



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



## Title V Operating Permit

Permit No.: 329-03-TV (R3)

Plant ID: 0852

Effective Date: 01/26/2011

Expiration Date: 01/31/2016

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:

University of Louisville, Belknap Campus  
 2301 S Brook St.  
 Louisville, KY 40208

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

Application No.: 27781  
 33643

Application Received: 5/18/2009  
 12/18/2012

Permit Writer: Yiqiu Lin

Administratively Complete: 7/17/2009

Date of Public Notice: 9/15/2010

Date of proposed permit: 5/09/2013  
 9/15/2010  
 5/09/2013

2013

Air Pollution Control Officer  
 Thursday, 27 June,

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**Title V Permit Revisions/Changes**

<b>Revision No.</b>	<b>Issue Date</b>	<b>Public Notice Date</b>	<b>Revision Type</b>	<b>Revision Scope</b>	<b>Description</b>
Initial	11/17/2004	8/15/2004	Initial	Entire Permit	Initial Permit Issuance
R1	11/18/2004	N/A	Administrative Amendment	U1/U2	Corrected the usage limits of fuel oil, natural gas and coal
R2	12/27/2010	09/15/2010	Renewal and Revision	Entire Permit	Scheduled permit renewal; Incorporation of construction permit; Incorporation of pollution prevention operation plan; Significant and minor permit revisions; Insignificant activities list update.
R3	06/27/2013	05/09/2013	Administrative Amendment/ Significant Revision	U1/U2, U10	Incorporation of construction permit (Admin): 30142-10-C (groundwater remediation system) 33168-11-C (New boiler) 37071-13-C (Paint booth) Incorporation of the Area Source MACT requirements (Sig)

### 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 <sub>x</sub>	-	Nitrogen oxides
NSPS	-	New Source Performance Standards
PM	-	Particulate Matter
PM <sub>10</sub>	-	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 <sub>2</sub>	-	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 Louisville Metro Air Pollution Control District (LMAPCD) is responsible for issuing Title V permits to affected companies and enforcing local regulations and delegated federal and state regulations. EPA may enforce federal regulations but not "District Only Enforceable Regulations".

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

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

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

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

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

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

Insignificant activities identified in District Regulation 2.02, Section 2 may be subject to size or production rate disclosure requirements pursuant to Regulation 2.16 section 3.5.4.1.4.

Insignificant activities identified in District Regulation 2.02, Section 2 shall comply with generally applicable requirements as required by Regulation 2.16 section 4.1.9.4.

### General Conditions

1. **Compliance** - The owner or operator shall comply with all applicable requirements and with all terms and conditions of this permit. Any noncompliance shall constitute a violation of the Act, State and District regulations and shall cause the source to be subject to enforcement actions including, but not limited to, the termination, revocation and reissuance, or revision of this permit, or denial of a permit application to renew this permit. Notwithstanding any other provision in the Jefferson County portion of the Kentucky SIP approved by EPA, any credible evidence may be used for the purpose of establishing whether the owner or operator is in compliance with, has violated, or is in violation of any such plan. (Regulation 2.16, sections 4.1.3, 4.1.13.1 and 4.1.13.7)
2. **Compliance Certification** - The owner or operator shall certify, annually or more frequently if required in applicable regulations, compliance with the terms and conditions contained in this permit, including emission limitations, standards, or work practices. This certification shall meet the requirements of Regulation 2.16, sections 3.5.11 and 4.3.5. The owner or operator shall submit the annual compliance certification 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 <sup>th</sup>
July 1 through December 31	March 1 <sup>st</sup>

Note:

<sup>1</sup> 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:

<b>Regulation</b>	<b>Title</b>
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
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

Regulation	Title
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)

### Plant-wide Limits

#### Applicable Regulations:

<b>FEDERALLY ENFORCEABLE REGULATIONS</b>		
<b>Regulation</b>	<b>Title</b>	<b>Applicable Sections</b>
2.16	Title V Operating Permits	1
6.42	Reasonably Available Control Technology Requirements for Major Volatile Organic Compound- and Nitrogen Oxides-Emitting Facilities	1, 4

### Specific Conditions

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

##### a. Unit Operation

- i. The owner or operator shall limit the natural gas usage to less than 300 mmcf per 12 consecutive month period for the insignificant natural gas space heaters and domestic water heaters in order to avoid Regulation 6.42. (Regulation 6.42, section 1.2) (See Comment 1)
- ii. The owner or operator shall limit the hours of operation to less than 500 hours per 12 consecutive month period for each insignificant diesel and natural gas emergency generator in order to avoid Regulation 6.42. (Regulation 6.42, section 1.2)
- iii. The owner or operator shall limit the coal usage to less than 5,000 tons per 12 consecutive month period for the #2 boiler in order to avoid Regulation 6.42. (Regulation 6.42, section 1.2)
- iv. The owner or operator shall limit the fuel oil usage to less than 1,500,000 gallons per 12 consecutive month period for the #2 and #3 boilers in order to avoid Regulation 6.42. (Regulation 6.42, section 1.2)
- v. The owner or operator shall limit the natural gas usage to less than 450 mmcf per 12 consecutive month period for the natural gas #1 boiler and #3 boiler in order to avoid Regulation 6.42. (Regulation 6.42, section 1.2)

##### b. NO<sub>x</sub>

The owner or operator shall limit the plant-wide NO<sub>x</sub> emissions to less than 100 tons per 12 consecutive month period in order to avoid Regulation 6.42.

(Regulation 6.42, section 1.2) (See Comment 1)

c. **HAP**

The owner or operator shall not allow or cause HAP emissions from this plant to exceed 10 tons for a single HAP or 25 tons for total HAPs in a 12 consecutive month period. (Regulation 2.16, section 4.1.6) (See Comments 2)

d. **PM/PM<sub>10</sub>**

The owner or operator shall not allow plantwide PM/PM<sub>10</sub> emissions to exceed 100 tons per 12 consecutive month period. (Regulation 2.16, section 1.25) (See Comment 3)

e. **Greenhouse Gas**

The owner or operator shall not allow plantwide emissions of greenhouse gas pollutants (CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, HFCs, PFCs, and SF<sub>6</sub>) to exceed both 100,000 tpy CO<sub>2</sub>e and 250 tpy on a mass basis. (Regulation 2.16, section 1.25) (See Comment 4)

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

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

a. **Unit Operation**

- i. The owner or operator shall maintain a record of the amount of each fuel used each month for the boilers and a separate total for the space heaters and water heaters, as follows: the amount of fuel oil combusted expressed in gallons, the amount of natural gas combusted expressed in million cubic feet, and the amount of coal combusted expressed in tons.
- ii. The owner or operator shall keep a monthly record of the hours of operation of each emergency generator.
- iii. The owner or operator shall monthly calculate the hours of operation of each emergency generator during the 12 consecutive month period in order to demonstrate compliance with Specific Condition S1.d.ii.
- iv. The owner or operator shall monthly calculate the amount of fuel combusted during the 12 consecutive month period in order to demonstrate compliance with Specific Conditions S1.d.i, iii, iv, and v.

b. **NO<sub>x</sub>**

There are no monitoring and record keeping requirements for this pollutant. (See Comment 1)

c. **HAP**

There are no monitoring and record keeping requirements for this pollutant. (See Comment 2)

d. **PM/PM<sub>10</sub>**

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

e. **Greenhouse Gas**

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

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

a. **Unit Operation**

The owner or operator shall report the plant-wide fuel usage for each emission point, including the following:

- i. Emission Unit ID number, and/or Emission point ID number;
- ii. The beginning and ending date of the reporting period;
- iii. The amount of coal, fuel oil, and natural gas combusted during each month and the 12 consecutive month usage for each month for the boilers and the insignificant natural gas space heaters and water heaters;
- iv. Identification of all exceedance of the usage limits for the coal, fuel oil, and natural gas combusted per 12 consecutive month period for each month for the boilers, space heaters, and water heaters;
- v. The number of hours of operation during each month and the 12 consecutive month hours of operation for each emergency generator;
- vi. Identification of all exceedance of the limit for the hours of operation per 12 consecutive month period for each emergency generator;
- vii. Description of any corrective action taken for each exceedance;
- viii. If no deviations occur during a semi-annual reporting period, the report shall contain a negative declaration.

b. **NO<sub>x</sub>**

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

c. **HAP**

There are no reporting requirements for this pollutant. (See Comment 2)

d. **PM/PM<sub>10</sub>**

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

e. **Greenhouse Gas**

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

### Comments

1. University of Louisville requested the plant-wide fuel usage limits to be revised per the Pollution Prevention Operating Plan. Using AP-42 emission factors and the revised fuel usage limits identified in Specific Conditions S1.a, the calculated total NO<sub>x</sub> emissions is less than 100 tons per 12 consecutive month period. Therefore the source is not subject to Regulation 6.42.
2. Based on the federally enforceable limits identified in Specific Conditions S1.a, the potential emissions of plant-wide total HAP are below the major source thresholds for HAP. Therefore the source is not subject to any major source MACTs, but is subject to area source MACT 40 CFR 63 Subpart JJJJJ.
3. University of Louisville, Belknap Campus is major for PM<sub>10</sub>, NO<sub>x</sub>, CO, SO<sub>2</sub>, and HAPs based on the plant-wide uncontrolled PTE evaluation. The emission units do not need control devices to achieve any standards for NO<sub>x</sub>, CO, SO<sub>2</sub>, and HAPs. Only the coal-fired boilers rely on control devices to achieve compliance with PM/Opacity standards. However, the source took material usage limits in order to avoid Regulation 6.42. The uncontrolled PM<sub>10</sub> emissions cannot exceed 100 tons/yr with the aforementioned material usage limits. Therefore, 40 CFR 64, Compliance Assurance Monitoring (CAM), is not applicable for University of Louisville, Belknap Campus.
4. University of Louisville, Belknap Campus is major for greenhouse gas pollutants based on the plant-wide uncontrolled PTE evaluation. However, the source took material usage limits in order to avoid Regulation 6.42. The uncontrolled greenhouse gas emissions cannot exceed 100,000 tons/yr CO<sub>2</sub>e with the aforementioned material usage limits.

**Emission Unit U1/U2:** Three (3) boilers

**U1/U2 Applicable Regulations:**

<b>FEDERALLY ENFORCEABLE REGULATIONS</b>		
<b>Regulation</b>	<b>Title</b>	<b>Applicable Sections</b>
7.06	Standards of Performance for New Indirect Heat Exchangers	1 through 8
40 CFR 60 Subpart D <sub>c</sub>	Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units	60.40c, 60.41c, 60.42c, 60.43c, 60.44c, 60.45c, 60.46c, 60.47c, 60.48c
40 CFR 63, Subpart JJJJJ	National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources	63.11193 through 63.11237

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

**U1/U2 Equipment:**

<b>Emission Point</b>	<b>Description</b>	<b>Applicable Regulation</b>	<b>Control ID</b>	<b>Stack ID</b>
E1	One (1) natural gas fired boiler (#1) with flue gas recirculation and low NOx burners, rated heat input capacity 99 MMBtu/hr, make Victory Energy Operation, model VS-4-68.	5.00, 5.01, 5.02, 5.14, 5.20, 5.21, 5.22, 5.23, 7.02, 7.06, 40CFR60 Subpart D <sub>c</sub>	C4, C5	S1
E2	One (1) coal fired boiler (#2) with distillate fuel oil backup, rated heat input capacity 100 MMBtu/hr, make Henry Vogt, model Class VS.	5.00, 5.01, 5.02, 5.14, 5.20, 5.21, 5.22, 5.23, 7.06 40 CFR63 Subpart JJJJJ	C1, C2	S2
E3	One (1) natural gas boiler (#3) with distillate fuel oil backup, equipped low NOx burners and using flue gas recirculation, rated heat input 99.6 MMBtu/hr when burning natural gas and 99.3 when burning fuel oil, make Victory Energy Operations, model VS-4-68.	5.00, 5.01, 5.02, 5.14, 5.20, 5.21, 5.22, 5.23, 7.02, 7.06, 40CFR60 Subpart D <sub>c</sub> , 40 CFR63 Subpart JJJJJ	C6, C7	S6

**U1/U2 Control Devices:**

<b>ID</b>	<b>Description</b>	<b>Performance Indicator</b>	<b>Stack ID</b>
C1, C2	Two (2) multi-cyclones rated at 22,500 scfm each, make Universal Oil Products, model 6M POWHS	N/A	S2
C4	One (1) low NOx burner for Boiler #1	N/A	N/A
C5	One (1) FGR for Boiler #1	N/A	N/A
C6	One (1) low NOx burner for Boiler #3	N/A	N/A
C7	One (1) FGR for Boiler #3	N/A	N/A

**U1/U2 Specific Conditions**

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

**a. PM**

i. The owner or operator shall not allow the PM emissions to exceed 0.10 lb/MMBtu for each of the boilers. (Regulation 7.06, section 4.1.2) (See Comments 1)

ii. Boiler #2 (E2) when combusting coal:

The owner or operator shall utilize the control devices (C1, C2) at all times the process (E2) is in operation and combusting coal, and shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. (Regulation 2.16, section 4.1.1)

iii. Boiler #3 (E3):

The owner or operator shall not allow the PM emissions to exceed 0.03 lb/MMBtu heat input. (40 CFR 60.43c.(e))

**b. SO<sub>2</sub>**

i. The owner or operator shall not allow the SO<sub>2</sub> emissions to exceed 0.8 lb/MMBtu for combustion of natural gas or fuel oil and 1.2 lb/MMBtu for combustion of coal. (Regulation 7.06, section 5.1.3) (See Comment 2 and 3)

ii. Boiler #2 when combusting coal:

The owner or operator shall limit the sulfur content of coal and the corresponding minimum heating value according to the following table (Regulation 2.16, section 4.1.1):

Maximum % Sulfur (Dry Basis)	Minimum Heating Values (Btu/lb, Dry Basis)
0.88	13,377
0.87	13,225
0.86	13,073
0.85	12,921
0.84	12,769

Maximum % Sulfur (Dry Basis)	Minimum Heating Values (Btu/lb, Dry Basis)
0.83	12,617
0.82	12,465
0.81	12,313
0.80	12,161
0.79	12,009
0.78	11,857
0.77	11,705
0.76	11,553
0.75	11,401
0.74	11,249
0.73	11,097
0.72	10,945
0.71	10,793
0.70	10,641
0.69	10,489
0.68	10,337
0.67	10,185
0.66	10,033
0.65	9,881
0.64	9,729
0.63	9,577
0.62	9,425
0.61	9,273
0.60	9,121

For any values not listed on the table, the owner or operator shall determine the limits for sulfur content and heating value using the following equation:

$$SO_2 \left( \frac{lb}{MMBtu} \right) = \frac{[38(S), \frac{lbs}{ton}] [10^6, \frac{Btu}{MMBtu}]}{(2000, \frac{lbs}{ton}) (HV, \frac{Btu}{lb})} \leq 1.24999^*$$

\* This value is the limit before rounding to 1.2 lb/MMBtu

Where:

S = % sulfur contained in the coal

HV = heating value of the coal

iii. Boiler #3 when combusting fuel oil:

No owner or operator of an affected facility that combusts oil shall cause to be discharged into the atmosphere from that affected facility any gases that contain SO<sub>2</sub> in excess of 0.5 lb/MMBtu heat input from oil; or, as an alternative, no owner or operator of an affected facility that combusts oil shall combust oil in the affected facility that contains greater than 0.5 weight percent sulfur. (40 CFR 60.42c(d)) (See Comment 3)

c. **Opacity**

i. The owner or operator combusting natural gas shall not cause to be discharged into the atmosphere from any affected facility PM emissions which exhibit greater than 20% opacity. (Regulation 7.06, section 4.2) (See Comment 4)

ii. Boiler #2 and #3 when combusting coal or fuel oil:

The owner or operator of an affected facility combusting fuel oil or coal shall not cause to be discharged into the atmosphere from that affected facility particulate matter emissions which exhibit greater than 20% opacity except: (Regulation 7.06, section 4.2)

- 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.

iii. Boiler #3 when combusting fuel oil:

- 1) On and after the date on which the initial performance test is completed or required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that combusts oil and has a heat input capacity of 8.7 MW (30

MMBtu/hr) or greater shall cause to be discharged into the atmosphere from that affected facility any gases that exhibit greater than 20 percent opacity (6-minute average), except for one 6-minute period per hour of not more than 27 percent opacity. (40 CFR 60.43c(c))

- 2) The PM and opacity standards under this section (40 CFR 60.43c) apply at all times, except during periods of startup, shutdown, or malfunction. (40 CFR 60.43c(d))
- d. **HAP** (40 CFR 63, Subpart JJJJJ and Regulation 5.02)
- i. Compliance date (40 CFR 63.11196):
    - 1) For an existing affected boiler (Boiler #2) that is subject to a work practice or management practice standard of a tune-up, the owner or operator shall achieve compliance with the work practice or management standard no later than March 1, 2012. (40 CFR 63.11196(a)(1)) (See Comment 10)
    - 2) For an existing affected boiler (Boiler #2) that is subject to emission limits, the owner or operator shall achieve compliance with the emission limits no later than March 21, 2014. (40 CFR 63.11196(a)(2)) (See Comment 10)
    - 3) The owner or operator shall permanently disable the coal-firing capability of Boiler #2 by March 21, 2014. (40 CFR 63.11196(a)(2)) (See Comment 10)
    - 4) For a new affected boiler (Boiler #3) after May 20, 2011, the owner or operator shall achieve compliance with the provisions of this subpart upon startup of your affected source. (40 CFR 63.11196 (c))
  - ii. Emission limits: (40 CFR 63.11201(a) refer to Table 1)
    - 1) For existing oil-fired boiler (Boiler #2), there are no emission limits. (40 CFR 63 Subpart JJJJJ, Table 1)
    - 2) For new oil-fired boiler (Boiler #3), the owner or operator shall not allow PM emissions to exceed 0.030 lb/MMBtu heat input. (40 CFR 63 Subpart JJJJJ, Table 1-5)
  - iii. Work practice standards: (40 CFR 63.11201(b) refer to Table 2)

- 1) For existing coal-fired boiler (Boiler #2) and new oil-fired boiler (Boiler #3), minimize the boiler's startup and shutdown periods following the manufacturer's recommended procedures. If manufacturer's recommended procedures are not available, The owner or operator shall follow recommended procedures for a unit of similar design for which manufacturer's recommended procedures are available. (40 CFR 63 Subpart JJJJJ, Table 2-1)
  - 2) For existing coal-fired and existing oil-fired boiler (Boiler #2) and new oil-fired boiler (Boiler #3), conduct a tune-up of the boiler biennially as specified in 40 CFR 63.11223. See Specific Condition S2.e. (40 CFR 63 Subpart JJJJJ, Table 2-2 and 3)
  - 3) For existing coal-fired and existing oil-fired boiler (Boiler #2), must have a one-time energy assessment performed by a qualified energy assessor. An energy assessment completed on or after January 1, 2008, that meets or is amended to meet the energy assessment requirements in this table satisfies the energy assessment requirement. The energy assessment must include: (1) A visual inspection of the boiler system, (2) An evaluation of operating characteristics of the facility, specifications of energy using systems, operating and maintenance procedures, and unusual operating constraints, (3) Inventory of major systems consuming energy from affected boiler(s), (4) A review of available architectural and engineering plans, facility operation and maintenance procedures and logs, and fuel usage, (5) A list of major energy conservation measures, (6) A list of the energy savings potential of the energy conservation measures identified, (7) A comprehensive report detailing the ways to improve efficiency, the cost of specific improvements, benefits, and the time frame for recouping those investments. (40 CFR 63 Subpart JJJJJ, Table 2-4)
- iv. Operating limit: (40 CFR 63.11201(c) refer to Table 3)
- 1) Boiler #2 and #3:  
Boilers must maintain opacity to less than or equal to 10 percent opacity (daily block average). This option is for boilers that operate dry control systems. (40 CFR 63 Subpart JJJJJ, Table 3-5)
  - 2) Boiler #3 when combusting fuel oil:  
For boilers that demonstrate compliance with a performance stack test, maintain the operating load of each unit such that is does not

exceed 110 percent of the average operating load recorded during the most recent performance stack test. (40 CFR 63 Subpart JJJJJ, Table 3-7)

e. **TAC**

- i. The owner or operator shall not allow emissions of any TAC to exceed environmentally acceptable (EA) levels, whether specifically established by modeling or determined by the District to be de minimis. (Regulations 5.00 and 5.21)
- ii. The owner or operator shall limit the fuel oil usage to less than 232,143 gallons per 12 consecutive month period for the new #3 boiler. (Regulation 5.21, section 4.3) (See Comment 5)

f. **Pollution Prevention Operating Plan** (Agreed Board Order, June 16, 2010)

- i. The owner or operator will replace Boiler #1 (E1), an aging natural gas fired boiler, with a new, more energy efficient natural-gas boiler. The new boiler will allow the University to use natural gas as its primary source of heat. (See Comment 7)
- ii. The owner or operator will operate Boiler # 2 (E2), which uses both fuel oil and coal, as its secondary heat source.
- iii. The owner or operator will operate Boiler #2 with fuel oil primarily, limiting the use of coal as a back-up heat source.
- iv. The owner or operator will limit of the use of Boiler #3 (E3), a coal-fired boiler, to back-up use only, and will keep this boiler on standby mode. (See Comment 7)
- v. The owner or operator will use its coal-fired boilers as back-up, that is, only when additional steam is needed due to weather conditions, equipment malfunction, part replacement, or fuel supply problems.
- vi. The owner or operator will replace Boiler #3 with a more energy efficient and higher capacity natural-gas/fuel oil boiler when funding becomes available for design and construction, but no later than December 31, 2015. (See Comment 7)
- vii. By December 31, 2015, the owner or operator will permanently disable the coal-firing capability of Boiler #2 and keep that boiler as a backup with fuel-oil-only capability. (See Comment 10)

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

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

**a. PM****i. Boiler #2 when combusting coal:**

- 1) The owner or operator shall, monthly, perform a visual inspection of the structural and mechanical integrity of the multi-cyclones (C1, C2), if any coal has been combusted in the boiler (E2) during the month, 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.
- 2) The owner or operator shall keep a monthly record of the visual inspection and make available to the District upon request.
- 3) The owner or operator shall monitor and maintain records that identify all periods when the control device (C1, C2) is damaged or not in use while the associated process (E2) equipment is in operation and combusting coal.
- 4) The owner or operator shall maintain daily records of any periods of time where the process (E2) was operating and the control device (C1, C2) was not operating or a declaration that the control device operated at all times that day when the process was operating.
- 5) If there is any time that the control device (C1, C2) is bypassed or not in operation when the process (E2) is operating, then the owner or operator shall keep a record of the following for each bypass event:
  - (a) Date;
  - (b) Start time and stop time;
  - (c) Identification of the control device and process equipment;
  - (d) PM emissions for each hour during the bypass in lb/hr;
  - (e) Summary of the cause or reason for each bypass event;
  - (f) Corrective action taken to minimize the extent or duration of the bypass event; and
  - (g) Measures implemented to prevent reoccurrence of the situation that resulted in the bypass event.

- 6) The owner or operator shall maintain purchase records of coal that shows the ash content.
- ii. Boiler #3:
    - 1) When combusting natural gas, there are no routine monitoring or record keeping requirements for PM compliance. (See Comment 2)
    - 2) When combusting fuel oil, the owner or operator shall conduct performance tests as required in Specific Condition S4 to demonstrate compliance with the PM standards.
- b. **SO<sub>2</sub>**
- i. The owner or operator shall maintain a record of the fuel oil certifications and purchase records of coal which show heating value and sulfur content.
  - ii. The owner or operator shall keep records of the amount of natural gas and fuel oil combusted in boiler #1 and boiler #3 during each month. (40 CFR 60.48c(g)(2))
  - iii. 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 if the individual fuel usage for each boiler is not known. (EPA Letter dated March 7, 2002) (See Comment 8)
  - iv. Boiler #3 when combusting fuel oil:
    - 1) Compliance with the fuel oil sulfur limits shall be determined based on a certification from the fuel supplier, as described under §60.48c (f). (40 CFR 60.42c (h)(1))
    - 2) For fuel oil, fuel supplier certification shall include the following information: (40 CFR 60.48c (f))
      - (a) The name of the oil supplier;
      - (b) A statement from the oil supplier that the oil complies with the specifications under the definition of fuel oil in §60.41c; and
      - (c) The sulfur content of the oil.
- c. **Opacity**
- i. When natural gas is being combusted, there are no monitoring and record keeping requirements for opacity compliance. (See Comment 4)

ii. Boiler #2 when combusting coal:

- 1) When coal is being combusted, the owner or operator shall conduct a weekly EPA Reference Method 9 test (40 CFR 60, Appendix A) of the stack during normal operation and keep records of the results.
- 2) The owner or operator combusting coal shall maintain records, monthly, of the results of all Method 9 tests. The records of the results shall include the date of the Method 9 tests, the name of the person conducting the test, the test results, and any corrective action that was performed if the opacity standards were exceeded. If an emission point is not being operated during a given period, then no Method 9 test needs to be performed and a negative declaration shall be entered in the record.

iii. Boiler #2 and #3 when combusting fuel oil:

- 1) When fuel oil is being combusted, the owner or operator shall conduct a monthly one-minute visible emissions survey, during normal operation, of the emission points. No more than four emission points shall be observed simultaneously. The opacity surveys can be performed on the building exhaust points if the process is inside an enclosure. 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.
- 2) The owner or operator combusting fuel oil shall maintain records, monthly, of the results of all visible emissions surveys and tests. Records of the results of any visible emissions survey shall include the date of the survey, the name of the person conducting the survey, whether or not visible emissions were observed, and what if any corrective action was performed. If an emission point is not being operated during a given month, then no visible emission survey needs to be performed and a negative declaration shall be entered in the record.

iv. Boiler #3:

The owner or operator shall submit a written site-specific monitoring plan prior to operation, or install COMS for measuring opacity. This monitoring plan must include procedures and criteria for establishing and

monitoring specific parameters for the affected facility indicative of compliance with the opacity standard. An affected facility that burns only gaseous fuels or fuel oils that contain less than or equal to 0.5 weight percent sulfur and operates according to a written site-specific monitoring plan approved by the appropriate delegated permitting authority is not required to operate a COMS for measuring opacity. (40 CFR 60.47c(f))

d. **HAP** (40 CFR 63, Subpart JJJJJ and Regulation 5.02)

i. General compliance requirements: (40 CFR 63.11205)

Boiler #2 and #3:

At all times the owner or operator shall operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. (40 CFR 63.11205(a))

ii. Initial compliance requirements:

1) Boiler #2:

- (a) For existing affected boiler that have applicable work practice standards, management practices, or emission reduction measures, the owner or operator shall demonstrate initial compliance no later than the compliance date that is specified in § 63.11196 and according to the applicable provisions in § 63.7(a)(2). (40 CFR 63.11210(c))
- (b) The owner or operator shall conduct a performance tune-up according to § 63.11223(b) and the owner or operator shall submit a signed statement in the Notification of Compliance Status report that indicates that you conducted a tune-up of the boiler. (40 CFR 63.11214(b))
- (c) If you own or operate an existing affected boiler with a heat input capacity of 10 million Btu per hour or greater, the owner or operator shall submit a signed certification in the Notification of Compliance Status report that an energy

assessment of the boiler and its energy use systems was completed and submit, upon request, the energy assessment report. (40 CFR 63.11214(c))

2) Boiler #3 when combusting fuel oil:

- (a) The owner or operator shall demonstrate initial compliance with each emission limit specified in Table 1 to this subpart that applies to you by conducting performance (stack) tests, as applicable, according to § 63.11212 and Table 4 to this subpart. See Specific Condition S4. (40 CFR 63.11210(a))
- (b) For new affected boiler, the owner or operator shall demonstrate initial compliance no later than 180 calendar days after March 21, 2011 or within 180 calendar days after startup of the source, whichever is later, according to § 63.7(a)(2)(ix). (40 CFR 63.11210(d))
- (c) The owner or operator shall conduct a performance tune-up according to § 63.11223(b) and the owner or operator shall submit a signed statement in the Notification of Compliance Status report that indicates that you conducted a tune-up of the boiler. (40 CFR 63.11214(b))
- (d) If you own or operate a boiler subject to emission limits in Table 1 of this subpart, the owner or operator shall minimize the boiler's startup and shutdown periods following the manufacturer's recommended procedures, if available. If manufacturer's recommended procedures are not available, the owner or operator shall follow recommended procedures for a unit of similar design for which manufacturer's recommended procedures are available. The owner or operator shall submit a signed statement in the Notification of Compliance Status report that indicates that you conducted startups and shutdowns according to the manufacturer's recommended procedures or procedures specified for a boiler of similar design if manufacturer's recommended procedures are not available. (40 CFR 63.11214(d))

iii. Continuous compliance requirements:

1) Boiler #2 and #3:

- (a) For affected sources subject to the work practice standard or the management practices of a tune-up, the owner or

operator shall conduct a biennial performance tune-up according to paragraphs (b) of this section and keep records as required in § 63.11225(c) to demonstrate continuous compliance. Each biennial tune-up must be conducted no more than 25 months after the previous tune-up. (40 CFR 63.11223(a))

- (b) The owner or operator shall conduct a tune-up of the boiler biennially to demonstrate continuous compliance as specified in paragraphs (b)(1) through (7) of this section. (40 CFR 63.11223(b))
- (i) As applicable, inspect the burner, and clean or replace any components of the burner as necessary (you may delay the burner inspection until the next scheduled unit shutdown, but the owner or operator shall inspect each burner at least once every 36 months). (40 CFR 63.11223(b)(1))
  - (ii) Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available. (40 CFR 63.11223(b)(2))
  - (iii) Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly. (40 CFR 63.11223(b)(3))
  - (iv) Optimize total emissions of carbon monoxide. This optimization should be consistent with the manufacturer's specifications, if available. (40 CFR 63.11223(b)(4))
  - (v) Measure the concentrations in the effluent stream of carbon monoxide in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). (40 CFR 63.11223(b)(5))
  - (vi) Maintain onsite and submit, if requested by the Administrator, biennial report containing the information in paragraphs (b)(6)(i) through (iii) of

this section. (40 CFR 63.11223(b)(6))

- (A) The concentrations of CO in the effluent stream in parts per million, by volume, and oxygen in volume percent, measured before and after the tune-up of the boiler. (40 CFR 63.11223(b)(6)(i))
  - (B) A description of any corrective actions taken as a part of the tune-up of the boiler. (40 CFR 63.11223(b)(6)(ii))
  - (C) The type and amount of fuel used over the 12 months prior to the biennial tune-up of the boiler. (40 CFR 63.11223(b)(6)(iii))
- (vii) If the unit is not operating on the required date for a tune-up, the tune-up must be conducted within one week of startup. (40 CFR 63.11223(b)(7))

2) Boiler #3 when combusting fuel oil:

- (a) The owner or operator shall conduct all applicable performance (stack) tests according to § 63.11212 on a triennial basis, unless you follow the requirements listed in paragraphs (b) through (d) of this section. Triennial performance tests must be completed no more than 37 months after the previous performance test, unless you follow the requirements listed in paragraphs (b) through (d) of this section. (40 CFR 63.11220(a))
- (b) You can conduct performance stack tests less often for particulate matter or mercury if your performance stack tests for the pollutant for at least 3 consecutive years show that your emissions are at or below 75 percent of the emission limit, and if there are no changes in the operation of the affected source or air pollution control equipment that could increase emissions. In this case, you do not have to conduct a performance stack test for that pollutant for the next 2 years. The owner or operator shall conduct a performance stack test during the third year and no more than 37 months after the previous performance stack test. (40 CFR 63.11220(b))
- (c) If your boiler continues to meet the emission limit for particulate matter or mercury, you may choose to conduct performance stack tests for the pollutant every third year if your emissions are at or below 75 percent of the emission

limit, and if there are no changes in the operation of the affected source or air pollution control equipment that could increase emissions, but each such performance stack test must be conducted no more than 37 months after the previous performance test. (40 CFR 63.11220(c))

- iv. The owner or operator shall maintain the following records: (40 CFR 63.11225(c))
- 1) As required in § 63.10(b)(2)(xiv), the owner or operator shall keep a copy of each notification and report that you submitted to comply with this subpart and all documentation supporting any Initial Notification or Notification of Compliance Status that you submitted. (40 CFR 63.11225(c)(1))
  - 2) The owner or operator shall keep records to document conformance with the work practices, emission reduction measures, and management practices required by § 63.11214 as specified in paragraphs (c)(2)(i) and (ii) of this section. (40 CFR 63.11225(c)(2))
    - (a) Records must identify each boiler, the date of tune-up, the procedures followed for tune-up, and the manufacturer's specifications to which the boiler was tuned. (40 CFR 63.11225(c)(2)(i))
    - (b) Records documenting the fuel type(s) used monthly by each boiler, including, but not limited to, a description of the fuel, including whether the fuel has received a non-waste determination by you or EPA, and the total fuel usage amount with units of measure. If you combust non-hazardous secondary materials that have been determined not to be solid waste pursuant to § 241.3(b)(1), the owner or operator shall keep a record which documents how the secondary material meets each of the legitimacy criteria. If you combust a fuel that has been processed from a discarded non-hazardous secondary material pursuant to § 241.3(b)(4), the owner or operator shall keep records as to how the operations that produced the fuel satisfies the definition of processing in § 241.2. If the fuel received a non-waste determination pursuant to the petition process submitted under § 241.3(c), the owner or operator shall keep a record that documents how the fuel satisfies the requirements of the petition process. (40 CFR 63.11225(c)(2)(ii))

- 3) Records of the occurrence and duration of each malfunction of the boiler, or of the associated air pollution control and monitoring equipment. (40 CFR 63.11225(c)(4))
- 4) Records of actions taken during periods of malfunction to minimize emissions in accordance with the general duty to minimize emissions in § 63.11205(a), including corrective actions to restore the malfunctioning boiler, air pollution control, or monitoring equipment to its normal or usual manner of operation. (40 CFR 63.11225(c)(5))
- v. Your records must be in a form suitable and readily available for expeditious review, according to § 63.10(b)(1). As specified in § 63.10(b)(1), the owner or operator shall keep each record for 5 years following the date of each recorded action. The owner or operator shall keep each record onsite for at least 2 years after the date of each recorded action according to § 63.10(b)(1). You may keep the records off site for the remaining 3 years. (40 CFR 63.11225(d))

e. **TAC**

- i. The owner or operator shall maintain records sufficient to demonstrate environmental acceptability, including, but not limited to MSDS, analysis of emissions, and/or modeling results.
- ii. The owner or operator shall re-evaluate the environmental acceptability and document the environmentally acceptable emissions if a new TAC is introduced or the content of a TAC in a raw material increases.

f. **Pollution Prevention Operating Plan** (Agreed Board Order, June 16, 2010)

The owner or operator shall keep records demonstrating that the milestones contained in Attachment A are met.

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

a. **PM**

- i. When combusting natural gas, there are no routine reporting requirements for PM compliance. (See Comment 4)
- ii. Boiler #2 when combusting coal:
  - 1) For the multi-cyclone C1 and C2, report the number and type of repairs made and/or replacement of defective 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.

- 2) Any deviation from the requirement to utilize the control device (C1, C2) at all times the process (E2) is in operation, including the following:
  - (a) Number of times the process by-passes the control device and is vented to the atmosphere;
  - (b) The date, duration (including the start and stop time) of each by-pass to the atmosphere;
  - (c) Calculated quantity of tons of PM emitted for each by-pass.
  - (d) A negative declaration if no by-passes occurred.

iii. Boiler #3 when combusting fuel oil:

When combusting fuel oil, the owner or operator of each affected facility subject to PM or opacity limits of §60.43c shall submit to the Administrator the performance test data from the initial and any subsequent performance tests. (40 CFR 60.48c (b))

b. **SO<sub>2</sub>**

- i. The owner or operator shall include, at a minimum, the following information in the semi-annual compliance reports:
  - 1) Emission Unit ID number and emission point ID number;
  - 2) The beginning and ending date of the reporting period;
  - 3) Any periods of combusting coal with sulfur content and corresponding minimum heating value in excess of the limits as specified in Specific Condition S1.b.ii;
  - 4) Corrective action taken to minimize the extent and duration of each excess emissions event;
  - 5) If no deviations occur during a semi-annual reporting period, the report shall contain a negative declaration.

Boiler #1 and #3:

- ii. The owner or operator of each affected facility shall submit notification of the date of construction or reconstruction and actual startup, as provided by §60.7 of this part. This notification shall include: (40 CFR 60.48c (a))

The design heat input capacity of the affected facility and identification of fuels to be combusted in the affected facility. (40 CFR 60.48c (a)(1))

- iii. The owner or operator of each affected facility subject to fuel oil sulfur limits under §60.42c shall submit reports to the Administrator. (40 CFR 60.48c (d))
- iv. The owner or operator of each affected facility subject to the fuel oil sulfur limits under §60.42c shall keep records and submit reports as required under paragraph (d) of this section, including the following information, as applicable. (40 CFR 60.48c (e))
  - 1) Calendar dates covered in the reporting period. (40 CFR 60.48c (e) (1))
  - 2) If fuel supplier certification is used to demonstrate compliance, the owner or operator shall submit records of fuel supplier certification used to demonstrate compliance. Records of fuel supplier certification shall meet requirements as described under paragraph (f)(1), (2), (3), or (4) of this section. In addition to records of fuel supplier certifications, the report shall include a certified statement signed by the owner or operator of the affected facility that the records of fuel supplier certifications submitted represent all of the fuel combusted during the reporting period. (40 CFR 60.48c (e)(11))

**c. Opacity**

- i. The owner or operator shall include, at a minimum, the following information in the semi-annual compliance reports:
  - 1) Emission unit ID number and emission point or stack ID number;
  - 2) The beginning and ending date of the reporting period;
  - 3) Any deviation from the requirement to perform and record the results of visible emission surveys or Method 9 tests;
  - 4) The number, date, and time of each Method 22 where visible emissions were observed and the results of the Method 9 test performed;
  - 5) The date, time and results of each Method 9 that exceeded the opacity standard;
  - 6) Description of any corrective action taken.
  - 7) If no deviations occur during a semi-annual reporting period, the report shall contain a negative declaration.
- ii. Boiler #3:
  - 1) The owner or operator of each affected facility subject to the opacity emission limits of §60.43c shall submit to the

Administrator the performance test data from the initial and any subsequent performance tests. (40 CFR 60.48c (b))

- 2) The owner or operator of each oil-fired affected facility subject to the opacity limits under §60.43c(c) shall submit excess emission reports for any excess emissions from the affected facility that occur during the reporting period. (40 CFR 60.48c(c))

d. **HAP** (40 CFR 63, Subpart JJJJJ and Regulation 5.02)

The owner or operator shall report the following information for Boiler #2 and #3 in the semi-annual compliance reports:

- i. The owner or operator shall submit the notifications specified in paragraphs (a)(1) through (a)(5) of this section to the delegated authority. (40 CFR 63.11225(a))
  - 1) The owner or operator shall submit all of the notifications in § § 63.7(b); 63.8(e) and (f); 63.9(b) through (e); and 63.9(g) and (h) that apply to you by the dates specified in those sections. (40 CFR 63.11225(a)(1))
  - 2) As specified in § 63.9(b)(2), the owner or operator shall submit the Initial Notification no later than 120 calendar days after May 20, 2011 or within 120 days after the source becomes subject to the standard. (40 CFR 63.11225(a)(2))
  - 3) If you are required to conduct a performance stack test the owner or operator shall submit a Notification of Intent to conduct a performance test at least 60 days before the performance stack test is scheduled to begin. (40 CFR 63.11225(a)(3))
  - 4) The owner or operator shall submit the Notification of Compliance Status in accordance with § 63.9(h) no later than 120 days after the applicable compliance date specified in § 63.11196 unless the owner or operator shall conduct a performance stack test. If the owner or operator shall conduct a performance stack test, the owner or operator shall submit the Notification of Compliance Status within 60 days of completing the performance stack test. In addition to the information required in § 63.9(h)(2), your notification must include the following certification(s) of compliance, as applicable, and signed by a responsible official: (40 CFR 63.11225(a)(4))
    - (a) “This facility complies with the requirements in § 63.11214 to conduct an initial tune-up of the boiler.” (40 CFR 63.11225(a)(4)(i))

- (b) “This facility has had an energy assessment performed according to § 63.11214(c).” (40 CFR 63.11225(a)(4)(ii))
    - (c) For units that do not qualify for a statutory exemption as provided in section 129(g)(1) of the Clean Air Act: “No secondary materials that are solid waste were combusted in any affected unit.” (40 CFR 63.11225(a)(4)(iv))
  - 5) If you are using data from a previously conducted emission test to serve as documentation of conformance with the emission standards and operating limits of this subpart consistent with § 63.7(e) (2)(iv), the owner or operator shall submit the test data in lieu of the initial performance test results with the Notification of Compliance Status required under paragraph (a)(4) of this section. (40 CFR 63.11225(a)(5))
- ii. The owner or operator shall prepare, by March 1 of each year, and submit to the delegated authority upon request, an annual compliance certification report for the previous calendar year containing the information specified in paragraphs (b)(1) through (4) of this section. The owner or operator shall submit the report by March 15 if you had any instance described by paragraph (b)(3) of this section. For boilers that are subject only to a requirement to conduct a biennial tune-up according to § 63.11223(a) and not subject to emission limits or operating limits, you may prepare only a biennial compliance report as specified in paragraphs (b)(1) through (4) of this section, instead of a semi-annual compliance report. (40 CFR 63.11225(b))
  - 1) Company name and address. (40 CFR 63.11225(b)(1))
  - 2) Statement by a responsible official, with the official's name, title, phone number, e-mail address, and signature, certifying the truth, accuracy and completeness of the notification and a statement of whether the source has complied with all the relevant standards and other requirements of this subpart. (40 CFR 63.11225(b)(2))
  - 3) If the source experiences any deviations from the applicable requirements during the reporting period, include a description of deviations, the time periods during which the deviations occurred, and the corrective actions taken. (40 CFR 63.11225(b)(3))
  - 4) The total fuel use by each affected boiler subject to an emission limit, for each calendar month within the reporting period, including, but not limited to, a description of the fuel, whether the fuel has received a non-waste determination by you or EPA through a petition process to be a non-waste under § 241.3(c), whether the fuel(s) were processed from discarded non-hazardous secondary materials within the meaning of § 241.3, and the total

fuel usage amount with units of measure. (40 CFR 63.11225(b)(4))

- iii. As of January 1, 2012 and within 60 days after the date of completing each performance test, as defined in § 63.2, conducted to demonstrate compliance with this subpart, the owner or operator shall submit relative accuracy test audit (i.e., reference method) data and performance test (i.e., compliance test) data, except opacity data, electronically to EPA's Central Data Exchange (CDX) by using the Electronic Reporting Tool (ERT) (see <http://www.epa.gov/ttn/chief/ert/erttool.html/>) or other compatible electronic spreadsheet. Only data collected using test methods compatible with ERT are subject to this requirement to be submitted electronically into EPA's WebFIRE database. (40 CFR 63.11225(e))

e. **TAC**

- i. The owner or operator shall report any conditions that were inconsistent with those conditions analyzed in the most recent Environmental Acceptability Demonstration or a negative declaration stating that operations were within the conditions analyzed. This includes, but is not limited to, control device upset conditions.
- ii. For any conditions outside the analysis, the owner or operator shall re-analyze to determine whether these conditions comply with the STAR program. Changes to the air dispersion modeling program or meteorological data used in the most recent Environmental Acceptability Demonstration do not trigger the requirement to re-analyze. (Regulation 5.21 sections 4.22 – 4.24)
- iii. The owner or operator shall submit the re-evaluated EA demonstration to the District within 6 months of a change of a raw material as described in S2.e.ii.

f. **Pollution Prevention Operating Plan** (Agreed Board Order, June 16, 2010)

- i. For each milestone contained in Attachment A that is due during the semiannual reporting period, the owner or operator shall report the date the milestone was completed.
- ii. Except in cases of emergency as defined in Section 1.13 of District Regulation 2.16, the owner or operator will give notice of its intention to combust coal and the duration that it intends to combust coal and the associated boiler that it will be used. Such notice must be provided no less than 72 hours in advance of the intended start-up date.
- iii. In case of emergency coal use, the owner or operator shall comply with

## District Regulation 1.07.

**S4. Testing****a. SO<sub>2</sub>**Boiler #3 combusting fuel oil:

For affected facilities where the owner or operator seeks to demonstrate compliance with the SO<sub>2</sub> standards based on fuel supplier certification, the performance test shall consist of the certification from the fuel supplier, as described under §60.48c(f). (40 CFR 60.44c (h))

**b. PM**Boiler #3 combusting fuel oil:

The owner or operator of an affected facility subject to the PM standards under §60.43c shall conduct an initial performance test as required under §60.8, and shall conduct subsequent performance tests as requested by the Administrator, to determine compliance with the standards. (40 CFR 60.45c(a)) (See Comment 11)

**c. Opacity**Boiler #3 combusting fuel oil:

- i. The owner or operator of an affected facility subject to the opacity standards under §60.43c shall conduct an initial performance test as required under §60.8. (40 CFR 60.45c (a))
- ii. The owner or operator shall demonstrate compliance with the opacity limit by initially conducting a test in accordance with Method 9 of 40 CFR 60 Appendix A at the same time as the Method 5 PM performance test within 180 days of achieving normal operation. The test shall be performed at maximum capacity or allowable/permitted capacity or at a level of capacity which results in the greatest emissions and is representative of the operations. Failure to perform the test at these conditions may necessitate a re-test. The maximum 6-minute average opacity exhibited during the test period shall be used to determine whether the affected source is in initial compliance with the standard. The duration of the Method 9 performance test shall be 3 hours (30 6-minute averages).

**d. HAP (40 CFR 63, Subpart JJJJJ and Regulation 5.02)****i. Boiler #2:**

The owner or operator shall perform initial and subsequent biennial tune-up as required in Specific Condition S2.e.ii and iii. The owner or operator shall perform a one-time Energy Assessment as required in Specific Condition S1.e.iv.3).

ii. Boiler #3 combusting fuel oil:

The owner or operator shall perform initial and subsequent biennial tune-up as required in Specific Condition S2.e.ii and iii. The owner or operator shall perform initial and subsequent tests for PM using Method 5 or 17, as required in Specific Condition S2.e.ii and iii.

- e. The owner or operator shall construct all equipment in such a manner that the following testing requirements can be performed.
- i. The owner or operator shall perform an EPA Reference Method 5 PM performance test within 180 days of achieving normal operation on the inlet and outlet of the control device or emission point to determine the emission rate and control efficiency. The test shall be performed at 90% or higher of maximum capacity, or allowable/permitted capacity, or at a level of capacity which results in the greatest emissions and is representative of the operations. Failure to perform the test at maximum capacity, allowable/permitted capacity or at a level of capacity which resulted in the greatest emissions, may necessitate a re-test or necessitate a revision of the allowable/permitted capacity of the process equipment depending upon the difference between the testing results and the limit.
  - ii. The owner or operator shall submit written compliance test plans (protocol). They shall include the EPA test methods that will be used for PM compliance testing, the process operating parameters that will be monitored during the compliance test, and the control device performance indicators (e.g. pressure drop) that will be monitored during the compliance test. The compliance test plans shall be furnished to the District at least 30 days prior to the actual date of the compliance test.
  - iii. The owner or operator shall provide the District at least 10 days prior notice of any compliance test to afford the District the opportunity to have an observer present.
  - iv. The owner or operator shall furnish the District with a written report of the results of the compliance test(s) within 60 days following the actual date of completion of the compliance test(s).
  - v. The owner or operator shall provide written notification to the District of the actual date of initial startup. The written notification shall be postmarked within 15 days of achieving normal operation.

### U1/U2 Comments

1. In identifying the regulatory requirements that the University will have to satisfy in order to obtain the construction permit, District officials discovered that the previous PM limit set forth in the University's operating permit since 1997 has been incorrect. Pursuant to District Regulation 2.09, District officials determined that a more stringent PM limit, 0.10 lb/MMBtu, must be applied to replace the old 0.26 lb/MMBtu PM limit.

A Method 5 stack test was performed on August 11, 1980 for the coal fired boilers, which indicated a PM emission rate of 0.128 lb PM / MMBtu. Method 5 and 6C stack test was performed during February 1-7, 2007 for coal-fired Boiler #2. The tested emission rates were 0.21 lb PM/MMBtu and 0.856 lb SO<sub>2</sub>/MMBtu. Both stack tests suggested that the University is in compliance with the 1.2 lb/MMBtu SO<sub>2</sub> standard and the 0.26 lb/MMBtu previous PM standard, but is not in compliance with the current 0.10 lb/MMBtu PM standard.

University of Louisville has submitted a pollution prevention plan (Plan) on March 19, 2010 and it was approved on June 16, 2010. According to this Pollution Reduction Operating Plan, the University's investment in converting the coal-fired boilers into natural gas/fuel oil boilers will result in compliance with the more stringent PM limit no later than December 31, 2015.

2. Using AP-42 emission factors, the 0.10 lb PM/MMBtu and 0.8 lb SO<sub>2</sub>/MMBtu standards cannot be exceeded when combusting natural gas or distillate fuel oil. For Boiler #3, the 0.03 lb PM/MMBtu standards cannot be exceeded when combusting natural gas.
3. For Boiler #2, when combusting coal with the sulfur content and heating value below the tabulated limits or the limits determined using the equation in Specific Condition S1.b.ii, the 1.2 lb SO<sub>2</sub>/MMBtu limit cannot be exceeded. For Boiler #3, the source will demonstrate compliance with the 0.5% sulfur content limit for fuel oil. Since the SO<sub>2</sub> standard in 40 CFR 60 Subpart Dc and the PM standard in 40 CFR 60 Subpart Dc and 40 CFR 63 Subpart JJJJJ are more stringent than those in Regulation 7.06, the source shall only demonstrate compliance with the SO<sub>2</sub> and PM standards in 40 CFR 60 Subpart Dc and 40 CFR 63 Subpart JJJJJ.
4. The District has determined that using a natural gas fired boiler will inherently meet the 20% opacity standard. Therefore, the company is not required to perform periodic monitoring to demonstrate compliance with the opacity standard when combusting natural gas.
5. The source requested the fuel oil usage limit in order to be in compliance with the STAR Program.
6. Upon review of the plantwide STAR EA Demonstration submitted by University of Louisville in December, 2006, and review of the STAR compliance demonstration in the construction applications, it was determined that University of Louisville is in compliance with STAR Program. Based on the PTE calculations, uncontrolled TAC

emissions from all the emission units and processes are de minimis except for coal-fired boiler #2 and fuel oil-fired boiler #3. SCREEN3 air dispersion modeling was performed from TACs emitted from the boilers to determine compliance with Environmental Acceptability Goals. The following table demonstrates that the carcinogen risk and non-carcinogen risk values calculated using SCREEN model results for these units are below EA goals required in Regulation 5.21.

Risk Determination per Modeling, for Non-de minimis Units												
		Boiler #2 (Coal-fired)				Boiler #3 (Fuel oil)				R <sub>NC</sub> Total		
		Industrial		Non-Industrial		Industrial		Non-Industrial		Indus.	Non-Ind.	R <sub>NC</sub>
TAC	CAS #	R <sub>C</sub>	R <sub>NC</sub>	R <sub>C</sub>	R <sub>NC</sub>	R <sub>C</sub>	R <sub>NC</sub>	R <sub>C</sub>	R <sub>NC</sub>	R <sub>NC</sub>	R <sub>NC</sub>	Comply
Acrolein	107-02-8	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.020	0.001	<3.0/1.0
Benzyl Chloride	100-44-7	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.000	<3.0/1.0
Dimethyl sulfate	77-78-1	0.16	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.003	0.000	<3.0/1.0
Formaldehyde	50-00-0	0.00	0.00	0.00	0.00	0.04	0.00	0.01	0.00	0.000	0.000	<3.0/1.0
Methyl hydrazine	60-34-4	0.03	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.085	0.004	<3.0/1.0
Hydrochloric acid	7647-01-0	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.082	0.004	<3.0/1.0
Arsenic	7440-38-2	2.43	0.04	0.13	0.00	0.55	0.01	0.16	0.00	0.046	0.004	<3.0/1.0
Beryllium	7440-41-7	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.001	0.000	<3.0/1.0
Cadmium	7440-43-9	0.12	0.00	0.01	0.00	0.07	0.00	0.02	0.00	0.005	0.001	<3.0/1.0
Chromium VI	7440-47-3	1.30	0.01	0.07	0.00	0.28	0.00	0.08	0.00	0.016	0.002	<3.0/1.0
Cobalt	7440-48-4	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.02	0.063	0.018	<3.0/1.0
Nickel	7440-02-0	0.10	0.03	0.01	0.00	2.11	0.57	0.60	0.16	0.601	0.165	<3.0/1.0
Phosphorous	7723-14-0	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.013	0.004	<3.0/1.0
Unit total R <sub>C</sub>		4.26		0.22		3.05		0.87				Jan-00
<b>Plant-wide total R<sub>C</sub></b>		Ind. R <sub>C</sub> =		<b>7.32</b>	<75	Non-Ind. R <sub>C</sub> =		<b>1.09</b>	<7.5	<b>STAR Comply</b>		<b>Yes!</b>

7. Boiler #1: the old natural gas boiler has been replaced with a new natural gas boiler (Permit 47-10-C) in August, 2010. Boiler #3: the old coal fired boiler has been replaced with a new natural gas/fuel oil boiler (Permit 33168-11-C) in February, 2012.
8. 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 D<sub>c</sub> that can be approved by the District without additional input from EPA.
9. If the Pollution Prevention Operating Plan has any change or the milestones in Attachment A cannot be fulfilled as scheduled, the District may require the source to conduct performance tests for PM or SO<sub>2</sub> to demonstrate compliance.
10. On January 7, 2013, Uof L agreed to permanently disable the coal-firing capability of boiler #2 no later than March 20, 2014. Therefore Boiler #2 is not subject to emission limits for existing coal-fired boiler. However, from March 21, 2012 to the date that coal-firing capability is disabled, Boiler #2 is still subject to work practice or management practice standards for existing coal-fired boiler according to 40 CFR 63.11196(a)(1).
11. Boiler #3 meets the PM testing requirements of 40 CFR 60, Subpart D<sub>c</sub> by complying with the HAP (PM) testing requirements of 40 CFR 63, Subpart JJJJJ.

**Emission Unit U5:** Three (3) lithographic sheet fed presses

**U5 Applicable Regulations:**

<b>FEDERALLY ENFORCEABLE REGULATIONS</b>		
<b>Regulation</b>	<b>Title</b>	<b>Applicable Sections</b>
7.25	Standard of Performance for New Sources Using Volatile Organic Compounds	1 through 5

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

**U5 Equipment:**

<b>Emission Point</b>	<b>Description</b>	<b>Applicable Regulation</b>	<b>Control ID</b>	<b>Stack ID</b>
E6	One (1) sheet fed lithographic press, make AB Dick, model 9985, rated at 3,500 sheets/hr.	5.00, 5.01, 5.02, 5.14, 5.20, 5.21, 5.22, 5.23, and 7.25	N/A	S4
E7	One (1) sheet fed lithographic press, make Hamada, model 660, rated at 3,500 sheets/hr.			
E8	One (1) sheet fed lithographic press, make Heidelberg, model KORS, rated at 3,000 sheets/hr			

**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. VOC**

- i. The owner or operator shall not allow or cause the VOC emissions to equal or exceed 5 tons during any consecutive 12-month period from all affected facilities subject to Regulation 7.25, including the lithographic presses (U5), and groundwater remediation system (U10), and paint spray booth (U11) to equal or exceed 5 tons during any 12 consecutive month period, unless modeling or a BACT is submitted and approved by the District. (Regulation 7.25, section 3) (See Comment 1)
- ii. The owner or operator shall comply with the plant-wide calendar month raw material usage limits specified below. If the raw material usage rate for any category exceeds any of the following monthly limits, the owner or operator must comply with the record keeping requirements specified in Specific Condition S3.a.ii. (Regulation 2.03, section 3, construction permit 413-06-C, effective 12/31/2006)

<b>Raw Material</b>	<b>Max VOC Content (wgt %)</b>	<b>Density (lb/gal)</b>	<b>Monthly Limit</b>
Inks	35.0	N/A	1000 lbs
Fountain Solution Concentrate	25.0	8.25	60 gallons
Varnish (Clear Coat)	25.0	8.27	20 gallons
Washes (roller, blanket, plate, etc.)	100.0	6.91	60 gallons
Misc. VOC containing materials	100.0	9.50	20 gallons

- iii. The owner or operator shall store all VOC containing materials in closed containers when not in use. This includes materials such as inks, solvents, fountain solution, press cleaning materials, and waste materials including rags/wipes/paper used to clean press components. (Regulation 7.25, section 3)
- iv. The owner or operator shall use the least amount of VOC containing materials needed for the job. (Regulation 7.25, section 3)
- v. The owner or operator shall clean up all spills of any VOC containing materials no matter how small it is. If the spill is significant (i.e. more than one gallon), the owner or operator shall notify maintenance or professionals for assistance. (Regulation 7.25, section 3)

**b. TAC**

The owner or operator shall not allow emissions of any TAC to exceed environmentally acceptable (EA) levels, whether specifically established by modeling or determined by the District to be de minimis. (Regulations 5.00 and 5.21) (See Comment 2)

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

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

**a. VOC**

- i. The owner or operator shall monitor and maintain monthly records of the name, quantity used, and VOC content for each of the following raw materials: inks, fountain solution concentrate, fountain solution additives, blanket wash, roller wash, plate cleaner, press cleaning materials, or any other VOC containing material used during each calendar month and consecutive 12-month period.
- ii. If the quantity of any VOC containing raw material exceeds the calendar month limit specified in Specific Condition S1.a.iii., the owner or operator shall calculate the total VOC emissions for the calendar month in which the raw material usage limit was exceeded. The owner or operator shall then calculate the total VOC emissions from the printing operation for the preceding 11 months to determine if the annual VOC limit of less than 5 tons has been exceeded. The owner or operator shall continue to calculate the monthly and consecutive 12 month VOC emissions from the printing operation until such time the calendar month usage rate of all VOC containing materials comply with Specific Condition S1.a.iv.
- iii. The owner or operator shall maintain a copy of the Material Safety Data Sheet (MSDS) for each VOC containing material used in the printing operation.

**b. TAC**

- i. The owner or operator shall maintain records sufficient to demonstrate environmental acceptability, including, but not limited to MSDS, analysis of emissions, and/or modeling results.
- ii. The owner or operator shall re-evaluate the environmental acceptability and document the environmentally acceptable emissions if a new TAC is

introduced or the content of a TAC in a raw material increases.

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

The owner or operator shall include, at a minimum, the following information in the semi-annual compliance reports:

**a. VOC**

- i. The calendar month quantity of each VOC containing material used for each month in the reporting period;
- ii. The consecutive 12-month quantity of each VOC containing material used for each month in the reporting period;
- iii. The owner or operator shall report any deviation from the VOC emission limit and VOC content limit specified in Specific Condition S1.a, including the following:
  - 1) Emission Unit ID number and emission point ID number;
  - 2) The beginning and ending date of the reporting period;
  - 3) Identification of all exceedance of the limit as specified in Specific Condition S1.a;
  - 4) If no deviations occur during a semi-annual reporting period, the report shall contain a negative declaration.

**b. TAC**

- i. The owner or operator shall report any conditions that were inconsistent with those conditions analyzed in the most recent Environmental Acceptability Demonstration or a negative declaration stating that operations were within the conditions analyzed. This includes, but is not limited to, control device upset conditions.
- ii. For any conditions outside the analysis, the owner or operator shall re-analyze to determine whether these conditions comply with the STAR program. Changes to the air dispersion modeling program or meteorological data used in the most recent Environmental Acceptability Demonstration do not trigger the requirement to re-analyze. (Regulation 5.21 sections 4.22 – 4.24)
- iii. The owner or operator shall submit the re-evaluated EA demonstration to the District within 6 months of a change of a raw material as described in S2.e.ii.

### U5 Comments

1. University of Louisville requested an allowable emission limit of less than 5 tons per year for the printing presses E6, E7, and E8. The total VOC emissions from all facilities subject to Regulation 7.25, including the lithographic presses (U5), and groundwater remediation system (U10), and paint spray booth (U11), are subject to the 5 tons per year limit.
2. The toxic air contaminants (TACs) are below the de minimis values, either by potential uncontrolled emissions or MSDS weight percent. The emissions of TACs from the printing presses are excluded from the STAR Environmental Acceptability Demonstration per Regulation 5.21, section 2.1.
3. The VOC emissions from the offset lithography printing presses can be calculated according to the following methodology:

#### **Off-set Lithography Sheet-fed Printing Presses**

$$E_{VOC} = [(I_{voc})(I_{Ret}) + FS_{voc} + BW_{voc} + RW_{VOC} + PC_{VOC} + (CS_{voc})(R)]$$

$E_{VOC}$	=	lbs VOC Emissions
$I_{voc}$	=	lbs of sheet-fed ink used x weight % VOC in each ink
$I_{Ret}$	=	0.10 (1 - Ink oil retention factor of 0.90 for non-heatset inks)
$FS_{voc}$	=	Qty of fountain solution used (gal) x VOC content of fountain solution as applied (lbs/gal)
$BW_{voc}$	=	Qty of blanket wash used (gallons) x VOC content of blanket wash as applied (lbs/gal)
$RW_{VOC}$	=	Qty of roller wash used (gallons) x VOC content of roller wash as applied (lbs/gal)
$PC_{VOC}$	=	Qty of plate cleaner used (gallons) x VOC content of plate cleaner as applied (lbs/gal)
$CS_{voc}$	=	Qty of each cleanup solvent used (gallons) x VOC content as applied (lbs/gal)
$R$	=	1.0 or 0.50 (Fraction of cleanup solvent unrecovered)

An “R” factor of 0.50 (50 percent VOC credit) may be used for solvents with a vapor pressure  $\leq$  5 mm Hg at 68°F that are used to manually clean press components if the rags/wipes used to manually clean press components are stored in closed/sealed containers immediately after use and the University of Louisville can document the quantity of solvent recovered.

4. The following table summarizes the compliance monitoring methods to reasonably assure compliance with District regulations and the terms and conditions of this permit:

<b>Pollutant</b>	<b>Monitoring</b>	<b>Record Keeping</b>	<b>Frequency</b>
VOC	Raw material usage	Record the quantity of each type of VOC containing material used in the printing operation during each calendar month and consecutive 12-month period.	Monthly
	Emissions	If the monthly raw material usage limit is exceeded, calculate and record the calendar month and consecutive 12-month total VOC emissions from the printing operation.	As required
	Raw material VOC content	Maintain a copy of the MSDS for each VOC containing material used in the printing operation.	Continuous
HAP/TAC	Raw material HAP and TAC content	Maintain a copy of the MSDS for each HAP/TAC containing material used in the printing operation.	Continuous
	Raw material Changes	Record any changes in TAC containing raw materials and receive District approval.	As required

5. The printing presses were previously permitted under Construction Permit 312-08-C and 413-06-C.

**Emission Unit U7:** One (1) portable gasoline storage tank

**U7 Applicable Regulations:**

<b>Federally Enforceable Regulations</b>		
<b>Regulation</b>	<b>Subject</b>	<b>Applicable Sections</b>
6.40	Standard of Performance for Gasoline Transfer to Motor Vehicles (Stage II Vapor Recovery and Control)	2
7.15	Standards of Performance for Gasoline Transfer to New Service Station Storage Tanks (Stage I Vapor Recovery)	1, 2, & 3

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

**U7 Equipment:**

<b>Emission Point</b>	<b>Description</b>	<b>Applicable Regulation</b>	<b>Control ID</b>	<b>Stack ID</b>
E10	One (1) portable gasoline storage tank with a capacity of 550 gallons equipped with a dual point vapor balance system.	5.00, 5.01, 5.02, 5.14, 5.20, 5.21, 5.22, 5.23, 6.40, and 7.15	C9	S5

**U7 Control Devices:**

<b>ID</b>	<b>Description</b>	<b>Performance Indicator</b>	<b>Stack ID</b>
C9	Vapor balance and submerged fill	N/A	N/A

### U7 Specific Conditions

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

##### a. VOC

- i. The owner or operator of an affected facility (gasoline storage tank) shall install, maintain and operate the following devices on the storage tanks: (Regulation 7.15, section 3.1)
  - 1) Submerged fill pipe;
  - 2) If the gasoline storage tank is equipped with a separate gauge well, a gauge well drop tube shall be installed which extends to within six inches of the bottom of the tank;
  - 3) Vent line restrictions on the affected facility; and
  - 4) Vapor balance system and vapor tight connections on the liquid fill and vapor return hoses. The cross-sectional area of the vapor return hose and any other vapor return passages in the circuit connecting the vapor space in the service station tank to that of the truck tank must be at least 50 percent of the liquid fill hose, cross-sectional area for each tank and free of flow restrictions to achieve acceptable recovery. The vapor balance equipment must be maintained according to the manufacturer's specifications. The type, size and design of the vapor balance system are subject to the approval of the District.
- ii. The owner or operator may elect to use an alternate control system, provided it can be demonstrated to the District's satisfaction to achieve the equivalent control efficiency. (Regulation 7.15, section 3.2)
- iii. The owner or operator shall not allow delivery of fuel to the storage tanks until the vapor balance system is properly connected to the transport vehicle and the affected facility. (Regulation 7.15, section 3.3)
- iv. No person shall deliver gasoline to a service station without connecting the vapor return hose between the tank of the delivery truck and the storage tank receiving the product. Also the vapor balance system must be operating in accordance with the manufacturer's specifications. (Regulation 7.15, section 3.4)
- v. Truck tank hatch openings for the purpose of visual inspection are permitted for a period not to exceed one minute and only after pumping from that compartment has stopped for at least three minutes prior to the opening. All truck tank hatches must be closed during pumping. (Regulation 7.15, section 3.5)

- vi. Except for above ground tank filling, all lines must be gravity drained in such a manner that upon disconnect no liquid spillage would be expected. (Regulation 7.15, section 3.6)
- vii. Above ground tanks shall be equipped with dry breaks with any liquid spillage upon the line disconnect not exceeding 10 ml. (Regulation 7.15, section 3.7)
- viii. Equipment shall be operated and maintained with no defects and: (Regulation 7.15, section 3.8)
  - 1) All fill tubes are equipped with vapor-tight covers including gaskets;
  - 2) All dry breaks have vapor-tight seals and are equipped with vapor-tight covers or dust covers;
  - 3) All vapor return passages are operated so there is no obstruction of vapor passage from the storage tank back to the delivery vehicle;
  - 4) All storage tank vapor return pipes and fill pipes without dry breaks are equipped with vapor-tight covers, including gaskets; and
  - 5) All hoses, fittings, and couplings are in a vapor-tight condition.
- ix. The owner or operator shall not exceed 10,000 gallons of throughput per month, in order to be exempted from Regulation 6.40, except for the record keeping and reporting requirements. (Regulation 6.40, section 2.2.1)

**b. TAC**

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

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

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

**a. VOC**

The owner or operator shall monitor and maintain records of the throughput (in gals) of gasoline during each calendar month and consecutive 12-month period.

**b. TAC**

- i. The owner or operator shall maintain records sufficient to demonstrate environmental acceptability, including, but not limited to MSDS, analysis of emissions, and/or modeling results.
- ii. The owner or operator shall re-evaluate the environmental acceptability and document the environmentally acceptable emissions if a new TAC is introduced or the content of a TAC in a raw material increases.

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

The owner or operator shall include, at a minimum, the following information in the semi-annual compliance reports:

**a. VOC**

The owner or operator shall submit a report by April 15 of each year showing that the Regulation 6.40 exemption in Specific Condition S1.a.ix still applies during the previous calendar year. (Regulation 6.40, section 2.2.2)

**b. TAC**

- i. The owner or operator shall report any conditions that were inconsistent with those conditions analyzed in the most recent Environmental Acceptability Demonstration or a negative declaration stating that operations were within the conditions analyzed. This includes, but is not limited to, control device upset conditions.
- ii. For any conditions outside the analysis, the owner or operator shall re-analyze to determine whether these conditions comply with the STAR program. Changes to the air dispersion modeling program or meteorological data used in the most recent Environmental Acceptability Demonstration do not trigger the requirement to re-analyze. (Regulation 5.21 sections 4.22 – 4.24)
- iii. The owner or operator shall submit the re-evaluated EA demonstration to the District within 6 months of a change of a raw material as described in S2.e.ii

**U7 Comments**

1. According to Regulation 5.21, section 2.6, emissions from motor vehicle fueling or refueling are de minimis. The emissions from this operation were not included in the modeling performed for the STAR regulations.
2. This equipment was previously permitted under Stage I Operating Permit 115-09-O.

**Emission Unit U8:** Two (2) emergency generators

**U8 Applicable Regulations:**

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

**U8 Equipment:**

<b>Emission Point</b>	<b>Description</b>	<b>Applicable Regulation</b>	<b>Control ID</b>	<b>Stack ID</b>
E12	One (1) diesel fueled emergency generator rated at 1208 HP (3.07 MMBtu/hr), make Caterpillar, model SR4, located at Miller Technology (Building #21A)		N/A	N/A
E15	One (1) diesel fueled emergency generator rated at 1342 HP (3.42 MMBtu/hr), make Caterpillar, model 3508, located at Shumaker Research Building (Building #4)		N/A	N/A

**U8 Control Devices:** There are no control devices associated with Emission Unit U8.

### U8 Specific Conditions

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

**TAC**

The owner or operator shall not allow emissions of any TAC to exceed environmentally acceptable (EA) levels, whether specifically established by modeling or determined by the District to be de minimis. (Regulations 5.00 and 5.21) (See Comment 1)

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

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

**TAC**

- i. The owner or operator shall maintain records sufficient to demonstrate environmental acceptability, including, but not limited to MSDS, analysis of emissions, and/or modeling results.
- ii. The owner or operator shall re-evaluate the environmental acceptability and document the environmentally acceptable emissions if a new TAC is introduced or the content of a TAC in a raw material increases.

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

The owner or operator shall include, at a minimum, the following information in the semi-annual compliance reports:

**TAC**

- i. The owner or operator shall report any conditions that were inconsistent with those conditions analyzed in the most recent Environmental Acceptability Demonstration or a negative declaration stating that operations were within the conditions analyzed. This includes, but is not limited to, control device upset conditions.
- ii. For any conditions outside the analysis, the owner or operator shall re-analyze to determine whether these conditions comply with the STAR program. Changes to the air dispersion modeling program or meteorological data used in the most recent Environmental Acceptability Demonstration do not trigger the requirement to re-analyze.  
(Regulation 5.21 sections 4.22 – 4.24)
- iii. The owner or operator shall submit the re-evaluated EA demonstration to the

District within 6 months of a change of a raw material as described in S2.e.ii.

### **U8 Comments**

1. The emergency generators are subject to the STAR program. Based on AP-42 emission factors and the 500 hours of operating limits, it has been determined that the uncontrolled TAC emissions from this unit are de minimis.
2. According to 40 CFR 63.6590(b)(3), the emergency generators under this unit are exempt from 40 CFR 63, Subpart ZZZZ since they are existing (before 6/12/2006) institutional emergency RICE located at an area source of HAP emissions.
3. The proposed emergency generators are not subject to 40 CFR 60, Subpart IIII because they were installed before July 12, 2006.
4. The emergency generators which meet the definition of Insignificant Activity, per updated Regulation 2.16, section 1.23, are moved to the insignificant activity list. Each diesel emergency generator is equipped with a fuel storage tank which is exempt from permitting per Regulation 2.02, 2.3.9.2.

**Emission Unit U9:** Hot water boilers, steam boilers, and domestic boilers

**U9 Applicable Regulations:**

<b>FEDERALLY ENFORCEABLE REGULATIONS</b>		
<b>Regulation</b>	<b>Title</b>	<b>Applicable Sections</b>
6.07	Standards of Performance of Existing Indirect Heat Exchangers	1, 2, 3, 4
7.06	Standards of Performance of New Indirect Heat Exchangers	1, 2, 3, 4

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

**U9 Equipment:**

<b>Emission Point</b>	<b>Description</b>	<b>Applicable Regulation</b>	<b>Control ID</b>	<b>Stack ID</b>
E16	Two (2) natural gas fired hot water boiler, rated at 1.0 MMBtu/hr for each, make Lochinvar, model SBN1000, located at basement mechanical room of Ernst Hall.	5.00, 5.01, 5.02, 5.14, 5.20, 5.21, 5.22, 5.23 6.07	N/A	N/A

<b>Emission Point</b>	<b>Description</b>	<b>Applicable Regulation</b>	<b>Control ID</b>	<b>Stack ID</b>
E17	One (1) natural gas fired hot water boiler, rated at 3.07 MMBtu/hr, make W/Mclain, model PGL1286WF, located at basement mechanical room of CUER.	5.00, 5.01, 5.02, 5.14, 5.20, 5.21, 5.22, 5.23 7.06	N/A	N/A
E18	Two (2) natural gas fired hot water boilers, rated at 1.70 MMBtu/hr for each, make W/Mclain, model PG688WI and PG688WF, located at basement mechanical room of Louisville Hall.	5.00, 5.01, 5.02, 5.14, 5.20, 5.21, 5.22, 5.23 7.06	N/A	N/A
E19	One (1) natural gas fired hot water boiler, rated at 3.06 MMBtu/hr, make Pacific, model 9103AW, located at basement mechanical room of UTA.	5.00, 5.01, 5.02, 5.14, 5.20, 5.21, 5.22, 5.23 6.07	N/A	N/A
E20	Three (3) natural gas fired hot water boilers, rated at 1.05 MMBtu/hr, make Peerless, model 2106WS, located at basement mechanical room of 49.	5.00, 5.01, 5.02, 5.14, 5.20, 5.21, 5.22, 5.23 6.07	N/A	N/A
E21	Two (2) natural gas fired hot water boiler, rated at 1.0 MMBtu/hr for each, make Lochinvar, model SBN1000, located at central mechanical room of Thrust.	5.00, 5.01, 5.02, 5.14, 5.20, 5.21, 5.22, 5.23 7.06	N/A	N/A
E22	Two (2) natural gas fired hot water boilers, rated at 2.0 MMBtu/hr for each, make Ben/Mark, model AR355284 and AR355286, located at NE basement mechanical room of Chemistry.	5.00, 5.01, 5.02, 5.14, 5.20, 5.21, 5.22, 5.23 7.06	N/A	N/A
E23	Two (2) natural gas fired hot water boilers, rated at 1.38 and 2.25 MMBtu/hr, make Ajax, model WGN1375S and WGN2250S, located at stockroom mechanical room and personnel WHS Side of Tafel.	5.00, 5.01, 5.02, 5.14, 5.20, 5.21, 5.22, 5.23 7.06	N/A	N/A
E24	Two (2) natural gas fired hot water boilers, one rated at 2.0 MMBtu/hr for each, make Bryan, model AB200WFDG, and one rated at 1.5 MMBtu/hr, make Lochinvar, model SBN1500, located at W mechanical room of Facilities.	5.00, 5.01, 5.02, 5.14, 5.20, 5.21, 5.22, 5.23 7.06	N/A	N/A

<b>Emission Point</b>	<b>Description</b>	<b>Applicable Regulation</b>	<b>Control ID</b>	<b>Stack ID</b>
E25	One (1) natural gas fired hot water boiler, rated at 2.0 MMBtu/hr, make Ben/Mark, model AR693390, located at basement mechanical room of Ekstrom Library Add.	5.00, 5.01, 5.02, 5.14, 5.20, 5.21, 5.22, 5.23 7.06	N/A	N/A
E26	Two (2) natural gas fired hot water boilers, rated at 2.0 and 3.0 MMBtu/hr, make Fulton, model PHW-200 and VTG-3000, located at mechanical room of Natatorium.	5.00, 5.01, 5.02, 5.14, 5.20, 5.21, 5.22, 5.23 7.06	N/A	N/A
E27	Two (2) natural gas fired hot water boilers, rated at 2.0 MMBtu/hr for each, make Aereco, model BMK2.0, located at 2 <sup>nd</sup> floor mechanical room of YUM Center.	5.00, 5.01, 5.02, 5.14, 5.20, 5.21, 5.22, 5.23 7.06	N/A	N/A
E29	One (1) natural gas fired steam boiler, rated at 4.2 MMBtu/hr, make I-Fireman, model 202-50, located at basement mechanical room of Life Science.	5.00, 5.01, 5.02, 5.14, 5.20, 5.21, 5.22, 5.23 7.06	N/A	N/A
E30	One (1) natural gas fired steam boiler, rated at 2.1 MMBtu/hr, make Bryan, model CL-210-5150FDG, located at basement mechanical room of Lutz Hall.	5.00, 5.01, 5.02, 5.14, 5.20, 5.21, 5.22, 5.23 7.06	N/A	N/A
E31	One (1) natural gas fired steam boiler, rated at 1.34 MMBtu/hr, make Hurst, model unknown, located at basement mechanical room of Ernst Hall.	5.00, 5.01, 5.02, 5.14, 5.20, 5.21, 5.22, 5.23 7.06	N/A	N/A
E32	One (1) natural gas fired steam boiler, rated at 1.53 MMBtu/hr, make W/Mclain, model MGB-10, located at basement of UPDC.	5.00, 5.01, 5.02, 5.14, 5.20, 5.21, 5.22, 5.23 7.06	N/A	N/A
E33	One (1) natural gas fired steam boiler, rated at 1.82 MMBtu/hr, make W/Mclain, model MGB-11, located at basement of Humana Gym.	5.00, 5.01, 5.02, 5.14, 5.20, 5.21, 5.22, 5.23 7.06	N/A	N/A

<b>Emission Point</b>	<b>Description</b>	<b>Applicable Regulation</b>	<b>Control ID</b>	<b>Stack ID</b>
E34	Three (3) natural gas fired steam boilers, rated at 3.5 MMBtu/hr for each, make Peerless, model TC11SP and GTC11SU, located at penthouse mechanical room of Shumaker Research Bldg.	5.00, 5.01, 5.02, 5.14, 5.20, 5.21, 5.22, 5.23 7.06	N/A	N/A
E35	Two (2) natural gas fired domestic hot water boilers, rated at 1.44 and 1.5 MMBtu/hr, make Loch, model CFN1440PM and GW-1500-200, located at E mechanical penthouse of SAC.	5.00, 5.01, 5.02, 5.14, 5.20, 5.21, 5.22, 5.23 7.06	N/A	N/A
E36	One (1) natural gas fired domestic hot water boiler, rated at 2.0 MMBtu/hr, make Sellers, model BT-20-650, located at 1 <sup>st</sup> floor W mechanical room of Facilities.	5.00, 5.01, 5.02, 5.14, 5.20, 5.21, 5.22, 5.23 7.06	N/A	N/A
E37	Two (2) natural gas fired domestic hot water boilers, rated at 1.0 MMBtu/hr, make AOSmith, model LW1000400, located at ground floor mechanical room of Natatorium.	5.00, 5.01, 5.02, 5.14, 5.20, 5.21, 5.22, 5.23 7.06	N/A	N/A
E38	Two (2) natural gas fired domestic hot water boilers, rated at 1.0 MMBtu/hr, make Aerco, model AS-36074, located at 2 <sup>nd</sup> floor mechanical room of YUM Center.	5.00, 5.01, 5.02, 5.14, 5.20, 5.21, 5.22, 5.23 7.06	N/A	N/A

**U9 Control Devices:** There are no control devices associated with Emission Unit U9.

### U9 Specific Conditions

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

##### a. **SO<sub>2</sub>**

- i. The owner or operator shall not cause to be discharged into the atmosphere from that affected facility any gases which contain sulfur dioxide in excess of 1.0 pounds per million BTU actual total heat input for boilers subject to Regulation 6.07. (Regulation 6.07, section 4.1) (See Comment 1)
- ii. The owner or operator shall not cause to be discharged into the atmosphere from that affected facility any gases which contain sulfur dioxide in excess of 0.8 pounds per million BTU actual total heat input for boilers subject to Regulation 7.06. (Regulation 7.06, section 5.1.1) (See Comment 1)

##### b. **PM**

- i. The owner or operator shall not cause to be discharged into the atmosphere from that affected facility particulate matter in excess of 0.56 pounds per million BTU actual total heat input for the boilers subject to Regulation 6.07. (Regulation 6.07, section 3.1) (See Comment 1)
- ii. The owner or operator shall not cause to be discharged into the atmosphere from that affected facility particulate matter in excess of 0.10 pounds per million BTU actual total heat input for the boilers subject to Regulation 7.06. (Regulation 7.06, section 4.1.4) (See Comment 1)

##### c. **Opacity**

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

##### d. **TAC**

The owner or operator shall not allow emissions of any TAC to exceed environmentally acceptable (EA) levels, whether specifically established by modeling or determined by the District to be de minimis. (Regulations 5.00 and 5.21) (See Comment 3)

#### S2. **Monitoring and Record Keeping** (Regulation 2.16, section 4.1.9.1 and 4.9.1.2)

The owner or operator shall maintain the required records for a minimum of 5 years and

make the records readily available to the District upon request.

a. **SO<sub>2</sub>**

There are no monitoring and record keeping requirements for SO<sub>2</sub> compliance. (See Comment 1)

b. **PM**

There are no monitoring and record keeping requirements for PM compliance. (See Comment 1)

c. **Opacity**

There are no monitoring and record keeping requirements for Opacity compliance. (See Comment 2)

d. **TAC**

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

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

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

The owner or operator shall include, at a minimum, the following information in the semi-annual compliance reports:

a. **SO<sub>2</sub>**

There are no routine compliance reporting requirements for this equipment.

b. **PM**

There are no routine compliance reporting requirements for this equipment.

c. **Opacity**

There are no routine compliance reporting requirements for this equipment.

d. **TAC**

- i. The owner or operator shall report any conditions that were inconsistent with those conditions analyzed in the most recent Environmental Acceptability Demonstration or a negative declaration stating that operations were within the conditions analyzed. This includes, but is not limited to, control device upset conditions.
- ii. For any conditions outside the analysis, the owner or operator shall re-analyze to determine whether these conditions comply with the STAR program. Changes to the air dispersion modeling program or meteorological data used in the most recent Environmental Acceptability Demonstration do not trigger the requirement to re-analyze. (Regulation 5.21 sections 4.22 – 4.24)
- iii. The owner or operator shall submit the re-evaluated EA demonstration to the District within 6 months of a change of a raw material as described in S2.e.ii.

### **U9 Comments**

1. The District has performed a one-time PM and SO<sub>2</sub> compliance demonstration for the boiler, using AP-42 emission factors and combusting natural gas, and the emission standards cannot be exceeded. Therefore, there are no monitoring, record keeping, and reporting requirements for this boiler with respect to PM and SO<sub>2</sub> emission limits.
2. The District has determined that using a natural gas fired boiler will inherently meet the 20% opacity standard. Therefore, the company is not required to perform periodic monitoring to demonstrate compliance with the opacity standard.
3. The TAC emissions from the combustion of natural gas are considered to be “de minimis emissions” by the District. This includes all of the emissions from a process or process equipment for which the only emissions are the products of combustion of natural gas, such as from a natural gas-fired boiler or turbine, but does not include the other emissions from a process or process equipment that are not the products of the combustion of natural gas. (Regulation 5.21, section 2.7)
4. The hot water boilers and steam boilers having a capacity of less than 1.0 MMBtu/hr are listed as insignificant activities. Three 1.5 MMBtu/hr boilers at Stoddard Johnson, previous emission point E28, were no longer owned by U of L according to 2011 Emission Inventory Repot.

**Emission Unit U10:** One (1) groundwater remediation system

**U10 Applicable Regulations:**

<b>Federally Enforceable Regulations</b>		
<b>Regulation</b>	<b>Subject</b>	<b>Applicable Sections</b>
7.25	Standard of Performance for New Sources Using Volatile Organic Compounds	1, 2, 3, 4, and 5

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

**U10 Equipment:**

<b>Emission Point</b>	<b>Description</b>	<b>Applicable Regulation</b>	<b>Control ID</b>	<b>Stack ID</b>
E39	One (1) custom-made groundwater remediation system with a treatment capacity of 20 gallon water per min	5.00, 5.01, 5.02, 5.14, 5.20, 5.21, 5.22, 5.23, and 7.25	C10	S7

**U10 Control Devices:**

<b>ID</b>	<b>Description</b>	<b>Performance Indicator</b>	<b>Stack ID</b>
C10	One (1) dual carbon adsorption system consists of two activated carbon adsorption units in series, each make Tetrasolv Filtration, model VFV-250, with a capacity of 120 acfm.	N/A	S7

**U10 Specific Conditions****S1. Standards** (Regulation 2.16, section 4.1.1)**a. VOC**

The owner or operator shall not allow or cause the *plant-wide* VOC emissions to exceed 5 tons during any calendar year from all affected facilities subject to Regulation 7.25, including the lithographic presses (U5), and groundwater remediation system (U10), and paint spray booth (U11) to equal or exceed 5 tons during any 12 consecutive month period, unless modeling or a BACT is submitted and approved by the District. (Regulation 7.25, section 3) (See Comment 1)

**b. TAC**

- i. The owner or operator shall not allow emissions of any TAC to exceed environmentally acceptable (EA) levels, whether specifically established by modeling or determined by the District to be de minimis. (Regulations 5.00 and 5.21)
- ii. The owner or operator shall not allow Benzene (71-43-2) emissions to exceed 62.4 pounds per year from this equipment. (See Comment 2)

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

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

**a. VOC**

- i. For all affected facilities subject to Regulation 7.25, the owner or operator shall monitor and maintain monthly records of each VOC containing material used, applied, or processed.
- ii. For affected facilities subject to Regulation 7.25, the owner or operator shall calculate and maintain the records of the calculations that show the calendar month and consecutive 12-month *plant-wide* VOC emissions for each month.

**b. TAC**

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

and document the environmentally acceptable emissions if a new TAC is introduced or the content of a TAC in a raw material increases.

- iii. The owner or operator shall monitor and maintain the records of monthly and consecutive 12-month Benzene emissions for each month, to demonstrate compliance with the Specific Condition S1.b.ii.

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

The owner or operator shall submit semi-annual compliance reports that include the information in this section. 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. The compliance reports shall be postmarked within 60 days following the end of each reporting period.

a. **Responsible Official Certification**

All compliance reports shall include the following certification statement per Regulation 2.16, section 3.5.11. If a change in the "Responsible Official" occurs during the term of this permit, the owner or operator shall provide written notification (Form 9400-A and AP-0208) to the District within 30 calendar days following the date a change in the designated Responsible Official occurs for this facility.

- "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.

b. **VOC**

For affected facilities subject to Regulation 7.25, the owner or operator shall report the *plant-wide* calendar month and consecutive 12-month total VOC emissions for each month in the reporting period.

c. **TAC**

- i. The owner or operator shall report any conditions that were inconsistent with those conditions analyzed in the most recent Environmental Acceptability Demonstration or a negative declaration stating that operations were within the conditions analyzed. This includes, but is not limited to, control device upset conditions.
- ii. For any conditions outside the analysis, the owner or operator shall re-analyze to determine whether these conditions comply with the STAR program. Changes to the air dispersion modeling program or

meteorological data used in the most recent Environmental Acceptability Demonstration do not trigger the requirement to re-analyze. (Regulation 5.21 sections 4.22 – 4.24)

- iii. The owner or operator shall submit the re-evaluated EA demonstration to the District within 6 months of a change of a raw material as described in S2.e.ii
- iv. The owner or operator shall report the calendar month and consecutive 12-month total Benzene emissions for each month in the reporting period.

### **U10 Comments**

1. University of Louisville operates several offset lithography printing presses subject to Regulation 7.25. The total VOC emissions from all facilities subject to Regulation 7.25, including the lithographic presses (U5), and groundwater remediation system (U10), and paint spray booth (U11), are subject to the 5 tons per year limit.
2. The potential uncontrolled emissions of all TACs are below the de minimis threshold levels except for Benzene. The Benzene emission can exceed its de minimis level (62.4 lb/yr) uncontrolled, but not controlled. In lieu of performing environmental acceptability demonstration by modeling, University of Louisville is required to demonstrate that the Benzene emission is under de minimis level.
3. University of Louisville took limits of natural gas, fuel oil, and coal usage to avoid Regulation 6.42. With those fuel usage limits, the source is below major source thresholds for HAP. Therefore the source is not subject to 40 CFR 63, Subpart GGGGG, *National Emission Standards for Hazardous Air Pollutants: Site Remediation*.
4. The unit was previously permitted by 30142-10-C.

**Emission Unit U11: One (1) Theatre Arts Spray Booth****U11 Applicable Regulations:**

<b>FEDERALLY ENFORCEABLE REGULATIONS</b>		
<b>Regulation</b>	<b>Title</b>	<b>Applicable Sections</b>
7.08	Standards of Performance for New Process Operations	1 through 3
7.25	Standard of Performance for New Sources Using Volatile Organic Compounds	1 through 5

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

**U11 Equipment:**

<b>Emission Point</b>	<b>Description</b>	<b>Applicable Regulation</b>	<b>Control ID</b>	<b>Stack ID</b>
E40	One (1) Theatre Arts Spray Booth for aerosol can spray paint or RIT dye application to stage production clothing, shoes, and jewelry, ventilating rate 8000 cfm, equipped with a 0.625 MMBtu/hr direct natural gas heater and a fiber filter.	5.00, 5.01, 5.02, 5.14, 5.20, 5.21, 5.22, 5.23, 7.08, and 7.25	C11	S8

**U11 Control Devices:** This equipment is equipped with a fiber filter (C11).

**U11 Specific Conditions****S1. Standards** (Regulation 2.16, section 4.1.1)**a. VOC**

The owner or operator shall not allow or cause plantwide VOC emissions, including all coatings, additives, catalysts, solvents, thinners, and cleaners from all affected facilities subject to Regulation 7.25, including the lithographic presses (U5), and groundwater remediation system (U10), and paint spray booth (U11) to equal or exceed 5 tons during any 12 consecutive month period, unless a BACT is submitted and approved by the District. (Regulation 7.25, section 2.1 and 3.1) (See Comment 3)

**b. Opacity**

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

**c. PM**

The owner or operator shall not allow PM emissions to exceed 2.34 lb/hr. (Regulation 7.08, section 3.1.2) (See Comment 1)

**d. TAC**

The owner or operator shall not allow emissions of any TAC to exceed environmentally acceptable (EA) levels, whether specifically established by modeling or determined by the District to be de minimis. (Regulations 5.00 and 5.21) (See Comment 2)

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

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

**a. VOC**

- i. The owner or operator shall, monthly, record the total amount used in gallons of each coating, solvent, cleaner, etc. and calculate the amount of VOC containing material used during the 12 consecutive month period.
- ii. The owner or operator shall, monthly, calculate the VOC emissions during the 12 consecutive month period to demonstrate compliance with Specific Condition S1.a.

**b. Opacity**

- i. The owner or operator shall inspect the filters in the paint booth monthly to ensure proper installment (i.e. proper alignment/placement, gaps, etc.) and replace as needed.
- ii. The owner or operator shall keep a record that shows the date and the name of the person who inspected the filters and if filters were replaced.

**c. PM**

See Specific Condition S2.b.

**d. TAC**

- i. The owner or operator shall maintain records sufficient to demonstrate environmental acceptability, including, but not limited to MSDS, analysis of emissions, and/or modeling results.
- ii. The owner or operator shall re-evaluate the environmental acceptability and document the environmentally acceptable emissions if a new TAC is introduced or the content of a TAC in a raw material increases.

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

The owner or operator shall include, at a minimum, the following information in the semi-annual compliance monitoring reports for Regulation 7.25:

- i. Emission Unit ID number and emission point or stack ID number;
- ii. The beginning and ending date of the reporting period; and
- iii. Total VOC emissions during twelve consecutive months for each month from all affected facilities subject to Regulation 7.25, including this unit, lithographic presses (U5), and groundwater remediation system (U10).

**b. Opacity**

- i. Any deviation from the requirement to perform the required monthly visual inspections of the paint booth PM filter system; and
- ii. Any deviation from the requirement to record the results of each paint booth PM filter system inspection.

**c. PM**

See Specific Condition S3.b.

d. **TAC**

- i. The owner or operator shall report any conditions that were inconsistent with those conditions analyzed in the most recent Environmental Acceptability Demonstration or a negative declaration stating that operations were within the conditions analyzed. This includes, but is not limited to, control device upset conditions.
- ii. For any conditions outside the analysis, the owner or operator shall re-analyze to determine whether these conditions comply with the STAR program. Changes to the air dispersion modeling program or meteorological data used in the most recent Environmental Acceptability Demonstration do not trigger the requirement to re-analyze. (Regulation 5.21 sections 4.22 – 4.24)
- iii. The owner or operator shall submit the re-evaluated EA demonstration to the District within 6 months of a change of a raw material as described in S2.e.ii.

**U11 Comments**

1. A one-time PM compliance demonstration has been performed for this equipment and the lb/hr standard cannot be exceeded uncontrolled. Therefore, there are no monitoring, record keeping, and reporting requirements with respect to PM lb/hr emission limits.
2. It was demonstrated that the TAC emissions from the paint booth are de minimis uncontrolled and TAC emissions from the natural gas heater are de minimis per definition (Regulation 5.21, section 2.7). Therefore the facility is in compliance with STAR Program.
3. The total VOC emissions from all facilities subject to Regulation 7.25, including the lithographic presses (U5), and groundwater remediation system (U10), and paint spray booth (U11), are subject to the 5 tons per year limit.
4. The unit was previously permitted by 37071-13-C.

### Permit Shield

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

### Off-Permit Documents

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

### Alternative Operating Scenario

There are no alternative operating scenarios associated with this Title V permit.

### Insignificant Activities

Description	Quan.	PTE (tpy)	Basis for Exemption
Fly ash and bottom ash handling and storage facility (See unit IA1, previous U3)	1	0.28 PM <sub>10</sub>	Reg. 2.16, section 1.23
Non-halogenated cold solvent parts cleaner (See unit IA2, previous U4)	1	0.02 VOC	Reg. 2.16, section 1.23
New emergency generator installed after 6/12/2006 (See unit IA3).	1	4.83 NO <sub>x</sub>	Reg. 2.16, section 1.23
Existing diesel emergency generators installed before 6/12/2006 (See Note 7)	17	4.83 NO <sub>x</sub>	Reg. 2.16, section 1.23
Existing natural gas emergency generators installed before 6/12/2006 (See Note 7)	6	1.03 NO <sub>x</sub>	Reg. 2.16, section 1.23
Combustion Sources <1.0 MMBtu/hr, including 12 hot water boilers, 2 steam boilers, and 15 domestic hot water boilers (See Note 8)	29	0.43 NO <sub>x</sub>	Regulation 2.02, section 2.1
Silver stream color+ negative maker	1	0.0063 VOC	EPA White Papers
Digital dry toner printers	3	0	EPA White Papers
Residential/Domestic Equipment	637	0	Regulation 2.02, section 2.3.16
Emergency relief vents and ventilating systems (not otherwise regulated)	426	0	Regulation 2.02, section 2.3.10
Academic Labs for Research and Development	<100	0	Regulation 2.02, section 2.3.27
Diesel Fuel Storage Tanks used for emergency generators and boilers	28	0.001 VOC	Regulation 2.02, section 2.3.25

Description	Quan.	PTE (tpy)	Basis for Exemption
Four (4) 280 gallon used oil storage tanks and three (3) 294 gallon used cooking grease tank	7	0.0001 VOC	Regulation 2.02, section 2.3.9.2
Natural gas fired crucible furnace, capacity 1.75 gal (0.95 MMBtu/hr), for melting aluminum and bronze used in Fine Arts Department	1	0.41 NO <sub>x</sub>	Regulation 2.02, section 2.3.18
Soil or Groundwater Remediation Projects - Passive or total removal	1	0.01 VOC	Regulation 2.02, section 2.3.20
Lab ventilating and exhausting systems for nonradioactive materials	80	0.39 VOC	Regulation 2.02, section 2.3.11
Cooling Towers	7	0.87 PM <sub>10</sub>	Reg. 2.16, section 1.23

- 1) Insignificant activities identified in District Regulation 2.02 Section 2, may be subject to size or production rate disclosure requirements pursuant to Regulation 2.16 section 3.5.4.1.4.
- 2) Insignificant activities identified in District Regulation 2.02 Section 2 shall comply with generally applicable requirements as required by Regulation 2.16 section 4.1.9.4.
- 3) The Insignificant Activities Table is correct as of the date the permit was proposed for review by U.S. EPA, Region 4.
- 4) The owner or operator shall submit an updated list of insignificant activities that occurred during the preceding year pursuant to Regulation 2.16 section 4.3.5.3.6.
- 5) The owner or operator elected to monitor actual throughputs for each of the insignificant activities and calculate actual annual emissions to be reported on the annual emission inventory.
- 6) The District has determined pursuant to Regulation 2.16 section 4.1.9.4 that no monitoring, record keeping, or reporting requirements apply to the insignificant activities listed, except for the equipment that has an applicable regulation and permitted under an insignificant activity (IA) unit.
- 7) The emergency generators in the following table meet the definition of insignificant activity in Regulation 2.16, section 1.23. They are subject to 40 CFR 63, Subpart ZZZZ because it involves a stationary reciprocating internal combustion engine (RICE) located at a area source of HAP emissions. However, the proposed emergency generators meets the definition of an existing institutional emergency stationary RICE, which, per 63.6590(b)(3), does not have to meet the requirements of Subpart ZZZZ and no initial notification is necessary.

<b>Bldg No.</b>	<b>Building Name</b>	<b>Fuel Type</b>	<b>Capacity (Btu/hr)</b>	<b>Capacity (HP)</b>	<b>Tank Location</b>
90	Business School	Diesel	426,875	168	NE basement Mech. Room
36	Chemistry	Diesel	211,730	83	NW basement Mech. Room
84	Education Bldg.	Diesel	341,500	134	N end Mech. Room
9	Ekstrom Library	Diesel	1,366,000	537	SE end Mech. Room
81	Houchens	Diesel	102,450	40	SE corner of Bldg.
19	Law School	Diesel	102,450	40	W/S basement Mech.
28	Duthie	Diesel	341,500	134	SE side of Bldg.
23	Lutz Hall	Diesel	1,366,000	537	W of MITC UG Bldg
83	Music School	Diesel	443,950	175	E side of Bldg.
16	SAC	Diesel	853,750	336	NW basement Mech. Room
70	Steam & Chill	Diesel	1,366,000	537	SE corner Mech. Room
88	Strickler	Diesel	204,900	81	SW basement Mech. Room
99/31	Vogt Bldg/Sackett Hall	Diesel	341,500	134	N central Mech. Room
99	Vogt Bldg	Diesel	546,400	215	S side of Bldg.
48	University Tower	Diesel	683,000	268	SW side of Bldg.
75	Public Safety	Diesel	341,500	134	SW corner of Bldg.
108	Cardinal Stadium	Diesel	2,049,000	805	NW end of Stadium Bldg.
18	Life Sciences	Natural Gas	341,210	134	W end of Bldt
45	Louisville Hall	Natural Gas	341,210	134	E side of Bldg.
47	Unitas Tower	Natural Gas	102,363	40	E end of Bldg.
9	Ekstrom Library	Natural Gas	426,513	168	N side of Bldg.
12	Natorium	Natural Gas	85,303	34	W side of Bldg.
14	YUM Center	Natural Gas	170,605	67	W side of Bldg.

- 8) List of small water boilers, steam boilers, and domestic hot water boilers with capacity less than 1.0 MMBtu/hr:

<b>Location</b>	<b>Boiler Type</b>	<b>Capacity (Btu/hr)</b>	<b>Location Description</b>
Playhouse	hot water boiler	500,000	Basement Mech Room
University Club	hot water boiler	900,000	Basement Mech Room
Minority Affairs	hot water boiler	225,000	Mech Room
Red Barn	hot water boiler	212,500	2nd Floor Mech Room
Triangle Frat	hot water boiler	360,000	Hatch Basement Mech Room
Sigma Chi	hot water boiler	225,000	Basement Mech Room
Duthie	hot water boiler	700,000	Central Mech Room
Public Safety	hot water boiler	500,000	North Mech Room
Public Safety	hot water boiler	990,000	South Mech Room
Cardinal Park	hot water boiler	794,000	South Mech Room
Cardinal Park	hot water boiler	794,000	North Mech Room
Fairfax	hot water boiler	500,000	East Mech Room
SAC	steam boiler	358,920	W Mech Penthouse
SAC	steam boiler	650,000	Flextube-W Mech Penthouse
SAC	domestic hot water boiler	360,000	W Mech Penthouse

<b>Location</b>	<b>Boiler Type</b>	<b>Capacity (Btu/hr)</b>	<b>Location Description</b>
SAC	domestic hot water boiler	360,000	W Mech Penthouse
Life Science	domestic hot water boiler	360,000	Basement Mech Room
Life Science	domestic hot water boiler	360,000	Basement Mech Room
University Club	domestic hot water boiler	500,000	Basement Storage Area
Threlkeld	domestic hot water boiler	360,000	Basement Mech Room
Threlkeld	domestic hot water boiler	360,000	Basement Mech Room
Threlkeld	domestic hot water boiler	360,000	Basement Mech Room
Miller Hall	domestic hot water boiler	360,000	Basement Mech Room
Miller Hall	domestic hot water boiler	360,000	Basement Mech Room
Miller Hall	domestic hot water boiler	360,000	Basement Mech Room
Louisville Hall	domestic hot water boiler	800,000	Basement Mech Room
Louisville Hall	domestic hot water boiler	800,000	Basement Mech Room
Cardinal Park	domestic hot water boiler	720,000	South Mech Room
Cardinal Park	domestic hot water boiler	720,000	South Mech Room

**Emission Unit IA1:** Fly ash and bottom ash handling and storage facility

**IA1 Applicable Regulations:**

<b>FEDERALLY ENFORCEABLE REGULATIONS</b>		
<b>Regulation</b>	<b>Title</b>	<b>Applicable Sections</b>
7.08	Standards of Performance for New Process Operations	1 through 3

**IA1 Equipment:**

<b>Emission Point</b>	<b>Description</b>	<b>Applicable Regulation</b>	<b>Control ID</b>	<b>Stack ID</b>
E4	One (1) custom-made fly and bottom ash handling system consisting of two Hydro Ash cyclones, model BM-A8DX-50-R1 & BM-A8DX-54-R1; one Restair washer, mode BM-A8 AW-25-R2; and a storage silo with rotary unloader, model BM-A8U-4, rated 250 ton/hr.	7.08	C3	S3

**IA1 Control Devices:**

<b>ID</b>	<b>Description</b>	<b>Performance Indicator</b>	<b>Stack ID</b>
C3	One (1) bag filter, make Flex-Kleen, model 18-BVS-9 with a maximum design capacity of 850 cfm.	Pressure drop range 0.1" to 6" water column	S3

**IA1 Specific Conditions****S1. Standards** (Regulation 2.16, section 4.1.1)**a. PM**

The owner or operator shall limit PM emissions from the ash handling system to 3.5 lb/hr. (Regulation 7.08, section 3.1.2) (See Comment 1)

**b. Opacity**

The owner or operator shall not allow the visible emissions to equal or exceed 20% from the bag filter (C3). (Regulation 7.08, section 3.1.1)

**S2. Monitoring and Record Keeping** (Regulation 2.16, section 4.1.9.1 and 4.1.9.2)**a. PM**

i. For the control device C3 (bag filter system) controlling the ash silo, the owner or operator shall perform a visual inspection of the structural and mechanical integrity (i.e., for signs of damage, air leakage, corrosion, etc.), monthly, on the external portions of the units if any coal has been combusted in the boilers (E2 and E3) since last visual inspection and repair as needed.

ii. The owner or operator shall keep a monthly record of the visual inspection and make available to the District upon request.

**b. Opacity**

i. The owner or operator shall conduct a monthly one-minute visible emissions survey when the boilers (E2 and E3) are combusting coal, during normal operation, of the bag filter system (C3). No more than four emission points shall be observed simultaneously. The visible emissions 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. If the opacity standard is exceeded, the owner or operator shall report the exceedance to the District, according to Regulation 1.07, and take all practical steps to eliminate the exceedance.

- ii. The owner or operator shall keep a record of all visible emissions surveys and Method 9 tests performed.

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

a. **PM**

There are no compliance reporting requirements for this equipment.

b. **Opacity**

The owner or operator shall include, at a minimum, the following information in the semi-annual compliance reports:

- i. Emission unit ID number and emission point or stack 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 standard;
- iv. The number of surveys where 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.

### IA1 Comments

1. For the ash handling system, using AP-42, chapter 11.12 Cement Batching, Table 11.12-2, which in the background data includes uncontrolled pneumatic fly ash unloading to elevated storage silos the PM emission factor is 3.14 lb PM/ton. Using the 3.14 lb PM/ton and the maximum ash that can be produced of 0.94 tons/hr, the potential PM emissions would be 2.95 lb PM/hr, which is below the permitted standard of 3.5 lb/hr. This constitutes a one-time PM compliance demonstration.
2. This fly ash and bottom ash handling facility meet the definition of insignificant activities per Regulation 2.16, section 1.23, therefore are de minimis for STAR. However, Regulation 7.08 still applies to this unit. This unit shall meet all applicable requirements under Regulation 7.08.

**Emission Unit IA2:** One (1) non-halogenated cold solvent parts cleaner

**IA2 Applicable Regulations:**

<b>FEDERALLY ENFORCEABLE REGULATIONS</b>		
<b>Regulation</b>	<b>Title</b>	<b>Applicable Sections</b>
6.18	Standards of Performance for Solvent Metal Cleaning Equipment	1, 2, 3, 4

**IA2 Equipment:**

<b>Emission Point</b>	<b>Description</b>	<b>Applicable Regulation</b>	<b>Control ID</b>
E5	One (1) non-halogenated cold solvent metal parts washer with a secondary reservoir, make Graymills, model HK150, with a rated capacity of 10 gallon.	6.18	N/A

**IA2 Control Devices:** There are no control devices associated with this unit.

**IA2 Specific Conditions****S1. Standards** (Regulation 2.16, section 4.1.1)**VOC**

- i. The owner or operator shall install, maintain, and operate the control equipment as follows: (Regulation 6.18, section 4)
  - 1) The cold cleaner shall be equipped with a tightly fitting cover that is free of cracks, holes, or other defects. If the solvent is agitated or heated, then the cover shall be designed so that it can be easily operated with one hand. (Regulation 6.18, section 4.1.1)
  - 2) The cold cleaner shall be equipped with a drainage facility that is designed so that the solvent that drains off parts removed from the cleaner will return to the cold cleaner. The drainage facility may be external if the District determines that an internal type cannot fit into the cleaning system. (Regulation 6.18, section 4.1.2)
  - 3) A permanent, conspicuous label summarizing the operating requirements specified in Specific Condition S1.b. shall be installed on or near the cold cleaner. (Regulation 6.18, section 4.1.3)
  - 4) If used, the solvent spray shall be a fluid stream, not a fine, atomized, or shower type spray, at a pressure that does not cause excessive splashing. Flushing of parts using a flexible hose or other flushing device shall be performed only within the freeboard area of the cold cleaner. Solvent flow shall be directed downward to avoid turbulence at the air-solvent interface and to prevent solvent from splashing outside of the cold cleaner. (Regulation 6.18, section 4.1.4)
  - 5) Work area fans shall be located and positioned so that they do not blow across the opening of the cold cleaner. (Regulation 6.18, section 4.1.6)
  - 6) The solvent-containing portion of the cold cleaner shall be free of all liquid leaks. Auxiliary cold cleaner equipment such as pumps, water separators, steam traps, or distillation units shall not have any visible liquid leaks, visible tears, or cracks. (Regulation 6.18, section 4.1.8)
- ii. The owner or operator shall observe at all times the following operating requirements: (Regulation 6.18, section 4.2)

- 1) Waste solvent shall neither be disposed of nor transferred to another party in a manner such that more than 20% by weight of the waste solvent can evaporate. Waste solvent shall be stored only in a covered container. A covered container may contain a device that allows pressure relief, but does not allow liquid solvent to drain from the container. (Regulation 6.18, section 4.2.1)
  - 2) The solvent level in the cold cleaner shall not exceed the fill line. (Regulation 6.18, section 4.2.2)
  - 3) The cold cleaner cover shall be closed whenever a part is not being handled in the cold cleaner. (Regulation 6.18, section 4.2.3)
  - 4) Parts to be cleaned shall be racked or placed into the cold cleaner in a manner that will minimize drag-out losses. (Regulation 6.18, section 4.2.4)
  - 5) Cleaned parts shall be drained for at least 15 seconds or until dripping ceases, whichever is longer. Parts having cavities or blind holes shall be tipped or rotated while the part is draining. During the draining, tipping, or rotating, the parts shall be positioned so that the solvent drains directly back to the cold cleaner. (Regulation 6.18, section 4.2.5)
  - 6) A spill during solvent transfer shall be cleaned immediately, and the wipe rags or other sorbent material shall be immediately stored in a covered container for disposal or recycling, unless enclosed storage of these items is not allowed by fire protection authorities. (Regulation 6.18, section 4.2.6)
  - 7) Sponges, fabric, wood, leather, paper products, and other absorbent material shall not be cleaned in a cold cleaner. (Regulation 6.18, section 4.2.7)
- iii. The owner or operator shall not operate a cold cleaner using a solvent with a vapor pressure that exceeds 1.0 mm Hg (0.019 psi) measured at 20 °C (68 °F). (Regulation 6.18, section 4.3.2)

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

**VOC**

- i. The owner or operator shall conduct monthly inspections to verify compliance with the control and operational requirements specified in Specific Condition S1.

- ii. The owner or operator shall maintain records of the results of the inspections specified in Specific Condition S2.i.
- iii. The owner or operator shall maintain records that include the following for each purchase: (Regulation 6.18, section 4.4.2)
  - 1) The name and address of the solvent supplier,
  - 2) The date of the purchase,
  - 3) The type of the solvent, and
  - 4) The vapor pressure of the solvent measured in mm Hg at 20 °C (68 °F).
- iv. All records shall be retained for 5 years and made available to the District upon request. (Regulation 6.18, section 4.4.3)

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

The owner or operator shall include, at a minimum, the following information in the semi-annual compliance reports:

**VOC**

- i. Emission Unit ID number and emission point ID number;
- ii. The beginning and ending date of the reporting period;
- iii. Any deviation from the control and operational requirements specified in Specific Condition S1.
- iv. If no deviations occur during a semi-annual reporting period, the report shall contain a negative declaration.

**IA2 Comments**

The parts washers under this unit meet the definition of insignificant activities per Regulation 2.16, section 1.23, therefore are de minimis for STAR. However, Regulation 6.18 applies to each cold cleaner that use VOC to remove soluble impurities from metal surfaces. These parts washers shall meet the requirements under Regulation 6.18.

**Emission Unit IA3:** One (1) emergency generator

**IA3 Applicable Regulations:**

<b>FEDERALLY ENFORCEABLE REGULATIONS</b>		
<b>Regulation</b>	<b>Title</b>	<b>Applicable Sections</b>
40 CFR 63, Subpart ZZZZ	National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines	63.6580, 6585, 6590
40 CFR 60, Subpart IIII	Standards of Performance for Stationary Compression Ignition Internal Combustion Engines	60.4200 - 4219

**IA3 Equipment:**

<b>Emission Point</b>	<b>Description</b>	<b>Applicable Regulation</b>	<b>Control ID</b>	<b>Stack ID</b>
E14	One (1) new diesel fueled emergency generator, installed in 2010, rated at 805 HP (2.05 MMBtu/hr), make Caterpillar, model 3412 and LC7 C18, located at NE end of Cardinal Stadium (Building #108)	40 CFR 63, Subpart ZZZZ 40 CFR 60, Subpart IIII	N/A	N/A

**IA3 Control Devices:** There are no control devices associated with this equipment.

**IA3 Specific Conditions****S1. Standards** (Regulation 2.16, section 4.1.1)**a. Unit Operation**

- i. There is no time limit on the use of the emergency stationary RICE in emergency situations. (40 CFR 60.4211(f))
- ii. The owner or operator shall limit the operation of this unit to one hundred (100) hours in any calendar year during non-emergency events for the purpose of maintenance and readiness testing. (40 CFR 60.4211(f))
- iii. The owner or operator may operate the emergency stationary RICE up to fifty (50) hours in any calendar year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply non-emergency power as part of a financial arrangement with another entity. For owners and operators of emergency engines, any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as permitted in this section, is prohibited. (40 CFR 60.4211(f))
- iv. The owner or operator shall purchase an engine certified to the emission standards in §60.4205(b), as applicable for the same model year and maximum engine power. The engine must be installed and configured according to the manufacturer's specifications. (40 CFR 60.4211(c))

**b. SO<sub>2</sub>**

The owner or operator shall not combust in the engine a nonroad diesel fuel that contains more than 15 ppm of sulfur. (40 CFR 60.4207(b)) (40 CFR 80.510(b)(1)(i))

**c. HAP**

The equipment listed in this emission unit is subject to 40 CFR 63, Subpart ZZZZ, however, there are no HAP standards. (See Comment 1)

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

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

a. **Unit Operation**

- 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 a description of operation, 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.
- ii. As a back-up to Specific Condition S2.a.i., the owner or operator shall, when needed, manually record, monthly, the number of hours the unit was operated 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 calendar year 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.
- v. The owner or operator shall maintain a copy of the unit's EPA Certificate of Conformity with company records.

b. **SO<sub>2</sub>**

The owner or operator shall maintain records of the fuel MSDS sheets and receipts showing dates, amounts of fuel purchased, sulfur content of fuel purchased and supplier's name and address, to show compliance with Specific Condition S1.b. (40 CFR 80.510(b)(1)(i))

c. **HAP**

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

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

a. **Unit Operation**

The owner or operator shall include, at a minimum, the following information in the semi-annual compliance reports:

- i. The company name.
- ii. The beginning and ending date of the reporting period.

- iii. The calendar month and calendar year 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. **SO<sub>2</sub>**

There are no routine compliance reporting requirements for this equipment.

c. **HAP**

There are no routine compliance reporting requirements for this equipment. (See Comment 2)

### **IA3 Comment**

1. This emergency generator meets the definition of insignificant activities per Regulation 2.16, section 1.23, therefore, it is de minimis for STAR. However, this emergency generator is subject to 40 CFR 63 Subpart ZZZZ and 40 CFR 60 Subpart IIII, because it involves a new stationary reciprocating internal combustion engine (RICE) located at an area source of HAP emissions. The proposed new stationary RICE meets the definition in 40 CFR 63.6675 of an emergency stationary RICE, which, per 40 CFR 63.6590(b)(1)(i), does not have to meet the requirements of 40 CFR 63 Subpart ZZZZ and of 40 CFR 63 Subpart A.
2. The associated internal storage tank for diesel fuel is exempt from District permitting requirements in accordance with Regulation 2.02, section 2.3.9.2.

**Attachment A**  
**Pollution Prevention Operating Plan – Milestones**

**A. Replace Aging Natural Gas Boiler #1**

Step 1 U of L submits complete application for construction permit for natural gas boiler	Completed
Step 2 District issues construction permit	7/1/10
Step 3 Removal of old gas boiler completed	10/01/10
Step 4 Complete new gas boiler installation	1/31/11
Step 5 Complete commissioning and begin operation	3/15/11

**B. PROP Schedule – Boiler #2 Coal with Fuel Oil Backup (Switch to Fuel Oil as Primary Fuel and Coal as backup)**

Step 1 Operate boiler on fuel oil as primary fuel, coal as backup 2010 heating season through 12/31/15	
Step 2 Permanently disconnect coal firing capability	12/31/15

**C. PROP Schedule – Boiler #3 Coal Only (Replace with New Gas/Fuel Oil Boiler)**

Step 1 Put Boiler # 3 on standby as third energy source behind Boilers 1 & 2	3/15/11
Step 2 Receive internal funding for engineering/design services	1/05/14
Step 3 Release RFP for engineering /design services	1/05/14
Step 4 Review bids & award engineering/design services contract	2/01/14
Step 5 Approve engineering design plan & bid specs	7/01/14
Step 6 Secure state funding for construction/installation	7/01/14
Step 7 Review & award construction & installation contract	9/01/14
Step 8 Begin construction	4/01/15
Step 9 Complete construction and installation	11/01/15
Step 10 Complete commissioning and begin operation*	12/31/15

**Attachment B**  
**Protocol Checklist for a Performance Test**

A completed protocol should include the following information:

- 1. Facility name, location, and ID #;
- 2. Responsible Official and environmental contact names;
- 3. Permit numbers which are requiring the test to be conducted;
- 4. Test methods to be used (i.e. EPA Method 1, 2, 3, 4, and 5);
- 5. Alternative test methods or description of modifications to the test methods to be used;
- 6. Purpose of the test including equipment, and pollutant to be tested; the purpose may be described in the permit which requires the test to be conducted or may be to show compliance with a federal regulation or emission standard;
- 7. Tentative test dates (these may change but the District will need final notice at least 10 days in advance of the actual test dates in order to arrange for observation);
- 8. Maximum rated production capacity of the system;
- 9. Production-rate goal planned during the performance test for demonstration of compliance (if appropriate based on limits);
- 10. Method to be used for determining rate of production during the performance test;
- 11. Method to be used for determining rate of production during subsequent operations of the process equipment to demonstrate compliance;
- 12. Description of normal operation cycles;
- 13. Discussion of operating conditions that tend to cause worse case emissions; it is especially important to clarify this if worst case emissions do not come from the maximum production rate;
- 14. Process flow diagram;
- 15. List the type and manufacturer of the control equipment if any;
- 16. List the control equipment (baghouse, scrubber, condenser, etc.) parameter to be monitored and recorded during the performance test; note that this data will be used to ensure representative operation during subsequent operations. These parameters can include pressure drops, flow rates, pH, and temperature. The values achieved during the test may be required during subsequent operations to describe what pressure drops, etcetera, are indicative of good operating performance; and
- 17. How quality assurance and accuracy of the data will be maintained, including;
  - Sample identification and chain-of-custody procedures;
  - Are audit samples required for this test Method (EPA contact number for audit samples 919-541-1062) if yes then please make samples available to the District for observation during the stack test;
  - Audit sample provider;

- Number of audit samples to be used:
- 18. Pipe, duct, stack, or flue diameter to be tested;
- 19. Distances from the testing sample ports to the nearest upstream and downstream flow disturbances such as bends, valves, constrictions, expansions, and exit points for outlet and additionally for inlet;
- 20. Determine number of traverse points to be tested for outlet and additionally for inlet if required using Appendix A-1 to 40 CFR Part 60;
  - Method 1 if stack is >12"
  - Method 1a if stack is between 4" and 12"
  - Alternate method of determination for <4"
  - If a sample location at least two stack or duct diameters downstream and half a diameter upstream from any flow disturbance is not available then an alternative procedure is available for determining the acceptability of a measurement location. This procedure described in Section 11.5 allows for the determination of gas flow angles at the sampling points and comparison of the measured results with acceptability criteria.