



**LOUISVILLE METRO
AIR POLLUTION CONTROL DISTRICT
850 Barret Ave., Louisville, Kentucky 40204**



Title V Operating Permit

Permit No: 89-97-TV (R1)

Plant ID: 0148

Effective Date: 09/30/2009

Expiration Date: 09/30/2014

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

**Louisville Medical Center Steam Plant
235 Abraham Flexner Way
Louisville, Kentucky 40202-1817**

The applicable procedures of District Regulation 2.16 regarding review by the U.S. EPA and public participation have been followed in the issuance of this permit. Based on review of the application on file with the District, permission is given to operate under the conditions stipulated herein. If a renewal permit is not issued prior to the expiration date, the owner or operator may continue to operate in accordance with the terms and conditions of this permit beyond the expiration date, provided that a complete renewal application is submitted to the District no earlier than eighteen (18) months and no later than one-hundred eighty (180) days prior to the expiration date.

Responsible Official (RO) Ed Dusch

Application Received: 07-15-2004

RO Title General Manager

Application Number: 10462

Permit Writer Yiqiu Lin

Date Application Administratively Complete: 09-13-2004

Public Notice Date: 06-15-2009

Proposed Permit Date: 7-17-2009


Air Pollution Control Officer

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Title V Permit Revisions/Changes

Revision No.	Issue Date	Public Notice Date	Type	Attachment No./Page No.	Description
N/A	01/31/2000	11/21/1999	Initial	Entire Permit	Initial Permit Issuance
R1	09/04/2009	06/15/2009	Renewal	Entire Permit	Scheduled Permit Renewal; Incorporation of Construction Permit 244-08-C for Boiler Modification and Revised NOx RACT Plan.

Abbreviations and Acronyms

AFS	-	Airs Facility Subsystem
AIRS	-	Aerometric Information Retrieval System
APCD	-	Air Pollution Control District
ASL	-	Adjusted Significant Level
atm	-	Atmosphere
BACT	-	Best Available Control Technology
Btu	-	British Thermal Unit
CEMS	-	Continuous Emission Monitoring System
CAAA	-	Clean Air Act Amendments (15 November 1990)
HAP	-	Hazardous Air Pollutant
hr	-	hour
lbs	-	Pounds
l	-	Liter
MACT	-	Maximum Achievable Control Technology
m	-	Meter
mg	-	Milligram
mm	-	Millimeter
MM	-	Million
MOCS	-	Management of Change System
NAICS	-	North American Industry Classification System
NSR	-	New Source Review
NO _x	-	Nitrogen oxides
NSPS	-	New Source Performance Standards
PM	-	Particulate Matter
PM ₁₀	-	Particulate matter less than 10 microns
ppm	-	Parts per million
PSD	-	Prevention of Significant Deterioration
PMP	-	Preventive Maintenance Plan
psia	-	Pounds per square inch absolute
RACT	-	Reasonably Available Control Technology
SC	-	Specific Condition
SIC	-	Standard Industrial Classification
SIP	-	State Implementation Plan
SO ₂	-	Sulfur dioxide
TAC	-	Toxic Air Contaminant
TAL	-	Threshold Ambient Limit
TAP	-	Toxic Air Pollutant
tpy	-	Tons per year
UTM	-	Universal Transverse Mercator
VOC	-	Volatile Organic Compound

Preamble

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

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

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

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

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

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

The source's Title V permit may include a list of "insignificant activities," as defined in District Regulation 2.16, section 1.22 which was current as of the date the permit was proposed for review by USEPA, Region 4. Activities so identified may be insignificant with regard to application disclosure requirements but may still have generally applicable requirements that continue to apply. No periodic monitoring shall be required for facilities designated as insignificant activities.

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 directly to the following address as well as to the District, as set forth in Regulation 2.16, section 4.3.5.4:

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

3. **Compliance Schedule** - A compliance schedule must meet the requirements of Regulation 2.16, section 3.5.9.5. The owner or operator shall submit a schedule of compliance for each emission unit that is not in compliance with all applicable requirements. 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, it 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. 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.
 - 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. 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 1.3)

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. (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:

- 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. (Regulation 2.16, section 4.3.2)

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. 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 January 1st through June 30th and July 1st through December 31st of each calendar year. All reports shall be postmarked by the 60th day following the end of each reporting period. 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. All semi-annual compliance reports shall include the following certification statement per Regulation 2.16.

- “Based on information and belief formed after reasonable inquiry, I certify that the statements and information in this document are true, accurate, and complete”.
- Signature and title of company responsible official.

If a change in the “Responsible Official” (RO) occurs during the term of this permit, the owner or operator shall provide written notification (Form 9400-A or Form AP-0208) to the District within 30 calendar days following the date a change in the designated RO occurs for this facility.

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

<u>Reporting Period</u>	<u>Report Due Date</u>
January 1 through June 30	August 29 th
July 1 through December 31	March 1 st

Note:

¹ The date for leap years is February 29.

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, sections 2.3 and 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 Revocation and Termination 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 5.11.1.1 through 5.11.1.5. For purposes of Section 5, 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, 3.4, 3.5, 4.1.13.6, 5.8.5 and 5.11.7 shall be submitted to:

*Louisville Metro Air Pollution Control District
850 Barret Ave
Louisville, KY 40204-1745*

- b. Documents which 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 the following address:

*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 Provisions
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 and Reporting
1.07	Emissions During Shutdowns, Malfunctions, Startups, and Emergencies
1.08	Administrative Procedures
1.09	Prohibition of Air Pollution
1.10	Circumvention
1.11	Control of Open Burning
1.14	Control of Fugitive Particulate Emissions
2.01	General Application
2.02	Air Pollution Regulation Requirements and Minor Facility Exemptions
2.03	Permit Requirements - Non-Title V Construction and Operating Permits and Demolition/Renovation Permits

Regulation	Title
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 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
6.01	General Provisions (Existing Affected Facilities)
6.02	Emission Monitoring for Existing Sources
7.01	General Provisions (New Affected Facilities)

District Only Enforceable:

Regulation	Title
1.12	Control of Nuisances
1.13	Control of Objectionable Odors
2.08	Emission Fee, Permit Fees and Permit Renewal Procedures
5.01	Standards for Toxic Air Contaminants and Hazardous air Pollutants
5.11	Standards of Performance for Existing Sources Emitting Toxic Air Pollutants
5.12	Standards of Performance for New or Modified Sources Emitting Toxic Air Pollutants
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 normally containing 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 40CFR82 Subpart A, Production and Consumption Controls. (Regulation 2.16, section 4.1.5)

Emission Unit U1: Three (3) steam boilers designated as Boiler #1, #2, and #3

U1 Applicable Regulations:

FEDERALLY ENFORCEABLE REGULATIONS		
Regulation	Title	Applicable Sections
2.04	Construction or Modification of Major Sources in or Impacting Upon Non-attainment Areas (Emission Offset Requirements)	1 through 10
6.07	Standards of Performance for Existing Indirect Heat Exchangers	1 through 4
6.42	Reasonably Available Control Technology Requirements for Major Volatile Organic Compound and Nitrogen Oxides Emitting Facilities	1, 2, 3, 4.3, 5
7.06	Standards of Performance for New Indirect Heat Exchangers	1 through 6
40 CFR 60 Subpart D _c	Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units	60.40c through 60.48c
40 CFR 64	Compliance Assurance Monitoring for Major Stationary Sources	64.1 through 64.10

DISTRICT ONLY ENFORCEABLE REGULATIONS		
Regulation	Title	Applicable Sections
5.01	General Provisions	1 through 4
5.20	Methodology for Determining Benchmark Ambient Concentration of a Toxic Air Contaminant	1 through 6
5.21	Environmental Acceptability for Toxic Air Contaminants	1 through 5
5.22	Procedures for Determining the Maximum Ambient Concentration of a Toxic Air Contaminant	1 through 5
5.23	Categories of Toxic Air Contaminants	1 through 6
7.02	Federal New Source Performance Standards Incorporated by Reference	3.11

U1 Equipment:

Emission Point	Description	Applicable Regulation	Control ID
E1	One (1) natural gas fired boiler with low NO _x burners, designated as Boiler #1, with a rated heat input capacity of 56 MMBtu/hr, make VOGT, model CL-VS, SN-7152.	7.06, 6.42, and 40CFR60 Subpart D _c	N/A
E2	One (1) boiler using natural gas as primary fuel and coal as the secondary fuel, designated as Boiler #2, with a rated heat input capacity of 56 MMBtu/hr, make VOGT, model CL-VS, SN-7639.	6.07 and 6.42	C2
E3	One (1) coal-fired boiler designated as Boiler #3, with a rated heat input capacity of 56 MMBtu/hr, make VOGT, model CL-VS, SN-7861	6.07 and 6.42	C3

U1 Control Devices:

ID	Description	Performance Indicator	Stack ID
C2	One (1) multi-cyclone dust collector with 25 tubes, make Universal Oil Products, model 104 BWHT 5-25	N/A	S1
C3	One (1) multi-cyclone dust collector with 25 tubes, make Universal Oil Products, model 104 BWHT 5-25	N/A	

U1 Specific Conditions

S1. Standards (Regulation 2.16, section 4.1.1)

a. NO_x

- i. The owner or operator shall comply with the following NO_x emission standards specified in the NO_x RACT Plan (Amendment 2) that was adopted by the Air Pollution Control Board of Jefferson County on March 19, 2008. (See Attachment A) (Regulation 6.42, section 4.3)

P/PE	Capacity (MMBtu/hr)	Fuel Types	NO_x Emission Limit (lb/MMBtu, based on 30 day averaging period)
Boiler #1	56	Natural Gas	0.10
Boiler #2	56	Natural Gas or Coal	0.20 (Gas) 0.50 (coal)
Boiler #3	56	Coal	10% ACF

- ii. The owner or operator shall not allow or cause the total plant-wide heat input capacity from Boilers #1, #2, #3, #4, #5, and #6 combined to exceed 418 MMBtu/hr. The owner or operator shall not operate more than 5 boilers simultaneously. (Regulation 2.04)
- iii. Boiler #3 shall have a seasonal capacity factor of no greater than 10.0%. The term “seasonal capacity factor” means the ratio between the actual heat input to a boiler from fuel combusted during the period April 1 through October 31 and the potential heat input to the boiler had it been operated for 24 hours per day for each day during that period at the maximum steady state design heat input capacity. The maximum heat input capacity provided by the manufacturer shall be used unless the Medical Center determines the maximum heat input capacity using the heat loss method described in sections 5 and 7.3 of the ASME Power Test Codes 4.1.

b. SO₂

- i. The owner or operator shall not allow or cause the SO₂ emissions to exceed the following emission standards: (Permit 244-08-C) (Regulation 6.07, section 4 & Regulation 7.06, section 5)

P/PE	Emission Standard (lb/MMBtu, based on 30 day averaging period)
Boiler #1	0.80
Boiler #2	1.39 (Coal) 1.0 (Gas)
Boiler #3	1.39 (Coal)

- ii. The sulfur content of the coal combusted in the boilers shall not exceed 0.85% by weight. (Regulation 2.04) (See Comment 1)

c. PM

- i. The owner or operator shall not allow or cause the PM emissions to exceed the following emission standards: (Permit 244-08-C)

P/PE	Emission Standard (lb/MMBtu, based on 30 day averaging period)
Boiler #1	0.10
Boiler #2	0.288
Boiler #3	0.288

- ii. The ash content of the coal combusted in the boilers shall not exceed 8.0% by weight. (Regulation 2.04)
- iii. The owner or operator shall utilize the multi-cyclones C2 and C3 at all times the process 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 2.03, section 5.1)

d. Opacity

- i. For indirect heat exchangers subject to Regulation 6.07 (Boiler #2 and #3), the owner or operator shall not allow or cause the particulate emissions into the open air from any indirect heat exchanger which is greater than twenty percent (20%) opacity except for:
 - 1) Emissions into the open air of particulate matter from any indirect heat exchanger during building a new fire, cleaning the fire box, or blowing soot for a period or periods aggregating not more than ten minutes in any 60 minutes which are less than 40% opacity;

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

First 30 minutes - 80% opacity;
 Next hour - 60% opacity; and
 Next 2½ hours - 40% opacity.

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

- ii. For indirect heat exchangers subject to Regulation 7.06 (Boiler #1), the owner or operator shall not allow or cause the particulate emissions into the open air from any indirect heat exchanger which is greater than twenty percent (20%) opacity except for:
- iii. For indirect heat exchangers with a heat input capacity of less than 250 million BTU/hr, a maximum of 40% opacity shall be permissible for not more than two consecutive minutes in any 60 consecutive minutes;
- iv. For indirect heat exchangers with heat input capacity of less than 250 million BTU/hr, a maximum of 40% opacity shall be permissible for not more than six consecutive minutes in any 60 consecutive minutes during cleaning the fire box or blowing soot; or
- v. For emissions from an indirect heat exchanger during building a new fire for the period required to bring the boiler up to operating conditions provided the method used is that recommended by the manufacturer and the time does not exceed the manufacturer's recommendations. (Regulation 7.06, section 4.2)

e. **TAC**

The owner or operator shall not allow any TAC emissions to exceed environmentally acceptable levels whether specifically established by modeling or derived from default de minimis levels provided by the District. The owner or operator shall not combust any fuels other than coal or natural gas without prior notification to, and approval by, the District. (Regulation 5.01, section 2 and 3)

S2. Monitoring (Regulation 2.16, section 4.1.9.1)

a. **NO_x**

See Specific Condition S3.a.

b. SO₂

See Specific Condition S3. b.

c. PM

- i. The owner or operator shall monitor and maintain records of the quantity and type of fuel combusted in each boiler during each calendar month and each consecutive 12-month period.
- ii. The owner or operator shall monitor and maintain records that show the ash content of each shipment of coal.
- iii. The owner or operator shall, monthly, perform a visual inspection of the structural and mechanical integrity of the multi-cyclones C2 and C3 for signs of damage, air leakage, corrosion, etc. and repair and/or replace defective components within 7 days after the equipment defect was first observed. (40 CFR 64) (See Comment 2)
- iv. The owner or operator shall, annually, clean the multi-cyclones C2 and C3. (40 CFR 64) (See Comment 2)
- v. The owner or operator shall monitor and maintain records that identify all periods of when the multi-cyclones C2 and C3 are damaged or not in use while the associated process equipment (Boiler #2 and #3) is in operation.

d. Opacity

- i. For each boiler when combusting natural gas, the owner or operator shall conduct a monthly one-minute visible emissions survey during normal process operation and daylight hours. No more than four emission points shall be observed simultaneously.

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

- ii. For each boiler when combusting coal, the owner or operator shall conduct a daily six minute visible emissions survey during normal process operation and daylight hours. No more than four emission points shall be observed simultaneously.

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

- iii. The owner or operator shall conduct a visible emission survey of the emission points during building a new fire, cleaning the fire box, blowing soot, or startup operation. At emission points where visible emissions are observed, the owner or operator shall perform or cause to be performed a Method 9 to demonstrate compliance with requirements in Specific Condition S1.d.

e. **TAC**

See Specific Condition S2.c.

S3. **Record Keeping** (Regulation 2.16, section 4.1.9.2)

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

a. **NO_x**

- i. The owner or operator shall maintain monthly records that show the quantity and type of fuel combusted in each boiler during each calendar month and each consecutive 12-month period.
- ii. The owner or operator shall monthly calculate the prorated fuel usage of the boiler by correlating the design heat input capacity of all natural gas fired units at the plant in case the separate natural gas usage records for each boiler are not available. (See Comment 4)
- iii. The owner or operator shall maintain daily records of the hours of operation for each boiler.
- iv. The owner or operator shall maintain the required records as specified in the NO_x RACT Plan in Attachment A of this permit.

b. **SO₂**

- i. See Specific Condition S3.a.i, ii, and iii.
- ii. The owner or operator shall maintain records that show the heating value and sulfur content of each shipment of coal.

c. **PM**

- i. See Specific Condition S3.a.i.
- ii. The owner or operator shall maintain records that show the ash content of each shipment of coal.
- iii. The owner or operator shall maintain monthly records of the results of each visual inspection of the structural and mechanical integrity of the multi-cyclones C2 and C3. The records shall include the date of the inspection, the name of the person that performed the inspection, identification and description of any equipment defects observed, and the date of repair or replacement of defective components.
- iv. The owner or operator shall maintain annual records for cleaning the multi-cyclones C2 and C3. The records shall include the date of the cleaning and the name of the person (or persons) that perform the cleaning.
- v. The owner or operator shall maintain daily records of any periods of time where the process (Boiler #2 or #3) was operating and the control device (multi-cyclone C2 or C3) was not operating or a declaration that the control device operated at all times that day when the process was operating.
- vi. If there is anytime that the control device (multi-cyclones C2 or C3) is 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) PM emissions for each hour during the bypass in lb/hr;
 - 5) Summary of the cause or reason for each bypass event;
 - 6) Corrective action taken to minimize the extent or duration of the bypass event; and
 - 7) Measures implemented to prevent reoccurrence of the situation that resulted in the bypass event.

d. **Opacity**

- i. When combusting natural gas, the owner or operator shall maintain monthly records of the results of all visible emissions surveys and Method 9 tests performed.

- ii. When combusting coal, the owner or operator shall maintain daily records of the results of all visible emissions surveys and Method 9 tests performed.
- iii. The owner or operator shall maintain records of results of all visible emissions surveys and Method 9 tests performed during building a new fire, cleaning the fire box, blowing soot, or startup operation.
- iv. The records described in (i) through (iii) of this section 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 period, then no visible emission survey needs to be performed and a negative declaration shall be entered in the record.

e. **TAC**

See Specific Condition S3.c.

S4. **Reporting** (Regulation 2.16, section 4.1.9.3)

a. **NO_x**

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

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

b. **SO₂**

i. The owner or operator shall identify all periods of exceeding a SO₂ emission standard during a semi-annual 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 quantity 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 SO₂ emissions;
 - 7) If no deviations occur during a semi-annual reporting period, the report shall contain a negative declaration.
- ii. Identification of any periods of combusting coal with sulfur content in excess of the standard of 0.85% by weight sulfur. If no exceedance occurs during a semi-annual reporting period, the report shall contain a negative declaration.
- c. **PM**
- i. The owner or operator shall identify all periods of exceeding a PM emission standard during a semi-annual 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 quantity 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;
 - 7) If no deviations occur during a semi-annual reporting period, the report shall contain a negative declaration.
- ii. For the multi-cyclone C2 and C3, the number and type of repairs made and/or replacement of equipment components during the semi-annual reporting period and a description of any corrective action taken. If no actions are taken during a semi-annual reporting period, the report shall contain a negative declaration.
- iii. Any deviation from the requirement to utilize the control device (multi-cyclone C2, and C3) at all times the process (Boiler #2 or #3) is in operation, including the following:
- 1) Number of times the process (Boiler #2 or #3) by-passes the control device (multi-cyclone C2 or C3) and is vented to the atmosphere;
 - 2) The date, duration (including the start and stop time) of each by-pass to the atmosphere;
 - 3) Calculated quantity of tons of PM emitted for each by-pass.

- 4) A negative declaration if no by-passes occurred.

d. Opacity

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

e. TAC

- i. The owner or operator shall submit notification to, and receive approval by, the District for any change in the type of fuel combusted in the boilers at this plant.
- ii. See Specific Condition S4.c.

S5. Testing (Regulation 6.43)

NO_x

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

U1 Comments

1. The 0.85% sulfur content limit was based on LAER for Boiler #6 and Offsets for other boilers for installing Boiler #6 in 1981 (Permit 348-81). The company requested this limit in a letter to the district dated June 8, 1981.
2. Louisville Medical Center Steam Plant (LMCSP) is major for PM, NO_x, SO₂, and CO, in which PM control devices are needed to achieve compliance with PM/Opacity standards. In accordance with 40 CFR 64, Compliance Assurance Monitoring for Major Stationary Sources, LMCSP is required to propose a CAM Plan for PM, based on current process and control device operating requirements and practices. The initial CAM Plan was received on July 15, 2004.

3. The federal regulation 40 CFR 63, Subpart DDDDD was vacated on June 8, 2007, therefore the District has not included the boiler MACT requirements in this permit. The company has submitted the Part 1 and Part 2 of the 112j permit application for the vacated boiler MACT (40 CFR 63 Subpart DDDDD), dated on March 5, 2009 and May 8, 2009 respectively. The District is evaluating how to implement this requirement.
4. For Boiler #1, 40 CFR 60 Subpart Dc (Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units) applies. In a letter dated March 7, 2002 from EPA Region 4, EPA has identified certain types of alternative record keeping requirements for units that are regulated under 40 CFR 60 Subpart Dc that can be approved by the District without additional input from EPA.
5. ISCST3 Tier 4 air dispersion modeling was performed by the Louisville-Metro Air Pollution Control District for all Category 1, 2, 3, and 4 TACs emitted from the five boilers operating at maximum heat input capacity to determine compliance with Environmental Acceptability Goals (EAG) per District regulation 5.21, section 2.2 for all TACs which exceeded the de minimis values established pursuant to Regulation 5.20. The individual and cumulative risks for all TACs comply with the Environmental Acceptability Goals in accordance with the STAR program requirements. Additional evaluation of elevated receptors was used by the LMAPCD to represent air intakes from several building locations surrounding the LMSCP. The elevated receptors did not represent the areas of highest concentrations.
6. The Louisville Medical Center Steam Plant requested to increase the plant-wide heat input capacity from the boilers from 362 MMBtu/hr to 418 MMBtu/hr. Regulation 2.04 allows an existing source to undergo a major modification provided the emissions will not cause a violation of a National Ambient Air Quality Standard. LMSCP converted Boiler #1 from coal to natural gas. There will not be an increase in the emissions from Boilers #2, #4, #5, and #6. The increase in emissions will result from removing the 10% ACF from Boiler #1, however, the conversion from coal to natural gas combustion for Boiler #1 allowed the company to “net-out” and PSD was not triggered.
7. This equipment was modified through Construction Permit #244-08-C.

Emission Unit U2: Three (3) steam boilers designated as Boiler #4, #5, and #6

U2 Applicable Regulations:

FEDERALLY ENFORCEABLE REGULATIONS		
Regulation	Title	Applicable Sections
2.04	Construction or Modification of Major Sources in or Impacting Upon Non-attainment Areas (Emission Offset Requirements)	1 through 10
6.07	Standards of Performance for Existing Indirect Heat Exchangers	1 through 4
6.42	Reasonably Available Control Technology Requirements for Major Volatile Organic Compound and Nitrogen Oxides Emitting Facilities	1, 2, 3, 4.3, 5
7.06	Standards of Performance for New Indirect Heat Exchangers	1 through 6
40 CFR 64	Compliance Assurance Monitoring for Major Stationary Sources	64.1 through 64.10

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

U2 Equipment:

Emission Point	Description	Applicable Regulation	Control ID
E4	One (1) boiler using coal as a primary fuel and natural gas as the secondary fuel, designated as Boiler #4, with a rated heat input capacity of 102 MMBtu/hr, make VOGT, model CL-VS, SN-11620.	6.07 and 6.42	C4, C7
E5	One (1) boiler using coal as a primary fuel and natural gas as the secondary fuel, designated as Boiler #5, with a rated heat input capacity of 102 MMBtu/hr, make VOGT, model CL-VS, SN-11621.	6.07 and 6.42	C5, C7
E6	One (1) coal-fired boiler designated as Boiler #6, with a rated heat input capacity of 100 MMBtu/hr, make VOGT, model CL-VS, SN-34028	7.06 and 6.42	C6, C7

U2 Control Devices:

ID	Description	Performance Indicator	Stack ID
C4	One (1) multi-cyclone dust collector with 48 tubes, make Universal Oil Products, model BWHS-48	N/A	S2
C5	One (1) multi-cyclone dust collector with 48 tubes, make Universal Oil Products, model BWHS-48	N/A	
C6	One (1) multi-cyclone dust collector with 48 tubes, make Universal Oil Products, model BWHS-48	N/A	
C7	One (1) baghouse with 4 cells, make American Air Filter, model 144 Fabri-Pulse	Pressure drop less than 6.0 inch of water	S2

U2 Specific Conditions

S1. Standards (Regulation 2.16, section 4.1.1)

a. NO_x

- i. The owner or operator shall comply with the following NO_x emission standards specified in the NO_x RACT Plan (Amendment 2) that was adopted by the Air Pollution Control Board of Jefferson County on March 19, 2008. (See Attachment A) (Regulation 6.42, section 4.3)

P/PE	Capacity (MMBtu/hr)	Fuel Types	NO_x Emission Limit (lb/MMBtu, based on 30 day averaging period)
Boiler #4	102	Natural Gas or Coal	0.20 (Gas) 0.50 (coal)
Boiler #5	102	Natural Gas or Coal	0.20 (Gas) 0.50 (coal)
Boiler #6	100	Coal	0.50

- ii. The owner or operator shall not allow or cause the total plant-wide heat input capacity from Boilers #1, #2, #3, #4, #5, and #6 combined to exceed 418 MMBtu/hr. The owner or operator shall not operate more than 5 boilers simultaneously. (Regulation 2.04)

b. SO₂

- i. The owner or operator shall not allow or cause the SO₂ emissions to exceed the following emission standards: (Permit 244-08-C)

P/PE	Emission Standard (lb/MMBtu, based on 30 day averaging period)
Boiler #4	0.87 (Gas) 1.29 (Coal)
Boiler #5	0.87 (Gas) 1.29 (Coal)
Boiler #6	1.69

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

c. PM

- i. The owner or operator shall not allow or cause the PM emissions to exceed the following emission standards: (Permit 244-08-C)

P/PE	Emission Standard (lb/MMBtu, based on 30 day averaging period)
Boiler #4	0.275
Boiler #5	0.275
Boiler #6	0.163

- ii. The ash content of the coal combusted in the boilers shall not exceed 8.0% by weight. (Regulation 2.04)
- iii. The owner or operator shall utilize the multi-cyclones s C4-C6 and baghouse C7 at all times the process 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 2.03, section 5.1)

d. Opacity

- i. For indirect heat exchangers subject to Regulation 6.07 (Boiler #4 and #5), the owner or operator shall not allow or cause the particulate emissions into the open air from any indirect heat exchanger which is greater than twenty percent (20%) opacity except for:
 - 1) Emissions into the open air of particulate matter from any indirect heat exchanger during building a new fire, cleaning the fire box, or blowing soot for a period or periods aggregating not more than ten minutes in any 60 minutes which are less than 40% opacity;
 - 2) Emissions from waterwall spreader-stoker indirect heat exchangers during startup operations if the emissions do not exceed the following limits:
 - First 30 minutes - 80% opacity;
 - Next hour - 60% opacity; and
 - Next 2½ hours - 40% opacity.
 - 3) Emissions up to 40% opacity from all other waterwall indirect heat exchangers for any 30-minute period during startup operations. (Regulation 6.07, section 3.2 and 3.3)

- ii. For indirect heat exchangers subject to Regulation 7.06 (Boiler #6), the owner or operator shall not allow or cause the particulate emissions into the open air from any indirect heat exchanger which is greater than twenty percent (20%) opacity except for:
 - 1) For indirect heat exchangers with a heat input capacity of less than 250 million BTU/hr, a maximum of 40% opacity shall be permissible for not more than two consecutive minutes in any 60 consecutive minutes;
 - 2) For indirect heat exchangers with heat input capacity of less than 250 million BTU/hr, a maximum of 40% opacity shall be permissible for not more than six consecutive minutes in any 60 consecutive minutes during cleaning the fire box or blowing soot; or
 - 3) For emissions from an indirect heat exchanger during building a new fire for the period required to bring the boiler up to operating conditions provided the method used is that recommended by the manufacturer and the time does not exceed the manufacturer's recommendations. (Regulation 7.06, section 4.2)

e. **TAC**

The owner or operator shall not allow any TAC emissions to exceed environmentally acceptable levels whether specifically established by modeling or derived from default de minimis levels provided by the District. The owner or operator shall not combust any fuels other than coal or natural gas without prior notification to, and approval by, the District. (Regulation 5.01, section 2 and 3)

S2. **Monitoring** (Regulation 2.16, section 4.1.9.1)

a. **NO_x**

See Specific Condition S3.a.

b. **SO₂**

See Specific Condition S3. b.

c. **PM**

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

- ii. The owner or operator shall monitor and maintain records that show the ash content of each shipment of coal.
- iii. The owner or operator shall, monthly, perform a visual inspection of the structural and mechanical integrity of the multi-cyclones s C4-C6 and baghouse C7 for signs of damage, air leakage, corrosion, etc. and repair and/or replace defective components within 7 days after the equipment defect was first observed. (40 CFR 64) (See Comment 1)
- iv. The owner or operator shall, annually, clean the multi-cyclones C4-C6 and baghouse C7. (40 CFR 64) (See Comment 1)
- v. The owner or operator shall monitor and record the pressure drop across baghouse C7 every 2 hours. The normal pressure drop range is 3 to 5 inches water column. The owner or operator shall take corrective action if the pressure drop across the baghouse is 6 inches water column or greater. (40 CFR 64) (See Comment 1)
- vi. The owner or operator shall monitor and maintain records that identify all periods of when the multi-cyclones s C4-C6 and baghouse C7 are damaged or not in use while the associated process equipment (Boiler #4, #5, and #6) is in operation.

d. **Opacity**

- i. For each boiler when combusting natural gas, the owner or operator shall conduct a monthly one-minute visible emissions survey during normal process operation and daylight hours. No more than four emission points shall be observed simultaneously.

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

- ii. For each boiler when combusting coal, the owner or operator shall conduct a daily six minute visible emissions survey during normal process operation and daylight hours. No more than four emission points shall be observed simultaneously.

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

- iii. The owner or operator shall conduct a visible emission survey of the emission points during building a new fire, cleaning the fire box, blowing soot, or startup operation. At emission points where visible emissions are observed, the owner or operator shall perform or cause to be performed a Method 9 to demonstrate compliance with requirements in Specific Condition S1.d.

e. **TAC**

See Specific Condition S2.c.

S3. **Record Keeping** (Regulation 2.16, section 4.1.9.2)

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

a. **NO_x**

- i. The owner or operator shall maintain monthly records that show the quantity and type of fuel combusted in each boiler during each calendar month and each consecutive 12-month period.
- ii. The owner or operator shall monthly calculate the prorated fuel usage of the boiler by correlating the design heat input capacity of all natural gas fired units at the plant in case the separate natural gas usage records for each boiler are not available. (See Comment 3)
- iii. The owner or operator shall maintain daily records of the hours of operation for each boiler.
- iv. The owner or operator shall maintain the required records as specified in the NO_x RACT Plan in Attachment A of this permit.

b. **SO₂**

- i. See Specific Condition S3.a.i, ii, and iii.
- ii. The owner or operator shall maintain records that show the heating value and sulfur content of each shipment of coal.

c. **PM**

- i. See Specific Condition S3.a.i.

- ii. The owner or operator shall maintain records that show the ash content of each shipment of coal.
- iii. The owner or operator shall maintain monthly records of the results of each visual inspection of the structural and mechanical integrity of the multi-cyclones C4-C6 and baghouse C7. The records shall include the date of the inspection, the name of the person that performed the inspection, identification and description of any equipment defects observed, and the date of repair or replacement of defective components.
- iv. The owner or operator shall maintain annual records for cleaning the multi-cyclones C4-C6 and baghouse C7. The records shall include the date of the cleaning and the name of the person(s) that perform the cleaning.
- v. The owner or operator shall maintain records of the results of the pressure drop readings for baghouse C7 as required by Specific Condition S2.c.v.
- vi. The owner or operator shall maintain daily records of any periods of time where the process (Boiler #4, #5, or #6) was operating and the control device (multi-cyclone C4, C5, C6 or baghouse C7) was not operating or a declaration that the control device operated at all times that day when the process was operating.
- vii. If there is anytime that the control device (multi-cyclone C4, C5, C6 or baghouse C7) is 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) PM emissions for each hour during the bypass in lb/hr;
 - 5) Summary of the cause or reason for each bypass event;
 - 6) Corrective action taken to minimize the extent or duration of the bypass event; and
 - 7) Measures implemented to prevent reoccurrence of the situation that resulted in the bypass event.

d. Opacity

- i. When combusting natural gas, the owner or operator shall maintain monthly records of the results of all visible emissions surveys and Method 9 tests performed.

- ii. When combusting coal, the owner or operator shall maintain daily records of the results of all visible emissions surveys and Method 9 tests performed.
- iii. The owner or operator shall maintain records of results of all visible emissions surveys and Method 9 tests performed during building a new fire, cleaning the fire box, blowing soot, or startup operation.
- iv. The records described in (i) through (iii) of this section 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 period, then no visible emission survey needs to be performed and a negative declaration shall be entered in the record.

e. **TAC**

See Specific Condition S3.c.

S4. **Reporting** (Regulation 2.16, section 4.1.9.3)

a. **NO_x**

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

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

b. **SO₂**

i. The owner or operator shall identify all periods of exceeding a SO₂ emission standard during a 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 quantity 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 SO₂ emissions;
 - 7) If no deviations occur during a semi-annual reporting period, the report shall contain a negative declaration.
- ii. Identification of any periods of combusting coal with sulfur content in excess of the standard of 0.85% by weight sulfur. If no exceedance occurs during a semi-annual reporting period, the report shall contain a negative declaration.
- c. **PM**
- i. The owner or operator shall identify all periods of exceeding a PM emission standard during a 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 quantity 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;
 - 7) If no deviations occur during a semi-annual reporting period, the report shall contain a negative declaration.
- ii. For the multi-cyclone C4-C6 and baghouse C7, the number and type of repairs made and/or replacement of equipment components during the reporting period and a description of any corrective action taken. If no actions are taken during a semi-annual reporting period, the report shall contain a negative declaration.
- iii. Any deviation from the requirement to utilize the control device (multi-cyclone C1, C2, C3 and baghouse C7) at all times the process (Boiler #4, #5, or #6) is in operation, including the following:
- 1) Number of times the process (Boiler #4, #5, or #6) by-passes the control device (multi-cyclone C1, C2, C3 and baghouse C7) and is vented to the atmosphere;
 - 2) The date, duration (including the start and stop time) of each by-pass to the atmosphere;
 - 3) Calculated quantity of tons of PM emitted for each by-pass.

- 4) A negative declaration if no by-passes occurred.

d. Opacity

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

e. TAC

- i. The owner or operator shall submit notification to, and receive approval by, the District for any change in the type of fuel combusted in the boilers at this plant.
- ii. See Specific Condition S4.c.

S5. Testing (Regulation 6.43)

NO_x

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

U2 Comments

1. Louisville Medical Center Steam Plant (LMCSP) is major for PM, NO_x, SO₂, and CO, in which PM control devices are needed to achieve compliance with PM/Opacity standards. In accordance with 40 CFR 64, Compliance Assurance Monitoring for Major Stationary Sources, LMCSP is required to propose a CAM Plan for PM, based on current process and control device operating requirements and practices. The initial CAM Plan was received on July 15, 2004.
2. The federal regulation 40 CFR 63, Subpart DDDDD was vacated June 8, 2007, therefore the District has not included the boiler MACT requirements in this permit. The company has submitted the Part 1 and 2 112j permit application for the vacated boiler MACT (40 CFR 63 Subpart DDDDD). The District is evaluating how to implement this requirement.

3. ISCST3 Tier 4 air dispersion modeling was performed by the Louisville-Metro Air Pollution Control District for all Category 1, 2, 3, and 4 TACs emitted from the five boilers operating at maximum heat input capacity to determine compliance with Environmental Acceptability Goals (EAG) per District regulation 5.21, section 2.2 for all TACs which exceeded the de minimis values established pursuant to Regulation 5.20. The individual and cumulative risks for all TACs comply with the Environmental Acceptability Goals in accordance with the STAR program requirements. Additional evaluation of elevated receptors was used by the LMAPCD to represent air intakes from several building locations surrounding the LMSCP. The elevated receptors did not represent the areas of highest concentrations.
4. The Louisville Medical Center Steam Plant requested to increase the plant-wide heat input capacity from the boilers from 362 MMBtu/hr to 418 MMBtu/hr. Regulation 2.04 allows an existing source to undergo a major modification provided the emissions will not cause a violation of a National Ambient Air Quality Standard. LMSCP converted Boiler #1 from coal to natural gas. There will not be an increase in the emissions from Boilers #2, #4, #5, and #6. The increase in emissions will result from removing the 10% ACF from Boiler #1. However, the conversion from coal to natural gas combustion for Boiler #1 allowed the company to “net-out” and PSD was not triggered.
5. This equipment was modified through Construction Permit #244-08-C.

Emission Unit U3: One (1) ash handling and transfer operation

U3 Applicable Regulations:

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

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

U3 Equipment:

Emission Point	Description	Applicable Regulation	Control ID
E7-a	One (1) bottom ash hopper	6.09	N/A
E7-b	One (1) ash grinder	6.09	N/A
E7-c	One (1) sifter hopper	6.09	N/A
E7-d	One (1) ash silo	6.09	C8, C9
E7-e	One (1) truck loading operation	6.09	N/A

U3 Control Devices:

ID	Description	Performance Indicator	Stack ID
C8	One (1) three bag bin vent filter, make Beaumont Birch, model 176B	Pressure drop less than 2.0 inch of water	N/A
C9	One (1) air washer	N/A	N/A

U3 Specific Conditions

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

a. **PM**

The owner or operator shall not allow PM emissions to exceed 5.95 lb/hr for each piece of equipment. (Regulation 6.09, section 3.2) (See Comment 1)

b. **Opacity**

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

c. **TAC**

The owner or operator shall not allow any TAC emissions to exceed environmentally acceptable levels whether specifically established by modeling or derived from default de minimis levels provided by the District. The owner or operator shall not increase the TAC content in a raw material or substitute any raw materials or additional TACs for those identified in the initial permit application for this process or equipment that would result in an increase in the quantity of a TAC without prior notification to, and approval by, the District. (Regulation 5.01, section 3.)

S2. **Monitoring** (Regulation 2.16, section 4.1.9.1)

a. **PM**

There are no monitoring requirements for this equipment. (See Comment 1)

b. **Opacity**

The owner or operator shall conduct a monthly one-minute visible emissions survey, during normal operation and daylight hours, 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.

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

c. **TAC**

See Comment 2.

S3. **Record Keeping** (Regulation 2.16, section 4.1.9.2)

a. **PM**

There are no record keeping requirement for this pollutant. (Comment 1)

b. **Opacity**

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

c. **TAC**

See Comment 2.

S4. **Reporting** (Regulation 2.16, section 4.1.9.3)

a. **PM**

There are no reporting requirements for this pollutant. (See Comment 1)

b. **Opacity**

- i. Emission Unit ID number and Emission point ID number;
- ii. The beginning and ending date of the reporting period;
- iii. The date, time and results of each Method 9 that exceeded the opacity standards;
- iv. The number of surveys that visible emissions were observed;
- v. Description of any corrective action taken; and
- vi. If no deviations occur during a semi-annual reporting period, the report shall contain a negative declaration.

c. **TAC**

The owner or operator shall submit notification to the District for approval any raw material change that increases the TAC content or adds additional TACs not identified in the permit application.

U3 Comments

1. The District performed a one-time PM demonstration on December 17, 2008 and the PM standard for this unit cannot be exceeded uncontrolled. Therefore there are no monitoring, record keeping, and reporting requirements for PM and CAM would not be applicable.
2. This equipment is subject to STAR and the Environmental Acceptability Demonstration (EA Demo) is under review and negotiation.

Emission Unit U4: One (1) emergency generator

U4 Applicable Regulations:

FEDERALLY ENFORCEABLE REGULATIONS		
Regulation	Title	Applicable Sections
1.09	Prohibition of Air Pollution	All
6.09	Standards of Performance for Existing Process Operations	1, 2, 3

U4 Equipment:

Emission Point	Description	Applicable Regulation	Control ID
E9	One (1) diesel fueled emergency generator rated at 1200 HP (800 KW), make Caterpillar, model 339	1.09 and 6.09	N/A

U4 Control Devices:

There are no control devices associated with Emission Unit U4.

U4 Specific Conditions**S1. Standards** (Regulation 2.16, section 4.1.1)**a. Unit Operation**

- i. The owner or operator shall not allow or cause the emission of air pollutants which exceed the requirements of the District regulations or which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public or which endanger the comfort, repose, health, or safety of any such persons or the public or which cause or have a natural tendency to cause injury or damage to business or property. (Regulation 1.09)
- ii. The owner or operator shall limit the operation of this unit to five hundred (500) hours in any 12 consecutive month period. (Regulation 2.03, section 5.1)

b. Opacity

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

c. PM

The owner or operator shall not allow particulate emissions to exceed 2.58 pounds per hour. (Regulation 6.09, section 3.2) (See Comment 3)

d. NO_x

See Comment 4. (Regulation 6.09, section 4)

S2. Monitoring (Regulation 2.16, section 4.1.9.1)**a. Unit Operation**

See Specific Condition S3.a.

b. Opacity

The owner or operator shall conduct a one-minute visible emissions survey of the exhaust from the generator stack, each month during maintenance test runs. Such visible emissions surveys shall be conducted under normal operation and during daylight hours. If no maintenance test runs are made during a month, then a record shall be made to that effect.

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 Federal Reference Method 9 opacity observation, in accordance with 40 CFR Part 60, Appendix A, within 24 hours of the initial observation.

c. **PM**

There are no compliance monitoring requirements for this equipment. (See Comment 3)

d. **NO_x**

See Comment 4.

S3. **Record Keeping** (Regulation 2.16, section 4.1.9.2)

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

a. **Unit Operation**

- i. The owner or operator shall record, on the first working day after the end of each month, the unit's running time meter reading, and calculate (by difference) and record, the unit's operating time for the previous month, to the nearest tenth of an hour, for compliance with the annual hourly time standard of Specific Condition S1.a.ii.
- ii. As a back-up to Specific Condition S3.a.i., the owner or operator shall, when needed, manually record, monthly, the number of hours the unit was operated that month. For days during the month on which the unit was not operated, a monthly record shall be made of each day that the unit did not run (DNR).
- iii. The owner or operator shall calculate and record, monthly, the monthly and 12 consecutive month total hours of operation of the unit.
- iv. The owner or operator shall record, monthly, the amount of fuel combusted in the unit during that month. The owner or operator may as an alternate; record an estimate of the amount of fuel combusted based on the run time of the unit.

b. **Opacity**

The owner or operator shall maintain records, monthly, of the results of all visible emissions surveys and tests conducted each month. 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, the color of any observed visible emissions and what if any corrective action was performed. If the generator is not being operated during a given month, then no visible emission survey needs to be performed; however, a negative declaration or DNR shall be entered in the record for that month.

c. **PM**

There are no compliance record keeping requirements for this equipment. (See Comment 3)

d. **NO_x**

See Comment 4.

S4. **Reporting** (Regulation 2.16, section 4.1.9.3)

a. **Unit Operation**

- i. The company name.
- ii. The beginning and ending date of the reporting period.
- iii. The calendar month and consecutive 12-month generator operation hours for each month in the reporting period.
- iv. Identification and description of all periods of deviations from the permit requirements.
- v. If no deviations from permit requirements occur during a reporting period, the owner or operator shall submit a negative declaration stating that no permit deviations occurred during the reporting period.

b. **Opacity**

The owner or operator shall report all deviations from opacity requirements. If no deviations from the from permit requirements occur during a reporting period, the owner or operator shall submit a negative declaration stating that no permit deviations occurred during the reporting period for opacity.

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

- vi. If no deviations from permit requirements occur during a reporting period, the owner or operator shall submit a negative declaration stating that no permit deviations occurred during the reporting period.

- c. **PM**

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

- d. **NO_x**

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

U4 Comments

1. The associated 1000 gallon internal storage tank for diesel fuel is exempt from District permitting requirements in accordance with Regulation 2.02, section 2.3.9.2.

2. Potential emissions for this permitted operation are greatest for nitrogen oxides (NO_x). Based on AP-42 Emission Factors and an operational limit of 500 hours per year, the potential NO_x emissions for this permitted operation are less than 10 tons per year.

3. The District has determined that compliance with the PM standard is demonstrated by a one-time determination using AP-42 factors along with maximum fuel consumption data and/or brake horsepower rating.

4. The District has determined that diesel engine generator sets used solely for emergency or backup service are not subject to Regulation 6.09, section 4.

Emission Unit U5: One (1) coal handling and transfer operation

U5 Applicable Regulations:

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

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

U5 Equipment:

Emission Point	Description	Applicable Regulation	Control ID
E10-a	One (1) truck unloading operation	6.09	N/A
E10-b	One (1) conveyor used to transfer coals from truck hopper to receiver	6.09	N/A
E10-c	One (1) receiver	6.09	N/A
E10-d	One (1) bucket elevator	6.09	N/A
E10-e	One (1) conveyor used to transfer coals from bucket elevator to bunker	6.09	N/A
E10-f	One (1) coal storage bunker	6.09	N/A

Emission Point	Description	Applicable Regulation	Control ID
E10-g	One (1) moving scale	6.09	N/A
E10-h	One (1) stoker hopper	6.09	N/A

U5 Control Devices:

There are no control devices associated with Emission Unit U5.

U5 Specific Conditions

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

a. **PM**

The owner or operator shall not allow PM emissions to exceed 30.33 lb/hr for each piece of equipment. (Regulation 6.09, section 3.2) (See Comment 1)

b. **Opacity**

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

c. **TAC**

The owner or operator shall not allow any TAC emissions to exceed environmentally acceptable levels whether specifically established by modeling or derived from default de minimis levels provided by the District. The owner or operator shall not increase the TAC content in a raw material or substitute any raw materials or additional TACs for those identified in the initial permit application for this process or equipment that would result in an increase in the quantity of a TAC without prior notification to, and approval by, the District. (Regulation 5.01, section 3.)

S2. **Monitoring** (Regulation 2.16, section 4.1.9.1)

a. **PM**

There are no monitoring requirements for this equipment. (See Comment 1)

b. **Opacity**

The owner or operator shall conduct a monthly one-minute visible emissions survey, during normal operation and daylight hours, 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.

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

c. **TAC**

See Comment 2.

S3. **Record Keeping** (Regulation 2.16, section 4.1.9.2)

a. **PM**

There are no record keeping requirement for this equipment. (Comment 1)

b. **Opacity**

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

c. **TAC**

See Comment 2.

S4. **Reporting** (Regulation 2.16, section 4.1.9.3)

a. **PM**

There are no reporting requirements for this equipment. (See Comment 1)

b. **Opacity**

- i. Emission Unit ID number and Emission point ID number
- ii. The beginning and ending date of the reporting period
- iii. The date, time and results of each Method 9 that exceeded the opacity standards
- iv. The number of surveys that visible emissions were observed
- v. Description of any corrective action taken
- vi. If no deviations occur during a semi-annual reporting period, the report shall contain a negative declaration.

c. **TAC**

The owner or operator shall submit notification to the District for approval any raw material change that increases the TAC content or adds additional TACs not identified in the permit application.

U5 Comments

1. The District performed a one-time PM demonstration on December 17, 2008 and the PM standard for this unit cannot be exceeded uncontrolled. Therefore there are no monitoring, record keeping, and reporting requirements for PM. Also CAM is not applicable for this same reason.
2. This equipment is subject to STAR and the Environmental Acceptability Demonstration (EA Demo) is under review and negotiation.

Attachment A**NO_x RACT Plan (Amendment 2)**

1. The oxides of nitrogen (NO_x, expressed as NO₂) emission from each of Boiler #2, Boiler #4, and Boiler #5 while natural gas is combusted in that boiler shall not exceed 0.20 pound per million Btu of heat input based on a 30 day rolling average period.
2. The NO_x (expressed as NO₂) emission from Boiler #1 while natural gas is combusted shall not exceed 0.10 pound per million Btu of heat input based on a 30 day rolling average period.
3. The NO_x (expressed as NO₂) emission from each of Boiler #4, Boiler #5, and Boiler #6 while coal is combusted in that boiler shall not exceed 0.50 pound per million Btu of heat input based on a 30 day rolling average period.
4. The Louisville Medical Center Steam Plant (Medical Center) shall conduct an annual performance test for NO_x for each of Boiler #1, Boiler #2, Boiler #4, Boiler #5, and Boiler #6. If the requirements of Regulation 6.42 *Reasonably Available Control Technology Requirements for Major Volatile Organic Compound- and Nitrogen Oxides-Emitting Facilities* section 5.1 are met, and subject to the annual performance test schedule reinstatement provision, performance testing may be done on a biennial schedule. Performance testing shall meet the following requirements:
 - A. Emissions concentrations and the mass determinations shall be obtained using Reference Methods of 40 CFR Part 60 Appendix A. The following methods shall be used:
 - (1) Method 1 or 1A, which furnishes guidance in site and traverse selection for sampling velocity at traverse points in stationary sources,
 - (2) Method 2, 2A, 2B, 2C, 2D, 2E, 2F, 2G, or 2H, which applies to measurements of gas volumetric flow rates,
 - (3) Method 3, 3A, 3B, or 3C, which is applicable for determining the concentrations of one or more of the following gases: carbon dioxide, O₂, CO, nitrogen, and methane,
 - (4) Method 4, which determines the moisture content in stack gases, and
 - (5) Method 7, 7A, 7B, 7C, 7D, or 7E, which provides the analytical method for determining the concentration of NO_x emissions from stationary sources.
 - B. The use of other Reference Methods that are added to 40 CFR Part 60 Appendix A, alternative tests, or modifications to the Reference Methods listed in NO_x RACT Plan Element (Element) No. 4.A. may be proposed by the Medical Center as part of the testing plan required by Element No. 4.D. Such methods may be used if approved in writing by the Louisville Metro Air Pollution Control District (District).

- C. Performance testing shall meet the requirements of Regulation 1.04 *Performance Tests* that are not addressed in this Element. All testing shall be conducted at 90% or greater of the maximum rated heat input capacity of the boiler.
 - D. A notification of intent to conduct a performance test shall be submitted to the District at least 25 working days in advance of the projected starting date for the performance test. The notification shall include the proposed test methods to be used.
 - E. If a pre-test conference to discuss the proposed test methods is deemed necessary by the District, a pre-test conference shall be arranged by District personnel.
 - F. At least 10 working days' prior notice of the scheduled starting date for the performance test shall be provided to the District.
 - G. A performance test report shall be submitted to the District within 60 days of completion of performance testing. The report shall include the quantity and type of fuel combusted during each 1-hr test run and calculations used to determine emissions. The NO_x emission rate shall be expressed in both pounds per hour and pounds per million Btu formats. The raw data shall be retained by the Medical Center for a minimum of 5 years and made available to the District upon request. Selected portions of the raw data used to calculate the emissions shall be included in the report in a format provided by the District.
5. The Medical Center shall, each year prior to April 1, perform and make a record of the following non-routine boiler maintenance activities for Boiler #1, Boiler #2, Boiler #4, Boiler #5, and Boiler #6:
- A. Inspect the fuel combustion system and, as needed, clean or replace the components of the fuel combustion system,
 - B. Inspect the flame pattern for the boiler and make any needed adjustments to the fuel combustion system to optimize the flame pattern to minimize total emissions of NO_x and carbon monoxide (CO),
 - C. Inspect the combustion control system to determine whether the combustion control system is operating properly and the air-to-fuel ratio is correctly calibrated and make any needed system adjustments or replacements,
 - D. Adjust the air-to-fuel ratio to minimize excess air and maximize boiler efficiency, and
 - E. Inspect all other components of the boiler and make any needed adjustments or repairs to improve boiler efficiency.
6. The Medical Center shall include in each report pursuant to Element No. 10 a summary of the boiler maintenance activities required by Element No. 5 that occurred during the preceding semi-annual period.
7. The Medical Center shall, before April 1, 2001, submit to the District a written description of daily activities and procedures that may be conducted by the boiler

operators to ensure optimum operating efficiency of Boiler #2, Boiler #4, Boiler #5, and Boiler #6.

8. Boiler #3 shall have a seasonal capacity factor of no greater than 10.0%. The term "seasonal capacity factor" means the ratio between the actual heat input to a boiler from fuel combusted during the period April 1 through October 31 and the potential heat input to the boiler had it been operated for 24 hours per day for each day during that period at the maximum steady state design heat input capacity. The maximum heat input capacity provided by the manufacturer shall be used unless the Medical Center determines the maximum heat input capacity using the heat loss method described in sections 5 and 7.3 of the ASME *Power Test Codes* 4.1.
9. The Medical Center shall make a record of the type and amount of fuel combusted during each day of operation of Boiler #3 during the period April 1 through October 31. The Medical Center shall, at the end of each month during this period, calculate and record, for Boiler #3, the seasonal capacity factor based upon the season to date. Each record shall be maintained for a minimum of 5 years and made available to the District upon request.
10. The Medical Center shall keep a record identifying all deviations from the requirements of this NO_x RACT Plan and shall submit to the District a written report of all deviations that occurred during the preceding semi-annual period. Semi-annual periods shall run from January 1 to June 30 and July 1 to December 31. The report shall contain the following information:
 - A. The boiler number,
 - B. The beginning and ending date of the reporting period,
 - C. Identification of all periods during which a deviation occurred,
 - D. A description, including the magnitude, of the deviation,
 - E. If known, the cause of the deviation, and
 - F. A description of all corrective actions taken to abate the deviation.

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

11. In lieu of the requirements in this NO_x RACT Plan, the Medical Center may comply with alternative requirements regarding emission limitations, equipment operation, test methods, monitoring, record keeping, 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,

- 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 the NO_x RACT Plan.

Approved 11-8-99; effective 1-1-00; amended a1/2-21-01 effective 4-1-01, Proposed: a2/3-19-08 effective 3-24-08.

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 the 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.

District Only Enforceable Conditions

There will be District Only Enforceable Conditions for STAR once the STAR Permit is approved and this will be added through administrative revision to this permit.

Insignificant Activities

Equipment	Quantity	Basis for Exemption
One (1) #1 fuel oil storage tank with a capacity of 1,000 gallons	1	Regulation 2.02, 2.3.9.2

- 1) Insignificant Activities are only those activities or processes falling into the general categories defined in District Regulation 2.02, Section 2, and not associated with a specific operation or process for which there is a specific regulation. Equipment associated with a specific operation or process (Emission Unit) shall be listed with the specific process even though there may be no applicable requirements. Information contained in the permit and permit summary shall clearly indicate that those items identified with negligible emissions have no applicable requirements.
- 2) Activities identified In District Regulation 2.02, Section 2, 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.

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