



Louisville Metro Air Pollution Control District
701 W. Ormsby Ave., Suite 303
Louisville, Kentucky 40203-3137



Title V Operating Permit

Permit No.: O-0852-16-V

Plant ID: 0852

Effective Date: 12/28/2016

Expiration Date: 12/31/2021

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

Owner: University of Louisville
Source: University of Louisville, Belknap Campus
2301 S. Brook St.
Louisville, Kentucky 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.: 72697

Application Received: 7/27/2015

Permit Writer: Yiqiu Lin

Administratively Complete: 8/19/2015

Date of Public Notice: 11/26/2016

Date of proposed permit: 11/26/2016

Paul G. And


Air Pollution Control Officer
December 28, 2016

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Title V Permit Revisions/Changes

Revision No.	Permit No.	Issue Date	Public Notice Date	Change Type	Change Scope	Description
Initial	329-03-TV	11/17/2004	8/15/2004	Initial	Entire Permit	Initial Permit Issuance
R1	329-03-TV (R1)	11/18/2004	N/A	Admin. Revision	U1/U2	Corrected the usage limits of fuel oil, natural gas and coal
R2	329-03-TV (R2)	12/27/2010	09/15/2010	Renewal and Revision	Entire Permit	Permit renewal; Incorporation of construction permit; Incorporation of pollution prevention operation plan; Significant and minor permit revisions; Insignificant activities list update.
R3	329-03-TV (R3)	06/27/2013	05/09/2013	Admin. Revision Significant Revision	U1/U2, U10	Incorporation of construction permit (Admin): 47-10-C (New boiler #1) 30142-10-C (groundwater remediation system) 33168-11-C (New boiler #3) 37071-13-C (Paint booth) Incorporation of the Area Source MACT requirements (Sig)
N/A	O-0852-16-V	12/28/2016	11/26/2016	Renewal	Entire Permit	Operating permit renewal; added regulatory citation to the TAC standards and updated S2.c.ii. in the Plant-Wide Emission Unit

Construction Permit History since Last TV Permit Renewal:

Permit No.	Issue Date	Description
47-10-C	6/30/2010	One (1) natural gas boiler (#1) with flue gas recirculation and low NOx burners, rated heat input 99 MMBtu/hr
30142-10-C	2/22/2011	One (1) custom-made groundwater remediation system controlled by one (1) dual carbon adsorption system
33168-11-C	9/30/2011	One (1) natural gas boiler (#3) with distillate fuel oil backup, equipped low NOx burners and using flue gas recirculation
37071-13-C	4/24/2013	One (1) Theatre Arts Spray Booth for aerosol spray paint can or RIT dye application to stage production clothing, shoes, and jewelry

Applications and Related Documents

Application No.	Date	Description
72697	7/29/2015	TV Permit Renewal Application
77183	5/11/2016	Performance tune-up and energy assessment
80554	11/21/2016	Comments on pre-draft TV permit

Abbreviations and Acronyms

AP-42	- AP-42, <i>Compilation of Air Pollutant Emission Factors</i> , published by U.S.EPA
APCD	- Louisville Metro Air Pollution Control District
BAC	- Benchmark Ambient Concentration
BACT	- Best Available Control Technology
Btu	- British thermal unit
CEMS	- Continuous Emission Monitoring System
CFR	- Code of Federal Regulations
CO	- Carbon monoxide
District	- Louisville Metro Air Pollution Control District
EA	- Environmental Acceptability
gal	- U.S. fluid gallons
GHG	- Greenhouse Gas
HAP	- Hazardous Air Pollutant
HCl	- Hydrogen chloride
Hg	- Mercury
hr	- Hour
in.	- Inches
lbs	- Pounds
l	- Liter
LMAPCD	- Louisville Metro Air Pollution Control District
mmHg	- Millimeters of mercury column height
MM	- Million
NAICS	- North American Industry Classification System
NO _x	- Nitrogen oxides
PM	- Particulate Matter
PM ₁₀	- Particulate Matter less than 10 microns
PM _{2.5}	- Particulate Matter less than 2.5 microns
ppm	- parts per million
PSD	- Prevention of Significant Deterioration
psia	- Pounds per square inch absolute
QA	- Quality Assurance
RACT	- Reasonably Available Control Technology
SIC	- Standard Industrial Classification
SIP	- State Implementation Plan
SO ₂	- Sulfur dioxide
STAR	- Strategic Toxic Air Reduction
TAC	- Toxic Air Contaminant
UTM	- Universal Transverse Mercator
VOC	- Volatile Organic Compound
w.c.	- Water column
year	- Any period of twelve consecutive months, unless "calendar year" is specified
yr	- Year, or any 12 consecutive-month period, as determined by context

Preamble

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

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

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

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

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

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

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

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

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

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

General Conditions

1. **Compliance** - The owner or operator shall comply with all applicable requirements and with all terms and conditions of this permit. Any noncompliance shall constitute a violation of the Act, State, and District regulations and shall cause the source to be subject to enforcement actions including, but not limited to, the termination, revocation and reissuance, or revision of this permit, or denial of a permit application to renew this permit. Notwithstanding any other provision in the Jefferson County portion of the Kentucky SIP approved by EPA, any credible evidence may be used for the purpose of establishing whether the owner or operator is in compliance with, has violated, or is in violation of any such plan. [Regulation 2.16, sections 4.1.3, 4.1.13.1, and 4.1.13.7]
2. **Compliance Certification** - The owner or operator shall certify, annually, or more frequently if required in applicable regulations, compliance with the terms and conditions contained in this permit, including emission limitations, standards, or work practices. This certification shall meet the requirements of Regulation 2.16, sections 3.5.11 and 4.3.5. The owner or operator shall submit the annual compliance certification (Form 9400-O) directly to the EPA and to the District, as set forth in Regulation 2.16, section 4.3.5.4, at the following addresses:

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

*Air Pollution Control District
701 W. Ormsby Ave., Suite 303
Louisville, KY 40203-3137*

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

3. **Compliance Schedule** - The owner or operator shall submit a schedule of compliance for each emission unit that is not in compliance with all applicable requirements. A compliance schedule must meet the requirements of Regulation 2.16, section 3.5.9.5. A schedule of compliance shall be supplemental to, and shall not condone noncompliance with, the applicable requirements on which it is based. For each schedule of compliance, the owner or operator shall submit certified progress reports at least semi-annually, or at a more frequent period if specified in an applicable requirement or by the District in accordance with Regulation 2.16 section 4.3.4. The progress reports shall contain:
 - a. Dates for achieving the activities, milestones, or compliance required in the schedule of compliance, and dates when activities, milestones, or compliance were achieved.
 - b. An explanation of why dates in the schedule of compliance were not or will not be met, and preventive or corrective measures adopted.
4. **Duty to Supplement or Correct Application** - If the owner or operator fails to submit relevant facts or has submitted incorrect information in the permit application, they shall,

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

5. **Emergency Provision**

- a. An emergency shall constitute an affirmative defense to an enforcement action brought for noncompliance with technology-based emission limitations if the conditions in Regulation 2.16 are met. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:
 - i. An emergency occurred and that the owner or operator can identify the cause of the emergency;
 - ii. The permitted facility was at the time being properly operated;
 - iii. During the period of the emergency the owner or operator expeditiously took all reasonable steps, consistent with safe operating practices, to minimize levels of emissions that exceeded the emission standards or other requirements in this permit; and
 - iv. The owner or operator submitted notice meeting the requirements of Regulation 1.07 of the time when emissions limitations were exceeded because of the emergency. This notice must fulfill the requirement of this condition, and must contain a description of the emergency, any steps taken to mitigate emissions, and any corrective actions taken.
- b. In an enforcement proceeding, the owner or operator seeking to establish the occurrence of an emergency has the burden of proof.
- c. This condition is in addition to any emergency or upset provision contained in an applicable requirement. [Regulation 2.16, sections 4.7.1 through 4.7.4]

6. **Emission Fees Payment Requirements** - The owner or operator shall pay annual emission fees in accordance with Regulation 2.08, section 12.3. Failure to pay the emissions fees when due shall constitute a violation of District Regulations. Such failure is subject to penalties and an increase in the fee of an additional 5% per month up to a maximum of 25% of the original amount due. In addition, failure to pay emissions fees within 60 days of the due date shall automatically suspend this permit to operate until the fee is paid or a schedule for payment acceptable to the District has been established. [Regulation 2.08, section 12.2.4]

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

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

9. **Enforcement Action Defense**

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

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

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

[Regulation 2.16, sections 4.1.13.2 and 4.1.13.3]

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

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

[Regulation 2.16, section 4.1.13.6]

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

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

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

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

[Regulation 2.16, section 4.3.5.3.6]

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

[Regulation 2.16, section 4.3.2]

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

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

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

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

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

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

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

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

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

15. **Off-permit Documents** - Any applicable requirements, including emission limitations, control technology requirements, or work practice standards, contained in an off-permit document cannot be changed without undergoing the permit revision procedures in Regulation 2.16, section 5. [Regulation 2.16, section 4.1.5]
16. **Operational Flexibility** - The owner or operator may make changes without permit revision in accordance with Regulation 2.16, section 5.8.
17. **Permit Amendments (Administrative)** - This permit can be administratively amended by the District in accordance with Regulation 2.16, section 5.4.
18. **Permit Application Submittal** - The owner or operator shall submit a timely and complete application for permit renewal or significant revision. If the owner or operator submits a timely and complete application then the owner or operator's failure to have a permit is not a violation until the District takes formal action on this permit application. This protection shall cease to apply if, subsequent to completeness determination, the owner or operator fails to submit, by the deadline specified in writing by the District, additional information required to process the application as required by Regulation 2.16, sections 3 and 5.2.
19. **Permit Duration** - This permit is issued for a fixed term of 5 years, in accordance with Regulation 2.16, section 4.1.8.3.
20. **Permit Renewal, Expiration and Application** - Permit renewal, expiration and application procedural requirements shall be in accordance with Regulation 2.16,

- sections 4.1.8.2 and 5.3. This permit may only be renewed in accordance with section 5.3.
21. **Permit Revisions** - No permit revision shall be required under any approved economic incentives, marketable permits, emissions trading and other similar programs or processes for changes that are provided for in the permit. [Regulation 2.16, section 4.1.16]
 22. **Permit Revision Procedures (Minor)** - Except as provided in 40 CFR Part 72, the Acid Rain Program, this permit may be revised in accordance with Regulation 2.16, section 5.5.
 23. **Permit Revision Procedures (Significant)** - A source seeking to make a significant permit revision shall meet all the Title V requirements for permit applications, issuance and Permit renewal, in accordance with Regulation 2.16, section 5.7, and all other applicable District Regulations.
 24. **Permit Termination and Revocation by the District** - The District may terminate this permit only upon written request of the owner or operator. The District may revoke a permit for cause, in accordance with Regulation 2.16, section 5.11.1 through 5.11.6. For purposes of section 5.11.1, substantial or unresolved noncompliance includes, but is not limited to:
 - a. Knowingly operating process or air pollution control equipment in a manner not allowed by an applicable requirement or that results in excess emissions of a regulated air pollutant that would endanger the public or the environment;
 - b. Failure or neglect to furnish information, analyses, plans, or specifications required by the District;
 - c. Knowingly making any false statement in any permit application;
 - d. Noncompliance with Regulation 1.07, section 4.2; or
 - e. Noncompliance with KRS Chapter 77.
 25. **Permit Shield** - The permit shield shall apply in accordance with Regulation 2.16, section 4.6.1.
 26. **Prevention of Significant Deterioration of Air Quality** - The owner or operator shall comply with the requirements of Regulation 2.05.
 27. **Property Rights** - This permit shall not convey property rights of any sort or grant exclusive privileges in accordance with Regulation 2.16, section 4.1.13.5.
 28. **Public Participation** - Except for modifications qualifying for administrative permit amendments or minor permit revision procedures, all permit proceedings shall meet the requirements of Regulations 2.07, section 1; and 2.16, sections 5.1.1.2 and 5.5.4.
 29. **Reopening For Cause** - This permit shall be reopened and revised by the District in accordance with Regulation 2.16 section 5.9.
 30. **Reopening for Cause by EPA** - This permit may be revised, revoked and reissued or terminated for cause by EPA in accordance with Regulation 2.16 section 5.10.
 31. **Risk Management Plan (112(r))** - For each process subject to section 112(r) of the Act, the owner or operator shall comply with 40 CFR Part 68 and Regulation 5.15.

- 32. **Severability Clause** - The conditions of this permit are severable. Therefore, if any condition of this permit, or the application of any condition of this permit to any specific circumstance, is determined to be invalid, the application of the condition in question to other circumstances, as well as the remainder of this permit's conditions, shall not be affected. [Regulation 2.16, section 4.1.12]
- 33. **Stack Height Considerations** - The owner or operator shall comply with the requirements of Regulation 2.10.
- 34. **Startups, Shutdowns, and Upset Conditions Requirements** - The owner or operator shall comply with the requirements of Regulation 1.07.

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

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

***Air Pollution Control District
701 W. Ormsby Ave., Suite 303
Louisville, KY 40203-3137***

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

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

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

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

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

District Only Enforceable Regulations:

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

37. **Stratospheric Ozone Protection Requirements** - Any facility having refrigeration equipment, including air conditioning equipment, which uses a Class I or II substance (listed in 40 CFR 82, Subpart A, Appendices A and B), and any facility which maintains, services, or repairs motor vehicles using a Class I or II substance as refrigerant must comply with all requirements of 40 CFR 82, Subparts A, B, and F. Those requirements include the following restrictions:
- a. Any facility having any refrigeration equipment that normally contains fifty (50) pounds of refrigerant or more must keep servicing records documenting the date and type of all service and the quantity of any refrigerant added, according to 40 CFR 82.166;
 - b. No person repairing or servicing a motor vehicle may perform any service on a motor vehicle air conditioner (MVAC) involving the refrigerant for such air conditioner unless the person has been properly trained and certified as provided in 40 CFR 82.34 and 40 CFR 82.40, and properly uses equipment approved according to 40 CFR 82.36 and 40 CFR 82.38, and complies with 40 CFR 82.42;
 - c. No person may sell or distribute, or offer for sale or distribution, any substance listed as a Class I or II substance in 40 CFR 82, Subpart A, Appendices A and B, except in compliance with 40 CFR 82.34(b), 40 CFR 82.42, and/or 40 CFR 82.166;
 - d. No person maintaining, servicing, repairing, or disposing of appliances may knowingly vent or otherwise release into the atmosphere any Class I or II substance used as a refrigerant in such equipment and no other person may open appliances (except MVACs as defined in 40 CFR 82.152) for service, maintenance, or repair unless the person has been properly trained and certified according to 40 CFR 82.161 and unless the person uses equipment certified for that type of appliance according to 40 CFR 82.158 and unless the person observes the practices set forth in 40 CFR 82.156 and 40 CFR 82.166;
 - e. No person may dispose of appliances (except small appliances, as defined in 40 CFR 82.152) without using equipment certified for that type of appliance according to 40 CFR 82.158 and without observing the practices set forth in 40 CFR 82.156 and 40 CFR 82.166;
 - f. No person may recover refrigerant from small appliances, MVACs and MVAC-like appliances (as defined in 40 CFR 82.152), except in compliance with the requirements of 40 CFR 82 Subpart F;
 - g. If the permittee manufactures, transforms, imports, or exports, a Class I or II substance (listed in 40 CFR 82, Subpart A, Appendices A and B), the permittee is subject to all requirements as specified in 40 CFR 82 Subpart A, Production and Consumption Controls.
[Regulation 2.16, section 4.1.5]

Plant-Wide Requirements

Facility Description:

University of Louisville Belknap Campus operates a steam and chilled water plant to provide steam for heating and chilled water for air conditioning. There are also lithographic presses, small boilers, and emergency generators in various buildings.

Plant-wide Applicable Regulations:

FEDERALLY ENFORCEABLE REGULATIONS		
Regulation	Title	Applicable Sections
2.16	Title V Operating Permits	1 through 6
6.42	Reasonably Available Control Technology Requirements for Major Volatile Organic Compound- and Nitrogen Oxides-Emitting Facilities	1, 4

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

Plant-wide Specific Conditions

S1. **Standards**¹ (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 to avoid Regulation 6.42.² (Regulation 6.42, section 1.2)
- 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 to avoid Regulation 6.42. (Regulation 6.42, section 1.2)
- iii. The owner or operator shall limit the diesel fuel usage to less than 50,000 gallons per 12 consecutive month period for all diesel emergency generators 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 both boiler #2 and #3 (E2 and E3) combined 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 both natural gas boiler #1 and #3 (E1 and E3) combined to avoid Regulation 6.42. (Regulation 6.42, section 1.2)

b. **NO_x**

The owner or operator shall limit the plant-wide NO_x emissions to less than 100 tons per 12 consecutive month period in order to avoid Regulation 6.42.² (Regulation 6.42, section 1.2)

¹ Since U of L has disabled coal-firing capability since January 7, 2013, the source is potentially major for NO_x, CO, and SO₂, but is no longer major for HAP and PM₁₀. Therefore the plantwide standards for HAP and PM₁₀ have been removed.

² 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 above, the calculated total NO_x emissions is less than 100 tons per 12 consecutive month period. Therefore a NO_x RACT Plan is not required for the source per Regulation 6.42.

c. **TAC**

- i. The owner or operator shall not allow emissions of any TAC to exceed environmentally acceptable (EA) levels, whether specifically established by modeling or determined by the District to be *de minimis*. (Regulations 5.00 and 5.21) (See Comment 1)
- ii. The owner or operator shall submit with the application for construction for any new emission unit the STAR EA Demonstration for all Category 1 through Category 4 TACs emitted from that emission unit. (Regulation 5.21, section 5.22.1)
- iii. The owner or operator shall submit a plant-wide emissions-based EA Demonstration to the District showing compliance with the plant-wide EA goals of 7.5 for new and existing, 3.8 for all new combined, and 1.0 for each TAC from each process when a change occurs that increases emissions above *de minimis* or previously modeled values. (Regulation 5.21, section 5.22.3)
- iv. If the TAC does not have an established BAC or *de minimis* value, the owner or operator shall calculate and report these values. The form, located in Attachment C - Determination of Benchmark Ambient Concentration (BAC), may be used for determining BAC and *de minimis* values. (Regulation 5.20, sections 3 and 4)

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

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

a. **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, and the amount of natural gas combusted expressed in million cubic feet.
- ii. The owner or operator shall keep a quarterly record of the hours of operation of each emergency generator.
- iii. The owner or operator shall quarterly calculate the hours of operation of each emergency generator during the 12 consecutive month period in order to demonstrate compliance.
- iv. The owner or operator shall quarterly calculate the amount of diesel fuel

combusted for all emergency generators during the 12 consecutive month period in order to demonstrate compliance.

- v. The owner or operator shall quarterly calculate the amount of fuel combusted for each boiler individually during the 12 consecutive month period in order to demonstrate compliance.

b. **NO_x**

There are no monitoring and record keeping requirements for this pollutant.

c. **TAC**

- i. The owner or operator shall maintain records sufficient to demonstrate environmental acceptability, including, but not limited to MSDS/SDS, analysis of emissions, and/or modeling results.
- ii. If a new TAC is introduced or the content of a TAC in a raw material increases above de minimis, the owner or operator shall verify and document the environmental acceptability of the revised emissions, at the time of the change.

S3. **Reporting** (Regulation 2.16 Section 4.1.1)

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

a. **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 fuel oil, diesel fuel, and natural gas combusted during each month and the 12-consecutive-month usage for each month for the boilers, the insignificant natural gas space heaters, water heaters, and emergency generators;
- iv. Identification of all exceedance of the usage limits for fuel oil, diesel fuel, and natural gas combusted per 12-consecutive-month period for each month for the boilers, space heaters, water heaters, and emergency generators;
- 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.

b. **NO_x**

There are no reporting requirements for this pollutant.

c. **TAC**

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

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

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

Comments for Plant-wide Requirements

1. University of Louisville submitted the TAC Environmental Acceptability Demonstration to the District in December, 2006. SCREEN3 air dispersion modeling was performed for each emission unit that has non-*de minimis* TAC emissions. The District reviewed the EA Demonstration based on the submitted SCREEN3 modeling results, 2013 revised TAC benchmark values, and updated emission units. Compliance with the STAR EA Goals was demonstrated. The following table demonstrates that the carcinogen risk and non-carcinogen risk values comply with the STAR EA goals required in Regulation 5.21.

Plant-wide Sum	All existing & new		All new P/PE	
	Industrial Total R _C	1.98	< 75	0.59
Non-Ind. Total R _C	0.24	< 7.5	0.17	< 3.8
Industrial Total R _{NC} (max)	0.01	< 3.0		
Non-Ind. Total R _{NC} (max)	0.00	< 1.0		

		R_{NC} Total			U1/U2 - E2 (fuel oil)				U1/U2 - E3 (fuel oil)			
		Indus.	Non-Ind.	R _{NC}	Industrial		Non-Ind.		Industrial		Non-Ind.	
TAC	CAS #	R _{NC}	R _{NC}	EA	R _C	R _{NC}	R _C	R _{NC}	R _C	R _{NC}	R _C	R _{NC}
Total Risk		0.01	0.00		1.39		0.07		0.59		0.17	
Arsenic	7440-38-2	0.01	0.00	<3.0/1.0	0.55	0.01	0.03	0.00	0.23	0.00	0.07	0.00
Cadmium	7440-43-9	0.01	0.00	<3.0/1.0	0.17	0.00	0.01	0.00	0.07	0.00	0.02	0.00
Chromium (6)	7440-47-3	0.00	0.00	<3.0/1.0	0.33	0.00	0.02	0.00	0.14	0.00	0.04	0.00
Formaldehyde	50-00-0	0.00	0.00	<3.0/1.0	0.10	0.00	0.00	0.00	0.04	0.00	0.01	0.00
Nickel	7440-02-0	0.01	0.00	<3.0/1.0	0.02	0.01	0.00	0.00	0.01	0.00	0.00	0.00
Beryllium	7440-41-7	0.01	0.00	<3.0/1.0	0.22	0.00	0.01	0.00	0.10	0.00	0.03	0.00

Emission Unit U1/U2: Three (3) boilers

U1/U2 Applicable Regulations:

FEDERALLY ENFORCEABLE REGULATIONS		
Regulation	Title	Applicable Sections
7.06	Standards of Performance for New Indirect Heat Exchangers	1 through 8
40 CFR 60 Subpart Dc	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

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

U1/U2 Equipment:

Emission Point	Description	Applicable Regulation	Control ID	Stack ID	Installation Date
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.	STAR*, 7.02, 7.06, 40CFR60 Subpart Dc	C4, C5	S1	2010

Emission Point	Description	Applicable Regulation	Control ID	Stack ID	Installation Date
E2	One (1) fuel oil fired boiler (#2), rated heat input capacity 100 MMBtu/hr, make Henry Vogt, model Class VS. ³	STAR, 7.06 40 CFR63 Subpart JJJJJ	C1, C2	S2	1978
E3	One (1) natural gas boiler (#3) with distillate fuel oil backup, equipped with 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.	STAR, 7.02, 7.06, 40CFR60 Subpart D _c , 40 CFR63 Subpart JJJJJ	C6, C7	S6	2012

* STAR rules consist of Regulations 5.00, 5.01, 5.20, 5.21, 5.22, and 5.23.

U1/U2 Control Devices:

Control ID	Description	Control Efficiency	Performance Indicator	Stack ID
C1, C2	Two (2) multi-cyclones rated at 22,500 scfm each, make Universal Oil Products, model 6M POWHS for boiler #2	80% ⁴	N/A	S2
C4	One (1) low NOx burner for Boiler #1	N/A	N/A	S1
C5	One (1) FGR for Boiler #1	N/A	N/A	S1
C6	One (1) low NOx burner for Boiler #3	N/A	N/A	S3
C7	One (1) FGR for Boiler #3	N/A	N/A	S3

³ According to the notification submitted on January 7, 2013, U of L has disabled the coal-firing capability of boiler #2 before March 20, 2014. Therefore boiler #2 is not subject to emission limits for existing coal-fired boiler.

⁴ This is the District pre-approved control efficiency for multi-cyclones.

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 actual heat input for each of the boilers.⁵ (Regulation 7.06, section 4.1.2)
- ii. Boiler #3 (E3) when combusting fuel oil:
 - 1) An owner or operator of an affected facility that that combusts only oil that contains no more than 0.50 weight percent sulfur or a mixture of 0.50 weight percent sulfur oil with other fuels not subject to a PM standard under 40 CFR 60.43c and not using a post-combustion technology (except a wet scrubber) to reduce PM or SO₂ emissions is not subject to the PM limit in 40 CFR 60.43c(e)(1).⁶ (40 CFR 60.43c(e)(4))

b. SO₂

- i. The owner or operator shall not allow the SO₂ emissions to exceed 0.8 lb/MMBtu for combustion of natural gas or fuel oil.⁷ (Regulation 7.06, section 5.1.3)
- ii. Boiler #3 (E3) when combusting fuel oil:

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.⁸ (40 CFR 60.42c(d))

⁵ U of L has completed the June 16, 2010 approved Pollution Prevention Operating Plan by September 20, 2013. All the coal-fired boilers have been converted to natural gas/fuel oil boilers according to the Pollution Prevention Operating Plan. Using AP-42 emission factors, the 0.10 lb PM/MMBtu standard cannot be exceeded when combusting natural gas or distillate fuel oil. Since the PM standards in 40 CFR 60 Subpart Dc and 40 CFR 63 Subpart JJJJJ are more stringent than that in Regulation 7.06, the source shall only demonstrate compliance with the PM standard in 40 CFR 60 Subpart Dc and 40 CFR 63 Subpart JJJJJ.

⁶ The source has elected to demonstrate compliance with the 0.5% sulfur content limit for fuel oil and boiler #3 does not have a post-combustion control device. Therefore boiler #3 is not subject to the PM limit in 40 CFR 60.43c(e)(1).

⁷ Using AP-42 emission factors, the 0.8 lbSO₂/MMBtu standard cannot be exceeded when combusting natural gas or distillate fuel oil.

⁸ The source has elected to demonstrate compliance with the 0.5% sulfur content limit for fuel oil. Since the SO₂ standard in 40 CFR 60 Subpart Dc is more stringent than those in Regulation 7.06, the source need only demonstrate compliance with the SO₂ standard in 40 CFR 60 Subpart Dc.

c. **Opacity**

i. Boiler #1 and #3 (E1 and E3) when combusting natural gas:

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.⁹ (Regulation 7.06, section 4.2)

ii. Boiler #2 and #3 (E2 and E3) when combusting fuel oil:

The owner or operator of an affected facility combusting fuel oil 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) A maximum of 40% opacity shall be permissible for not more than two consecutive minutes in any 60 consecutive minutes;
- 2) 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 (E3) 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,¹⁰ 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))

⁹ 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.

¹⁰ An initial performance test was performed on January 16, 2012. It was demonstrated that the emissions from boiler #3 was less than 20% opacity when combusting fuel oil.

- 2) The PM and opacity standards under this section¹¹ 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 date¹² (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 21, 2014.¹³ (40 CFR 63.11196(a)(1))
 - 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))
 - 3) 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 standards. (40 CFR 63 Subpart JJJJJ, Table 1)
 - 2) For new oil-fired boiler (Boiler #3), the owner or operator shall not allow filterable PM emissions to exceed 0.030 lb/MMBtu heat input. (40 CFR 63 Subpart JJJJJ, Table 1, element #5)
 - iii. Work practice standards: (40 CFR 63.11201(b) refer to Table 2)
 - 1) Existing oil-fired boiler (Boiler #2):
 - (a) Conduct an initial tune-up as specified in §63.11214, and conduct a tune-up of the boiler biennially as specified in

¹¹ When a federal regulation is cited, “this section” means the section of federal regulation described in the citation of the specific condition. For example, in this specific condition “this section” refers to “40 CFR 60.43c”.

¹² U of L has achieved initial compliance with the requirements in 40 CFR 63, Subpart JJJJJ prior to the compliance dates defined in this section.

¹³ In the amended 40 CFR 63, Subpart JJJJJ published on February 1, 2013, this compliance date was changed from March 21, 2012 to March 21, 2014.

§63.11223. (40 CFR 63 Subpart JJJJJ, Table 2, element #4)

- (b) 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:
- (i) A visual inspection of the boiler system,
 - (ii) An evaluation of operating characteristics of the facility, specifications of energy using systems, operating and maintenance procedures, and unusual operating constraints,
 - (iii) Inventory of major systems consuming energy from affected boiler(s),
 - (iv) A review of available architectural and engineering plans, facility operation and maintenance procedures and logs, and fuel usage,
 - (v) A list of major energy conservation measures,
 - (vi) A list of the energy savings potential of the energy conservation measures identified,
 - (vii) 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, element #16)

2) New oil-fired boiler (Boiler #3):

- (a) 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, element #1)
- (b) Conduct a tune-up of the boiler biennially as specified in 40 CFR 63.11223. (40 CFR 63 Subpart JJJJJ, Table 2, element #5)

iv. Operating limit: (40 CFR 63.11201(c) refer to Table 3)

1) Boiler #2 and #3 (E2 and E3):

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, element #5)

2) Boiler #3 (E3) when combusting fuel oil:

For boilers that demonstrate compliance with a performance stack test, maintain the operating load of each unit such that it 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, element #7)

e. **TAC**i. See Plant-wide Requirements, S1.¹⁴ii. The owner or operator shall limit the fuel oil usage to less than 232,143 gallons per 12 consecutive month period for the new boiler #3 (E3).¹⁵ (Regulation 5.21, section 4.3)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 #1 and #2 (E1 and E2):

There are no routine monitoring or record keeping requirements for PM compliance.¹⁶

ii. Boiler #3 (E3):1) When combusting natural gas, there are no routine monitoring or record keeping requirements for PM compliance.¹⁶

¹⁴ It has been demonstrated that TAC emissions from the boilers are in compliance with STAR with the fuel oil usage limit for boiler #3. TAC emission limits are not required for this unit.

¹⁵ The source requested this fuel oil usage limit in order to be in compliance with the STAR Program.

¹⁶ Using AP-42 emission factors, the 0.10 lb PM/MMBtu standard cannot be exceeded when combusting natural gas or distillate fuel oil.

- 2) When combusting fuel oil the owner or operator shall comply with the fuel oil sulfur monitoring and record keeping requirements of Boiler #3 for SO₂ when combusting fuel oil.
- b. **SO₂**
- i. The owner or operator shall maintain a record of the fuel oil certifications.
 - ii. The owner or operator shall keep records of the amount of natural gas and fuel oil combusted in boiler #1 and boiler #3 (E1 and E3) 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.¹⁷ (EPA Letter dated March 7, 2002)
 - iv. Boiler #3 (E3) 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 in §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.
 - ii. Boiler #2 and #3 (E2 and E3) 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

¹⁷ In a letter dated March 7, 2002 from EPA Region 4, EPA has identified certain types of alternative record keeping requirements for units that are regulated under 40 CFR 60 Subpart Dc that can be approved by the District without additional input from EPA.

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.

iii. Boiler #3 (E3):

- 1) The owner or operator shall submit a written site-specific monitoring plan prior to operation. 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.¹⁸ (40 CFR 60.47c(f)(3))
- 2) The owner or operator shall conduct performance tests using Method 9 to demonstrate compliance with the applicable limit in §60.43c. See Specific Condition S4.

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

- i. General compliance requirements: (40 CFR 63.11205)

Boiler #2 and #3 (E2 and E3):

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

¹⁸ A site-specific monitoring plan for boiler #3 was received on December 16, 2011. The District has reviewed and approved the monitoring plan.

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 (E2):

- (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.¹⁹ (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.²⁰ (40 CFR 63.11214(c))

2) Boiler #3 (E3) 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))

¹⁹ In the 2014 first semi-annual compliance report received August 5, 2014, U of L reported an initial tune-up was conducted on March 12, 2012 and a second tune-up was conducted on February 11, 2014 on Boiler #2.

²⁰ In the 2014 first semi-annual compliance report received August 5, 2014, U of L reported a one-time energy assessment on Boiler #2 was conducted in the week of February 10-14, 2014.

- (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.²¹ (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 (E2 and E3):
 - (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

²¹ On March 19, 2012, the District received the Notification of Compliance Status that indicates an initial tune-up for boiler #3 has been conducted.

specified in paragraphs 63.11223(b)(1) through (7). (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 (E3) 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 the federal regulation. Triennial performance tests must be completed no more than 37 months after the previous performance test. (40 CFR 63.11220(a))
 - (b) When demonstrating initial compliance with the PM emission limit, **if your boiler's performance test results show that your PM emissions are equal to or less than half of the PM emission limit, you do not need to conduct further performance tests for PM** but must continue to comply with all applicable operating limits and monitoring requirements. If your initial performance test results show that your PM emissions are greater than half of the PM emission limit, you must conduct subsequent performance tests as specified in paragraph (a) of this section.²² (40 CFR 63.11220(b))
- 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))

²² This testing requirement was changed the in amended 40 CFR 63, Subpart JJJJJ published on February 1, 2013. The source conducted PM compliance test on January 16, 2012 and December 23, 2014. Both test results showed that PM emissions for boiler #3 are less than half of the PM emission limit, 0.03 lb/MMBtu. Therefore, no further PM performance test for boiler #3 is required.

- 2) You must keep records to document conformance with the work practices, emission reduction measures, and management practices required by §63.11214 and §63.11223 as specified in paragraphs (c)(2)(i) through (vi) of this section.²³ (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) For each boiler required to conduct an energy assessment, you must keep a copy of the energy assessment report. (40 CFR 63.11225(c)(2)(iii))
 - (c) For each boiler subject to an emission limit in Table 1 to this subpart, you must also keep records of monthly fuel use by each boiler, including the type(s) of fuel and amount(s) used. (40 CFR 63.11225(c)(2)(iv))
 - 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. See Plant-wide Requirements, S2.
 - ii. The owner or operator shall maintain monthly and 12-month-rolling total fuel oil usage records for fuel oil combusted in Boiler #3.

²³ These record keeping requirements were updated in the amended 40 CFR 63, Subpart JJJJJ published on February 1, 2013.

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

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

a. **PM**

i. Boiler #1 and #2 (E1 and E2):

There are no routine reporting requirements for PM compliance.²⁴

ii. Boiler #3 (E3):

- 1) When combusting natural gas, there are no routine reporting requirement for PM compliance.²⁴
- 2) When combusting fuel oil, the owner or operator of each affected facility subject to opacity limits of §60.43c shall submit to the Administrator²⁵ the performance test data from the initial and any subsequent performance tests.²⁶ (40 CFR 60.48c (b))

b. **SO₂**

Boiler #3 (E3):

- i. 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.²⁷ 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))
- ii. 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))
- iii. 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

²⁴ Using AP-42 emission factors, the 0.10 lb PM/MMBtu standard cannot be exceeded when combusting natural gas or distillate fuel oil.

²⁵ The District is the Administrator for this Federal Regulation.

²⁶ An initial test report for boiler #3 was received on 2/9/2012 and a subsequent test report was received on 1/22/2015.

²⁷ An initial startup notification for boiler #1 was received on November 25, 2009. An initial startup notification for boiler #3 was received on February 24, 2012.

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. Boiler #2 and #3 (E2 and E3) when combusting fuel oil:

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.

ii. Boiler #3 (E3) when combusting fuel oil:

- 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 (E2 and E3) 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 (LMAPCD). (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 January 20, 2014 or within 120 days after the source becomes subject to the standard.²⁸ (40 CFR 63.11225(a)(2))
 - 3) You must submit the Notification of Compliance Status no later than 120 days after the applicable compliance date specified in §63.11196 unless you must conduct a performance stack test. If you must conduct a performance stack test, you must submit the Notification of Compliance Status within 60 days of completing the performance stack test. You must submit the Notification of Compliance Status in accordance with paragraphs (a)(4)(i) and (vi) of the Federal Regulation. The Notification of Compliance Status must include the information and certification(s) of compliance in paragraphs (a)(4)(i) through (v) of the Federal Regulation, as applicable, and signed by a responsible official.²⁹ (40 CFR 63.11225(a)(4))
 - (a) You must submit the information required in §63.9(h)(2), except the information listed in §§63.9(h)(2)(i)(B), (D), (E), and (F). If you conduct any performance tests or CMS performance evaluations, you must submit that data as specified in paragraph (e) of the Federal regulation. If you conduct any opacity or visible emission observations, or other monitoring procedures or methods, you must submit that data to the Administrator at the appropriate address listed in §63.13, as the following: (40 CFR 63.11225(a)(4)(i))

²⁸ The Initial Notification for Boiler #2 and #3 were received on September 12, 2011.

²⁹ The reporting requirements in this section were updated in the amended 40 CFR 63, Subpart JJJJJ published on February 1, 2013.

**EPA Region IV, Director, Air, Pesticides and Toxics
Management Division, Atlanta Federal Center
61 Forsyth Street
Atlanta, GA 30303-3104**

- (b) “This facility complies with the requirements in §63.11214 to conduct an initial tune-up of the boiler.” (40 CFR 63.11225(a)(4)(ii))
 - (c) “This facility has had an energy assessment performed according to §63.11214(c).” (40 CFR 63.11225(a)(4)(iii))
 - (d) “No secondary materials that are solid waste were combusted in any affected unit.” (40 CFR 63.11225(a)(4)(v))
 - (e) The notification must be submitted electronically using the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) (www.epa.gov/cdx). However, if the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, the written Notification of Compliance Status must be submitted to the Administrator at the appropriate address listed in §63.13. (40 CFR 63.11225(a)(4)(vi))
- 4) 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, you must include in the Notification of Compliance Status the date of the test and a summary of the results, not a complete test report, relative to this subpart. (40 CFR 63.11225(a)(5))
- ii. You must prepare, by March 1 of each year, and submit to the delegated authority (LMAPCD) upon request, an annual compliance certification report for the previous calendar year containing the information specified in paragraphs (b)(1) through (4) of the Federal Regulation. You must submit the report by March 15 if you had any instance described by paragraph (b)(3) of the Federal Regulation. For boilers that are subject only to a requirement to conduct a biennial or 5-year tune-up according to §63.11223(a) and not subject to emission limits or operating limits, you may prepare only a biennial **or 5-year compliance report** as specified in

paragraphs (b)(1) and (2) of the Federal Regulation.³⁰ (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, email 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. Your notification must include the following certification(s) of compliance, as applicable, and signed by a responsible official: (40 CFR 63.11225(b)(2))
 - (a) "This facility complies with the requirements in §63.11223 to conduct a biennial or 5-year tune-up, as applicable, of each boiler." (40 CFR 63.11225(b)(2)(i))
 - (b) "No secondary materials that are solid waste were combusted in any affected unit." (40 CFR 63.11225(b)(2)(ii))
 - (c) "This facility complies with the requirement in §63.11214(d) and 63.11223(g) to minimize the boiler's time spent during startup and shutdown and to conduct 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 63.11225(b)(2)(iii))
- 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))

³⁰ The reporting requirements in this section were updated in the amended 40 CFR 63, Subpart JJJJJ published on February 1, 2013.

- iii. Within 60 days after the date of completing each performance test (defined in §63.2) as required by this subpart you must submit the results of the performance tests, including any associated fuel analyses, required by this subpart to EPA's WebFIRE database by using CEDRI that is accessed through EPA's CDX (www.epa.gov/cdx). Performance test data must be submitted in the file format generated through use of EPA's Electronic Reporting Tool (ERT) (see <http://www.epa.gov/ttn/chief/ert/index.html>). Only data collected using test methods on the ERT Web site are subject to this requirement for submitting reports electronically to WebFIRE. Owners or operators who claim that some of the information being submitted for performance tests is confidential business information (CBI) must submit a complete ERT file including information claimed to be CBI on a compact disk or other commonly used electronic storage media (including, but not limited to, flash drives) to EPA. The electronic media must be clearly marked as CBI and mailed to U.S. EPA/OAPQS/CORE CBI Office, Attention: WebFIRE Administrator, MD C404-02, 4930 Old Page Rd., Durham, NC 27703. The same ERT file with the CBI omitted must be submitted to EPA via CDX as described earlier in this paragraph. At the discretion of the delegated authority (LMAPCD), you must also submit these reports, including CBI, to the delegated authority (LMAPCD) in the format specified by the delegated authority (LMAPCD). For any performance test conducted using test methods that are not listed on the ERT Web site, the owner or operator shall submit the results of the performance test in paper submissions to the Administrator at the appropriate address listed in §63.13.³¹ (40 CFR 63.11225(e)(1))

- iv. If you have switched fuels or made a physical change to the boiler and the fuel switch or change resulted in the applicability of a different subcategory within subpart JJJJJ, in the boiler becoming subject to subpart JJJJJ, or in the boiler switching out of subpart JJJJJ due to a change to 100 percent natural gas, or you have taken a permit limit that resulted in you being subject to subpart JJJJJ, you must provide notice of the date upon which you switched fuels, made the physical change, or took a permit limit, within 30 days of the change. The notification must identify:
 - 1) The name of the owner or operator of the affected source, the location of the source, the boiler(s) that have switched fuels, were physically changed, or took a permit limit, and the date of the notice. (40 CFR 63.11225(g)(1))

³¹ The reporting requirements in this paragraph were updated in the amended 40 CFR 63, Subpart JJJJJ published on February 1, 2013.

- 2) The date upon which the fuel switch, physical change, or permit limit occurred. (40 CFR 63.11225(g)(2))

e. **TAC**

- i. See Plant-wide Requirements, S3.
- ii. The owner or operator shall report monthly and 12-month-rolling total fuel oil usage in Boiler #3 and identify any exceedance of the limit.

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

a. **PM**

Boiler #3 (E3) when combusting fuel oil:

The owner or operator of an affected facility seeking to demonstrate compliance under §60.43c(e)(4) shall follow the applicable procedures under §60.48c(f). (40 CFR 60.45c(d))

b. **SO₂**

Boiler #3 (E3) when combusting fuel oil:

- i. For oil-fired affected facilities where the owner or operator seeks to demonstrate compliance with the fuel oil sulfur limits under §60.42c based on shipment fuel sampling, the initial performance test shall consist of sampling and analyzing the oil in the initial tank of oil to be fired in the steam generating unit to demonstrate that the oil contains 0.5 weight percent sulfur or less. Thereafter, the owner or operator of the affected facility shall sample the oil in the fuel tank after each new shipment of oil is received, as described under §60.46c(d)(2). (40 CFR 60.44c(g))
- ii. For affected facilities where the owner or operator seeks to demonstrate compliance with the SO₂ 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))

c. **Opacity**

Boiler #3 (E3) when 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 conduct a performance test using Method 9 of appendix A-4 of this part and the procedures in §60.11 to demonstrate compliance with the applicable limit in §60.43c within 180 days after initial startup of the facility, and shall comply with either paragraphs (a)(1), (a)(2), or (a)(3) of this section. The observation period for Method 9 of appendix A-4 of this part performance tests may be reduced from 3 hours to 60 minutes if all 6-minute averages are less than 10 percent and all individual 15-second observations are less than or equal to 20 percent during the initial 60 minutes of observation. (40 CFR 60.47c(a))
 - 1) Except as provided in paragraph (a)(2) and (a)(3) of this section, the owner or operator shall conduct subsequent Method 9 of appendix A-4 of this part performance tests using the procedures in paragraph (a) of this section according to the applicable schedule in paragraphs (a)(1)(i) through (a)(1)(iv) of this section, as determined by the most recent Method 9 of appendix A-4 of this part performance test results. (40 CFR 60.47c(a)(1))
 - (a) If no visible emissions are observed, a subsequent Method 9 of appendix A-4 of this part performance test must be completed within 12 calendar months from the date that the most recent performance test was conducted or within 45 days of the next day that fuel with an opacity standard is combusted, whichever is later; (40 CFR 60.47c(a)(1)(i))
 - (b) If visible emissions are observed but the maximum 6-minute average opacity is less than or equal to 5 percent, a subsequent Method 9 of appendix A-4 of this part performance test must be completed within 6 calendar months from the date that the most recent performance test was conducted or within 45 days of the next day that fuel with an opacity standard is combusted, whichever is later; (40 CFR 60.47c(a)(1)(ii))
 - (c) If the maximum 6-minute average opacity is greater than 5 percent but less than or equal to 10 percent, a subsequent Method 9 of appendix A-4 of this part performance test must be completed within 3 calendar months from the date that the most recent performance test was conducted or within 45 days of the next day that fuel with an opacity standard is combusted, whichever is later; or (40 CFR 60.47c(a)(1)(iii))
 - (d) If the maximum 6-minute average opacity is greater than 10 percent, a subsequent Method 9 of appendix A-4 of this part performance test must be completed within 45

calendar days from the date that the most recent performance test was conducted. (40 CFR 60.47c(a)(1)(iv))

- 2) If the maximum 6-minute opacity is less than 10 percent during the most recent Method 9 of appendix A-4 of this part performance test, the owner or operator may, as an alternative to performing subsequent Method 9 of appendix A-4 of this part performance tests, elect to perform subsequent monitoring using Method 22 of appendix A-7 of this part according to the procedures specified in paragraphs (a)(2)(i) and (ii) of this section. (40 CFR 60.47c(a)(2))
 - (a) The owner or operator shall conduct 10 minute observations (during normal operation) each operating day the affected facility fires fuel for which an opacity standard is applicable using Method 22 of appendix A-7 of this part and demonstrate that the sum of the occurrences of any visible emissions is not in excess of 5 percent of the observation period (*i.e.*, 30 seconds per 10 minute period). If the sum of the occurrence of any visible emissions is greater than 30 seconds during the initial 10 minute observation, immediately conduct a 30 minute observation. If the sum of the occurrence of visible emissions is greater than 5 percent of the observation period (*i.e.*, 90 seconds per 30 minute period), the owner or operator shall either document and adjust the operation of the facility and demonstrate within 24 hours that the sum of the occurrence of visible emissions is equal to or less than 5 percent during a 30 minute observation (*i.e.*, 90 seconds) or conduct a new Method 9 of appendix A-4 of this part performance test using the procedures in paragraph (a) of this section within 45 calendar days according to the requirements in § 60.45c(a)(8). (40 CFR 60.47c(a)(2)(i))
 - (b) If no visible emissions are observed for 10 operating days during which an opacity standard is applicable, observations can be reduced to once every 7 operating days during which an opacity standard is applicable. If any visible emissions are observed, daily observations shall be resumed. (40 CFR 60.47c(a)(2)(ii))
- 3) If the maximum 6-minute opacity is less than 10 percent during the most recent Method 9 of appendix A-4 of this part performance test, the owner or operator may, as an alternative to performing subsequent Method 9 of appendix A-4 performance tests, elect to

perform subsequent monitoring using a digital opacity compliance system according to a site-specific monitoring plan approved by the Administrator. The observations shall be similar, but not necessarily identical, to the requirements in paragraph (a)(2) of this section. For reference purposes in preparing the monitoring plan, see OAQPS “Determination of Visible Emission Opacity from Stationary Sources Using Computer-Based Photographic Analysis Systems.” This document is available from the U.S. Environmental Protection Agency (U.S. EPA); Office of Air Quality and Planning Standards; Sector Policies and Programs Division; Measurement Policy Group (D243–02), Research Triangle Park, NC 27711. This document is also available on the Technology Transfer Network (TTN) under Emission Measurement Center Preliminary Methods. (40 CFR 60.47c(a)(3))

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

i. Boiler #3 (E3) when combusting fuel oil:

- 1) The owner or operator shall perform initial and subsequent tests for PM using EPA Reference Method 5.^{32, 33}
- 2) 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))

e. **General Testing Requirements**

The owner or operator shall conduct performance testing in a manner consistent with the following testing requirements.

- i. The owner or operator shall perform the tests 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.

³² The source conducted PM compliance test on January 16, 2012 and December 23, 2014. Both test results showed that PM emissions for boiler #3 are less than half of the PM emission limit, 0.03 lb/MMBtu. Therefore, no further PM performance test for boiler #3 is required.

³³ PM testing is a surrogate for HAPs.

- 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. Attached to the permit is a Protocol Checklist for a Performance Test with the information to be submitted in the protocol.
- 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).

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

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

DISTRICT ONLY ENFORCEABLE REGULATIONS		
Regulation	Title	Applicable Sections
5.00	Definitions	1, 2
5.01	General Provisions	1 through 2
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:³⁴

Emission Point	Description	Applicable Regulation	Control ID	Stack ID	Installation Date
E6	One (1) sheet fed lithographic press, make AB Dick, model 9985, rated at 3,500 sheets/hr.	5.00, 5.01, 5.20, 5.21, 5.22, 5.23, and 7.25	N/A	S4	2006
E7	One (1) sheet fed lithographic press, make Hamada, model 660, rated at 3,500 sheets/hr.				2006
E8	One (1) sheet fed lithographic press, make Heidelberg, model KORS, rated 3,000 sheets/hr				2006

U5 Control Devices:

There are no control devices associated with Emission Unit U5

³⁴ The printing presses were previously permitted under Construction Permit 312-08-C and 413-06-C.

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 *plant-wide* VOC emissions from all affected facilities subject to Regulation 7.25, including lithographic presses (U5), groundwater remediation system (U10), and paint spray booth (U11), to equal or exceed 5 tons during any consecutive 12-month period, unless modeling or a BACT analysis is submitted and approved by the District.³⁵ (Regulation 7.25, section 3)
- ii. 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. (Construction Permit 312-08-C, effective date 4/30/2008)

b. TAC

See Plant-wide Requirements, S1.³⁶

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, and any other VOC-containing material used during each calendar month and consecutive-12-month period.
- ii. The owner or operator shall, monthly, calculate and keep the records of the VOC emissions for lithographic presses (U5), groundwater

³⁵ 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.

³⁶ According to Regulation 5.21, section 2.1, TAC emissions from the printing presses under this unit are *de minimis*, either by potential uncontrolled emissions or MSDS weight percent.

remediation system (U10), and paint spray booth (U11) during the 12-consecutive-month period.

- iii. The owner or operator shall maintain a copy of the Material Safety Data Sheet (MSDS/SDS) for each VOC-containing material used in the printing operation.

b. **TAC**

See Plant-wide Requirements, S2.

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

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

a. **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 include, at a minimum, the following information in the semi-annual compliance monitoring reports for Regulation 7.25:
 - 1) Emission Unit ID number and emission point or stack ID number;
 - 2) The beginning and ending date of the reporting period;
 - 3) Total VOC emissions during twelve consecutive months for each month from all affected facilities subject to Regulation 7.25, including this unit, groundwater remediation system (U10), and the paint spray booth (U11);
 - 4) Identification of all exceedance of the limit.

b. **TAC**

See Plant-wide Requirements, S3.

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

U7 Applicable Regulations:

Federally Enforceable Regulations		
Regulation	Subject	Applicable Sections
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

DISTRICT ONLY ENFORCEABLE REGULATIONS		
Regulation	Title	Applicable Sections
5.00	Definitions	1, 2
5.01	General Provisions	1 through 2
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:³⁷

Emission Point	Description	Applicable Regulation	Control ID	Stack ID	Installation Date
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, 5.20, 5.21, 5.22, 5.23, 6.40, and 7.15	C9	S5	2009

U7 Control Devices:

Control ID	Description	Control Efficiency	Performance Indicator	Stack ID
C9	Vapor balance and submerged fill	N/A	N/A	N/A

³⁷ This equipment was previously permitted under Stage I Operating Permit 115-09-O.

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. The vapor balance system must be operating in accordance with the manufacturer's specifications. (Regulation 7.15, section 3.4)
- v. Opening of a truck tank hatch 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 an average of 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

See Plant-wide Requirements, S1.³⁸

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

See Plant-wide Requirements, S2.

³⁸ According to Regulation 5.21, section 2.6, emissions from motor vehicle fueling or refueling are *de minimis*.

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

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

a. **VOC**

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

b. **TAC**

See Plant-wide Requirements, S3.

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

DISTRICT ONLY ENFORCEABLE REGULATIONS		
Regulation	Title	Applicable Sections
5.00	Definitions	1, 2
5.01	General Provisions	1 through 2
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:^{39,40}

Emission Point	Description	Applicable Regulation	Control ID	Stack ID	Installation Date
E12	One (1) diesel fueled emergency generator rated at 1,208 HP (3.07 MMBtu/hr), make Caterpillar, model SR4, located at Miller Technology (Building #21A)	5.00, 5.01, 5.20, 5.21, 5.22, 5.23	N/A	N/A	1991
E15	One (1) diesel fueled emergency generator rated at 1,342 HP (3.42 MMBtu/hr), make Caterpillar, model 3508, located at Shumaker Research Building (Building #4)	5.00, 5.01, 5.20, 5.21, 5.22, 5.23	N/A	N/A	2005

U8 Control Devices:

There are no control devices associated with Emission Unit U8.

³⁹ 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. The emergency generators are not subject to 40 CFR 60, Subpart IIII because they were installed before July 12, 2006.

⁴⁰ Emergency generators which meet the definition of Insignificant Activity are moved to the Insignificant Activity list.

U8 Specific Conditions

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

a. **TAC**

See Plant-wide Requirements, S1.⁴¹

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. **TAC**

See Plant-wide Requirements, S2.

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

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

a. **TAC**

See Plant-wide Requirements, S3.

⁴¹ 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*.

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

FEDERALLY ENFORCEABLE REGULATIONS		
Regulation	Title	Applicable Sections
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

DISTRICT ONLY ENFORCEABLE REGULATIONS		
Regulation	Title	Applicable Sections
5.00	Definitions	1, 2
5.01	General Provisions	1 through 2
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:^{42,43}

Emission Point	Description	Applicable Regulation	Control ID	Stack ID	Installation Date
E16	Two (2) natural gas fired hot water boilers, rated at 1.0 MMBtu/hr each, make Lochinvar, model SBN1000, located at basement mechanical room of Ernst Hall.	STAR*, 7.06	N/A	N/A	2010

⁴² The hot water boilers and steam boilers less than 1.0 MMBtu/hr are insignificant activities and not subject to Regulation 6.07 or 7.06. Those boilers are listed in the table of 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 Report.

⁴³ This unit includes hot water boilers and steam boilers having a capacity greater than 1.0 MMBtu/hr but less than 10.0 MMBtu/hr. These boilers are insignificant activities and subject to Regulation 6.07 or 7.06.

Emission Point	Description	Applicable Regulation	Control ID	Stack ID	Installation Date
E17	Two (2) natural gas-fired hot water boilers, rated at 1.3 MMBtu/hr each, located at basement mechanical room of CUER.	STAR*, 7.06	N/A	N/A	1981
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.	STAR*, 7.06	N/A	N/A	1990
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.	STAR*, 6.07	N/A	N/A	1966
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.	STAR*, 7.06	N/A	N/A	2010
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.	STAR*, 7.06	N/A	N/A	2003
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.	STAR*, 7.06	N/A	N/A	1985 and 1986
E24	Two (2) natural gas-fired hot water boilers, one rated at 2.0 MMBtu/hr, make Bryan, model AB200WFDG, and one rated at 1.5 MMBtu/hr, make Lochinvar, model SBN1500, located at W mechanical room of Facilities.	STAR*, 7.06	N/A	N/A	1998 and 2010
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.	STAR*, 7.06	N/A	N/A	2005
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.	STAR*, 7.06	N/A	N/A	2005
E27	Two (2) natural gas-fired hot water boilers, rated at 2.0 MMBtu/hr for each, make Aerco, model BMK2.0, located at 2 nd floor mechanical room of YUM Center.	STAR*, 7.06	N/A	N/A	2007

Emission Point	Description	Applicable Regulation	Control ID	Stack ID	Installation Date
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.	STAR*, 7.06	N/A	N/A	1986
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.	STAR*, 7.06	N/A	N/A	1995
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.	STAR*, 7.06	N/A	N/A	1995
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.	STAR*, 7.06	N/A	N/A	1980
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.	STAR*, 7.06	N/A	N/A	2009
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.	STAR*, 7.06	N/A	N/A	2005 and 2010
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.	STAR*, 7.06	N/A	N/A	2000 and 2005
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 st floor W mechanical room of Facilities.	STAR*, 7.06	N/A	N/A	1998
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.	STAR*, 7.06	N/A	N/A	2005
E38	Two (2) natural gas fired-domestic hot water boilers, rated at 1.0 MMBtu/hr, make Aerco, model AS-36074, located at 2 nd floor mechanical room of YUM Center.	STAR*, 7.06	N/A	N/A	2007
* STAR rules consist of Regulations 5.00, 5.01, 5.20, 5.21, 5.22, and 5.23.					

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. **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 6.07.⁴⁴ (Regulation 6.07, section 3.1)
- 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 7.06.⁴⁴ (Regulation 7.06, section 4.1.4)

b. **SO₂**

- 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 6.07.⁴⁴ (Regulation 6.07, section 4.1)
- 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 7.06.⁴⁴ (Regulation 7.06, section 5.1.1)

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.⁴⁵ (Regulation 6.07, section 3.2 and Regulation 7.06, section 4.2)

d. **TAC**

See Plant-wide Requirements, S1.⁴⁶

⁴⁴ The District has performed a one-time PM and SO₂ compliance demonstration for the boilers, 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 these boilers with respect to PM and SO₂ emission limits.

⁴⁵ 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.

⁴⁶ 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

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. PM

There are no monitoring and record keeping requirements for PM compliance.

b. SO₂

There are no monitoring and record keeping requirements for SO₂ compliance.

c. Opacity

There are no monitoring and record keeping requirements for Opacity compliance.

d. TAC

See Plant-wide Requirements, S2.

S3. Reporting (Regulation 2.16, section 4.1.9.3)

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

a. PM

There are no routine compliance reporting requirements for this equipment.

b. SO₂

There are no routine compliance reporting requirements for this equipment.

c. Opacity

There are no routine compliance reporting requirements for this equipment.

d. TAC

See Plant-wide Requirements, S3.

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)

Emission Unit U10: One (1) groundwater remediation system

U10 Applicable Regulations:

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

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

Emission Point	Description	Applicable Regulation	Control ID	Stack ID	Installation Date
E39	One (1) custom-made groundwater remediation system with a treatment capacity of 20 gallon water per min ⁴⁷	5.00, 5.01, 5.20, 5.21, 5.22, 5.23, and 7.25	C10	S7	2011

⁴⁷ 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 GGGG, National Emission Standards for Hazardous Air Pollutants: Site Remediation.

U10 Control Devices:

Control ID	Description	Control Efficiency	Performance Indicator	Stack ID
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.	99% ⁴⁸	N/A	S7

⁴⁸ This is the District pre-approved control efficiency for dual stage carbon canisters.

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), the groundwater remediation system (U10), and the paint spray booth (U11), to equal or exceed 5 tons during any 12 consecutive month period, unless modeling or a BACT analysis is submitted and approved by the District.⁴⁹ (Regulation 7.25, section 3)

b. **TAC**

i. See Plant-wide Requirements, S1.

ii. The owner or operator shall not allow Benzene (71-43-2) emissions to exceed 216.0 pounds per 12 consecutive month period from this equipment.⁵⁰ (Regulation 5.21, section 4.3)

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

The owner or operator shall maintain the required records for a minimum of 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 each VOC containing material used, applied, or processed.

ii. The owner or operator shall, monthly, calculate and keep the records of the VOC emissions for lithographic presses (U5), groundwater remediation system (U10), and paint spray booth (U11) during the 12-consecutive-month period.

b. **TAC**

i. See Plant-wide Requirements, S2.

⁴⁹ 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.

⁵⁰ The potential uncontrolled emissions of all TACs are below the *de minimis* threshold levels except for Benzene. Benzene emission can exceed its *de minimis* level (216.0 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. *De minimis* emission for Benzene was changed from 62.4 lb/yr to 216.0 lb/yr in the District's 2013 updated TAC list.

- ii. The owner or operator shall monitor and maintain the records of monthly and consecutive 12-month Benzene emissions for each month.

S3. Reporting (Regulation 2.16, section 4.1.9.3)

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

a. VOC

- i. The owner or operator shall include, at a minimum, the following information in the semi-annual compliance monitoring reports for Regulation 7.25:
 - 1) Emission Unit ID number and emission point or stack ID number;
 - 2) The beginning and ending date of the reporting period;
 - 3) 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 the paint spray booth (U11);
 - 4) Identification of all exceedance of the limit.

b. TAC

- i. See Plant-wide Requirements, S3.
- ii. The owner or operator shall report the calendar month and consecutive 12-month total Benzene emissions for each month in the reporting period and identify any exceedance of the limit.

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

U11 Applicable Regulations:

FEDERALLY ENFORCEABLE REGULATIONS		
Regulation	Title	Applicable Sections
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

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

U11 Equipment:

Emission Point	Description	Applicable Regulation	Control ID	Stack ID	Installation Date
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, 5.14, 5.20, 5.21, 5.22, 5.23, 7.08, and 7.25	C11	S8	2013

U11 Control Devices:

This equipment is equipped with fiber filters (C11).

U11 Specific Conditions

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

a. **VOC**

The owner or operator shall not allow or cause *plant-wide* 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), the groundwater remediation system (U10), and the paint spray booth (U11), to equal or exceed 5 tons during any 12 consecutive month period, unless a BACT analysis is submitted and approved by the District.⁵¹ (Regulation 7.25, section 2.1 and 3.1)

b. **PM**

The owner or operator shall not allow PM emissions to exceed 2.34 lb/hr, based on a calendar day averaging period.⁵² (Regulation 7.08, section 3.1.2)

c. **Opacity**

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

d. **TAC**

See Plant-wide Requirements, S1.⁵³

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.

⁵¹ 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.

⁵² 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.

⁵³ 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 this unit is in compliance with STAR Program.

- ii. The owner or operator shall, monthly, calculate and keep the records of the VOC emissions for lithographic presses (U5), groundwater remediation system (U10), and paint spray booth (U11) during the 12-consecutive-month period.

b. **PM**

There are no compliance monitoring or record keeping requirements for this equipment related to PM.

c. **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.

d. **TAC**

See Plant-wide Requirements, S2.

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

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

a. **VOC**

- i. The owner or operator shall include, at a minimum, the following information in the semi-annual compliance monitoring reports for Regulation 7.25:
 - 1) Emission Unit ID number and emission point or stack ID number;
 - 2) The beginning and ending date of the reporting period;
 - 3) 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);
 - 4) Identification of all exceedance of the limit.

b. **PM**

There are no compliance reporting requirements related to the PM emission standards.

c. **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.

d. **TAC**

See Plant-wide Requirements, S3.

Permit Shield

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

Off-Permit Documents

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

Alternative Operating Scenario

The company requested no alternative operating scenario in its Title V application.

Insignificant Activities ⁵⁴

Description	Quan.	PTE (tpy)	Basis for Exemption
Non-halogenated cold solvent parts cleaner (See unit IA2, previous U4)	1	0.02 VOC	Reg. 2.16, section 1.23
New emergency generator, 805 HP (See unit IA3)	1	4.83 NOx	Reg. 2.16, section 1.23
Existing diesel emergency generators installed before 6/12/2006 (See Note 8)	17	4.83 NOx	Reg. 2.16, section 1.23
Existing natural gas emergency generators installed before 6/12/2006 (See Note 8)	6	1.03 NOx	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 9)	29	0.43 NOx	Regulation 1.02, Appendix A
Silver stream color+ negative maker	1	0.063 VOC	EPA White Papers
Digital dry toner printers	3	0	EPA White Papers
Residential/Domestic Equipment	637	0	Regulation 1.02, Appendix A
Emergency relief vents and ventilating systems (not otherwise regulated)	426	0	Regulation 1.02, Appendix A
Academic Labs for Research and Development	<100	0	Regulation 1.02, Appendix A

⁵⁴ Since March 20, 2014, all the coal-fired boilers have been converted into natural gas/fuel oil boilers according to the Pollution Prevention Operating Plan. Therefore the fly ash and bottom ash handling and storage facility (previous emission unit IA1) is removed from the list insignificant activities.

Description	Quan.	PTE (tpy)	Basis for Exemption
Diesel Fuel Storage Tanks used for emergency generators and boilers	28	0.01 VOC	Regulation 1.02, Appendix A
Four (4) 280 gallon used oil storage tanks and three (3) 294 gallon used cooking grease tank	7	0.01 VOC	Regulation 1.02, Appendix A
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 _x	Regulation 1.02, Appendix A
Soil or Groundwater Remediation Projects - Passive or total removal	1	0.01 VOC	Regulation 1.02, Appendix A
Lab ventilating and exhausting systems for nonradioactive materials	80	0.39 VOC	Regulation 1.02, Appendix A
Cooling Towers	7	0.87 PM ₁₀	Reg. 2.16, section 1.23

- 1) Insignificant activities identified in District Regulation 1.02, Appendix A, may be subject to size or production rate disclosure requirements pursuant to Regulation 2.16 section 3.5.4.1.4.
- 2) Insignificant activities identified in District Regulation 1.02, Appendix A shall comply with generally applicable requirements as required by Regulation 2.16 section 4.1.9.4.
- 3) The Insignificant Activities Table is correct as of the date the permit was proposed for review by U.S. EPA, Region 4.
- 4) Emissions from Insignificant Activities shall be reported in conjunction with the reporting of annual emissions of the facility as required by the District.
- 5) The owner or operator shall submit an updated list of insignificant activities that occurred during the preceding year pursuant to Regulation 2.16 section 4.3.5.3.6.
- 6) The owner or operator may elect to monitor actual throughputs for each of the insignificant activities and calculate actual annual emissions, or use Potential to Emit (PTE) to be reported on the annual emission inventory.
- 7) The District has determined pursuant to Regulation 2.16 section 4.1.9.4 that no monitoring, record keeping, or reporting requirements apply to the insignificant activities listed, except for the equipment that has an applicable regulation and permitted under an insignificant activity (IA) unit.
- 8) The emergency generators in the following table meet the definition of insignificant activity in Regulation 2.16, section 1.23. According to 40 CFR 63.6585(f)(3), existing institutional emergency stationary RICE located at an area source of HAP emissions that do not operate or are not contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in §63.6640(f)(2)(ii) and (iii) and that do not operate for the purpose specified in §63.6640(f)(4)(ii) are not subject to 40 CFR 63, Subpart ZZZZ.

Bldg No.	Building Name	Fuel Type	Capacity (Btu/hr)	Capacity (HP)	Tank Location
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.
123	Student Rec Center	Natural Gas	511,815	201	W side of Bldg.
124	Lynn Soccer Stadium	Natural Gas	204,726	80	E side of Bldg.

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

Location	Boiler Type	Capacity (Btu/hr)	Location Description
Playhouse	hot water boiler	500,000	Basement Mech Room
University Club	hot water boiler	725,000	Basement Mech Room
University Club	hot water boiler	725,000	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

Location	Boiler Type	Capacity (Btu/hr)	Location Description
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
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 IA2: One (1) non-halogenated cold solvent parts cleaner

IA2 Applicable Regulations:

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

IA2 Equipment:

Emission Point	Description	Applicable Regulation	Control ID
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)**a. 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 Regulation 6.18, section 4.2, 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)

a. VOC

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

- ii. The owner or operator shall maintain records of the results of the inspections.
- 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 report the following information, as required by General Condition 14:

- a. **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.

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:**

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

IA3 Equipment:

Emission Point	Description	Applicable Regulation	Control ID	Stack ID
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. The owner or operator that is required comply with the emission standards specified in 40 CFR 60, Subpart IIII shall do all of the following: (40 CFR 60.4211(a))
 - 1) Operate and maintain the stationary CI internal combustion engine and control device according to the manufacturer's emission-related written instructions; (40 CFR 60.4211(a)(1))
 - 2) Change only those emission-related settings that are permitted by the manufacturer; (40 CFR 60.4211(a)(2))
- ii. The owner or operator shall purchase an engine certified to the emission standards in 40 CFR 60.4205(b), as applicable for the same model year and maximum engine power. The engine must be installed and configured according to the manufacturer’s specifications. (40 CFR 60.4211(c))

Engine manufacturers shall certify the engines with the exhaust emission standards in the following table. In lieu of the NO_x standards, NMHC + NO_x standards, and PM standards, manufacturers may elect to include engine families in the averaging, banking, and trading program. The manufacturer must set a family emission limit (FEL) not to exceed the levels contained in the following table: (40 CFR 60.4205(b) refers to 40 CFR 89.112)

Engine Capacity: 805 kW	unit: g/KW-hr				
	NO _x	HC	NMHC+ NO _x	CO	PM
Emission Standards (40 CFR 89.112(a), Table 1)	N/A	N/A	6.4	3.5	0.2
Family Emission Limits (40 CFR 89.112(d), Table 2)	N/A	N/A	10.5	N/A	0.54

- iii. In order for the engine to be considered an emergency stationary ICE under this subpart, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (f)(1) through (3) of this section, is prohibited. If the owner or operator does not operate the engine according to the requirements below, the engine will not be considered an emergency engine under this subpart and shall meet all requirements for non-emergency engines. (40 CFR 60.4211(f))

- 1) There is no time limit on the use of emergency stationary ICE in emergency situations. (40 CFR 60.4211(f)(1))
 - 2) Emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in 40 CFR 60.4211(f)(2). Except as provided in 40 CFR 60.4211(f)(3)(i), the 50 hours per calendar year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity. (40 CFR 60.4211(f)(3))
- iv. The owner or operator shall not operate the emergency generators in non-emergency situations, including maintenance, testing, or emergency demand response provided in 40 CFR 60.4211(f)(2), for more than 124 hours per year for the three emergency generators combined. There is no time limit on the use of emergency stationary ICE in emergency situations.⁵⁵

b. Fuel requirements

Beginning October 1, 2010, the owner or operator of a stationary CI ICE subject to this subpart with a displacement of less than 30 liters per cylinder that uses diesel fuel shall use diesel fuel that meets the requirements of 40 CFR 80.510(b) for nonroad diesel fuel, except that any existing diesel fuel purchased (or otherwise obtained) prior to October 1, 2010, may be used until depleted: (40 CFR 60.4207(b))

- 1) Sulfur content: 15 parts per million (ppm) maximum for NR diesel fuel. (40 CFR 80.510(b)(1)(i))
- 2) A minimum cetane index of 40; or (40 CFR 80.510(b)(2)(i))
- 3) A maximum aromatic content of 35 volume percent. (40 CFR 80.510(b)(2)(ii))

S2. Monitoring and Record Keeping (Regulation 2.16, 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.

⁵⁵ The 124 hours per year operation limit was determined based on AP-42 emission factors and less than 5 tons per year NOx emissions.

a. **Unit Operation**

- i. The owner or operator of an emergency stationary CI internal combustion engine that does not meet the standards applicable to non-emergency engines shall install a non-resettable hour meter prior to startup of the engine. (40 CFR 60.4209(a))
- ii. The owner or operator is not required to submit an initial notification. If the emergency engine does not meet the standards applicable to non-emergency engines in the applicable model year, the owner or operator shall keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. The owner shall record the time of operation of the engine and the reason the engine was in operation during that time. (40 CFR 60.4214(b))

b. **Fuel requirements**

The owner or operator shall maintain records of the fuel MSDS/SDS sheets and receipts showing dates, amounts of fuel purchased, sulfur content of fuel purchased and supplier's name and address.

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

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

a. **Unit Operation**

- i. The owner or operator is not required to submit an initial notification. (40 CFR 60.4214(b))
- ii. The owner or operator shall identify all periods of exceeding the hour limits during the reporting period. The compliance report shall include the following:
 - 1) Identification of all periods during which a deviation occurred;
 - 2) A description, including the magnitude, of the deviation;
 - 3) If known, the cause of the deviation;
 - 4) A description of all corrective actions taken to abate the deviation.

b. **Fuel requirements**

There are no routine compliance reporting requirements for this equipment.

Attachment A – Calculation Methodologies and Emission Factors

Generally, emissions are calculated by multiplying the throughput (ton, MMCF, gallons, etc) or hours of operation of the equipment by the appropriate emission factor and accounting for any control devices unless otherwise approved in writing by the District.

Unit ID	Emi. Point ID	Emission Point Description	Pollutant	Uncontr. Emission Factor	Contr. Emission Factor	Unit	Emission Factor Sources	Control Efficiency & Source
U1/ U2	E1	Natural gas boiler	Various	Emission factors from AP-42, 1.4, Natural Gas Combustion				
	E2	Fuel oil boiler	Various	Emission factors from AP-42, 1.3, Fuel Oil Combustion				
	E3	Natural gas/fuel oil boiler	Various	Emission factors from AP-42, 1.3 and 1.4				
U5	E6	Litho. press	Various	Mass balance method				
	E7	Litho. press	Various	Mass balance method				
	E8	Litho. press	Various	Mass balance method				
U7	E10	Gasoline tank	VOC	EPA TANK4.0 Program				
U8	E12	Emerg. generator	Various	Emission factors from AP-42, 3.3, Gasoline/Diesel Industrial Engines				
	E15	Emerg. generator	Various	Emission factors from AP-42, 3.3, Gasoline/Diesel Industrial Engines				
U9	E16 - E38	Small boilers	Various	Emission factors from AP-42, 1.4, Natural Gas Combustion				
U10	E39	Groundwater remediation system	VOC	0.29	0.003	lb/hr	Site analytical results	99%, Option 1
			Benzene	0.077	7.7×10^{-4}	lb/hr	Site analytical results	99%, Option 1
			Ethyl benzene	0.018	1.8×10^{-4}	lb/hr	Site analytical results	99%, Option 1
			Toluene	0.065	6.5×10^{-4}	lb/hr	Site analytical results	99%, Option 1
			Xylene	0.13	1.3×10^{-3}	lb/hr	Site analytical results	99%, Option 1
U11	E40	Art spray booth	Various	Mass balance method				

Note:

- Options for control efficiency determination:
 - Option 1: Use District pre-approved control efficiency
 - Option 2: Submit a signature guarantee from the control device manufacture stating the control device efficiency
 - Option 3: Perform stack test. See Emission U1/U2 Specific Condition S4. for general testing requirements. The owner or operator shall use the most recent District-accepted performance test results to demonstrate compliance with the emission limits and in the annual emission inventory reporting.
- Until the District receives a signature guarantee from the control device manufacturer stating the control device efficiency is higher (Option 2), or an approved stack test (Option 3), the pre-approved efficiency (Option 1) will be used in all calculations to demonstrate compliance with applicable standards and calculations for emission inventory.

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 that are requiring the test to be conducted;
- 4. Test methods to be used (i.e. EPA Method 1, 2, 3, 4, and 5);
- 5. Alternative test methods or description of modifications to the test methods to be used;
- 6. Purpose of the test including equipment and pollutant to be tested; the purpose may be described in the permit that requires the test to be conducted or may be to show compliance with a federal regulation or emission standard;
- 7. Tentative test dates (These may change but the District will need final notice at least 10 days in advance of the actual test dates in order to arrange for observation.);
- 8. Maximum rated production capacity of the system;
- 9. Production-rate goal planned during the performance test for demonstration of compliance (if appropriate, based on limits);
- 10. Method to be used for determining rate of production during the performance test;
- 11. Method to be used for determining rate of production during subsequent operations of the process equipment to demonstrate compliance;
- 12. Description of normal operation cycles;
- 13. Discussion of operating conditions that tend to cause worse case emissions; it is especially important to clarify this if worst case emissions do not come from the maximum production rate;
- 14. Process flow diagram;
- 15. The type and manufacturer of the control equipment, if any;
- 16. The control equipment (baghouse, scrubber, condenser, etc.) parameter to be monitored and recorded during the performance test. Note that this data will be used to ensure representative operation during subsequent operations. These parameters can include pressure drops, flow rates, pH, and temperature. The values achieved during the test may be required during subsequent operations to describe what pressure drops, etcetera, are indicative of good operating performance; and
- 17. How quality assurance and accuracy of the data will be maintained, including;
 - Sample identification and chain-of-custody procedures
 - If audit samples are required for this test method, audit sample provider and number of audit samples to be used
- 18. Pipe, duct, stack, or flue diameter to be tested;
- 19. Distances from the testing sample ports to the nearest upstream and downstream flow disturbances such as bends, valves, constrictions, expansions, and exit points for outlet and additionally for inlet;
- 20. Determine number of traverse points to be tested for outlet and additionally for inlet if required using Appendix A-1 to 40 CFR Part 60;
 - Method 1 if stack diameter is >12"
 - Method 1a if stack diameter is greater than or equal to 4" and less than 12"
 - Alternate method of determination for <4"
 - If a sample location at least two stack or duct diameters downstream and half a diameter upstream from any flow disturbance is not available then an alternative procedure is available for determining the acceptability of a measurement location. This procedure described in Method 1, Section 11.5 allows for the determination of gas flow angles at the sampling points and comparison of the measured results with acceptability criteria.
- 21. The Stack Test Review fee shall be submitted with each stack test protocol.

Attachment C - Determination of Benchmark Ambient Concentration (BAC)

Determination of Benchmark Ambient Concentration (BAC) Category No.

TAC CAS No. Mol. Wt.

BACc = ug/m3 Annual BACNC = ug/m3 Averaging Period

De Minimis lb/hour; lb/; lb/year

I. Carcinogen Risk - BACc [Annual Averaging Period] Carcinogen Yes No

- 1. IRIS no 10-6 risk = ug/m3 URE (ug/m3)-1
2. Cal no 10-6 risk = ug/m3 IUR (ug/m3)-1
3. MI no 10-6 risk = ug/m3
4. NTP Part A yes no Part B yes no
5. IARC Group 1 yes no Group 2A yes no Group 2B yes no
6. ATSDR no
7. Sec. 3.3.4 method no 10-6 risk = ug/m3
8. Default: 0.0004 ug/m3

II. Chronic Noncancer Risk - BACNC [Averaging Period as Specified]

- 1. IRIS no RfC = ug/m3 Annual
2. Cal no REL = ug/m3 Annual
3. IRIS1 no RfD = ug/kg/day x 70/20 = ug/m3 Annual
4. MI no ITSL = ug/m3 Averaging Period
5. TLV NIOSH ug/m3 x 0.01 = ug/m3 8-Hr
6. RTECS1 = ug/m3 Annual
7. Default 0.04 ug/m3 Annual

III. De Minimis

- 1. Carcinogen (BACc) ug/m3 x 0.54 = lb/hour
(BACc) ug/m3 x 480 = lb/year
2. Chronic Noncancer Risk Averaging Period
(BACNC) ug/m3 x = lb/hour
(BACNC) ug/m3 x = lb/
lb/ x = lb/year

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

Prepared by