of the compliance date per (40 CFR 63.6(i)(4)(i)). The compliance date for the EGUs at this plant is November 1, 2015.

11. LG&E submitted a CAIR permit application on April 29, 2014 and submitted a revised application on May 30, 2014 for coal-fired boiler U4, U5, U6 and NGCC unit U15. In June, 2014, the U.S. Supreme Court filed a motion with the U.S. Court of Appeals for the D.C. Circuit to lift the stay of the Cross State Air Pollution Rule. While the Court considers the motion, CAIR remains in place and no immediate action from States or affected sources is expected.

12. The existing emission unit U4, U5, U6, U7, U8, U10, IA1 (previous U9), two parts washers of IA2 (previous U12), and U14 shall be shut down within the contemporaneous period of the NGCC unit construction project in order to have their emission decreases to be eligible for PSD/NSR netting analysis. According to 40 CFR 52.21(b)(3)(ii), the contemporaneous period is defined as "between the date five years before construction on the particular change commences and the date that the increase from the particular change occurs". In this permit the term "operational" means "normal operations" as defined in 40 CFR 52.21.

Emission Unit U7: Sludge processing plant

U7 Applicable Regulations:

FEDERALLY ENFORCEABLE REGULATIONS		
Regulation	**Title**	**Applicable Sections**
2.04	Construction or Modification of Major Sources in or Impacting upon Non-Attainment Areas (Emission Offset Requirements)	1, 2
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

U7 Equipment:

Emission Point	Description	Applicable Regulation	Control ID	Stack ID
E9	North bin silo and associated equipment, include three flyash separator and one ventilator, make Mikro-Pulsaire, capacity 7 ton/hr	2.04, 5.00, 5.01, 5.02, 5.14, 5.20, 5.21, 5.22, 5.23, 7.08	C11	S9
E10	Unit 4 & 5 SPP flyash silo, make Flex-Kleen, capacity 20 ton/hr		C12	S10
E11	Unit 4 &5 SPP lime silo, make Mikro-Pulasire, capacity 30 ton/hr		C13	S11

Emission Point	Description	Applicable Regulation	Control ID	Stack ID
E12	Unit 4 &5 SPP pug mill mixer, make Tri-Mer, capacity 95 ton/hr	5.00, 5.01, 5.02, 5.14, 5.20, 5.21, 5.22, 5.23, 7.08	C14a C14b	S12
E13	Unit 6 SPP flyash silo, make Flex-Kleen, capacity 20 ton/hr	2.04, 5.00, 5.01, 5.02, 5.14, 5.20, 5.21, 5.22, 5.23, 7.08	C15	S13
E14	Unit 6 SPP lime silo, make Mikro-Pulasire, capacity 30 ton/hr		C16	S14
E22	Unit 6 SPP lime screw conveyor, make Bulk Conveyor Specialists, capacity 2 ton/hr	5.00, 5.01, 5.02, 5.14, 5.20, 5.21, 5.22, 5.23, 7.08	N/A	N/A
E23	Unit 6 SPP flyash screw conveyor, make Bulk Conveyor Specialists, capacity 40 ton/hr		N/A	N/A
E24	Unit 6 SPP lime/flyash screw conveyor, make Bulk Conveyor Specialists, capacity 40 ton/hr		N/A	N/A
	Ash conditioner (mixer) A and B, make Bulk Conveyor Specialists, capacity 100 ton/hr for each*		N/A	N/A
* The mixers are not listed as emission points due to zero PM emissions				
Note: The owner or operator shall shut down this unit (U7) prior to November 1, 2015 when the new emission unit U15, U16, and U18 complete shakedown and becomes operational.				

U7 Control Devices:

ID	Description	Performance Indicator	Stack ID
C11	Baghouses for north bin silo, make IAC System	Pressure drop range 0.1” to 12” water column	S9
C12	One (1) baghouse (separator) for Unit 4 & 5 SPP flyash silo, make Mikro-Pulsaire	Pressure drop range 0.1” to 9.0” water column	S10
C13	One (1) baghouse (separator)for Unit 4 & 5 SPP lime silo, make Mikro-Pulsaire	Pressure drop range 0.1” to 6.0” water column	S11
C14a	One (1) wet cyclone dust collector for Unit 4 & 5 SPP pug mill mixer, make Tri-Mer	Pressure drop range 0.1” to 8.0” water column	S12
C14b	One (1) 3-Stage HEPA filter for Unit 4 & 5 SPP pug mill mixer, make Tri-Mer	Pressure drop range 1” to 4” water column	

ID	Description	Performance Indicator	Stack ID
C15	One (1) baghouse (separator) for Unit 6 SPP flyash silo, make Flex-Kleen	Pressure drop range 0.1” to 6.0” water column	S13
C16	One (1) baghouse (separator) Unit 6 SPP lime silo, make Mikro-Pulsaire	Pressure drop range 0.1” to 6.0” water column	S14

U7 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 points of this unit to exceed the following limits: (Regulation 7.08, section 3.1.2) (See Comment 1)

Emission Point	Description	Capacity (ton/hr)	PM Limit* (lb/hr)	Basis of PM Limit
E9	North bin silo	27	27.7	Reg. 7.08, Table 1
E10	Unit 4 & 5 SPP flyash silo	20	23.0	Reg. 7.08, Table 1
E11	Unit 4 &5 SPP lime silo	30	29.6	Reg. 7.08, Table 1
E12	Unit 4 &5 SPP pug mill mixer	95	35.9	Reg. 7.08, Table 1
E13	Unit 6 SPP flyash silo	20	23.0	Reg. 7.08, Table 1
E14	Unit 6 SPP lime silo	30	29.6	Reg. 7.08, Table 1
E22	Unit 6 SPP lime screw conveyor	2	5.52	Reg. 7.08, Table 1
E23	Unit 6 SPP flyash screw conveyor	40	31.2	Reg. 7.08, Table 1
E24	Unit 6 SPP lime/flyash screw conveyor	40	31.2	Reg. 7.08, Table 1
* The lb/hr PM limit is based on actual operating hours on a calendar day.				

ii. The owner or operator shall not allow or cause to allow the combined PM emissions resulting from emission point E9, E10, E11, E13, E14, and E16 to exceed 25 tons during any consecutive 12 month period. (Regulation 2.04) (See Comment 2)

iii. The owner or operator shall operate and maintain the control devices, as recommended by the manufacturer, at all times that E9, E10, E11, E12, E13, and E14 are in operation and shall, to the extent practicable, maintain and operate the affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practices for minimizing emissions. (Regulation 2.16, section 4.1.1) (See Comment 2)

b. **Opacity**

i. The owner or operator shall not allow visible emissions to equal or exceed 20% opacity. (Regulation 7.08, section 3.1.1)

ii. The owner or operator shall utilize both controls, C14a and C14b, 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) (See Comment 3)

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 4)

ii. The owner or operator shall not allow Chromium VI (7440-47-3) and Arsenic (7440-38-2) emissions to exceed de minimis level from the north bin silo (E9). See Specific Condition S1.a.iii. (See Comment 5)

iii. The owner or operator shall not allow Arsenic (7440-38-2) emissions to exceed de minimis level from the pug mill mixer (E12). See Specific Condition S1.b.ii. (See Comment 6)

d. **Unit Operation**

The owner or operator shall shut down the existing emission unit U4, U5, U6, U7, U8, U10, IA1 (previous U9), two parts washers of IA2 (previous U12), and U14 prior to November 1, 2015 when the new emission unit U15, U16, and U18 complete shakedown and become operational. Any replacement unit that requires shakedown becomes operational only after a reasonable shakedown period, not to exceed 180 days. (Regulation 2.05) (40 CFR 52.21(b)(3)(viii)) (See Comment 8)

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**

For E9, E10, E11, E12, E13, and E14:

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 calculate the PM emissions on an average hourly basis.

iii. The owner or operator shall monitor and record the pressure drop across baghouse C11, C12, C13, C14a, C14b, C15, and C16, which is used as the indicator of normal operation of the baghouses, at least once each per operating day.

iv. The owner or operator shall maintain daily records that identify all periods of bypassing the control devices while the process equipment are in operation or a declaration entered into the records that the control devices operated at all times the process equipment were in operation for a given day. The record shall include the date, duration (including start and stop time) of each bypass event, identification of the control device and process equipment in operation, the total PM emissions emitted during each bypass event, summary information on the cause or reason for each control device bypass event, corrective action taken to minimize the extent and duration of each bypass event, and measures implemented to prevent reoccurrence of the situation that resulted in bypassing the control devices.

b. **Opacity**

i. For E9, E10, E11, E13, and E14: 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. For E12: The owner or operator shall conduct a hourly 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. (See Comment 3)

iii. 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.

iv. 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.

v. The owner or operator shall monitor and record the pressure drop across C14a and C14b, which is used as the indicator of normal operation of the control device, at least once each per operating day.

vi. If there is any time that either one or both of the control devices, C14a and C14b, is bypassed or not in operation when the process is operating, then the owner or operator shall perform a one-minute visible emission survey or Method 9 as specified in Specific Condition S2.b.i and ii, and keep a record of the following for each bypass event:

1) Date;
2) Start time and stop time;
3) Identification of the control device and process equipment;
4) Results of the visible emission survey or Method 9;
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.

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.

iii. The owner or operator shall monthly calculate and record the Chromium VI and Arsenic emissions from north bin silo (E9) for each month and the rolling 12 months emissions.

iv. The owner or operator shall monthly calculate and record the Arsenic emissions from pug mill mixer (E12) for each month and the rolling 12 months emissions.

v. If there is any time that that C11 (for E9), or both of the control devices C14a and C14b (for E12) 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:

1) Date;
2) Start time and stop time;
3) Identification of the control device and process equipment;
4) The hourly throughput rate and total material throughput;
5) The lb/hr and total pounds of Chromium and Arsenic emissions from E9, or Arsenic emissions from E12 during the bypass;
6) Summary of the cause or reason for each bypass event;
7) Corrective action taken to minimize the extent or duration of the bypass event; and
8) Measures implemented to prevent reoccurrence of the situation that resulted in the bypass event.

vi. 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.

vii. 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**

For E9, E10, E11, E12, E13, and E14:

i. The owner or operator shall report any deviation from the requirement of performing a monthly visual inspection of the structural and mechanical integrity of the filters.

ii. 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.

iii. The owner or operator shall identify any deviation from the requirement to utilize the baghouses at all times the equipment is in operation, including the following:

1) Number of times the emission points by-pass the baghouses and are vented to the atmosphere;
2) The date, duration (including start and stop time) of each by-pass to the atmosphere;
3) Calculated quantity of tons of PM emitted for each by-pass; and
4) A negative declaration if no by-passes occurred.

b. **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;
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.

ii. The owner or operator shall report the following information regarding PM By-Pass Activity in the semi-annual compliance reports.

1) Number of times the pug mill mixer by-passes either one or both of the control devices and is vented to the atmosphere;
2) Duration of each by-pass to the atmosphere;
3) Results of the visible emission survey or Method 9; or
4) A negative declaration if no by-passes occurred.

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 as described in Specific Condition S2.c.ii.

iv. The owner or operator shall report the following information regarding PM By-Pass Activity in the compliance reports.

1) Number of times the north bin silo (E9) by-passes C11, or the pug mill mixer (E12) by-passes both C14a and C14b, and is vented to the atmosphere;
2) Duration of each by-pass to the atmosphere;
3) Calculated lbs/hr and total Chromium and Arsenic emissions from E9, or Arsenic emissions from E12 for each by-pass;
4) The re-evaluated EA demonstration if there is an exceedance of de minimis level due to By-Pass activities, or
5) A negative declaration if no by-passes occurred.

U7 Comments

1. For E9, E10, E11, E12, E13, E14, E22, E23, and E24, it has been demonstrated that the PM emissions cannot exceed the PM standards specified in Regulation 7.08 uncontrolled.

2. The limit of 25 tons per year for PM is included in the permit as non-attainment NSR avoidance limits. This emission standard comes from their construction permit C-0126-1002-14, which was issued in August, 2014 to replace construction permit 66-86, 67-86, 68-86, 69-86, 70-86, 71-86, 72-86, 73-86, 74-86, 75-86, 76-86, and 77-86. The uncontrolled combined PM emissions from E9, E10, E11, E13, E14, and E16 may exceed this PM emission limit. Therefore the owner or operator is required to operate the control devices at all times that the units are in operation. Control devices for the pug mill mixer (E12) are required to be operated at all times because of visible emissions and TAC emissions.

3. This HEPA filter (C14b for E12) is installed in order to control visible emissions. According to Agreed Board Order No. 12-01, the owner or operator is required to conduct hourly visible emission surveys and take corrective action when necessary. The opacity surveys can be performed on the building exhaust points since the process and its control devices vent inside the building.

4. Compliance with STAR has been demonstrated for this unit. See U1 Comment 5.

5. For the north bin silo (E9), the potential uncontrolled emissions of all TACs are below the de minimis threshold levels except for Chromium VI and Arsenic. In lieu of

performing environmental acceptability demonstration by modeling, the source is required to demonstrate that the Chromium VI and Arsenic emissions from this equipment are under de minimis level.

6. For the pug mill mixer (E12), the potential uncontrolled TACs are below the de minimis threshold levels except for Arsenic. The Arsenic emission can exceed its de minimis level (0.11 lb/yr and 0.00012 lb/hr) uncontrolled, but not controlled. The potential emissions of Arsenic after either the wet cyclone dust collector (C14a) or the HEPA filter (C14b) are below their de minimis levels. The pug mill mixer is required to be controlled by C14a and/or C14b at all time with respect to STAR compliance. Compliance with Specific Condition S1.b.ii for opacity will ensure the compliance with STAR.

7. This unit has been modified per construction permit 119-07-C for lime screw conveyor (E22), flyash screw conveyor (E23), and line/flyash screw conveyor (E24); permit 30501-11-C for Unit 4 & 5 SPP pug mill mixer wet cyclone (C14a), 31791-11-C for north bin silo baghouse (C11), and permit 34410-12-C Unit 4 & 5 SPP pug mill mixer HEPA filter (C14b).

8. The existing emission unit U4, U5, U6, U7, U8, U10, IA1 (previous U9), two parts washers of IA2 (previous U12), and U14 shall be shut down within the contemporaneous period of the NGCC unit construction project in order to have their emission decreases to be eligible for PSD/NSR netting analysis. According to 40 CFR 52.21(b)(3)(ii), the contemporaneous period is defined as “between the date five years before construction on the particular change commences and the date that the increase from the particular change occurs”. In this permit the term “operational” means “normal operations” as defined in 40 CFR 52.21.

Emission Unit U8: Unit 6 SDRS soda ash storage silo

U8 Applicable Regulations:

FEDERALLY ENFORCEABLE REGULATIONS		
Regulation	**Title**	**Applicable Sections**
2.04	Construction or Modification of Major Sources in or Impacting upon Non-Attainment Areas (Emission Offset Requirements)	1, 2
7.08	Standards of Performance for New Affected Facilities	1, 2, 3, 4, 5, 6

U8 Equipment:

Emission Point	Description	Applicable Regulation	Control ID	Stack ID
E16	Unit 6 SDRS soda ash storage silo, make Flex-Kleen, capacity 35 ton/hr	2.04, 7.08	C18	S16
Note: The owner or operator shall shut down this unit (U8) prior to November 1, 2015 when the new emission unit U15, U16, and U18 complete shakedown and becomes operational.				

U8 Control Devices:

ID	Description	Performance Indicator	Stack ID
C18	One (1) baghouse (separator) for Unit 6 soda ash silo, make Flex-Kleen	Pressure drop range 0.1” to 4” water column	S16

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 E16 to exceed 30.6 lbs/hr, based on actual operating hours on a calendar day. (Regulation 7.08, section 3.1.2) (See Comment 1)

ii. The owner or operator shall not allow or cause to allow the combined PM emissions resulting from emission point E9, E10, E11, E13, E14, and E16 to exceed 25 tons during any consecutive 12 month period. (Regulation 2.04) (See Comment 2)

iii. The owner or operator shall operate and maintain the control devices, as recommended by the manufacturer, at all times the process equipment is in operation and shall, to the extent practicable, maintain and operate the affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practices for minimizing emissions. (Regulation 2.16, section 4.1.1) (See Comment 2)

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. **Unit Operation**

The owner or operator shall shut down the existing emission unit U4, U5, U6, U7, U8, U10, IA1 (previous U9), two parts washers of IA2 (previous U12), and U14 prior to November 1, 2015 when the new emission unit U15, U16, and U18 complete shakedown and become operational. Any replacement unit that requires shakedown becomes operational only after a reasonable shakedown period, not to exceed 180 days. (Regulation 2.05) (40 CFR 52.21(b)(3)(viii)) (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 calculate the PM emissions on an average hourly basis.

iii. The owner or operator shall monitor and record the pressure drop across the baghouses, which is used as the indicator of normal operation of the baghouses, at least once each per operating day.

iv. The owner or operator shall maintain daily records that identify all periods of bypassing the control devices while the process equipment is in operation or a declaration entered into the records that the control devices operated at all times the process equipment was in operation for a given day. The record shall include the date, duration (including start and stop time) of each bypass event, identification of the control device and process equipment in operation, the total PM emissions during each bypass event, summary information on the cause or reason for each control device bypass event, corrective action taken to minimize the extent and duration of each bypass event, and measures implemented to prevent reoccurrence of the situation that resulted in bypassing the control devices.

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.

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**

i. The owner or operator shall report any deviation from the requirement of performing a monthly visual inspection of the structural and mechanical integrity of the filters.

ii. 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.

iii. The owner or operator shall identify any deviation from the requirement to utilize the baghouses at all times the equipment is in operation, including the following:

1) Number of times the emission unit by-passes the baghouse and are vented to the atmosphere;
2) The date, duration (including start and stop time) of each by-pass to the atmosphere;
3) Calculated quantity of tons of PM emitted for each by-pass; and
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.

U8 Comments

1. It has been demonstrated that the PM emissions for this unit cannot exceed the PM standards specified in Regulation 7.08 uncontrolled.

2. The limit of 25 tons per year for PM is included in the permit as non-attainment NSR avoidance limits. This emission standard comes from their construction permit C-0126-1002-14, which was re-issued in August, 2014 to replace construction permit 66-86, 67-86, 68-86, 69-86, 70-86, 71-86, 72-86, 73-86, 74-86, 75-86, 76-86, and 77-86. The uncontrolled combined PM emissions from E9, E10, E11, E13, E14, and E16 may exceed this PM emission limit. Therefore the owner or operator is required to operate the control devices at all times that the units are in operation.

3. STAR Program does not apply to this unit since there are no TAC emissions from this unit.

4. The existing emission unit U4, U5, U6, U7, U8, U10, IA1 (previous U9), two parts washers of IA2 (previous U12), and U14 shall be shut down within the contemporaneous period of the NGCC unit construction project in order to have their emission decreases to be eligible for PSD/NSR netting analysis. According to 40 CFR 52.21(b)(3)(ii), the contemporaneous period is defined as “between the date five years before construction on the particular change commences and the date that the increase from the particular change occurs”. In this permit the term “operational” means “normal operations” as defined in 40 CFR 52.21.

Emission Unit U10: Coal handling facilities

U10 Applicable Regulations:

FEDERALLY ENFORCEABLE REGULATIONS		
Regulation	**Title**	**Applicable Sections**
6.09	Standards of Performance for Existing Process Operations	1, 2, 3, 4, 5
40 CFR 60, Subpart Y	Standards of Performance for Coal Preparation Plants	60.250, 60.251, 60.254(a)

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

U10 Equipment:

Emission Point	Description	Applicable Regulation	Control ID	Stack ID
E18	One (1) coal radial stacker, rated capacity 1,000 tons/hr (1997)	5.00, 5.01, 5.02, 5.14, 5.20, 5.21, 5.22, 5.23, 7.02, 7.08 40 CFR 60, Subpart Y	N/A	N/A
E20	One (1) coal crusher, rated capacity 1,000 tons/hr (1954/1991)		N/A	N/A

Emission Point	Description	Applicable Regulation	Control ID	Stack ID
E21	Eighteen (18) coal belt conveyors, rated capacity 1,000 tons/hr for each (1954)	5.00, 5.01, 5.02, 5.14, 5.20, 5.21, 5.22, 5.23, 6.09	N/A	N/A
E25	One (1) railcar unloading hopper, rated capacity 1,000 tons/hr (1954)		N/A	N/A
Note: The owner or operator shall shut down this unit (U10) prior to November 1, 2015 when the new emission unit U15, U16, and U18 complete shakedown and becomes operational. After this unit is shutdown, excess coal will be transferred offsite. The unit will be in operation until excess coal is removed.				

U10 Control Devices:

There is no control device associated with this unit.

U10 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 52.3 lb/hr, based on actual operating hours on a calendar day, from emission points E18 and E20. (Regulation 7.08, section 3.1.2) (See Comment 1)

ii. The owner or operator shall not allow PM emissions to exceed 77.6 lb/hr, based on actual operating hours on a calendar day, from emission points E21 (each belt) and E25. (Regulation 6.09, section 3.2) (See Comment 1)

b. **Opacity**

i. For Emission Points E21 and E25: The owner or operator shall not allow visible emissions to equal or exceed 20% opacity. (Regulation 6.09, section 3.1)

ii. For Emission Points E18 and E20: The owner or operator shall not allow visible emissions to equal or exceed 20% opacity. (Regulation 7.08, section 3.1.1) (40 CFR 60.254(a))

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)

d. **Unit Operation**

The owner or operator shall shut down the existing emission unit U4, U5, U6, U7, U8, U10, IA1 (previous U9), two parts washers of IA2 (previous U12), and U14 prior to November 1, 2015 when the new emission unit U15, U16, and U18 complete shakedown and become operational. Any replacement unit that requires shakedown becomes operational only after a reasonable shakedown period, not to exceed 180 days. (Regulation 2.05) (40 CFR 52.21(b)(3)(viii)) (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**

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 (Method 22), 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.

iv. For emission point E18 and E20 only: An owner or operator of each affected facility that commenced construction, reconstruction, or modification after October 27, 1974, and on or before April 28, 2008, must conduct Method 9 performance test to demonstrate compliance with the opacity standards using the methods identified in § 60.257, as the following: (40 CFR 60.255(a))

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))

1) Method 9 of appendix A-4 of this part and the procedures in § 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))

(a) 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))

(b) 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))

2) 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))

(a) 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))

(b) 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))

(c) 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))

3) 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))

(a) No more than three emissions points may be read concurrently. (40 CFR 60.257(a)(3)(i))

(b) 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))

(c) 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))

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, 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**

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

ii. <u>For emission point E18 and E20 only:</u> 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))

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 as described in S2.c.ii.

U10 Comments

1. It has been demonstrated that the PM emissions cannot exceed the PM standards specified in Regulation 6.09 and Regulation 7.08 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 the 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.

3. The existing emission unit U4, U5, U6, U7, U8, U10, IA1 (previous U9), two parts washers of IA2 (previous U12), and U14 shall be shut down within the contemporaneous period of the NGCC unit construction project in order to have their emission decreases to be eligible for PSD/NSR netting analysis. According to 40 CFR 52.21(b)(3)(ii), the contemporaneous period is defined as “between the date five years before construction on the particular change commences and the date that the increase from the particular change occurs”. In this permit the term “operational” means “normal operations” as defined in 40 CFR 52.21.

Emission Unit U11: Gas turbine GT11

U11 Applicable Regulations:

FEDERALLY ENFORCEABLE REGULATIONS		
Regulation	**Title**	**Applicable Sections**
6.42	Reasonably Available Control Technology Requirements for Major Volatile Organic Compound and Nitrogen Oxides Emitting Facilities	1, 2, 3, 4, 5,
40 CFR 63, Subpart ZZZZ	National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines	63.6603, 6604, 6605, 6625, 6640, 6645, 6655

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

U11 Equipment:

Emission Point	Description	Applicable Regulation	Control ID	Stack ID
E7	One (1) gas turbine GT11, rated capacity 247 MMBtu/hr, make Westinghouse, model W191G, using natural gas as a primary fuel and #2 fuel oil as secondary fuel, equipped with a 430 HP diesel cranking engine.	5.00, 5.01, 5.02, 5.14, 5.20, 5.21, 5.22, 5.23, 6.42 40 CFR 63, Subpart ZZZZ	N/A	S7

U11 Control Devices:
There is no control device associated with this unit.

U11 Specific Conditions

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

a. **NO_x**

i. The owner or operator shall comply with the NO_x RACT Plan attached and considered part of this Title V Operating Permit. (See NO_x RACT Attachment) (Regulation 6.42, section 4.3)

ii. The owner or operator shall not exceed 500 hours per calendar year. (See NO_x RACT Attachment)

b. **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)

c. **HAP** (40 CFR 63, Subpart ZZZZ for cranking engine)

i. For an existing stationary CI RICE located at a major/area source of HAP emissions, the owner or operator shall comply with the applicable emission limitations, operating limitations, and other requirements no later than May 3, 2013. (40 CFR 63.6595(a)(1))

ii. The owner or operator of an existing stationary RICE located at an major/area source of HAP emissions shall comply with the requirements Table 2c/2d to this subpart: (40 CFR 63.6603(a))

1) The owner or operator shall change the oil and filter every 500 hours of operation or annually, whichever comes first. The owner or operator has the option to utilize an oil analysis program as described in 40 CFR 63.6625(i) or (j) in order to extend the specified oil change requirement in Table 2d of this subpart. (40 CFR 63, Subpart ZZZZ, Table 2c.(1)(a) and 2d.(4)(a))

2) The owner or operator shall inspect the air cleaners every 1,000 hours of operation or annually, whichever comes first, and replace as necessary. (40 CFR 63. Subpart ZZZZ, Table 2c.(1)(b) and 2d.(4)(b))

3) The owner or operator shall inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace

as necessary. (40 CFR 63. Subpart ZZZZ, Table 2c.(1)(c) and 2d(4)(c))

iii. General requirements for complying with 40 CFR 63, Subpart ZZZZ:

1) The owner or operator shall be in compliance with the emission limitations, operating limitations, and other requirements in this subpart that apply to the RICE at all times. (40 CFR 63.6605(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. The general duty to minimize emissions does not require you 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))

iv. The owner or operator shall demonstrate continuous compliance with each emission limitation, operating limitation, and other applicable requirements in Table 2c and 2d to this subpart. See Specific Condition S1.c.ii. (40 CFR 63.6640(a))

v. The owner or operator shall minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the emission standards applicable to all times other than startup in Tables 1a, 2a, 2c and 2d to this subpart apply. (40 CFR 63.6625(h))

vi. Beginning January 1, 2015, the owner or operator shall use diesel fuel that meets 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.

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. **NO_x**

i. The owner or operator shall maintain daily records of the amount of fuel combusted and the hours of operation of the equipment.

ii. The owner or operator shall make a record of the hours of operation during each day of operation of the GT-11 turbine. Each record shall be maintained for a minimum of 5 years and made available to the District upon request. (See NO_x RACT Attachment)

iii. The owner or operator shall calculate the monthly and calendar-year-to-date hours of operation of the GT-11 gas turbine.

b. **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.

c. **HAP** (40 CFR 63, Subpart ZZZZ for cranking engine)

i. Monitoring, installation, collection, operation, and maintenance requirements: (40 CFR 63.6625)

1) The owner or operator shall operate and maintain the stationary RICE and after-treatment control device (if any) according to the manufacturer's emission-related written instructions or develop your own maintenance plan which shall provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions. (40 CFR 63.6625(e))

2) The owner or operator has the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d to this subpart. The oil analysis shall be performed at the same frequency specified for changing the oil in Table 2c or 2d to this subpart. The analysis program shall at a minimum analyze the following three parameters: Total Base

Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Base Number is less than 30 percent of the Total Base Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator shall change the oil within 2 business days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator shall change the oil within 2 business days or before commencing operation, whichever is later. The owner or operator shall keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program shall be part of the maintenance plan for the engine. (40 CFR 63.6625(i))

ii. Recordkeeping requirements: (40 CFR 63.6655)

1) The owner or operator shall keep the following records that apply to your RICE: (40 CFR 63.6655(a))

(a) A copy of each notification and report submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status that you submitted, according to the requirement in 40 CFR 63.10(b)(2)(xiv). (40 CFR 63.6655(a)(1))

(b) Records of the occurrence and duration of each malfunction of operation (i.e., process equipment) or the air pollution control and monitoring equipment. (40 CFR 63.6655(a)(2))

(c) Records of performance tests (if stack test is required) and performance evaluations as required in 40 CFR 63.10(b)(2)(viii). (40 CFR 63.6655(a)(3))

(d) Records of all required maintenance performed on the air pollution control and monitoring equipment. (40 CFR 63.6655(a)(4))

(e) Records of actions taken during periods of malfunction to minimize emissions in accordance with 40 CFR 63.6605(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 63.6655(a)(5))

2) The owner or operator shall keep records of the maintenance conducted on the stationary RICE in order to demonstrate that you operated and maintained the stationary RICE and after-treatment control device (if any) according to your own maintenance plan. (40 CFR 63.6655(e))

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 quarterly report required by this NO_x RACT Plan Element (Element) No. 7 shall include a summary of the monthly and calendar-year-to-date hours of operation of the GT-11 gas turbine. (See NO_x RACT Attachment)

ii. 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, Stack ID number, and/or Emission point ID number,
2) The beginning and ending date of the reporting period,
3) Identification of all periods during which a deviation occurred,
4) A description, including the magnitude, of the deviation,
5) If known, the cause of the deviation, and
6) Description of any corrective action taken for each deviation.

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 Specific Condition S2.b.ii.

c. **HAP** (40 CFR 63, Subpart ZZZZ for cranking engine)

i. The owner or operator shall report each instance in which you did not meet each emission limitation or operating limitation in Tables 1a and 1b, Tables 2a and 2b, Table 2c, and Table 2d to this subpart that apply to you. These instances are deviations from the emission and operating limitations in this subpart. These deviations shall be reported according to the requirements in 40 CFR 63.6650. If you change your catalyst, you shall reestablish the values of the operating parameters measured during the initial performance test. When you reestablish the values of your operating parameters, you shall also conduct a performance test to demonstrate that you are meeting the required emission limitation applicable to your stationary RICE. (40 CFR 63.6640(b))

ii. The owner or operator shall also report each instance in which the applicable requirements of Table 8 to 40 CFR 63, Subpart ZZZZ were not met. (40 CFR 63.6640(e))

U11 Comments

1. This gas turbine is not subject to 40 CFR 60, Subpart GG and Subpart KKKK since the installation date of this unit is before October 3, 1977 and February 18, 2005. This gas turbine is not subject to 40 CFR 63, Subpart YYYY since it is an existing turbine as defined in 40 CFR 63.6090(a)(1). According to 40 CFR 63.6090(b)(4), an existing turbine does not have to meet the requirements of 40 CFR 63, Subpart YYYY.

2. Compliance with STAR has been demonstrated for this unit. See U4 Comment 5.

Emission Unit U14: Porta batch units

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
E27	One (1) Porta Batch lime slurry mixer (PB1000), make Porta Batch Chemical Lime, capacity 12.5 ton/hr, equipped with an electric motor.	7.08	C19	S18
E28	One (1) Porta Batch lime slurry mixer (PB2000), make Porta Batch Chemical Lime, capacity 12.5 ton/hr, equipped with an electric motor.		C20	S19
E29	One (1) Porta Batch lime slurry mixer (PB3000), make Porta Batch Chemical Lime, capacity 12.5 ton/hr, equipped with an electric motor.		C21	S20
E30	One (1) Porta Batch lime slurry mixer (PB4000), make Porta Batch Chemical Lime, capacity 12.5 ton/hr, equipped with an electric motor.		C22	S21
Note: The owner or operator shall shut down this unit (U14) prior to November 1, 2015 when the new emission unit U15, U16, and U18 complete shakedown and becomes operational.				

U14 Control Devices:

ID	Description	Performance Indicator	Stack ID
C19	One (1) venturi scrubber for PB1000, make Fisher-Klosterman	N/A (See Comment 1)	S18
C20	One (1) venturi scrubber for PB2000, make Fisher-Klosterman	N/A (See Comment 1)	S19
C21	One (1) venturi scrubber for PB3000, make Fisher-Klosterman	N/A (See Comment 1)	S20
C22	One (1) venturi scrubber for PB4000, make Fisher-Klosterman	N/A (See Comment 1)	S21

U14 Specific Conditions

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

a. **PM**

i. The owner or operator shall not allow combined total PM emissions to exceed 30.9 lb/hr, based on actual operating hours on a calendar day, from the three Porta batch lime slurry mixers PB1000, PB2000, and PB3000 (E27, E28, and E29). (Regulation 7.08, section 3.1.2) (See Comment 1)

ii. The owner or operator shall not allow PM emissions to exceed 17.18 lb/hr, based on actual operating hours on a calendar day, from Porta batch lime slurry mixer PB4000 (E30). (Regulation 7.08, section 3.1.2) (See Comment 1)

iii. The owner or operator shall not allow PM emissions to exceed 4.99 tons in a 12 consecutive month period and PM10 emissions to exceed 4.00 tons in a 12 consecutive month period from the three Porta batch lime slurry mixers (E27, E28, and E29). (Regulation 2.05, section 1, section 2.19, and Appendix A) (See Comment 2)

iv. The owner or operator shall not use more than a combined total of 163,800 tons of calcium oxide during any 12 consecutive calendar month period in the three Porta batch lime slurry mixers (E27, E28, and E29). (Regulation 2.05, section 1, section 2.19, and Appendix A) (See Comment 3)

b. **Opacity**

The owner or operator shall not allow visible emissions to equal or exceed 20% opacity from Porta batch lime slurry mixers PB1000, PB2000, PB3000, and PB4000 (E27, E28, E29, and E30). (Regulation 7.08, section 3.1.1)

c. **Unit Operation**

The owner or operator shall shut down the existing emission unit U4, U5, U6, U7, U8, U10, IA1 (previous U9), two parts washers of IA2 (previous U12), and U14 prior to November 1, 2015 when the new emission unit U15, U16, and U18 complete shakedown and become operational. Any replacement unit that requires shakedown becomes operational only after a reasonable shakedown period, not to exceed 180 days. (Regulation 2.05) (40 CFR 52.21(b)(3)(viii)) (See Comment 5)

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 (Method 22), 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.

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

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

a. **PM**

There are no routine reporting requirements for this pollutant.

b. **Opacity**

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

i. Any deviation from the requirement to perform and record the results of visible emission surveys or Method 9 tests;

ii. The number, date, and time of each Method 22 where visible emissions were observed and the results of the Method 9 test performed;
iii. Identification of all periods of exceeding the opacity standard; and
iv. Description of any corrective action taken for each exceedance of the opacity standard.

U14 Comments

1. 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. LG&E has agreed to a PM emission limit of 4.99 ton/yr and a PM10 emission limit of 4.00 ton/yr in order to avoid the requirements of Regulation 2.05 (PSD).

3. LG&E requested the throughput limit of 163,800 tons/yr in the permit application dated 10/22/2002.

4. This unit was previously permitted under construction permit 244-02-C, 608-07-C, 609-07-C, and 643-07-C.

5. The existing emission unit U4, U5, U6, U7, U8, U10, IA1 (previous U9), two parts washers of IA2 (previous U12), and U14 shall be shut down within the contemporaneous period of the NGCC unit construction project in order to have their emission decreases to be eligible for PSD/NSR netting analysis. According to 40 CFR 52.21(b)(3)(ii), the contemporaneous period is defined as “between the date five years before construction on the particular change commences and the date that the increase from the particular change occurs”. In this permit the term “operational” means “normal operations” as defined in 40 CFR 52.21.

Emission Unit U15: Natural gas-fired combined cycle (NGCC) unit – EGU 7

U15 Applicable Regulations:

FEDERALLY ENFORCEABLE REGULATIONS		
Regulation	**Title**	**Applicable Sections**
2.05	Prevention of Significant Deterioration of Air Quality	1, 2
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
7.09	Standards of Performance for New Process Gas Streams	1, 2, 5
40 CFR 60 Subpart KKKK	Standards of Performance for Stationary Combustion Turbines	60.4300, 4305, 4310, 4315, 4320, 4325, 4330, 4333, 4340, 4345, 4350, 4360, 4365, 4370, 4375, 4380, 4385, 4390, 4400, 4405, 4410, 4415, 4420
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

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

DISTRICT ONLY ENFORCEABLE REGULATIONS		
Regulation	**Title**	**Applicable Sections**
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

U15 Equipment:

Emission Point	Description	Applicable Regulation	Control ID	Stack ID
E31	One (1) natural gas-fired combustion turbine (F Class), designated as GT-7A, make Siemens Energy, model SGT6-5000F.EE, equipped with a heat recovery steam generator (HRSG)*.	5.00, 5.01, 5.02, 5.14, 5.20, 5.21, 5.22, 5.23, 6.42, 6.47, 7.02, 7.09, 40CFR72-73, 75-78, 40CFR60 Subpart KKKK	C23	S22
E32	One (1) natural gas-fired combustion turbine (F Class), designated as GT-7B, make Siemens Energy, model SGT6-5000F.EE, equipped with a heat recovery steam generator (HRSG)*.		C24	S23
* Rated capacity of the NGCC electricity generating unit is 731 MW.				
Note: This unit (U15) needs to be in full operation no later than November 1, 2015 which is the compliance date for the source to shut down the coal fired boilers and the associated units to comply with 40 CFR 63, Subpart UUUUU.				

U15 Control Devices:

ID	Description	Performance Indicator	Stack ID
C23	One (1) catalytic oxidizer, make Johnson Matthey, model SC42, used to control CO and VOC emissions for turbine GT-7A.	Pressure drop range 0.1" to 1.0" water column [1]	S22
C24	One (1) catalytic oxidizer, make Johnson Matthey, model SC42, used to control CO and VOC emissions for turbine GT-7B.	Pressure drop range 0.1" to 1.0" water column [1]	S23

[1] LG&E established the normal pressure drop range for catalytic oxidizer C23 and C24 as required in Specific Condition S4b and submitted to the District on October 5, 2015.

U15 Specific Conditions

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

a. **NO_x**

The owner or operator shall not cause to be discharged into the atmosphere from the subject stationary combustion turbine any gases which contain NO_x in excess of 15 ppm at 15% O_2 or 54 ng/J of useful output (0.43 lb/MWh), based upon a 30-day rolling average. (40 CFR 60.4320(a)) (Regulation 6.42, section 4.3) (NO_x RACT Plan - Amendment 2)

b. **SO_2**

The owner or operator shall comply with either one of the following standards: (40 CFR 60.4330(a))

i. The owner or operator shall not cause to be discharged into the atmosphere from the subject stationary combustion turbine any gases which contain SO_2 in excess of 110 ng/J (0.90 lb/MWh) gross output based upon a 30 unit operating day rolling average; or (40 CFR 60.4330(a)(1))

ii. The owner or operator shall not burn in the subject stationary combustion turbine any fuel which contains total potential sulfur emissions in excess of 26 ng SO_2/J (0.060 lb SO_2/MMBtu) heat input based upon a 30 unit operating day rolling average. (40 CFR 60.4330(a)(2))

c. **CO**

i. The owner or operator shall not allow or cause plant-wide CO emissions to exceed 510.8 tons in a 12 consecutive month period. (Regulation 2.05) (See Comment 2)

ii. No person shall emit carbon monoxide gases from a process or waste gas stream unless they are burned at 1,300°F for 0.5 seconds or greater in a direct flame afterburner or equivalent device equipped with an indicating pyrometer that is positioned in the working area at the operator's eye level. (Regulation 7.09, section 5.1) (See Comment 1)

d. **VOC**

The owner or operator shall not allow or cause plant-wide VOC emissions to exceed 97.0 tons in a 12 consecutive month period. (Regulation 2.05) (See Comment 2)

e. **HAP**

Effective from November 1, 2015, the owner or operator shall not allow or cause HAP emissions from this plant to exceed 10 tons for a single HAP or 25 tons for total HAPs in a 12 consecutive month period. (Regulation 2.16, section 4.1.1) (See Comment 3)

f. **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 4)

g. **Unit Operation**

The owner or operator shall shut down the existing emission unit U4, U5, U6, U7, U8, U10, IA1 (previous U9), two parts washers of IA2 (previous U12), and U14 prior to November 1, 2015 when the new emission unit U15, U16, and U18 complete shakedown and become operational. Any replacement unit that requires shakedown becomes operational only after a reasonable shakedown period, not to exceed 180 days. (Regulation 2.05) (40 CFR 52.21(b)(3)(viii)) (See Comment 8)

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. **NO_x**

i. General requirements: (40 CFR 60.4333)

1) The owner or operator must operate and maintain the stationary combustion turbine, air pollution control equipment, and monitoring equipment in a manner consistent with good air pollution control practices for minimizing emissions at all times including during startup, shutdown, and malfunction. (60.4333(a))

2) When an affected unit with heat recovery utilizes a common steam header with one or more combustion turbines, the owner or operator shall either: (60.4333(b))

(a) Determine compliance with the applicable NO_X emissions limits by measuring the emissions combined with the emissions from the other unit(s) utilizing the common heat recovery unit; or (60.4333(b)(1))

(b) Develop, demonstrate, and provide information satisfactory to the Administrator (EPA or the District) on methods for apportioning the combined gross energy output from the heat recovery unit for each of the affected combustion turbines. The Administrator may approve such demonstrated substitute methods for apportioning the combined gross energy output measured at the steam turbine whenever the demonstration ensures accurate estimation of emissions related under this part. (60.4333(b)(2))

ii. 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, as follows: (NO_x RACT Plan - Amendment 2) (40 CFR 60.4335(b) or 4340(b)(1)) (See Comment 5)

1) Install, certify, maintain, and operate a continuous emission monitoring system (CEMS) consisting of a NO_X monitor and a diluent gas (oxygen (O_2) or carbon dioxide (CO_2)) monitor, to determine the hourly NO_x emission rate in parts per million (ppm) or pounds per million British thermal units (lb/MMBtu); (40 CFR 60.4335(b)(1))

2) For units complying with the output-based standard, install, calibrate, maintain, and operate a fuel flow meter (or flow meters) to continuously measure the heat input to the affected unit; (40 CFR 60.4335(b)(2))

3) For units complying with the output-based standard, install, calibrate, maintain, and operate a watt meter (or meters) to continuously measure the gross electrical output of the unit in megawatt-hours; and (40 CFR 60.4335(b)(3))

iii. The NO_x emission rate for combustion turbine GT-7A and GT-7B (U15) shall be determined using the methods and procedures specified in NO_x RACT Plan - Amendment 2 Appendix A, except that any reference to an annual average shall be read as a rolling 30-day average. (NO_x RACT Plan - Amendment 2)

iv. The NO_x CEMS shall meet the following requirements: (40 CFR 60.4345)

1) Each NO_x diluent CEMS must be installed and certified according to Performance Specification 2 (PS 2) in appendix B to this part, except the 7-day calibration drift is based on unit operating days,

not calendar days. With state approval, Procedure 1 in appendix F to this part is not required. Alternatively, a NO_X diluent CEMS that is installed and certified according to appendix A of part 75 of this chapter is acceptable for use under this subpart. The relative accuracy test audit (RATA) of the CEMS shall be performed on a lb/MMBtu basis. (40 CFR 60.4345(a))

2) As specified in § 60.13(e)(2), during each full unit operating hour, both the NO_X monitor and the diluent monitor must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each 15-minute quadrant of the hour, to validate the hour. For partial unit operating hours, at least one valid data point must be obtained with each monitor for each quadrant of the hour in which the unit operates. For unit operating hours in which required quality assurance and maintenance activities are performed on the CEMS, a minimum of two valid data points (one in each of two quadrants) are required for each monitor to validate the NO_X emission rate for the hour. (40 CFR 60.4345(b))

3) Each fuel flowmeter shall be installed, calibrated, maintained, and operated according to the manufacturer's instructions. Alternatively, with state approval, fuel flowmeters that meet the installation, certification, and quality assurance requirements of appendix D to part 75 of this chapter are acceptable for use under this subpart. (40 CFR 60.4345(c))

4) Each watt meter, steam flow meter, and each pressure or temperature measurement device shall be installed, calibrated, maintained, and operated according to manufacturer's instructions. (40 CFR 60.4345(d))

5) The owner or operator shall develop and keep on-site a quality assurance (QA) plan for all of the continuous monitoring equipment described in paragraphs (a), (c), and (d) of this section. For the CEMS and fuel flow meters, the owner or operator may, with state approval, satisfy the requirements of this paragraph by implementing the QA program and plan described in section 1 of appendix B to part 75 of this chapter. (40 CFR 60.4345(e))

v. The owner or operator will identify excess emissions using the following guidelines: (40 CFR §60.4350)

1) All CEMS data must be reduced to hourly averages as specified in §60.13(h). (40 CFR §60.4350(a))

2) For each unit operating hour in which a valid hourly average, as described in §60.4345(b), is obtained for both NO_X and diluent monitors, the data acquisition and handling system must calculate and record the hourly NO_X emission rate in units of ppm or lb/MMBtu, using the appropriate equation from Method 19 in appendix A of this part. For any hour in which the hourly average O_2 concentration exceeds 19.0 percent O_2 (or the hourly average CO_2 concentration is less than 1.0 percent CO_2), a diluent cap value of 19.0 percent O_2 or 1.0 percent CO_2 (as applicable) may be used in the emission calculations. (40 CFR §60.4350(b))

3) Correction of measured NO_X concentrations to 15 percent O_2 is not allowed. (40 CFR §60.4350(c))

4) If the owner or operator have installed and certified a NO_X diluent CEMS to meet the requirements of part 75 of this chapter, states can approve that only quality assured data from the CEMS shall be used to identify excess emissions under this subpart. Periods where the missing data substitution procedures in subpart D of part 75 are applied are to be reported as monitor downtime in the excess emissions and monitoring performance report required under §60.7(c). (40 CFR §60.4350(d))

5) All required fuel flow rate, steam flow rate, temperature, pressure, and megawatt data must be reduced to hourly averages. (40 CFR §60.4350(e))

6) Calculate the hourly average NO_X emission rates, in units of the emission standards under §60.4320, using either ppm for units complying with the concentration limit or the following equation for units complying with the output based standard: (40 CFR §60.4350(f))

(a) For combined-cycle and combined heat and power complying with the output-based standard, use Equation 1 of this subpart, except that the gross energy output is calculated as the sum of the total electrical and mechanical energy generated by the combustion turbine, the additional electrical or mechanical energy (if any) generated by the steam turbine following the heat recovery steam generator, and 100 percent of the total useful thermal energy output that is not used to generate additional electricity or mechanical output, expressed in equivalent MW, as in the following equations: (40 CFR §60.4350(f)(2))

$$E = \frac{(NO_x)_h (HI)_h}{P} \qquad \text{(Eq. 1)}$$

Where:

E = hourly NOx emission rate, in lb/MWh

$(NO_x)_h$ = hourly NOx emission rate, in lb/MMBtu

$(HI)_h$ = hourly heat input rate to the unit, in MMBtu/hr, measured using the fuel flowmeters, e.g., calculated using Equation D-15a in appendix D to part 75 of this chapter, and

P = gross energy output of the combustion turbine in MW

$$P = (PE)_t + (PE)_c + Ps + Po \qquad \text{(Eq. 2)}$$

Where:

P = gross energy output of the stationary combustion turbine system (MW)

$(PE)_t$ = electrical or mechanical energy output of the CT (MW)

$(PE)_c$ = electrical or mechanical output of the steam turbine (MW)

$$Ps = \frac{Q*H}{3.413\times10^6 Btu/MWh} \qquad \text{(Eq. 3)}$$

Where:

Ps = useful thermal energy of the system, measured relative to ISO conditions, not used to generate additional electric or mechanical output, in MW

Q = measured steam flow rate in lb/hr

H = enthalpy of steam at measured temperature and pressure relative to ISO conditions, in Btu/lb, and 3.413×10^6 = conversion from Btu/hr to MW

Po = other useful heat recovery, measured relative to ISO conditions, not used for steam generation or performance enhancement of the combustion turbine.

7) For combined cycle and combined heat and power units with heat recovery, use the calculated hourly average emission rates from paragraph (f) of this section to assess excess emissions on a 30 unit operating day rolling average basis, as described in §60.4380(b)(1). (40 CFR 60.4350(h))

vi. When the Clean Air Interstate Rule or the applicable NO_x cap and trade program(s) are in effect, the owner or operator shall monitor the NO_x emissions to demonstrate compliance the NO_x limitations or allowances as

specified in the effective rules. (Regulation 2.16, sections 4.1.9.1 and 4.1.9.2) (See Comment 9)

b. **SO_2**

i. The owner or operator shall monitor the total sulfur content of the fuel being fired in the turbine, except as provided in 40 CFR 60.4365. The sulfur content of the fuel must be determined using total sulfur methods described in § 60.4415. Alternatively, if the total sulfur content of the gaseous fuel during the most recent performance test was less than half the applicable limit, ASTM D4084, D4810, D5504, or D6228, or Gas Processors Association Standard 2377 (all of which are incorporated by reference, see § 60.17), which measure the major sulfur compounds, may be used. (40 CFR 60.4360)

ii. If the owner or operator elects not to demonstrate sulfur content using options in 40 CFR 60.4365, and the fuel is supplied without intermediate bulk storage, the sulfur content value of the gaseous fuel must be determined and recorded once per unit operating day. (40 CFR 60.4370(b))

iii. The owner or operator may elect not to monitor the total sulfur content of the fuel combusted in the turbine, if the fuel is demonstrated not to exceed potential sulfur emissions of 26 ng SO_2/J (0.060 lb SO_2/MMBtu) heat input for units located in continental areas and 180 ng SO_2/J (0.42 lb SO_2/MMBtu) heat input for units located in non-continental areas or a continental area that the Administrator determines does not have access to natural gas and that the removal of sulfur compounds would cause more environmental harm than benefit. The owner or operator must use one of the following sources of information to make the required demonstration: (40 CFR 60.4365)

1) The fuel quality characteristics in a current, valid purchase contract, tariff sheet or transportation contract for the fuel, specifying that the maximum total sulfur content for oil use in continental areas is 0.05 weight percent (500 ppmw) or less and 0.4 weight percent (4,000 ppmw) or less for non-continental areas, the total sulfur content for natural gas use in continental areas is 20 grains of sulfur or less per 100 standard cubic feet and 140 grains of sulfur or less per 100 standard cubic feet for non-continental areas, has potential sulfur emissions of less than less than 26 ng SO_2/J (0.060 lb SO_2/MMBtu) heat input for continental areas and has potential sulfur emissions of less than less than 180 ng SO_2/J (0.42 lb SO_2/MMBtu) heat input for non-continental areas; or (40 CFR 60.4365(a))

2) Representative fuel sampling data which show that the sulfur content of the fuel does not exceed 26 ng SO_2/J (0.060 lb SO_2/MMBtu) heat input for continental areas or 180 ng SO_2/J (0.42 lb SO_2/MMBtu) heat input for non-continental areas. At a minimum, the amount of fuel sampling data specified in section 2.3.1.4 or 2.3.2.4 of appendix D to part 75 of this chapter is required. (40 CFR 60.4365(b))

iv. When the Clean Air Interstate Rule or the applicable SO_2 cap and trade program(s) are in effect, the owner or operator shall monitor the NO_x emissions to demonstrate compliance the SO_2 limitations or allowances as specified in the effective rules. (Regulation 2.16, sections 4.1.9.1 and 4.1.9.2) (See Comment 9)

c. **CO**

i. The owner or operator shall install, maintain, calibrate and operate a continuous emission monitoring system (CEMS) for the measurement or calculation of CO in the flue gas. (Regulation 2.16, section 4.1.1) (See Comment 6)

ii. The owner or operator shall monitor, calculate, and keep records of plant wide CO emissions in accordance with 40 CFR 52.21(r)(6):

1) Before beginning actual construction of the project, the owner or operator shall document and maintain a record of the following information: (40 CFR 52.21(r)(6)(i))

(a) A description of the project; (40 CFR 52.21(r)(6)(i)(a))

(b) Identification of the emissions unit(s) whose emissions of a regulated NSR pollutant could be affected by the project; and (40 CFR 52.21(r)(6)(i)(b))

(c) A description of the applicability test used to determine that the project is not a major modification for any regulated NSR pollutant, including the baseline actual emissions, the projected actual emissions, the amount of emissions excluded under 40 CFR 52.21(b)(41)(ii)(*c*) and an explanation for why such amount was excluded, and any netting calculations, if applicable. (40 CFR 52.21(r)(6)(i)(c))

2) The owner or operator shall provide a copy of the information set out in 40 CFR 52.21(r)(6)(i) to the Administrator. Nothing in this paragraph (r)(6)(ii) shall be construed to require the owner or

operator of such a unit to obtain any determination from the Administrator before beginning actual construction. (40 CFR 52(r)(6)(ii))

3) The owner or operator shall monitor the emissions of any regulated NSR pollutant that could increase as a result of the project and that is emitted by any emissions unit identified in 40 CFR 52.21(r)(6)(i)(b), and calculate and maintain a record of the annual emissions, in tons per year on a calendar year basis, for a period of 5 years following resumption of regular operations after the change. (40 CFR 52(r)(6)(iii))

iii. The owner or operator shall monthly calculate and record the plant-wide CO emissions and subsequently calculate the total CO emissions during the 12 consecutive month period.

d. **VOC**

i. See Specific Condition S2.c.ii.

ii. The owner or operator shall monthly calculate and record the plant-wide VOC emissions and subsequently calculate the total VOC emissions during the 12 consecutive month period.

e. **HAP**

The owner or operator shall monthly calculate and record the plant-wide emissions for Formaldehyde, and subsequently calculate the total emissions for Formaldehyde during the 12 consecutive month period in order to demonstrate compliance with Specific Condition S1.e.

f. **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*.

g. **Unit Operation**

The owner or operator shall record the date when the existing emission unit U4, U5, U6, U7, U8, U10, IA1 (previous U9), two parts washers of IA2 (previous

U12), and U14 shut down, and record the date when the new emission unit U15, U16, and U18 become operational and begin to emit a particular pollutant. (See Comment 8)

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. **General requirements**

i. For each affected unit required to continuously monitor parameters or emissions, or to periodically determine the fuel sulfur content under this subpart, the owner or operator must submit reports of excess emissions and monitor downtime, in accordance with 40 CFR 60.7(c), as specified in S3.a.iii. Excess emissions must be reported for all periods of unit operation, including start-up, shutdown, and malfunction. (40 CFR 60.4375(a))

ii. Each owner or operator required to install a continuous monitoring device shall submit excess emissions and monitoring systems performance report (excess emissions are defined in applicable subparts) and-or summary report form (see paragraph (d) of this section) to the Administrator semiannually, except when: more frequent reporting is specifically required by an applicable subpart; or the Administrator, on a case-by-case basis, determines that more frequent reporting is necessary to accurately assess the compliance status of the source. All reports shall be postmarked by the 30th day following the end of each six-month period. Written reports of excess emissions shall include the following information: (40 CFR 60.7(c))

1) The magnitude of excess emissions computed in accordance with § 60.13(h), any conversion factor(s) used, and the date and time of commencement and completion of each time period of excess emissions. The process operating time during the reporting period. (40 CFR 60.7(c)(1))

2) Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the affected facility. The nature and cause of any malfunction (if known), the corrective action taken or preventative measures adopted. (40 CFR 60.7(c)(2))

3) The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and

span checks and the nature of the system repairs or adjustments. (40 CFR 60.7(c)(3))

4) When no excess emissions have occurred or the continuous monitoring system(s) have not been inoperative, repaired, or adjusted, such information shall be stated in the report. (40 CFR 60.7(c)(4))

iii. All reports required under 40 CFR 60.7(c) shall be postmarked by the 30th day following the end of each reporting period. (40 CFR 60.4395)

b. **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. For turbines using continuous emission monitoring, periods of excess emissions and monitor downtime that must be reported are defined as follows: (40 CFR 60.4380(b))

1) An excess emissions is any unit operating period in which the 4-hour or 30-day rolling average NO_X emission rate exceeds the applicable emission limit in § 60.4320. For the purposes of this subpart, a "4-hour rolling average NO_X emission rate" is the arithmetic average of the average NO_X emission rate in ppm or ng/J (lb/MWh) measured by the continuous emission monitoring equipment for a given hour and the three unit operating hour average NO_X emission rates immediately preceding that unit operating hour. Calculate the rolling average if a valid NO_X emission rate is obtained for at least 3 of the 4 hours. For the purposes of this subpart, a "30-day rolling average NO_X emission rate" is the arithmetic average of all hourly NO_X emission data in ppm or ng/J (lb/MWh) measured by the continuous emission monitoring equipment for a given day and the twenty-nine unit operating days immediately preceding that unit operating day. A new 30-day average is calculated each unit operating day as the

average of all hourly NO_X emissions rates for the preceding 30 unit operating days if a valid NO_X emission rate is obtained for at least 75 percent of all operating hours. (40 CFR 60.4380(b)(1))

2) A period of monitor downtime is any unit operating hour in which the data for any of the following parameters are either missing or invalid: NO_X concentration, CO_2 or O_2 concentration, fuel flow rate, steam flow rate, steam temperature, steam pressure, or megawatts. The steam flow rate, steam temperature, and steam pressure are only required if the owner or operator will use this information for compliance purposes. (40 CFR 60.4380(b)(2))

c. **SO_2**

The owner or operator shall identify all periods of exceeding a SO_2 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.

d. **CO**

i. The owner or operator shall submit a report to the Administrator within 60 days after the end of each year during which records must be generated under 40 CFR 52.21(r)(6)(iii) setting out the unit's annual emissions during the calendar year that preceded submission of the report. (40 CFR 52.21(r)(6)(iv))

ii. The owner or operator shall identify all periods of plant-wide total CO emissions exceeding the standard during a quarterly reporting period. The quarterly 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 quarterly reporting period, the report shall contain a negative declaration.

e. **VOC**

i. See Specific Condition S3.d.

ii. The owner or operator shall identify all periods of plant-wide total VOC emissions exceeding the standard during a quarterly reporting period. The quarterly 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 quarterly reporting period, the report shall contain a negative declaration.

f. **HAP**

The owner or operator shall identify all periods of plant-wide total Formaldehyde emissions exceeding the major source threshold for single HAP during a quarterly reporting period. The quarterly compliance report shall include the following:

i. Identification of all periods during which a deviation occurred;
ii. A description, including the magnitude, of the deviation;
iii. If known, the cause of the deviation;
iv. A description of all corrective actions taken to abate the deviation; and
v. If no deviations occur during a quarterly reporting period, the report shall contain a negative declaration.

g. **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 Specific Condition S2.g.ii.

h. **Unit Operation**

The owner or operator shall submit a report to the Administrator within 30 days after the new emission units become operational and begins to emit a particular pollutant, which include the date when the existing emission unit U4, U5, U6, U7, U8, U10, IA1 (previous U9), two parts washers of IA2 (previous U12), and U14 shut down, and the date when the new emission unit U15, U16, and U18 become operational and begins to emit a particular pollutant. Any replacement unit that requires shakedown becomes operational only after a reasonable shakedown period, not to exceed 180 days. (Regulation 2.05) (40 CFR 52.21(b)(3)(viii)) (See Comment 8)

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

a. **General testing requirement:**

Unless otherwise required by any other applicable regulations, the following testing requirements apply to performance tests required by this permit:

i. The owner or operator shall perform tests using an EPA Reference Method performance test within 180 days of becoming operational and begins to emit a particular pollutant on the inlet and outlet of the control device. 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). They shall include the EPA test methods, 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 furnishing, ownership, and processing of the audit samples and their results shall be described in the protocol. The audit samples shall be available for verification by the District during the onsite testing. (See Comment 9)

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.

vi. 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 becoming operational and begins to emit a particular pollutant.

b. **Determination of monitoring parameters**

i. The owner or operator shall determine the appropriate monitoring parameters for each of the catalytic oxidizers (C23 and C24), which may include but not be limited to CO CEMS readings, pressure drop, temperature, PH value, etcetera, that will be used as indicators of normal operation of the control devices.[2]

ii. The owner or operator shall monitor and record the appropriate monitoring parameters for the thermal catalytic oxidizers at least once each per operating day. The owner or operator shall establish an appropriate parameter range for the normal operation of the catalytic oxidizers after ninety (90) consecutive days of observation after becoming operational.

iii. The owner or operator shall submit to the District the established appropriate ranges of the monitoring parameters for each catalytic oxidizer. The report shall be submitted within 30 days following the end of the 90 day monitoring period.

c. **NOx**

i. The owner or operator must conduct an initial performance test, as required in 40 CFR 60.8. (40 CFR 60.4400(a))

[2] LG&E has established a normal pressure drop range for catalytic oxidizer C23 and C24 and submitted to the District on October 5, 2015.

ii. If the owner or operator elects to install and certify a NO_X-diluent CEMS under 40 CFR 60.4345, then the initial performance test required under 40 CFR 60.8 may be performed in the following alternative manner: (40 CFR 60.4405)

1) Perform a minimum of nine RATA reference method runs, with a minimum time per run of 21 minutes, at a single load level, within plus or minus 25 percent of 100 percent of peak load. The ambient temperature must be greater than 0 ° F during the RATA runs. (40 CFR 60.4405(a))

2) For each RATA run, concurrently measure the heat input to the unit using a fuel flow meter (or flow meters) and measure the electrical and thermal output from the unit. (40 CFR 60.4405(b))

3) Use the test data both to demonstrate compliance with the applicable NO_X emission limit under § 60.4320 and to provide the required reference method data for the RATA of the CEMS described under § 60.4335. (40 CFR 60.4405(c))

4) Compliance with the applicable emission limit in § 60.4320 is achieved if the arithmetic average of all of the NO_X emission rates for the RATA runs, expressed in units of ppm or lb/MWh, does not exceed the emission limit. (40 CFR 60.4405(d))

iii. The performance test must be done at any load condition within plus or minus 25 percent of 100 percent of peak load. The owner or operator may perform testing at the highest achievable load point, if at least 75 percent of peak load cannot be achieved in practice. The owner or operator must conduct three separate test runs for each performance test. The minimum time per run is 20 minutes. (40 CFR 60.4400(b))

1) If the stationary combustion turbine combusts both oil and gas as primary or backup fuels, separate performance testing is required for each fuel. (40 CFR 60.4400(b)(1))

2) If water or steam injection is used to control NO_X with no additional post-combustion NO_X control and the owner or operator choose to monitor the steam or water to fuel ratio in accordance with § 60.4335, then that monitoring system must be operated concurrently with each EPA Method 20 or EPA Method 7E run and must be used to determine the fuel consumption and the steam or water to fuel ratio necessary to comply with the applicable § 60.4320 NO_X emission limit. (40 CFR 60.4400(b)(3))

3) Compliance with the applicable emission limit in § 60.4320 must be demonstrated at each tested load level. Compliance is achieved if the three-run arithmetic average NO_X emission rate at each tested level meets the applicable emission limit in § 60.4320. (40 CFR 60.4400(b)(4))

4) If the owner or operator elects to install a CEMS, the performance evaluation of the CEMS may either be conducted separately or (as described in § 60.4405) as part of the initial performance test of the affected unit. (40 CFR 60.4400(b)(5))

5) The ambient temperature must be greater than 0 °F during the performance test. (40 CFR 60.4400(b)(6))

d. **SO_2**

i. If the owner or operator is exempt from monitoring the total sulfur content of the fuel according to 40 CFR 60.4365, there is no performance testing requirements for this gas turbine.

ii. If the owner or operator is not exempt from monitoring the total sulfur content of the fuel according to 40 CFR 60.4365, and elects to monitor the total sulfur content of the fuel being fired in the turbine, the owner or operator must conduct an initial performance test, as required in 40 CFR 60.8. Subsequent SO_2 performance tests shall be conducted on an annual basis (no more than 14 calendar months following the previous performance test). There are three methodologies that the owner or operator may use to conduct the performance tests. (40 CFR 60.4415(a))

1) If the owner or operator chooses to periodically determine the sulfur content of the fuel combusted in the turbine, a representative fuel sample would be collected following ASTM D5287 (incorporated by reference, see § 60.17) for natural gas or ASTM D4177 (incorporated by reference, see § 60.17) for oil. Alternatively, for oil, the owner or operator may follow the procedures for manual pipeline sampling in section 14 of ASTM D4057 (incorporated by reference, see § 60.17). The fuel analyses of this section may be performed either by the owner or operator, a service contractor retained by the owner or operator, the fuel vendor, or any other qualified agency. Analyze the samples for the total sulfur content of the fuel using: (40 CFR 60.4415(a)(1))

(a) For liquid fuels, ASTM D129, or alternatively D1266, D1552, D2622, D4294, or D5453 (all of which are incorporated by reference, see § 60.17); or (40 CFR 60.4415(a)(1)(i))

(b) For gaseous fuels, ASTM D1072, or alternatively D3246, D4084, D4468, D4810, D6228, D6667, or Gas Processors Association Standard 2377 (all of which are incorporated by reference, see § 60.17). (40 CFR 60.4415(a)(1)(ii))

2) Measure the SO_2 concentration (in parts per million (ppm)), using EPA Methods 6, 6C, 8, or 20 in appendix A of this part. In addition, the American Society of Mechanical Engineers (ASME) standard, ASME PTC 19–10–1981–Part 10, "Flue and Exhaust Gas Analyses," manual methods for sulfur dioxide (incorporated by reference, see § 60.17) can be used instead of EPA Methods 6 or 20. For units complying with the output based standard, concurrently measure the stack gas flow rate, using EPA Methods 1 and 2 in appendix A of this part, and measure and record the electrical and thermal output from the unit. Then use the following equation to calculate the SO_2 emission rate: (40 CFR 60.4415(a)(2))

$$E = \frac{1.664\times10^{-7}(SO_2)_c Q_{std}}{P} \qquad \text{(Eq.6)}$$

Where:
E = SO_2 emission rate, in lb/MWh
1.664 x 10^{-7}= conversion constant, in lb/dscf-ppm
$(SO_2)_c$= average SO_2 concentration for the run, in ppm
Q_{std}= stack gas volumetric flow rate, in dscf/hr
P = gross electrical and mechanical energy output of the combustion turbine, in MW (for simple-cycle operation), for combined-cycle operation, the sum of all electrical and mechanical output from the combustion and steam turbines, or, for combined heat and power operation, the sum of all electrical and mechanical output from the combustion and steam turbines plus all useful recovered thermal output not used for additional electric or mechanical generation, in MW, calculated according to § 60.4350(f)(2); or

3) Measure the SO_2 and diluent gas concentrations, using either EPA Methods 6, 6C, or 8 and 3A, or 20 in appendix A of this part. In addition, the owner or operator may use the manual methods for sulfur dioxide ASME PTC 19–10–1981–Part 10 (incorporated by reference, see § 60.17). Concurrently measure the heat input to the unit, using a fuel flowmeter (or flowmeters), and measure the electrical and thermal output of the unit. Use EPA Method 19 in appendix A of this part to calculate the SO_2 emission rate in lb/MMBtu. Then, use Equations 1 and, if necessary, 2 and 3 in §

60.4350(f) to calculate the SO_2 emission rate in lb/MWh. (40 CFR 60.4415(a)(3))

e. **VOC**

The owner or operator shall perform an EPA Reference Method 25A performance test within 180 days of becoming operational and begins to emit a particular pollutant, and then test every 10 years thereafter based on the date of the previous stack test, in order to determine emission rate for VOC.

f. **HAP**

The owner or operator shall perform a performance test within 180 days of becoming operational and begins to emit a particular pollutant, and then test every 10 years thereafter based on the date of the previous stack test, in order to determine emission rate for Formaldehyde, using EPA Reference Method 320 or 323, ARB Method 430, SW-846 Method 0011, or other test methods for Formaldehyde approved by the District.

U15 Comments

1. The District has determined that the SO_2 standard under Regulation 7.09 (28.63 grains/100 dscf) is less stringent than the standard under 40 CFR 60, Subpart KKKK (0.06 lb/MMBtu). According to Regulation 7.02, section 5, the combustion turbines are not subject to the SO_2 standard under Regulation 7.09. Also the combustion process in the turbines is greater than 1,300°F for 0.5 second. Therefore there is no monitoring, record keeping, and reporting requirements with respect to the CO standard under Regulation 7.09.

2. There is a reasonable possibility that this project may result in a significant emissions increase of CO and VOC, since the uncontrolled potential CO and VOC net emission increases for this construction project exceed their PSD/NSR significant emission rates, but the controlled CO and VOC emission increases cannot exceed PSD/NSR significant emission rates. The plant-wide CO and VOC emission standards are determined with the emission decreases during the contemporaneous period (CO = 410.8 tons; VOC = 57.0 tons) and the PSD/NSR significant emission rate (CO = 100 tons; VOC = 40 tons). The 12 consecutive month rolling emissions include the annual emissions required by 40 CFR 52.21(r)(6)(iii).

3. The plant-wide uncontrolled potential emissions for HAPs, except for Formaldehyde are below major source thresholds for HAPs. The plant-wide potential emissions for any HAP, controlled by the catalytic oxidizers, are below major source thresholds for HAP. Therefore the source is not subject to the major source MACT for combustion turbines - 40 CFR 63 Subpart YYYY.

4. 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 is natural gas-fired NGCC unit. Per Regulation 5.01, section 1.6.7, the TAC emissions from the combustion of natural gas are "de minimis emissions".

5. According to 40 CFR 60.4335 and 60.4340, depending on whether a water or steam injection is used for NOx control, the owner or operator may elect to use one of the following: continuous monitoring system for fuel and water/steam, continuous emission monitoring system (CEMS), performance test, or continuous parameter monitoring system to demonstrate compliance with NOx limit. LG&E has elected to use NOx CEMS for the units.

6. The owner or operator elected to utilize a CO CEMS to monitor CO emissions and demonstrate compliance with the PSD avoidance emission cap.

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. The existing emission unit U4, U5, U6, U7, U8, U10, IA1 (previous U9), two parts washers of IA2 (previous U12), and U14 shall be shut down within the contemporaneous period of the NGCC unit construction project in order to have their emission decreases to be eligible for PSD/NSR netting analysis. According to 40 CFR 52.21(b)(3)(ii), the contemporaneous period is defined as "between the date five years before construction on the particular change commences and the date that the increase from the particular change occurs". In this permit the term "operational" means "normal operations" as defined in 40 CFR 52.21.

9. LG&E submitted a CAIR permit application on April 29, 2014 and submitted a revised application on May 30, 2014 for coal-fired boiler U4, U5, U6 and NGCC unit U15. In June, 2014, the U.S. Supreme Court filed a motion with the U.S. Court of Appeals for the D.C. Circuit to lift the stay of the Cross State Air Pollution Rule. While the Court considers the motion, CAIR remains in place and no immediate action from States or affected sources is expected.

10. In an email dated 2/6/2014, LG&E notified the District that the dew point heater (U17), previously permitted by construction permit 35274-12-C, will not be constructed.

Emission Unit U16: Natural gas-fired auxiliary boiler

U16 Applicable Regulations:

FEDERALLY ENFORCEABLE REGULATIONS		
Regulation	**Title**	**Applicable Sections**
2.05	Prevention of Significant Deterioration of Air Quality	1, 2
6.42	Reasonably Available Control Technology Requirements for Major Volatile Organic Compound- and Nitrogen Oxides-Emitting Facilities	1, 2, 3, 4, 5
7.06	Standards of Performance for New Indirect Heat Exchangers	1 through 8
40 CFR 60 Subpart D_C	Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units	60.40c, 60.41c, 60.42c, 60.43c, 60.44c, 60.45c, 60.46c, 60.47c, 60.48c

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

U16 Equipment:

Emission Point	Description	Applicable Regulation	Control ID	Stack ID
E33	One (1) natural gas-fired auxiliary boiler with low NOx burners, make Cleaver Brooks, model CP-NB-200D-45-250, capacity 59.9 MMBtu/hr.	5.00, 5.01, 5.02, 5.14, 5.20, 5.21, 5.22, 5.23, 6.42, 7.02, 7.06, 40CFR60 Subpart D_c	N/A	S24
Note: This unit (U16) needs to be in full operation no later than November 1, 2015 which is the compliance date for the source to shut down the coal fired boilers and the associated units to comply with 40 CFR 63, Subpart UUUUU.				

U16 Control Devices:

There are no control devices associated with this unit.

U16 Specific Conditions

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

a. **NO_x**

The owner or operator shall not cause to be discharged into the atmosphere from this unit NO_x emissions in excess of 3.60 lb/hr based upon a rolling 30-day average. (NO_x RACT Plan) (Regulation 6.42, section 4.3)

b. **SO_2**

The owner or operator shall not cause to be discharged into the atmosphere from each affected facility any gases which contain SO_2 in excess of 1.0 lb/MMBtu actual total heat input based upon a rolling 30-day average. (Regulation 7.06, section 5.1.1) (See Comment 3)

c. **PM**

The owner or operator shall not cause to be discharged into the atmosphere from each affected facility PM in excess of 0.154 lb/MMBtu actual total heat input based upon a rolling 30-day average. (Regulation 7.06, section 4.1.4) (See Comment 3)

d. **Opacity**

The owner or operator combusting natural gas 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 4)

e. **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 5)

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. **NO_x**

i. The owner or operator shall record and maintain records of the amount of fuel combusted in each unit during each calendar month. (NO_x RACT Plan) (Regulation 6.42, section 4.3)

ii. The owner or operator shall calculate and maintain records of the lb/hr NO_x emissions from each unit, determined by multiplying the actual total heat input (in MMBtu) and the manufacturer certified emissions factor, based upon a rolling 30-day average, in order to demonstrate compliance with Specific Condition S1.a.i and S1.a.ii. (NO_x RACT Plan) (Regulation 6.42, section 4.3)

b. **SO2**

The owner or operator shall record and maintain records of the amount of fuel combusted in each unit during each calendar month. (40 CFR 60.48c(g)(2)) (See Comment 3)

c. **PM**

There are no routine monitoring or record keeping requirements for this pollutant. (See Comment 3)

d. **Opacity**

There are no monitoring and record keeping requirements for this pollutant. (See Comment 4)

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 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*.

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. **General requirements**

The owner or operator shall submit notification of the date of construction or reconstruction and actual startup, as provided by 40 CFR 60.7. The notification shall include the design heat input capacity of the affected facility and identification of fuels to be combusted in the affected facility. (40 CFR 60.48c(a))

b. **NO_x**

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.

c. **SO_2**

There are no routine reporting requirements for this pollutant. (See Comment 3)

d. **PM**

There are no routine reporting requirements for this pollutant. (See Comment 3)

e. **Opacity**

There are no routine reporting requirements for this pollutant. (See Comment 4)

f. **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 Specific Condition S2.f.ii.

U16 Comments

1. The equipment is subject to 40 CFR 60, Subpart D_c – *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units*, due to the commencement date of construction (after June 9, 1989) and the heat input capacity (less than 100 MMBtu/hr, but greater than 10 MMBtu/hr).

2. The plant-wide potential emission for HAP, controlled by catalytic oxidizer, is below major source thresholds for HAP. Therefore the boilers at this source are not subject to the major source MACT for boilers 40 CFR 63 Subpart DDDDD. This natural gas-fired boiler is not subject to 40 CFR 63, Subpart JJJJJJ – *Industrial, Commercial, and Institutional Boilers and Process Heaters at Area Sources,* according to 40 CFR 63.11195(e).

3. A one-time PM and SO_2 compliance demonstration has been performed for the boiler, 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.

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

5. Per Regulation 5.01, section 1.6.7, the TAC emissions from the combustion of natural gas are considered to be “de minimis emissions” by the District.

Emission Unit U18: Emergency generator

U18 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

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

U18 Equipment:

Emission Point	Description	Applicable Regulation	Control ID	Stack ID
E35	One (1) Emergency diesel generator, make Caterpillar, model C27, maximum output 1,006 hp (750 KW), equipped with a 660 gallons storage tank. Model year 2014.	5.00, 5.01, 5.02, 5.14, 5.20, 5.21, 5.22, 5.23, 40CFR60 Subpart IIII, 40CFR63 Subpart ZZZZ	N/A	S26

Emission Point	Description	Applicable Regulation	Control ID	Stack ID
Note: This unit (U18) needs to be in full operation no later than November 1, 2015 which is the compliance date for the source to shut down the coal fired boilers and the associated units to comply with 40 CFR 63, Subpart UUUUU.				

U18 Control Devices:

There are no control devices associated with this unit.

U18 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(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))

Engine manufacturers shall certify the engines with the exhaust emission standards in the following table. In lieu of the NO_X standards, NMHC + NO_X standards, and PM standards, manufacturers may elect to include engine families in the averaging, banking, and trading program. The manufacturer must set a family emission limit (FEL) not to exceed the levels contained in the following table: (40 CFR 89.112)

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

iii. 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 60 CFR 60.4211(f)(1) through (3), is prohibited. If the owner or operator does not operate the engine according to the requirements in 60 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))

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 60 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 60 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. **SO_2**

The owner or operator shall not combust in the engine a non-road 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)

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 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. **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, you must 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 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**

There are no compliance monitoring or record keeping requirements for HAP. (See Comment 1)

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. 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*.

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**

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:

i. Identification of all periods during which a deviation occurred;
ii. A description, including the magnitude, of the deviation;
iii. If known, the cause of the deviation;
iv. A description of all corrective actions taken to abate the deviation; and
v. If no deviations occur during a reporting period, the report shall contain a negative declaration.

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)

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 Specific Condition S2.d.ii.

U18 Comments

1. This emergency generator 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 an area source of HAP emissions. However, according to 40 CFR 63.6590(c), this emergency generator must meet the requirements of 40 CFR 63 Subpart ZZZZ by meeting the requirements of 40 CFR 60 Subpart IIII, *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*. No further requirements apply for the engine under 40 CFR 63 Subpart ZZZZ.

2. The owner or operator shall meet the NO_x, CO, and PM standards under 40 CFR 89.112 by purchasing a certified engine, as required by 40 CFR 60.4202(a)(2), 4205(b), 4211(c).

3. The source submitted an EA demonstration for U18 (emergency generator) on June 13, 2011, using AERMOD dispersion model, and demonstrated that U18 is in compliance with STAR program.

4. The associated internal storage tank for diesel fuel is exempt from District permitting requirements in accordance with Regulation 1.02, section 3.9.2.

Emission Unit U19: Haul Roads

U19 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
E36a	Paved road particulate emissions	1.14	N/A	N/A
E37b	Unpaved road particulate emissions	1.14	N/A	N/A

U19 Control Devices:

Particulate emissions from unpaved road are controlled according to the plant-wide Fugitive Dust Control Plan (See Attachment C).

U19 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 and off-road open bodied trucks, 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.

U19 Comments

1. LG&E submitted a plant-wide Fugitive Dust Control Plan on 2/13/2013 and 8/16/2013 and the plan was adopted by board on 4/17/2013 and 11/20/13. See Attachment C.

2. This unit is not subject to STAR since it does not have any TAC emissions.

Emission Unit U20: Landfill

U20 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

U20 Equipment:

Emission Point	Description	Applicable Regulation	Control ID	Stack ID
E37a	Landfill haul roads	1.14		
E37b	Landfill drop points	1.14		
E37c	Landfill wind erosion emissions	1.14		

U20 Control Devices:

Particulate emissions from landfill haul roads are controlled according to the plant-wide Fugitive Dust Control Plan (See Attachment C).

U20 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 and off-road open bodied trucks, 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)

d. **Unit Operation**

Upon permanent shutdown of the coal units U4, U5, and U6, the owner or operator shall close the ash pond and landfill. No off-site coal combustion residuals (CCR) will be deposited at Cane Run's facility except the amount needed to combine with the remaining FGD slurry and those approved through

the guidance of the Kentucky Department of Waste Management as part of the landfill and ash pond closure plans. (Regulation 1.12, section 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, 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.b.ii.

U20 Comments

1. LG&E submitted a plant-wide Fugitive Dust Control Plan on 2/13/2013 and 8/16/2013 and the plan was adopted by board on 4/17/2013 and 11/20/13. See Attachment C.

2. LG&E submitted a TAC Environmental Acceptability Demonstration for this unit to the District on May 30, 2012, in which the source has demonstrated 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

Insignificant activities prior to NGCC construction project

Equipment	Quan.	PTE (tpy)	Regulation Basis
Indirect heat exchangers <10 MMBtu/hr	16	0.74 SO_2	Regulation 1.02, Appendix A
Gasoline storage tank, 560 gallons (previous U9, see unit IA1)	1	0.19 VOC	Regulation 2.16, section 1.23
Cold solvent parts washers with secondary reservoir (previous U12, see unit IA2)	5	0.33 VOC	Regulation 1.02, Appendix A
Coal pile	1	2.56 PM_{10}	Regulation 2.16, section 1.23
Emergency generators (See unit IA-EG)	N/A	N/A	Regulation 2.16, section 1.23
Note: Twelve (12) fuel or lubricating oils storage tanks, fifty one (51) emergency relief vents for boiler steam supply, three (3) lab exhaust systems, one (1) ash pond with wet storage, six (6) diesel storage tanks, and two (2) portable fuel storage tanks (< 500 gal) are delisted from the insignificant activities due to their trivial emissions (< 0.01 tpy) under normal operation.			

Insignificant activities after NGCC construction project

Equipment	Quan.	PTE (tpy)	Regulation Basis
Indirect heat exchangers <10 MMBtu/hr	16	0.74 SO_2	Regulation 1.02, Appendix A
Cold solvent parts washers with secondary reservoir (previous U12, see unit IA2)	3	0.33 VOC	Regulation 1.02, Appendix A
Mechanical draft cooling tower	1	2.58 PM_{10}	Regulation 2.16, section 1.23
Lube oil demister vents	3	0.4 VOC	Regulation 2.16, section

Equipment	Quan.	PTE (tpy)	Regulation Basis
			1.23
660 gallons diesel tanks for emergency generator U18	1	0.027 VOC	Regulation 1.02, Appendix A
Emergency generators (See unit IA-EG)	N/A	N/A	Regulation 2.16, section 1.23
Twelve (12) fuel or lubricating oils storage tanks, fifty one (51) emergency relief vents for boiler steam supply, One (1) lab exhaust systems, one (1) ash pond with wet storage, five (5) diesel storage tanks, and two (2) portable fuel storage tanks (< 500 gal) are delisted from the insignificant activities due to their trivial emissions (< 0.01 tpy) under normal operation.			

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
E17	One (1) Stage I gasoline refueling station, including one 560 gallon unleaded gasoline storage tank	6.40 and 7.15	N/A

IA1 Control Devices:

There are no control devices associated with emission unit IA1.

IA1 Specific Conditions

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

a. **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)

b. **Unit Operation**

The owner or operator shall shut down the existing emission unit U4, U5, U6, U7, U8, U10, IA1 (previous U9), two parts washers of IA2 (previous U12), and U14 prior to November 1, 2015 when the new emission unit U15, U16, and U18 complete shakedown and become operational. Any replacement unit that requires shakedown becomes operational only after a reasonable shakedown period, not to exceed 180 days. (Regulation 2.05) (40 CFR 52.21(b)(3)(viii)) (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 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 annual 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

1. 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.

2. The existing emission unit U4, U5, U6, U7, U8, U10, IA1 (previous U9), two parts washers of IA2 (previous U12), and U14 shall be shut down within the contemporaneous period of the NGCC unit construction project in order to have their emission decreases to be eligible for PSD/NSR netting analysis. According to 40 CFR 52.21(b)(3)(ii), the contemporaneous period is defined as "between the date five years before construction on the particular change commences and the date that the increase from the particular change occurs". In this permit the term "operational" means "normal operations" as defined in 40 CFR 52.21.

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
E26a, b, c, d, e	Five (5) parts washers each equipped with a secondary reservoir	6.18	N/A
Note: Two of the five parts washers in this unit will be removed prior to November 1, 2015 when the new emission unit U15, U16, and U18 complete shakedown and becomes operational. Three parts washers will still be in service after November 1, 2015.			

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)

d. **Unit Operation**

The owner or operator shall shut down the existing emission unit U4, U5, U6, U7, U8, U10, IA1 (previous U9), two parts washers of IA2 (previous U12), and U14 prior to November 1, 2015 when the new emission unit U15, U16, and U18 complete shakedown and become operational. Any replacement unit that requires shakedown becomes operational only after a reasonable shakedown period, not to exceed 180 days. (Regulation 2.05) (40 CFR 52.21(b)(3)(viii)) (See Comment 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)

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

VOC

There are no routine compliance reporting requirements for Regulation 6.18.

IA2 Comments

1. 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.

2. The existing emission unit U4, U5, U6, U7, U8, U10, IA1 (previous U9), two parts washers of IA2 (previous U12), and U14 shall be shut down within the contemporaneous period of the NGCC unit construction project in order to have their emission decreases to be eligible for PSD/NSR netting analysis. According to 40 CFR 52.21(b)(3)(ii), the contemporaneous period is defined as “between the date five years before construction on the particular change commences and the date that the increase from the particular change occurs”. In this permit the term “operational” means “normal operations” as defined in 40 CFR 52.21.

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/area 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 60 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 60 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 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

3. 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.

4. The associated storage tank for diesel fuel is exempt from District permitting requirements in accordance with Regulation 1.02, section 3.9.2.

5. 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.

6. 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 - 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 which 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 which 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. List the type and manufacturer of the control equipment if any;
- ☐ 16. List 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;
    - Are audit samples required for this test Method (EPA contact number for audit samples 919-541-1062) if yes then please make samples available to the District for observation during the stack test;
    - Audit sample provider;

- 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 is >12”
- Method 1a if stack is between 4” and 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 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 B - NOx RACT Plan - Amendment 2

Part 1 of NOx RACT Plan

(Part 1 of the NOx RACT Plan will remain effective until the LG&E/CRGS shuts down the coal-fired boilers.)

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 4 0.52 lb/MMBtu heat input
   Unit 5 0.52 lb/MMBtu heat input
   Unit 6 0.47 lb/MMBtu 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 Cane Run Generating Station (LG&E/CRGS) 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 GT-11 turbine shall not be operated for more than 500 hours per calendar year.

5. The LG&E/CRGS shall make a record of the hours of operation during each day of operation of the GT-11 turbine. Each record shall be maintained for a minimum of 5 years and made available to the District upon request.

6. The quarterly report required by this NO_x RACT Plan Element (Element) No. 7 shall include a summary of the monthly and calendar-year-to-date hours of operation of the GT-11 gas turbine.

7. The LG&E/CRGS 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.

8. In lieu of the requirements in this NO_x RACT Plan, the LG&E/CRGS 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 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.

Part 2 of NOx RACT Plan

(Part 2 of this NOx RACT Plan will be effective when the new NGCC unit and the associated equipment start to be operated, and the coal-fired boilers are shut down and Part 1 of this Plan is voided.)

1. The oxides of nitrogen (NO_x, expressed as NO_2) emission from the NGCC unit (U15), which includes combustion turbine GT-7A, GT-7B and the associated heat recovery steam generators, and steam turbine generator, shall not exceed 15 ppm at 15% O_2 or 54 ng/J (0.43 lb/MWh), based upon a rolling 30-day average. (40 CFR 60.4320(a))

2. The Louisville Gas and Electric Company Cane Run Generating Station (LG&E/CRGS) shall install, maintain, and operate a NO_x continuous emissions monitoring system (CEMS) for each combustion turbine GT-7A and GT-7B (U15) and shall keep records and submit reports and other notifications as specified in NO_x RACT Plan Appendix A - Amendment 1. (40 CFR 60.4340(b)(1))

3. The LG&E/CRGS elect to install and certify a NOx-diluent CEMS for combustion turbine GT-7A and GT-7B (U15) under 40 CFR 60.4345. Therefore the initial performance test required under 40 CFR 60.8 may be performed in the following alternative manner: (40 CFR 60.4405)

   A. Perform a minimum of nine RATA reference method runs, with a minimum time per run of 21 minutes, at a single load level, within plus or minus 25 percent of 100 percent peak load. The ambient temperature must be greater than 0 °F during the RATA runs. (40 CFR 60.4405(a))
   B. For each RATA run, concurrently measure the heat input to the unit using a fuel flow meter (or flow meters) and measure the electrical and thermal output from the unit. (40 CFR 60.4405(b))
   C. Use the test data both to demonstrate compliance with the applicable NO_X emission limit under §60.4320 (and NO_X RACT) and to provide the required reference method data for the RATA of the CEMS described under §60.4335. (40 CFR 60.4405(c))
   D. Compliance with the applicable emission limit of §60.4320 (and NO_X RACT) for Combustion Turbine GT-7A and GT-7B is achieved if the arithmetic average of all of the NO_X emission rates for the RATA runs (ppm or lb/MWh) does not exceed the emission limit. (40 CFR 60.4405(d))

4. The NO_x emission rate for combustion turbine GT-7A and GT-7B (U15) 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.

5. The LG&E/CRGS shall calculate the hourly average NOx emission rates for the NGCC unit (U15) using either ppm for units complying with the concentration limit or the equation under 40 CFR 60.4350(f)(2) for units complying with the output based standard. (40 CFR 60.4350(f))

6. The GT-11 turbine (U11) shall not be operated for more than 500 hours per calendar year.

7. The LG&E/CRGS shall make a record of the hours of operation during each day of operation of the GT-11 turbine (U11). Each record shall be maintained for a minimum of 5 years and made available to the District upon request.

8. NO_X emissions from the auxiliary boiler (U16) shall not exceed 3.60 lb/hr, determined by multiplying the actual total heat input (in MMBtu) and the manufacturer certified emissions factor (0.036 lb/MMBtu), based upon a rolling 30-day average. (Regulation 6.42, section 4.3)

9. NO_X emissions from the auxiliary boiler (U16) will be monitored and recorded by maintaining records of the monthly fuel usage in this unit.

10. NO_X emissions from the fuel gas dew point heater (U17) shall not exceed 0.72 lb/hr, determined by multiplying the actual total heat input (in MMBtu) and the manufacturer certified emissions factor (0.06 lb/MMBtu), based upon a rolling 30-day average. (Regulation 6.42, section 4.3)

11. NO_X emissions from the fuel gas dew point heater (U17) will be monitored and recorded by maintaining records of the monthly fuel usage in this unit.

12. The LG&E/CRGS shall keep a record identifying all deviations from the requirements of this NO_x RACT Plan and shall submit to the District quarterly report of all deviations that occurred during the preceding calendar quarter. Each report shall be submitted within 30 days following the end of the calendar quarter. The report shall contain the following information:

    A. The unit 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.
    G. If no deviation occurred during the calendar quarter, the report shall contain a negative declaration.
    H. This report shall include a summary of the monthly and calendar-year-to-date hours of operation of the GT-11 gas turbine.
    I. This report shall include the excess emissions and monitor downtime for each combustion turbine. (40 CFR 60.4375)

13. In lieu of the requirements in this NO_x RACT Plan, the LG&E/CRGS 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 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; amended a2/07-18-12, effective 07-18/12

Appendix A to NO_x RACT Plan (Requirements for NO_x CEMS)

I. General Operating Requirements

A. Primary measurement requirements. The LG&E/CRGS shall, for each utility boiler and combustion turbine (GT-7A and GT-7B), 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 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/CRGS 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/CRGS 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.

C. Primary equipment hourly operating requirements.

1. The LG&E/CRGS shall ensure that all CEMS are in operation and monitoring the emissions from the associated utility boiler and combustion turbine (GT-7A and GT-7B) at all times that the utility boiler and combustion turbine (GT-7A and GT-7B) 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/CRGS 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/CRGS 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 and combustion turbine (GT-7A and GT-7B) 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/CRGS 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 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/CRGS chooses to use two or more CEMS, each of which is capable of monitoring the same stack or duct at a specific utility boiler and combustion turbine (GT-7A and GT-7B), then the LG&E/CRGS shall designate one CEMS as the primary monitoring system and shall record this designation in the monitoring plan. The LG&E/CRGS 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/CRGS shall not operate a utility boiler and combustion turbine (GT-7A and GT-7B) 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/CRGS 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/CRGS 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/CRGS is monitoring NO_x emissions from the utility boiler and combustion turbine (GT-7A and GT-7B) with another certified monitoring system approved in accordance with the provisions of paragraph I.D. of this Appendix, or
2. The LG&E/CRGS 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 applies to NO_x pollutant concentration monitors and diluent gas monitors shall be met.

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 heat input (i.e., if the NO_x pollutant concentration monitor measures on a different moisture basis from the diluent monitor), LG&E/CRGS shall either report a fuel-specific default moisture value for each utility boiler and combustion turbine (GT-7A and GT-7B) 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/CRGS shall meet the general operating requirements in 40 CFR 75.10 for a NO_x CEMS for each utility boiler and combustion turbine (GT-7A and GT-7B). 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/CRGS shall calculate hourly and rolling 30-day NO_x emission rates 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/CRGS 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/CRGS shall maintain for each utility boiler and combustion turbine (GT-7A and GT-7B) 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/CRGS 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 and combustion turbine (GT-7A and GT-7B):

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 (rounded to nearest hundredth),
5. Hourly average NO_x emission rate (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/CRGS 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/CRGS 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/CRGS 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/CRGS 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 NOx 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 certified gas concentration(s),

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/CRGS 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 21 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/CRGS may elect to repeat a certification test immediately, without advance notification, whenever the LG&E/CRGS 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/CRGS may elect to repeat a periodic relative accuracy test immediately, without additional notification whenever the LG&E/CRGS 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/CRGS 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 and combustion turbine (GT-7A and GT-7B):

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 heat input, rounded to the nearest hundredth) during the rolling 30-day averaging periods.

B. The LG&E/CRGS 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 C - Plant-wide Odor, Fugitive Dust, and Maintenance Emissions Control Plan
Cane Run Generating Station

(Submitted 2/13/2013 and 8/16/2013; Adopted by the Board 4/17/2013 and 11/20/2013)

Executive Summary

Louisville Gas and Electric Company (LG&E) is required to maintain and operate the Cane Run Generating Station in a manner consistent with good air pollution control practices for minimizing emissions, as defined in KRS Chapter 77 Air Pollution Control.

The purpose of this plan is to identify and commit to "reasonable precaution" control measures that will minimize fugitive particulate emissions, control objectionable odors that may originate on plant property, and prevent unnecessary emissions. This plan has been developed at the request of the Louisville Metro Air Pollution Control District (APCD).

Louisville Metro
Air Pollution Control District
850 Barret Ave.
Louisville, KY 40204-1745
502-574-6000

Introduction

This plan identifies potential sources of fugitive particulate emissions and potential objectionable odors from equipment and processes at LG&E's Cane Run Generating Station, 5252 Cane Run Road. The plan also identifies measures to further control potential dust from these sources. The sources identified by the District include: the Unit 4/5 Sludge Processing Plant (SPP), the landfill, various ash ponds and ditches, 4/5 Fly Ash transfer Line, maintenance procedures associated with the generating unit stacks, construction activities and other sources of fugitive dust (piles, roads, yards). This plan is divided into four sections:

1. Site Description
2. Description of sources of potential fugitive particulate emissions and objectionable odors
3. Control measures to minimize fugitive particulate emissions and objectionable odors
4. Primary Contact List

Section 1 – Site Description

LG&E's Cane Run Generating Station (Cane Run) is located in southwestern Louisville at 5252 Cane Run Road. Cane Run generates electric energy for local and remote distribution. Coal is the primary fuel used to fire three (3) commercial boilers for generation of electricity via steam turbines and generators. Waste solids from the Flue Gas Desulfurization systems are mixed with fly ash and fixation lime, and the resulting inert lightweight concrete material is placed in an on-site landfill.

The Cane Run site consists of 510 acres with river frontage on the Ohio River. The existing operation is spread throughout the acreage. Coal is delivered by rail car with shipments placed in a storage pile.

The parking areas are asphalt surfaced and located in several areas on the site, including the parking area directly beside the security gate/office for use by contractors and employees.

The aerial map below highlights the various potential sources and areas of concern that are discussed within this plan.

Cane Run Aerial Site Map

Section 2 - Description of Potential Sources of Dust or Odor at Cane Run Generating Station

Potential Sources:

- Unit 4/5 SPP
- Landfill
- Unpaved Roads
- Fly Ash Transfer Line
- Unit 4, 5, and 6 Stacks Maintenance Activities
- Ash Pond, E-Pond, South Basin and Ditches

- Storage yards and piles
- Paved Roads
- Construction Activities

Unit 4/5 SPP

The Unit 4/5 SPP is located on the southwest side of the plant site, in front of the landfill. The 4/5 SPP receives transported fly ash via a blower system, which includes a transfer line from a central bin where fly ash has been collected from hoppers located around each of the three coal-fired boilers. The fly ash is mixed with de-watered scrubber sludge to create a physically and environmentally stable product that is stored onsite in the plant¡¦s landfill.

The 4/5 SPP pug mill mixer incorporates a wet cyclone dust collector and a HEPA filtering system contained within the 4/5 SPP building.

During maintenance activities or general operation, on an as-needed basis, a roof vent may be utilized for ventilation.

Potential Fugitive Dust Sources from the 4/5 SPP include:

- Conveyor
- Stacker Pad
- Fly Ash Silo Safety Valve
- Fixation Lime Silo Safety Valve
- Building Roof Vents

Potential Point Source for Dust Emissions from the 4/5 SPP Include:

- Fly Ash Silo Baghouse Vent
- Fixation Lime Silo Baghouse Vent

Material Storage

The material storage yard is located in the middle of the property near the ash pond and consists of a stockpile of bituminous coal. Coal is delivered by railcar and transferred to an onsite stockpile. Under normal operation, the facility may incur up to 100 truck trips per weekday divided between trucks delivering raw materials for production and large off road dump trucks hauling Poz-o-tec to be placed in the landfill. Raw powdered bulk materials (lime, soda ash, and fly ash) used in the production of power is delivered to the site by pneumatic tanker trailer and the materials are blown into silos which all have bag-houses to mitigate dust during transfer activity.

Potential fugitive dust from material storage includes:

- Material transfer from trucks
- Wind erosion from coal stockpile
- Silo Safety Valves

Landfill

The Cane Run landfill contains Poz-o-tec which is an inert, lightweight concrete that is made by mixing FGD solids (calcium sulfite, and sulfate), fly ash, and fixation lime. An excavator is used

at the SPP stacker pads to load Poz-o-tec into the dump trucks which are placed in the landfill.

Potential fugitive dust from the landfill may be caused by:

- Wind erosion.
- Heavy equipment performing excavation on contours and slopes within active areas.
- Mechanical traffic on haul roads.
- Surface Integrity

Federal Highway Administration (FHWA) has conducted extensive research concerning pozzolan materials (fly ash, Poz-o-tec, etc.) in use as roadway base material and slope stabilizers. Data indicates that material with higher fly ash content such as Poz-o-tec has less moisture infiltration than standard concrete and has a structure that provides a denser product that allows fewer voids between particles. This would indicate that freeze-thaw erosion potential is negligible and would not be a source of fugitive emissions from the landfill. Data previously submitted to APCD shows that the density of Poz-o-tec is similar to that of Kentucky clay soils. This landfill was engineered to meet continuous compliance with Kentucky Division Waste Management structural requirements and measurements.

Unpaved Roads

Unpaved roads at the Cane Run site are typically graveled at #57 grade. The ash pond roads have been sealed as a dust control measure and traffic is limited. Vehicle access to unpaved roads is limited to contractors and employees performing required operational duties.

Potential fugitive dust from unpaved roads may be caused by:

- Dry road conditions
- Wind erosion
- Vehicle traffic
- Material fallout from vehicle traffic

Paved Roads

The paved roads are asphalt or concrete surfaced and traffic is limited to contractors and employees.

Potential fugitive dust from paved roads may include:

- Material tracked from unpaved surfaces onto paved roads by vehicle traffic
- Material fallout from vehicle traffic

Fly Ash Transfer Line

Due to a recent dust event that resulted from a crack that developed in the fly ash transfer line, LG&E performed an eight year look back of its past maintenance records and was unable to find any other incidents of this nature for this equipment. The majority of the transfer line is located below ground and the section of pipe that cracked was above ground at an “elbow joint”.
Potential fugitive dust from fly ash transfer line may include:

- Failure of pipe section

Unit 4, 5, and 6 Stack Maintenance Activities

Typically once or twice per year each of the generating units is off-line to perform scheduled routine maintenance, which includes balancing fans. In addition, it may be necessary to balance fans more often if vibration issues arise. In order to balance the fans, they must be operating. During balancing, residual fly ash can be dislodged and picked up by the draft and exit the stack. Potential emissions from maintenance activities may include:

- Fan balancing

Ash Pond, E-Pond, South Basin and East Ditch

Due to the build-up of bacteria, odors may result when cleaning materials from inactive areas of the ponds and east ditch. The drainage ditch south of the 4/5 SPP no longer exists due to the construction of the MSE wall, thus it is has been removed from this plan.

Potential objectionable odors from ponds and ditches may include:

- Ash Pond
- East Ditch
- E-Pond
- South Basin

Construction Activities

A new natural gas combined cycle (NGCC) electricity generating facility will be constructed adjacent to the existing Cane Run Generating Station. Construction activities will take place until the completion of the new plant. Potential dust emissions from construction activities can vary significantly, depending on the level/type of activity and weather conditions.

Potential fugitive dust from construction activities may include:

- Material hauling
- Excavating
- Construction traffic

Section 3 - Control Measures to Minimize Emissions

Site Monitoring

- The Production Supervisor of Compliance and / or the Production Leader will be on-site during hauling and placement activities and will assess the need for dust control on a continuing basis.
- A water truck(s) will be employed during all hauling and placement activities.
- In the event dry weather persists, the frequency of watering will be adjusted to control fugitive dust emissions.
- 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.
- Watering will be suspended when ambient air temperatures are below freezing or if ice is present.

- To assist with monitoring the condition of the plant¡¦s roadways and open areas, video cameras were added throughout plant property. Real-time displays are monitored in the control rooms using video surveillance software which provides the feed of video surveillance of the plant property. The recording frequency of these cameras is on a continuous basis and video is archived on the company¡¦s network drive. The software allows multiple independent cameras to be viewed under a single monitor, allowing flexibility to the user to monitor and adhere accordingly to daily job duties as they are assigned. In the event that fugitive dust is observed, the operator will take corrective action which may include shutting down the process, initiating control measures, or notifying the appropriate personnel, all within a reasonable timeframe to mitigate fugitive dust emissions. Daily review of video footage is performed in addition to real-time monitoring to reaffirm fugitive dust controls were operating properly and that dust did not leave the property. Video footage will be maintained in accordance with LG&E¡¦s record retention policy.
- Documentation of site monitoring activities will be kept on file.

Unit 4/5 SPP

- The mixer dust collector emission point source discharge from the roof of the building has been eliminated. The mixer dust collector now discharges into the SPP building through a HEPA filter system.
- The east side of the 4/5 SPP has a wind break screen installed to help control fugitive dust from the 4/5 SPP stacker pad.
- The ventilation from the #3 or west most roof vent is now ducted to a new two stage filter system located outside the building at ground level. Under typical operation of the outside filter, there is zero to minimal dust emissions. The filter system has a rating of MERV 15. The filters will be changed as needed per indication from a differential pressure reading. Under normal operating conditions, all three vent fans can be used for building ventilation. In the event of a dust-related incident within the building, all three vent fans are automatically closed off. The #3 vent fan can then be turned back on to ventilate the building in a controlled manner utilizing the two-stage discharge filter.
- The plant has adopted and implemented a SOP which addresses roof vent operation. A copy of this standard operating procedure is attached to this compliance plan.
- On-screen logic control has been added to monitor the status of the vent fans and to operate the on/off function of the vent fans to provide more efficient and expedient control.
- Additional water spray nozzles were added at exit of conveyor from the building and the top of the 4/5 SPP stacker conveyor.
- Controls and new actuated valves for the spray water nozzles located at the mixer discharge conveyor and top of the stacker conveyor were added and can be operated from the SPP control room.

- New logic was installed to shut the fly ash gate if the filter cake drops below 7 tons/hr. Filter cake scales A & B were also recalibrated and the vat level controller was tuned.
- A new programmable logic controller (PLC) based control system was installed at the Cane Run 4&5 Sludge Processing Plant (SPP) on November 19, 2012 and is fully operational. The new control system replaced existing hardwired controls and consisted of a new Allen Bradley Controllogix PLC, dual touchscreen operator displays, and two (2) smart transmitters. The project scope included the purchase, removal, and installation of control system. The major objective of this project is that once an off-normal condition occurs at the 4&5 SPP, process controls will immediately shut down the process, turn on water spray systems, and inform operators so that measures can be taken to further mitigate any potential dusting or other unfavorable event.
- Visible emission surveys of Unit 4/5 SPP will be conducted hourly, and corrective action will be taken when necessary. Documentation will be kept on file and submitted to the District upon request. A copy of the recordkeeping form is attached to this compliance plan.

Hauling and Storage of Materials

- Transfer of materials is suspended if the truck's conveying equipment is not in proper working condition.
- Material transfer conveyors are permitted emission points and will be operated in accordance with the facility's Title V operating permit.
- Bulk materials stored in silos (fly ash, fixation lime, soda ash) are stored dry and not exposed to the atmosphere and should not generate fugitive dust under normal conditions. Storage silos are permitted emission points equipped with either a bin vent or baghouse that is intrinsic to process.
- Coal piles will continue to be maintained to prevent fugitive dust emissions. Coal is brought on-site in lump form and transferred by covered conveyor to coal crushers. Coal crushing occurs in an enclosed area and all emissions are through a permitted emission point.
- Storage piles will continue to be maintained to prevent fugitive dust emissions.
- Mitigation procedures may include wetting of the material or covering of the trucks, to prevent fugitive emissions from trucks hauling dry material likely to become airborne.

Landfill

- In accordance with the Air Pollution Control Board Agreement No. 12-01, LG&E submitted a plan for the application of dust suppressant to inactive open areas of the landfill at the Cane Run Generating Station. Dust suppressant will be applied based upon the following guidelines outlined in the Dust Suppressant Application Plan(also attached):
    - Application will follow the manufacturer¡¦s specifications or other tested and approved procedures.

- The application shall be limited to inactive open areas of the landfill or other areas that are noted to show signs of degradation.
- The application rate will be carefully monitored to ensure there is adequate coverage without pooling or runoff of products.
- The amount of dust suppressant applied should not exceed the minimum amount required to effectively suppress dust.
- Ensure that dust suppressants do not enter and contaminate water bodies, including surface water and groundwater. Do not allow the product to leave the designated areas.
- Do not apply products if precipitation is occurring, or forecast to occur before the product sets or cures.

- Testing of multiple dust suppressants was completed on designated areas of the Cane Run landfill and Gorilla Snot R was selected as the dust suppressant that will be utilized. If the need arises, the use of similar products from other manufacturers may be used. The material was tested at 11 parts water to one part dust suppressant and based upon on-site testing, the application is expected to last 6-12 months. The dust suppressant is applied according to the manufacturer¡¦s recommendation to inactive open areas of the landfill and reapplication will occur on an as needed basis. The applied areas will be inspected weekly for signs that the dust binder is degrading. Reapplication and application to additional areas will occur when the areas are noted to show signs of degradation, which may include:
  - Visible dusting from wind erosion off the landfill
  - Evidence of erosion in the area during rain events
- Prior to any additional dust suppressant testing, information shall be submitted to APCD.
- According to APCD Regulation 1.14, Sections 2.1.4, covering of open bodied trucks is necessary when material being transported is likely to become airborne. The material being hauled, Poz-o-tec, is not likely to become airborne during transportation. Due to the moisture content (20-25%) that is characterized with Poz-o-tec a control measure is already employed within the process. Off-road open bodied trucks, by design, are not equipped with covers.
- Mitigation procedures may include wetting of the material or covering of the trucks, to prevent fugitive emissions from trucks hauling dry material likely to become airborne.
- The landfill operator depot was relocated away from Cane Run Road to the north end of the landfill and the road to the back gate will be closed.

LG&E had previously proposed an installation of a fabric cover on the face of the steep slope behind the SPP. During the course of this evaluation, it was determined that the application of a fabric covering on the face of this slope is not the most viable option. In addition, a process of “hydro-mulching” was also considered. Hydro mulching is the process of applying moist mulch that contains seeds and tacking agents intended to adhere to the surface on which it is applied. However, with consideration of limitations during growing seasons and the proven effectiveness

of the application of dust suppressant (Gorilla Snot), the plant will manage sloped areas through application of the dust suppressant.

Unpaved Roads

- To date, there are nine (9) speed limit signs that are posted along the roadway entering the plant and throughout the plant. Signage states that all vehicular traffic on haul roads and site roads are restricted to 15 mph. Vehicular traffic will be advised to lower its off-road speed, based on off-road conditions due to weather, to a speed that generates minimal dust.
- Cane Run utilizes a water truck to keep the roadways, entrance and exit areas within the site wet in order to control dust. An additional water truck is on site as a backup or if needed to assist with watering efforts during hot/windy weather.
- The plant increased operating hours of the water truck to run continuously every weekday 12 hours per day during the summer, but may be extended by the Production Supervisor of Compliance or designee if weather conditions justified watering of unpaved roads. Weekend operation will be planned on an as-needed basis, based on weather forecast. An additional water truck is on site and available if needed, as determined by the landfill manager (or designee in his absence). The watering process will occur continuously during hours of landfill operation in dry conditions.
- The plant has posted a guard at the South gate near the 4/5 SPP to restrict unnecessary traffic to limit the potential for debris being deposited on a public road. In addition, a wheel wash station has been installed and utilized as needed in support of this effort.
- Dust awareness guidelines will be provided to applicable contractors. Attached is a copy of these guidelines.
- Unnecessary travel on these routes will be restricted by placing warning signs to discourage vehicle trespassing and controlling access to the site.
- Vegetation will be cleared only from those areas where work will occur immediately.
- Gravel, only as needed, will be applied to road surfaces to reduce dust emissions.

Paved Roads

- All passenger vehicles, including employee vehicles entering and leaving the facility, 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. Designated plant personnel will water down the area and then by hand sweep up the material.
- Roads will be maintained in such a manner as to prevent the tracking of debris onto any public road.
- A wheel wash is not needed due the exceptional length of the paved road from the plant's entrance to public roads.

Fly Ash Transfer Line

- Although historically it has not been an issue, the plant has taken additional measures to mitigate the possibility of a future occurrence.
- A thorough inspection was performed on all above ground sections of the fly ash transfer line. Sectional replacement components were installed from 4/17/2012 - 6/20/2012.
- The sections of pipe above ground have been wrapped with insulation to not only protect it from weathering, but additionally to act as a secondary containment should a crack occur in the future. This project began on 5/02/2012 and was completed on 7/31/2012.
- To further ensure continuous compliance, the length of pipe above ground will be visually inspected weekly. A log of the visual inspections will be maintained.

Unit 4, 5, and 6 Stack Maintenance Activities

Cane Run has developed a fan balance procedure that includes ensuring the full FGD system is in service, monitoring the stacks with newly installed video cameras, and having the fans ramped up slowly to minimize dust entrainment. Fan balancing occurred four times in 2010, three times in 2011, and three times in 2012 prior to implementation of the fan balancing procedures.

- Fan balancing is a maintenance activity, and requirements relative to startup, shutdown, or upset conditions are not applicable.
- For fan balancing events that are known or planned ahead of time, a one (1) day notification will be given to APCD by normal notification means. For all other fan balancing events, notification will be provided to APCD as soon as the decision has been made to balance the fan.

Odor Control of Ash Pond, E-Pond, South Basin and East Ditch

Cane Run is in the process of eliminating the E-pond as a settlement control and will construct a South Basin located approximately north of the current E-Pond. The South Basin will provide settlement control for the Ash Pond closure site and landfill runoff and move the potential source of odor farther from the neighborhood. Once the landfill is closed, the East Ditch will no longer be a source for landfill runoff thus eliminating the potential for odors. During the process of closing the ash pond, Cane Run will perform the following measures to control odor from the site.

- Contractors will notify the Production Supervisor of Compliance or designee 24 hours in advance when any digging is to occur in the East Ditch, E-Pond, South Basin and inactive areas of the ash pond. These ponds will be cleaned as needed, typically once a month.
- A courtesy call will be made to APCD on days that cleaning activity will take place in any of the areas referenced above as well as pro-active communication of these activities to the neighborhood. During cleaning activity, personnel will monitor surrounding areas for any objectionable odor and temporarily cease cleaning activity if the wind blows toward the neighborhood.

- On a case-by-case basis, and in compliance with Cane Run's land and water permits, the plant will use chlorination as a supplemental odor control procedure when cleaning the East Ditch or the drainage ditch south of the 4/5 SPP stacker pad. At this time, the South Ditch is nearly 100 percent full and will not be utilized for drainage in the near future. The East Ditch is typically unutilized and dry; however, in both ditches, while cleaning activities are occurring, chlorination will be used as needed based on determination by the Production Supervisor of Compliance or designee. The Production Supervisor of Compliance or designee will notify APCD when plant personnel detect off-site objectionable odors and will notify APCD when any changes are made to the ponds or ditches that may cause off-site objectionable odors.
- The pH levels of the ponds are monitored and maintained in accordance with the existing KPDES permit.
- During construction activity, daily meetings are held Monday through Friday between the Plant Production Supervisor of Compliance and the Project Lead to discuss the work plan for the next 3 days to ensure any potentially odor causing activity is known. Any concerns discussed during the meeting are communicated to the individuals supervising the project work as needed for mitigation. In addition, the Plant Production Supervisor of compliance conducts a weekly meeting with project personnel to ensure any changes to the controls are known and that all upcoming work is reviewed from a dust/odor risk perspective.

The previous measures have successfully mitigated the potential for objectionable odor as a result of plant operations. However, the scale of construction work at the plant presents a higher potential for this issue and therefore, the plant has commenced analysis of the following options to further reduce said potential. Implementation of one or more of these options (along with the previously discussed measures) will reduce these odors from objectionable to de minimis.

- Lime Slurry – This material utilized in FGD operation has a pH of greater than 9 sufficient to control odor causing bacteria and is readily available.
- Hydrogen Peroxide – an oxidizer that is effective in controlling sulfide and organic related odors in wastewater. It decomposes to oxygen and water which adds dissolved oxygen to the system and reduces Biological Oxygen Demand.
- Nalco product – Information is being acquired from a representative for products that are effective in controlling odors.

Construction Activities

- To minimize material track-out and transfer onto paved roads vehicles will be cleaned periodically to reduce the accumulation of material.
- Watering of roadways will be done on an as-needed basis.
- Mitigation procedures may include wetting of the material or covering of the trucks, to prevent fugitive emissions from trucks hauling dry material likely to become airborne.
- Watering will be used during any of the following construction activities:

- Road cutting, replacement, etc.
- Digging and/or excavating site property
- Storage piles

- The contractor, Bluegrass Power Constructors, has also implemented measures within its construction storm water pollution prevention plan for reducing potential dust emissions from construction activities. The following measures are outlined:
  - Water sprays, placing aggregate or shell rock, wind fencing, and physical or vegetative stabilization practices will be used for dust control as appropriate.
  - The vehicle tracking of sediment will be reduced by installing stabilized construction road entrances. If necessary, vehicles will be cleaned to remove excess mud, dirt, or rock prior to exiting from the construction site.
  - The main plant entrance road shall be street swept from the point of access to CR7 to Cane Run Road, as needed.
  - A wheel wash will be used 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.

Additional Measures

LG&E Cane Run Plant Manager will notify the District of any additional procedures that are implemented and will submit a revised dust control plan to reflect any new procedures.

The Plant Manager is responsible for implementing the procedures outlined in the dust control plan. The plan will be maintained on file at the Cane Run Generating Station for plant personnel to use and has been submitted to APCD for approval.

Plant Manager: David Tummonds

Section 4 - Primary Contact List

Personnel involved in activities that produce fugitive particulate emission and objectionable odors will continue to be made aware of the Cane Run Compliance Plan in place. 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 with equipment or processes contained within this plan. Mark Hussung should be used as the primary contact and Brandan Burfict as the secondary contact. 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 dust mitigation decisions. The contacts listed below are appropriate during business hours and after business hours.

1) Mark Hussung, Environmental Compliance Supervisor, Cane Run Station
   502-449-8857 (Office), 502-599-6320 (Cell)

2) Brandan Burfict, Environmental Engineer, Environmental Air Section
   502-627-2791 (Office), 502-991-1113 (Cell)

3) David Tummonds, General Manager, Cane Run Station
   502-449-8801 (Office), 502-381-4041 (Cell)

4) Park Payne, O & M Manager, Cane Run Station
   502-449-8853 (Office), 502-939-5796 (Cell)

5) Steve Noland, Manager, Environmental Air Section, LGE/KU
   502-627-2940 (office), 502-377-0340 (Cell)

*Note: The following attachments outline the standard operating procedures and other documents that are referenced in this plan. They include the training document that was used to train SPP operators, the Dust Suppressant Application Plan, fan balancing procedures and the dust awareness letter issued to contractors upon entering the plant property. The SOPs are current as of December 21, 2012 and may be changed as needed.

Attachment D - 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 § 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 E - Control Device Efficiencies and Determination Methods

Unit ID	Control ID	Description	Control Efficiency	Control Efficiency Determination Method[2]
U4	C1	ESP	N/A	CEMS used for compliance demo.
	C2	FGD	N/A	CEMS used for compliance demo.
	C7	dust collector	90%	Option 1.
U5	C3	ESP	N/A	CEMS used for compliance demo.
	C4	FGD	N/A	CEMS used for compliance demo.
	C8	dust collector	90%	Option 1.
U6	C5	ESP	N/A	CEMS used for compliance demo.
	C6	FGD	N/A	CEMS used for compliance demo.
	C9	dust collector	90%	Option 1.
U7	C11	Baghouse	95%	Option 1
	C12	Baghouse	95%	Option 1
	C13	Baghouse	95%	Option 1
	C14a	Wet cyclone	96%	Option 2, received 8/19/2011
	C14b	HEPA filter	95%	Option 1
	C15	Baghouse	95%	Option 1
	C16	Baghouse	95%	Option 1
U8	C18	Baghouse	95%	Option 1.
U14	C19	Scrubber	85%	Option 1.
	C20	Scrubber	85%	Option 1.
	C21	Scrubber	85%	Option 1.
	C22	Scrubber	85%	Option 1.
U15	C23	Cata. Oxidizer	50%	Option 2
	C24	Cata. Oxidizer	50%	Option 2
U19, U20		Watering	70%	Option 1

Note:

1. Options for control efficiency determination:
   Option 1: Use District pre-approved control efficiency.
   Option 2: Submit a guarantee with signature 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 guarantee with signature from the control device manufacturer stating the control device efficiency is higher (Option 2), or an approved stack test (Option 3), the pre-approved efficiency (Option 1) will be used in all calculations to demonstrate compliance with applicable standards and calculations for emission inventory.

3. General Testing Requirements (Regulation 2.16, section 4.1.9.1)

If testing is not required by the regulation but stack test results are used for emission calculations (Option 3), plant-wide the owner or operator shall retest the control devices within ten (10) years since the most recent District accepted performance test or within 180 days after the effective date of the permit if no previous test has been performed. For equipment which has been tested but not within ten years prior to the effective date of this permit the Company may submit within 90 days of the effective date of this permit, contingent on approval by the District, a schedule which shall at a minimum propose testing for all affected equipment within this permit cycle. Thereafter the Company shall retest each affected device at least once every 10 years. Devices of adequately similar design and filter media may be represented by a common performance test contingent upon review and approval by the District of the testing protocol. In lieu of the control efficiency testing, unless required by a Federal Regulation, the owner or operator may use the District pre-approved control efficiency (Option 1) or submit a signature guarantee from the control device manufacture stating the control device efficiency (Option 2).

The owner or operator shall construct all equipment in such a manner that the following testing requirements can be performed.

i. The owner or operator shall perform an EPA Reference Method (or equivalent methods that approved by the District) performance test. The test shall be performed at 90% or higher of maximum capacity, or allowable/permitted capacity, or at a level of capacity which results in the greatest emissions and is representative of the operations. Failure to perform the test, at maximum capacity, allowable/permitted capacity, or at a level of capacity which resulted in the greatest emissions, may necessitate a re-test or necessitate a revision of the allowable/permitted capacity of the process equipment depending upon the difference between the testing results and the limit.

ii. The owner or operator shall perform a capture efficiency test using EPA guidelines. In lieu of performing a capture efficiency test, the owner or operator may submit a reasonable estimate of capture efficiency with thorough justification subject to approval by the District.

iii. The owner or operator shall submit written compliance test plans (protocol) for the control efficiency and capture efficiency. They shall include the EPA test methods that will be used for compliance testing, the process operating parameters that will be monitored during the performance test, and the control device performance indicators (e.g. pressure drop, minimum combustion chamber temperature) that will be monitored during the performance test. The compliance test plans shall be furnished to the District at least 30 days prior to the actual date of the performance test. Attached to the permit is a Protocol Checklist for Performance Test for the information to be submitted in the protocol.

iv. The owner or operator shall be responsible for obtaining and analyzing audit samples when the EPA Reference Method is used to analyze samples to demonstrate compliance with the source's emission regulation. The audit samples shall be available for verification by the District during the onsite testing.

v. The owner or operator shall provide the District at least 10 days prior notice of any performance test to afford the District the opportunity to have an observer present.

vi. The owner or operator shall furnish the District with a written report of the results of the performance test within 60 days following the actual date of completion of the performance test.

vii. The owner or operator shall provide written notification to the District of the actual date of initial startup (only required for new equipment). The written notification shall be postmarked within 15 days after the effective date of the permit.

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

TITLE IV
PHASE II ACID RAIN PERMIT

Permit No.: 144-97-AR (R3) Plant ID: 0126

Effective Date: 11/18/2014 Expiration Date: 11/30/2019

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
Cane Run Generating Station
5252 Cane Run Road
Louisville, KY 40232

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: 2/7/1996

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	1/13/1999	N/A	Significant	Entire Permit	Added language and SO2 allowances to the tables for each unit
R2	08/30/2012	N/A	Reissuance	Entire Permit	Reissuance of the permit
R3	11/18/2014	08/30/2014	Renewal	Entire Permit	Renewal of the permit

Acid Rain Permit Conditions

1. SO_2 Allowance Allocations and NO_x Requirements for Unit U4

Unit U4: SO2 Allowances	**SO2 Allowances for Years 2008 - 2009**	**SO2 Allowances for Years 2010 and Beyond**
Table 2 of 40 CFR 73	4521*	2726*

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.

2. SO_2 Allowance Allocations and NO_x Requirements for Unit U5

Unit U5: SO2 Allowances	**SO2 Allowances for Years 2008 – 2009 (tons)**	**SO2 Allowances for Years 2010 and Beyond (tons)**
Table 2 of 40 CFR 73	4,340*	4,330*

Unit U5: 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 5. 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.

3. SO_2 Allowance Allocations and NO_x Requirements for Unit U6

Unit U6: SO2 Allowances	**SO2 Allowances for Years 2008 – 2009 (tons)**	**SO2 Allowances for Years 2010 and Beyond (tons)**
Table 2 of 40 CFR 73	5,498*	5,436*

Unit U6: 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 6. 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.

4. SO_2 Allowance Allocations and NO_x Requirements for Unit U15

Unit U15: SO2 Allowances	**SO2 Allowances for Years 2008 – 2009 (tons)**	**SO2 Allowances for Years 2010 and Beyond (tons)**
Table 2 of 40 CFR 73	0*	0*

Unit U15: NOx Requirements	
NOx Limit	This emission unit currently does not have applicable NOx limits set by 40 CFR 76.

* For newly constructed emission unit, there are no SO2 allowances per EPA Acid Rain Program. A minimum balance of "0" SO_2 allowances shall be maintained in the account. If there are not enough SO_2 allowances to cover the SO_2 produced by U15 for the calendar year, SO_2 allowances shall be transferred to the U15 account by the allowance transfer deadline[1] by March 1 of the following calendar year, to maintain a minimum balance of "0" SO_2 allowances.

Allowable transfer deadline by definition is midnight of March 1 and is the deadline by which allowances may be submitted for recordation in an affected source's compliance account for the purposes of meeting the source's Acid Rain emissions limitation requirements for the sulfur dioxide for the previous calendar year.(CFR 72 Subpart A §72.2, CFR 73 Subpart B §73.20(d)(2))

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:

(1) Affected emission units are two (2) existing dry bottom wall-fired boilers, one (1) existing tangentially fired boiler, and one (1) new natural gas-fired combined cycle (NGCC) electricity generating unit.

(2) A revised Phase II NO_x Compliance Plan was received on June 27, 2008, including the existing emission unit.

(3) All previously issued Acid Rain permits are hereby null and void.

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 NO_x under the plan only if the requirements under 40 CFR 76.11(d)(1) are met.