

Louisville Metro Air Pollution Control District
850 Barret Ave., Louisville, Kentucky 40204
27 June 2013

Title V Statement of Basis

Company: University of Louisville, Belknap Campus

Plant Location: 2301 S Brook St, Louisville, Kentucky 40217

Date Application Received: 18 May 2009

Date Admin Complete: 17 July 2009

Date of Draft Permit: 09 May 2013

Date of Proposed Permit: 09 May 2013

District Engineer: Yiqiu Lin

Permit No: 329-03-TV (R3)

Plant ID: 0852

SIC Code: 8221

NAICS: 611310

AFS: 00148

Introduction:

This permit will be issued pursuant to: (1) Regulation 2.16, (2) Title 40 of the Code of Federal Regulations Part 70, and (3) Title V of the Clean Air Act Amendments of 1990. Its purpose is to identify and consolidate existing District and Federal air requirements and to provide methods of determining continued compliance with these requirements.

Jefferson County is classified as an attainment area for lead (Pb), sulfur dioxide (SO₂), nitrogen dioxide (NO₂), carbon monoxide (CO), 1 hr and 8 hr ozone (O₃), and particulate matter less than 10 microns (PM₁₀); and is a non-attainment area for particulate matter less than 2.5 microns (PM_{2.5}).

Application Type/Permit Activity:

Initial Issuance

Permit Revision

Administrative

Minor

Significant

Permit Renewal

Compliance Summary:

Compliance certification signed

Compliance schedule included

Source is out of compliance

Source is operating in compliance

I. Source Information

1. **Source Description:** The source is a university that primarily engaged in furnishing academic courses and granting degrees at baccalaureate or graduate levels.
2. **Process Description:** The Steam and Chilled Water Plant, University of Louisville Belknap Campus, provides steam for heating and chilled water for air conditioning. There are also lithographic presses, small boilers, and emergency generators in various buildings.
3. **Site Determination:** There are no other facilities that are contiguous or adjacent and under common control.
4. **Emission Unit Summary:**

| Emission Unit | Equipment Description |
|---------------|---|
| U1/U2 | Three (3) natural gas/fuel oil/coal boilers |
| U5 | Three (3) lithographic sheet feed presses |
| U7 | One (1) portable gasoline storage tank |
| U8 | Six (6) emergency generators |
| U9 | Various hot water boilers and steam boilers |
| U10 | One (1) groundwater remediation system |
| U11 | One (1) Theatre Arts Spray Booth |

5. **Fugitive Sources:** There are fugitive PM emissions from the ash handling and storage system. There are fugitive VOC or HAP emissions from the parts cleaner, litho presses, groundwater treatment system, and gasoline storage tank.
6. **Permit Revisions:**

| Revision No. | Issue Date | Public Notice Date | Type | Attachment No./Page No. | Description |
|--------------|------------|--------------------|--------------|-------------------------|--|
| Initial | 11/17/2004 | 8/15/2004 | Initial | Entire Permit | Initial Permit Issuance |
| R1 | 11/18/2004 | N/A | Admin. Amend | U1/U2 | Corrected the usage limits of fuel oil, natural gas and coal |

| Revision No. | Issue Date | Public Notice Date | Type | Attachment No./Page No. | Description |
|--------------|------------|--------------------|--------------------------------------|-------------------------|--|
| R2 | 12/27/2010 | 9/15/2010 | Renewal/ Revision | Entire Permit | Scheduled Permit Renewal; Incorporation of Construction Permit; Incorporation of pollution prevention operation plan; Significant and Minor Permit Revisions; Insignificant Activities List Update |
| R3 | 06/27/2013 | 05/09/2013 | Admin Amend/ Significant Revision | U1/U2, U10 | Incorporation of construction permit : 30142-10-C (groundwater remediation system); 33168-11-C (New boiler); 37071-13-C (Paint booth) Incorporation of Area Source MACT requirements |

7. Emission Summary:

| Pollutant | Actual Emissions (tpy) 2011 Data | Pollutant that triggered Major Source Status (based on PTE) |
|--------------------|-------------------------------------|--|
| CO | 11.8 | Yes |
| NO _x | 8.47 | Yes |
| SO ₂ | 0.12 | Yes |
| PM | 3.32 | Yes |
| VOC | 1.04 | No |
| Single HAP > 1 tpy | | |
| Total HAPs | 0.27 | Yes |
| Greenhouse Gas | < 75,000 CO ₂ e | Yes |

Note: The source is potentially major for CO, NO_x, PM₁₀, HAPs, and Greenhouse Gases. However the source has accepted limits to restrict their potential to emit to below the major source threshold.

8. Applicable Requirements:

PSD 40CFR60 SIP 40CFR63
 NSR 40CFR61 District-Origin Other

9. Future MACT Requirements: The source has no future MACT requirements.

10. Referenced Federal Regulations in Permit:

| | |
|---------------------------------------|---|
| 40 CFR Part 63 Subpart A | General Provisions |
| 40 CFR Part 60 Subpart D _c | Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units |
| 40 CFR Part 63 Subpart JJJJJ | National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources |

II. Regulatory Analysis

1. Acid Rain Requirements: The source is not subject to the Acid Rain Program.

2. Stratospheric Ozone Protection Requirements: Title VI of the CAAA regulates ozone depleting substances and requires a phase-out of their use. This rule applies to any facility that manufactures, sells, distributes, or otherwise uses any of the listed chemicals. This source does not manufacture, sell, or distribute any of the listed chemicals. The source's use of listed chemicals is that in fire extinguishers, chillers, air conditioners and other HVAC equipment.

3. Prevention of Accidental Releases 112(r): The source does not manufacture, process, use, store, or otherwise handle one or more of the regulated substances listed in 40 CFR Part 68, Subpart F, and District Regulation 5.15, Chemical Accident Prevention Provisions, in a quantity in excess of the corresponding specified threshold amount.

4. 40 CFR Part 64 Applicability Determination: The source is major for PM, NO_x, CO, SO₂, and HAPs based on the plant-wide uncontrolled PTE evaluation. Only the coal-fired boilers rely on control devices to achieve compliance with PM standards. However, the source took material usage limits for coal, fuel oil, and natural gas in order to avoid Regulation 6.42. With these material usage limits the uncontrolled PM emissions cannot exceed 100 tons/yr. Therefore the source is not subject to 40 CFR Part 64 - *Compliance Assurance Monitoring for Major Stationary Sources*.

5. Basis of Regulation Applicability

a. **Plant-wide**

University of Louisville, Belknap Campus is potentially a major source for CO, NO_x, SO₂, PM₁₀, single HAP, total HAPs, and Greenhouse Gases. Regulation 2.16 - *Title V Operating Permits* establishes requirements for major sources.

The source is subject to a plant-wide limit of 100 tons per year for NO_x emissions to avoid Regulation 6.42. To fulfill the 100 tons per year NO_x limit, the source shall limit the plant-wide natural gas usage to less than 750 mmcf per year, the coal usage to less than 5,000 tons per year, and the fuel oil usage to less than 1,500,000 gallons per year. The source also has 100 tons per year for PM₁₀ to avoid CAM Plan, 25/10 tons per year for HAPs to avoid being major for HAPs, 100,000 tons CO₂e/100 tons on a mass basis to avoid being major for Greenhouse Gases. With the fuel material usage limits, the PM₁₀, HAPs, and Greenhouse Gas emissions cannot exceed their limits uncontrolled.

Regulations 5.00, 5.01, 5.20, 5.21, 5.22, and 5.23 (STAR Program) establishes requirements for environmental acceptability of toxic air contaminants (TACs) and the requirement to comply with all applicable emission standards. Upon review of the plantwide STAR EA Demonstration submitted by University of Louisville in December, 2006, and review of the STAR compliance demonstration in the construction applications, it was determined that University of Louisville is in compliance with STAR Program. Based on the PTE calculations, uncontrolled TAC emissions from all the emission units and processes are de minimis except for coal-fired boiler #2 and fuel oil-fired boiler #3. SCREEN3 air dispersion modeling was performed form TACs emitted from the boilers to determine compliance with Environmental Acceptability Goals. The following table demonstrates that the carcinogen risk and non-carcinogen risk values calculated using SCREEN model results for these units are below EA goals required in Regulation 5.21.

b. **Emission Unit U1/U2 – Three (3) boilers**

i. **Equipment:**

| P/PE | Capacity | Install Date | Applicable Regulation | Basis for Applicability |
|---|-----------------------|--------------|---|---|
| E1: One natural gas boiler | 99 MMBtu/hr | 2010 | 5.00, 5.01, 5.02, 5.14, 5.20, 5.21, 5.22, 5.23, | Regulation 5.00, etc. establishes the requirements for Environmental Acceptability for TACs. The source is a Group I company with Category 1TACs which could exceed the de minimis values. New indirect heat exchangers for which having a capacity less than 250 MMBtu/hr and commenced |
| E2: One coal fired boiler with fuel oil backup | 100 MMBtu/hr | 1978 | 7.06, 40CFR60 Subpart Dc, | |
| E3: One natural gas | 99.3-99.6 MMBtu/hr | 2012 | 40 CFR63 | |

| P/PE | Capacity | Install Date | Applicable Regulation | Basis for Applicability |
|-----------------------------|----------|--------------|-----------------------|--|
| boiler with fuel oil backup | | | Subpart JJJJJ | <p>after September 1, 1972, or having a capacity more than 250 MMBtu/hr and commenced after August 17, 1971 are subject to Regulation 7.06.</p> <p>The institutional steam generating unit is subject to 40 CFR60, Subpart Dc if the commencement date of construction is after June 9, 1989 and the heat input capacity is less than 100 MMBtu/hr, but greater than 10 MMBtu/hr.</p> <p>The institutional steam generating unit is subject to 40 CFR63, Subpart JJJJJ since it is located at an area source of HAP and combust distillate oil as backup fuel.</p> |

ii. **Standards/Operating Limits**

1) **PM**

(a) The boilers are subject to Regulation 7.06. The emission standard for PM is determined in accordance with Regulation 7.06, section 4.1.4 as follows:

$$\begin{aligned} \text{Total Heat Input Capacity} &= 249 \text{ MMBtu/hr} \\ \text{PM limit} &= 1.919 \times (249)^{-0.535} = 0.10 \text{ lb/MMBtu} \end{aligned}$$

(b) Regulation 2.16, section 4.1.1 requires that permits issued shall be subject to the terms and conditions set forth and embodied in the permit as the District may deem necessary to insure compliance with its standards. Such terms and conditions may include maintenance and availability of records relating to operations which may cause or contribute to air pollution including periodic sampling of the affected facilities.

(c) 40 CFR 60.43c.(e) establishes standard for PM for new oil-fired boilers.

2) **SO₂**

(a) In accordance with Regulation 7.06, section 5.1.3,

the emission standards for SO₂ are determined as the following:

Total Heat Input Capacity = 249 MMBtu/hr

Liquid/Gas: $7.7223 \times (249)^{-0.4106} = 0.80 \text{ lb/MMBtu}$

Solid: $9.46 \times (249)^{-0.374} = 1.20 \text{ lb/MMBtu}$

- (b) To meet the 1.20 lb/MMBtu emission standards for SO₂ for combustion of solid fuels in E2 and E3, the District requires the source to limit the sulfur content of coal and the corresponding minimum heating value according to the table or the equation specified in Specific Condition S1.b.ii.
- (c) 40 CFR 60.42c.(d) establishes standard for SO₂ for new oil-fired boilers.

3) **Opacity**

- (a) The boilers are subject to the opacity standards in accordance with Regulation 7.06, section 4.2.
- (b) 40 CFR 60.43c.(c) establishes standard for opacity for new oil-fired boilers.

4) **HAP**

- (a) With the limits of natural gas, fuel oil, and coal usage as specified in the Plant-wide Standards, the source is below major source thresholds for HAP. Therefore, the source is not subject to 40 CFR 63 Subpart DDDDD, but is subject to 40 CFR 63 Subpart JJJJJ as an area source of HAPS emissions.
- (b) 40 CFR 63.11201 establishes emission limits, work practice standards, and operating limits coal and oil-fired boilers.

5) **TAC**

Regulation 5.00 requires Group I sources to demonstrate environmental acceptability for each Category 1 TAC per Regulation 5.20, 5.21, 5.22, and 5.23.

6) **Pollution Prevention Operating Plan**

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

The source has submitted a pollution prevention plan (Plan) March 19, 2010 and it was approved on June 16, 2010. According to this Pollution Reduction Operating Plan, the University's investment in a new energy efficient natural gas boiler will result in compliance with the more stringent PM limit no later than December 31, 2015.

iii. **Monitoring and Recordkeeping**

1) **PM / SO₂ / Opacity**

Regulation 7.06 does not require any specific monitoring and record keeping requirements for PM, SO₂, and Opacity for boilers of less than 250 MMBtu/hr rated heat input capacity. However, Regulation 2.16, section 4.1.9.1 and 4.1.9.2 establish monitoring and record keeping requirements to assure ongoing compliance with the terms and conditions of the permit. The source has the monitoring and record keeping requirements as specified in Specific Condition S2.a through S2.d.

2) **HAP**

(a) The material usage limits for NO_x will ensure the source below major source thresholds for HAP.

(b) 40 CFR 63.11210 through 11215 establishes monitoring and recording keeping requirements to ensure initial and continuous compliance with this subpart.

3) **TAC**

Regulation 2.16, section 4.1.9.1 and 4.1.9.2 establish monitoring and record keeping requirements to assure ongoing compliance with the terms and conditions of the permit.

4) **Pollution Prevention Operating Plan**

The source is required to keep records demonstrating that the milestones contained in Attachment A are met.

iv. **Reporting**1) **PM / SO₂ / Opacity / TAC**

Regulations 7.06 and 5.00 does not require any specific reporting requirements for PM, SO₂, Opacity, NO_x, and TAC, however, Regulation 2.16, section 4.1.9.3 requires sufficient reporting to assure ongoing compliance with the terms and conditions of the permit. The source is required to identify all deviations from permit requirements for each pollutant and report semi-annually as specified in Specific Condition S4.a through S4.f.

2) **HAP**

40 CFR 63.11215 establishes reporting requirements for coal and fuel oil-fired boilers.

3) **Pollution Prevention Operating Plan**

(a) The source is required to operator report the date that the milestone was completed.

(b) The source is required to give notice of its intention to combust coal no less than 72 hours in advance of the intended start-up date.

(c) In case of emergency coal use, the owner or operator shall comply with District Regulation 1.07.

v. **Testing**

1) 40 CFR 60, Subpart D_c establishes testing requirements for SO₂, PM, and opacity for new fuel oil-fired boilers.

2) 40 CFR 63, Subpart JJJJJJ establishes testing requirements for PM and opacity for fuel-oil-fire boilers.

c. **Emission Unit U5 – Three lithographic sheet feed presses**

i. Equipment:

| P/PE | Capacity | Install Date | Applicable Regulation | Basis for Applicability |
|---|-----------------|---------------------|---|--|
| E6: one AB Dick, 9985 sheet fed litho press | 3500 sheets/hr | 2006 | 5.00, 5.01, 5.02, 5.14, 5.20, 5.21, 5.22, 5.23 and 7.25 | Regulation 5.00 establishes the requirements for Environmental Acceptability for TACs. The source is a Group I company with Category 1TACs which could exceed the de minimis values. New VOC emission facilities for which construction or modification is commenced after June 13, 1979 are subject to Regulation 7.25. |
| E7: one Hamada 660 sheet fed litho press | 3500 sheets/hr | | | |
| E8: one Heidelberg KORS sheet fed litho press | 3000 sheets/hr | | | |

ii. Standards/Operating Limits

1) VOC

- (a) Regulation 7.25, section 3 establishes VOC standards for the affected facilities. The source is required to utilize best available control technology (BACT) and set out the designated specifications as permit conditions to insure compliance with the requirements.
- (b) Construction permit 413-06-C requires that permits issued shall be subject to the terms and conditions set forth and embodied in the permit as the District may deem necessary to insure compliance with its standards. Such terms and conditions may include maintenance and availability of records relating to operations which may cause or contribute to air pollution including periodic sampling of the affected facilities.

2) TAC

Regulation 5.21, section 2.2 establishes Environmental Acceptability Goals for TACs and Regulation 5.20 provides methodology for determining benchmark ambient concentration of TAC. In accordance with Regulation 5.20 and 5.21, the source shall not allow any TAC emissions to exceed environmentally acceptable levels.

iii. **Monitoring and Record Keeping**

1) **VOC**

Regulation 7.25, section 4 establishes monitoring requirements for the affected facilities. The source has the monitoring requirements as specified in Specific Condition S2.a.

Regulations 7.25 and 5.01 does not require any specific record keeping requirements for VOC. However, Regulation 2.16, section 4.1.9.2 establishes record keeping requirements to assure ongoing compliance with the terms and conditions of the permit.

2) **TAC**

Regulation 5.00 does not require any specific monitoring and record keeping requirements for TAC. However, Regulation 2.16, section 4.1.9.1 and 4.1.9.2 establish monitoring and record keeping requirements to assure ongoing compliance with the terms and conditions of the permit.

iv. **Reporting**

1) **VOC**

Regulation 7.25, section 4 establishes reporting requirements for the affected facilities. Regulation 2.16, section 4.1.9.3 requires sufficient reporting to assure ongoing compliance with the terms and conditions of the permit. The source has the reporting requirements as specified in Specific Condition S3.a.

2) **TAC**

Regulation 5.00 does not require any specific reporting requirements for TAC, however, Regulation 2.16, section 4.1.9.3 requires sufficient reporting to assure ongoing compliance with the terms and conditions of the permit.

d. **Emission Unit U7 – One portable gasoline storage tank**

i. **Equipment:**

| P/PE | Capacity | Install Date | Applicable Regulation | Basis for Applicability |
|---|-------------|--------------|--|---|
| E10: one portable gasoline storage tank | 550 gallons | 2009 | 5.00, 5.01, 5.02, 5.14, 5.20, 5.21, 5.22, 5.23, 6.40, and 7.15 | <p>Regulation 5.00 establishes the requirements for Environmental Acceptability for TACs. The source is a Group I company with Category 1TACs which could exceed the de minimis values.</p> <p>Regulation 6.40 establishes the requirements for refueling of motor vehicles at a gasoline dispensing facility.</p> <p>New gasoline storage tank for which construction or modification is commenced after June 13, 1979 are subject to Regulation 7.15.</p> |

ii. **Standards/Operating Limits**

1) **VOC**

- (a) Regulation 7.15, section 3 establishes installation, maintenance, and operation requirements for the storage tanks.
- (b) In order to be exempted from Regulation 6.40, the source shall not exceed 10,000 gallons of throughput per month.

2) **TAC**

Regulation 5.21, section 2.2 establishes Environmental Acceptability Goals for TACs and Regulation 5.20 provides methodology for determining benchmark ambient concentration of TAC. In accordance with Regulation 5.20 and 5.21, the source shall not allow any TAC emissions to exceed environmentally acceptable levels.

iii. **Monitoring and Record Keeping**

1) **VOC**

Regulation 7.15 does not require any specific monitoring and record keeping requirements for VOC. However, Regulation 2.16, section 4.1.9.1 and 4.1.9.2 establish monitoring and record keeping requirements to assure

ongoing compliance with the terms and conditions of the permit.

2) **TAC**

Regulation 5.00 does not require any specific monitoring and record keeping requirements for TAC. However, Regulation 2.16, section 4.1.9.1 and 4.1.9.2 establish monitoring and record keeping requirements to assure ongoing compliance with the terms and conditions of the permit.

iv. **Reporting**

VOC /TAC

Regulation 7.15 and 5.00 does not require any specific reporting requirements for VOC and TAC, however, Regulation 2.16, section 4.1.9.3 requires sufficient reporting to assure ongoing compliance with the terms and conditions of the permit.

e. **Emission Unit U8 – Two emergency generators**

i. **Equipment:**

| P/PE | Capacity | Install Date | Applicable Regulation | Basis for Applicability |
|--|-----------------|---------------------|--|--|
| E12: one Caterpillar SR4 diesel generator | 1208 HP | 1991 | 5.00, 5.01, 5.02, 5.14, 5.20, 5.21, 5.22, 5.23 | Regulation 5.00 establishes the requirements for Environmental Acceptability for TACs. The source is a Group I company with Category 1TACs which could exceed the de minimis values. |
| E15: one Caterpillar 3508 diesel generator | 1342 HP | 2005 | | |

ii. **Standards/Operating Limits**

TAC

Regulation 5.21, section 2.2 establishes Environmental Acceptability Goals for TACs and Regulation 5.20 provides methodology for determining benchmark ambient concentration of TAC. In accordance with Regulation 5.20 and 5.21, the source shall not allow any TAC emissions to exceed environmentally acceptable levels.

iii. **Monitoring and Record Keeping**

TAC

Regulation 1.09, 5.00, and 7.08 do not require any specific monitoring and record keeping requirements for Unit Operation, Opacity, PM, NOx, and TAC. However, Regulation 2.16, section 4.1.9.1 and 4.1.9.2 establish monitoring and record keeping requirements to assure ongoing compliance with the terms and conditions of the permit. The source has the monitoring and record keeping requirements as specified in Specific Condition S2.a through S2.e.

iv. **Reporting**

TAC

Regulation 1.09, 5.00, and 7.08 do not require any specific reporting requirements for Unit Operation, Opacity, PM, NOx, and TAC, however, Regulation 2.16, section 4.1.9.3 requires sufficient reporting to assure ongoing compliance with the terms and conditions of the permit. The source is required to identify all deviations from permit requirements for each pollutant and report semi-annually as specified in Specific Condition S4.a through S4.e.

f. **Emission Unit U9** – Various hot water boilers and steam boilers

i. **Equipment:**

| P/PE | Capacity | Install Date | Applicable Regulation | Basis for Applicability |
|---|-------------------|--------------|--|--|
| E16: two hot water boiler, model Lochinvar SBN1000 | 1.0 MMBtu/hr each | 2010 | 5.00, 5.01, 5.02, 5.14, 5.20, 5.21, 5.22, 5.23, and 7.06 | Regulation 5.00 establishes the requirements for Environmental Acceptability for TACs. The source is a Group I company with Category 1TACs which could exceed the de minimis values. Existing indirect heat exchangers for which have a capacity less than 250 MMBtu/hr and commenced |
| E17: one hot water boiler, model W/Mclain PGL1286WF | 3.07 MMBtu/hr | 1981 | | |

| P/PE | Capacity | Install Date | Applicable Regulation | Basis for Applicability |
|---|----------------------------------|---------------|--|--|
| E18: two hot water boilers, model W/Mclain PG688WI and PG688WF | 1.70 MMBtu/hr each | 1990 | | before September 1, 1972, or have a capacity more than 250 MMBtu/hr and commenced before August 17, 1971 are subject to Regulation 6.07. |
| E19: one hot water boiler, model Pacific 9103AW | 3.06 MMBtu/hr | 1966 | 5.00, 5.01, 5.02, 5.14, 5.20, 5.21, 5.22, 5.23, and 6.07 | New indirect heat exchangers for which have a capacity less than 250 MMBtu/hr and commenced after September 1, 1972, or have a capacity more than 250 MMBtu/hr and commenced after August 17, 1971 are subject to Regulation 7.06. |
| E20: three hot water boiler, model Peerless 2106WS | 1.05 MMBtu/hr each | 1969 | | |
| E21: two hot water boiler, model Lochinvar SBN1000 | 1.0 MMBtu/hr each | 2010 | 5.00, 5.01, 5.02, 5.14, 5.20, 5.21, 5.22, 5.23, and 7.06 | |
| E22: two hot water boilers, model Ben/Mark AR355284 and AR355286 | 2.0 MMBtu/hr each | 2003 | | |
| E23: two hot water boilers, model Ajax WGN1375S and WGN2250S, | 1.38 MMBtu/hr and 2.25 MMBtu/hr, | 1986 and 1985 | 5.00, 5.01, 5.02, 5.14, 5.20, 5.21, 5.22, 5.23, and 7.06 | |
| E24: two hot water boilers, model Bryan AB200WFDG and Lochinvar SBN1500 | 2.0 MMBtu/hr and 1.5 MMBtu/hr | 1998 and 2010 | | |
| E25: one hot water boiler, rated at, model Ben/Mark AR693390 | 2.0 MMBtu/hr | 2005 | | |

| P/PE | Capacity | Install Date | Applicable Regulation | Basis for Applicability |
|---|--------------------------------|---------------|--|-------------------------|
| E26: two hot water boilers, model Fulton PHW-200 and VTG-3000 | 2.0 and 3.0 MMBtu/hr | 2005 | | |
| E27: two hot water boilers, model Aerco BMK2.0 | 2.0 MMBtu/hr each | 2007 | | |
| E28: three hot water boilers, model Bryan CL150WGI | 1.5 MMBtu/hr each | 1987 | | |
| E29: one steam boiler, model I-Fireman 202-50 | 4.2 MMBtu/hr | 1986 | | |
| E30: one steam boiler, model Bryan CL-210-5150 FDG | 2.1 MMBtu/hr | 1995 | | |
| E31: one steam boiler, make Hurst | 1.34 MMBtu | 1995 | | |
| E32: one steam boiler, model W/Mclain MGB-10 | 1.53 MMBtu | 1980 | | |
| E33: one steam boiler, model W/Mclain MGB-11 | 1.82 MMBtu | 2009 | | |
| E34: three steam boilers, model Peerless TC11SP | 3.5 MMBtu/hr each | 2005 and 2010 | 5.00, 5.01, 5.02, 5.14, 5.20, 5.21, 5.22, 5.23, and 7.06 | |
| E35: two domestic hot water boilers, model Loch CFN1440PM and GW-1500-200 | 1.44 MMBtu/hr and 1.5 MMBtu/hr | 2000 and 2005 | | |

| P/PE | Capacity | Install Date | Applicable Regulation | Basis for Applicability |
|--|-------------------|--------------|-----------------------|-------------------------|
| E36: one domestic hot water boiler, model Sellers BT-20-650 | 2.0 MMBtu/hr | 1998 | | |
| E37: two domestic hot water boilers, model AOSmith LW1000400 | 1.0 MMBtu/hr each | 2005 | | |
| E38: two domestic hot water boilers, model Aerco AS-36074 | 1.0 MMBtu/hr | 2007 | | |

ii. **Standards/Operating Limits**

1) **SO₂**

- (a) The total heat input capacity for boilers subject to Regulation 6.07 is less than 10 MMBtu/hr. In accordance with Regulation 6.07, section 4.1, the emission standards for this unit is 1.0 lb/MMBtu.
- (b) The total heat input capacity for boilers subject to Regulation 7.06 is more than 250 MMBtu/hr. In accordance with Regulation 7.06, section 5.1.1, the emission standards for this unit is 0.8 lb/MMBtu.

2) **PM**

- (a) The total heat input capacity for boilers subject to Regulation 6.07 is less than 10 MMBtu/hr. In accordance with Regulation 6.07, section 3.1, the emission standards for this unit is 0.56 lb/MMBtu.
- (b) The total heat input capacity for boilers subject to Regulation 7.06 is more than 250 MMBtu/hr. In accordance with Regulation 7.06, section 4.1.4, the emission standards for this unit is 0.1 lb/MMBtu.

3) **Opacity**

Regulation 6.07, section 3.2 and Regulation 7.06, section 4.2 limits the visible emissions to 20% opacity.

4) **TAC**

Regulation 5.21, section 2.2 establishes Environmental Acceptability Goals for TACs and Regulation 5.20 provides methodology for determining benchmark ambient concentration of TAC. In accordance with Regulation 5.20 and 5.21, the source shall not allow any TAC emissions to exceed environmentally acceptable levels.

iii. **Monitoring and Record Keeping**

1) **SO₂ /PM**

The District has performed a one-time PM and SO₂ compliance demonstration for the boiler, using AP-42 emission factors and combusting natural gas, and the emission standards cannot be exceeded. Therefore, there are no monitoring and record keeping requirements for these boilers with respect to PM and SO₂ emission limits.

2) **Opacity**

The District has determined that it is highly unlikely that this small natural gas fired boiler would exceed the 20% opacity standard. Therefore, the company is not required to perform periodic monitoring and record keeping to demonstrate compliance with the opacity standard.

3) **TAC**

Regulation 5.00 does not require any specific monitoring and record keeping requirements for TAC. However, Regulation 2.16, section 4.1.9.1 and 4.1.9.2 establish monitoring and record keeping requirements to assure ongoing compliance with the terms and conditions of the permit.

iv. **Reporting**

1) **SO₂ /PM**

The District has performed a one-time PM and SO₂ compliance demonstration for the boiler, using AP-42

emission factors and combusting natural gas, and the emission standards cannot be exceeded. Therefore, there are no reporting requirements for these boilers with respect to PM and SO₂ emission limits.

2) **Opacity**

The District has determined that it is highly unlikely that this small natural gas fired boiler would exceed the 20% opacity standard. Therefore, the company is not reporting requirements for this equipment.

3) **TAC**

Regulation 5.00 does not require any specific reporting requirements for TAC, however, Regulation 2.16, section 4.1.9.3 requires sufficient reporting to assure ongoing compliance with the terms and conditions of the permit.

g. **Emission Unit U10 – One groundwater remediation system**

i. **Equipment:**

| P/PE | Capacity | Install Date | Applicable Regulation | Basis for Applicability |
|---|---------------------|--------------|--|---|
| E39: One custom-made groundwater remediation system | 20 gallons per min. | 2011 | 5.00, 5.01, 5.02, 5.14, 5.20, 5.21, 5.22, 5.23, and 7.25 | Regulation 5.00 establishes the requirements for Environmental Acceptability for TACs. The source is a Group I company with Category 1TACs which could exceed the de minimis values. Regulation 7.25 establishes requirements for new VOC emission facilities for which construction or modification is commenced after June 13, 1979. |

ii. **Standards/Operating Limits**

1) **VOC**

Regulation 7.25, section 3 establishes VOC standards for the affected facilities. The source is required to utilize best available control technology (BACT) and set out the designated specifications as permit conditions to ensure compliance with the requirements. The source accepted a plantwide 5 tons per year limit to avoid BACT.

2) **TAC**

- (a) Regulation 5.21, section 2.2 establishes Environmental Acceptability Goals for TACs and Regulation 5.20 provides methodology for determining benchmark ambient concentration of TAC. In accordance with Regulation 5.20 and 5.21, the source shall not allow any TAC emissions to exceed environmentally acceptable levels.
- (b) The potential uncontrolled emissions of all TACs are below the de minimis threshold levels except for Benzene. The Benzene emission can exceed its de minimis level (62.4 lb/yr) uncontrolled, but not controlled. In lieu of performing environmental acceptability demonstration by modeling, University of Louisville is required to demonstrate that the Benzene emission is under de minimis level.

iii. **Monitoring and Record Keeping**1) **VOC**

Regulation 7.25 does not require any specific monitoring and record keeping requirements for VOC. However, Regulation 2.16, section 4.1.9.1 and 4.1.9.2 establish monitoring and record keeping requirements to assure ongoing compliance with the terms and conditions of the permit.

2) **TAC**

Regulation 5.00 does not require any specific monitoring and record keeping requirements for TAC. However, Regulation 2.16, section 4.1.9.1 and 4.1.9.2 establish monitoring and record keeping requirements to assure ongoing compliance with the terms and conditions of the permit.

iv. **Reporting****VOC /TAC**

Regulation 7.25 and 5.00 does not require any specific reporting requirements for VOC and TAC, however,

Regulation 2.16, section 4.1.9.3 requires sufficient reporting to assure ongoing compliance with the terms and conditions of the permit.

h. Emission Unit U11 – One Theatre Arts Spray Booth

i. Equipment:

| P/PE | Capacity | Install Date | Applicable Regulation | Basis for Applicability |
|--|-----------------|---------------------|--|--|
| E40: One (1) Theatre Arts Spray Booth for aerosol can spray paint or RIT dye, equipped with natural gas heater and a fiber filter. | 8000 cfm | 2013 | 5.00, 5.01, 5.02, 5.14, 5.20, 5.21, 5.22, 5.23, 7.08, and 7.25 | <p>Regulation 5.00 establishes the requirements for Environmental Acceptability for TACs. The source is a Group I company with Category 1TACs which could exceed the de minimis values.</p> <p>Regulation 7.08 established requirements for new process operations that are subject to PM standards and were installed after September 1, 1976.</p> <p>Regulation 7.25 establishes requirements for new VOC emission facilities for which construction or modification is commenced after June 13, 1979.</p> |

i. Standards/Operating Limits

1) VOC

Regulation 7.25, section 3 establishes VOC standards for all affected facilities at a source. The source is required to utilize best available control technology (BACT) if total VOC emissions from all affected facilities exceed 5 tons per year.

2) Opacity

Regulation 7.08, section 3.1.1 establishes an opacity standard of less than 20%.

3) PM

In accordance with Regulation 7.08, Table 1, PM standards for the paint booth is 2.34 lb/hr.

4) TAC

Regulation 5.21, section 2.2 establishes Environmental Acceptability Goals for TACs and Regulation 5.20 provides methodology for determining benchmark ambient concentration of TAC. In accordance with Regulation 5.20 and 5.21, the source shall not allow any TAC emissions to exceed environmentally acceptable levels.

ii. Monitoring and Recordkeeping**1) VOC/Opacity/PM**

(a) Regulation 7.08 and 7.25 do not require any specific monitoring and record keeping requirements for these pollutants. However, Regulation 2.03, section 5.1 establishes monitoring requirements to assure ongoing compliance with the terms and conditions of the permit.

(b) A one-time PM compliance demonstration has been performed for this equipment and the lb/hr standard cannot be exceeded uncontrolled. Therefore, there are no monitoring, record keeping, and reporting requirements with respect to PM lb/hr emission limits.

2) TAC

This equipment is subject to STAR Program. It was demonstrated that the TAC emissions from the paint booth are de minimis uncontrolled and TAC emissions from the natural gas heater are de minimis per definition (Regulation 5.21, section 2.7). Therefore the facility is in compliance with STAR Program.

iii. Reporting**1) VOC/Opacity/PM**

(a) Regulation 7.08 and 7.25 do not require any specific reporting requirements for these pollutants. However, Regulation 2.03, section 5.1 requires sufficient reporting to assure ongoing compliance with the terms and conditions of the permit.

- (b) 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.

III. Other Requirements

1. **Temporary Sources:** The source did not request to operate any temporary facilities.
2. **Short Term Activities:** The source did not report any short term activities.
3. **Emissions Trading:** N/A
4. **Alternative Operating Scenarios:** The company requested no alternative operating scenario in its Title V application.
5. **Compliance History:**

| Date | Regulation Violated | Result |
|------------|--|-------------------|
| 10/14/1980 | KRS 77.155 (Opacity) Reg. 7.06, Section (4)(b) for heat exchangers Reg. 1.07, Section (2) Start-up | Settled |
| 8/15/1990 | Reg. 5.13, Section 4(a) | Settled |
| 10/4/1991 | Reg. 2.03, Section 1(b) | Settled |
| 12/22/2008 | Reg. 2.16, Section 5 | Settled |
| 2/17/2010 | Reg. 5.04, Section 3 | Board Order 11-01 |

University of Louisville, Belknap Campus is required to submit their annual Compliance Certification to the District on or before April 15th of each calendar year. The source has submitted a pollution prevention plan and it was approved on June 16, 2010. The company agreed to the following provisions:

- a. The owner or operator will replace Boiler #1 (E1), an aging natural gas fired boiler, with a new, more energy efficient natural-gas boiler. The new boiler will allow the University to use natural gas as its primary source of heat.
- b. The owner or operator will operate Boiler # 2 (E2), which uses both fuel oil and coal, as its secondary heat source.

- c. The owner or operator will operate Boiler #2 with fuel oil primarily, limiting the use of coal as a back-up heat source.
- d. The owner or operator will limit of the use of Boiler #3 (E3), a coal-fired boiler, to back-up use only, and will keep this boiler on standby mode.
- e. The owner or operator will use its coal-fired boilers as back-up, that is, only when additional steam is needed due to weather conditions, equipment malfunction, part replacement, or fuel supply problems.
- f. The owner or operator will replace Boiler #3 with a more energy efficient and higher capacity natural-gas/fuel oil boiler when funding becomes available for design and construction, but no later than December 31, 2015.
- g. By December 31, 2015, the owner or operator will permanently disable the coal-firing capability of “Boiler #2” and keep that boiler as a backup with fuel-oil-only capability.

6. Emission Factors: The following emission factors shall be used unless more accurate District approved emission factors become available.

| Equipment | Product | Emission Factor | EF Source |
|-----------|------------------------|---|--------------|
| Boiler | Natural gas combustion | 100 lb NOx/mmcf | AP-42, 1.4-1 |
| | | 84 lb CO/mmcf | |
| | | 7.6 lb PM/mmcf | AP-42, 1.4-2 |
| | | 7.6 lb PM10/mmcf | |
| | | 5.5 lb VOC/mmcf | |
| | | 0.6 lb SO ₂ /mmcf | |
| | | 1.8 lb Hexane/mmcf (HAP) | AP-42, 1.4-3 |
| Boiler | #2 Fuel oil combustion | 24 lb NOx/10 ³ gal | AP-42, 1.3-1 |
| | | 5 lb CO/10 ³ gal | |
| | | 3.3 lb PM/10 ³ gal | |
| | | 3.3 lb PM10/10 ³ gal | |
| | | 18.84 lb SO ₂ /10 ³ gal | AP-42, 1.3-3 |
| | | 0.252 lb VOC/10 ³ gal | |
| | | 0.085 lb Nickel/10 ³ gal (HAP) | |
| Boiler | Coal combustion | 7.5 lb NOx/ton | AP-42, 1.1-3 |
| | | 6.0 lb CO/ton | |
| | | 32.3 lb SO ₂ /ton | |
| | | 16 lb PM/ton | AP-42, 1.1-4 |

| Equipment | Product | Emission Factor | EF Source |
|---------------------|------------------------|---------------------------------------|----------------|
| | | 6 lb PM10/ton | |
| | | 0.05 lb VOC/ton | AP-42, 1.1-14 |
| | | 0.00042 lb lead/ton | AP-42, 1.1-16 |
| | | 1.2 lb HCl/ton (HAP) | AP-42, 1.1-15 |
| Emergency Generator | Diesel fuel combustion | 4.41 lb NO _x /MMBtu input | AP-42, 3.3-1 |
| | | 0.95 lb CO/ MMBtu input | |
| | | 0.29 lb SO ₂ / MMBtu input | |
| | | 0.31 lb PM/ MMBtu input | |
| | | 0.31 lb PM10/ MMBtu input | |
| | | 0.36 lb VOC/ MMBtu input | |
| Bottom Ash Hopper | Ash | 0.0051 lb PM/ton | AP-42, 11.12-2 |
| Sifter Hopper | Ash | 0.0051 lb PM/ton | AP-42, 11.12-2 |
| Grinder | Ash | 0.0051 lb PM/ton | AP-42, 11.12-2 |
| Ash Silo | Ash | 0.72 lb PM/ton | AP-42, 11.12-2 |
| Truck Loading | Ash | 0.995 lb PM/ton | AP-42, 11.12-2 |

7. Insignificant Activities

| Description | Quan. | PTE (tpy) | Basis for Exemption |
|---|-------|-----------------------|---------------------------------|
| Fly ash and bottom ash handling and storage facility (See unit IA1, previous U3) | 1 | 0.28 PM ₁₀ | Reg. 2.16, section 1.23 |
| Non-halogenated cold solvent parts cleaner (See unit IA2, previous U4) | 1 | 0.02 VOC | Reg. 2.16, section 1.23 |
| New emergency generator installed after 6/12/2006 (See unit IA3). | 1 | 4.83 NO _x | Reg. 2.16, section 1.23 |
| Existing diesel emergency generators installed before 6/12/2006 (See Note 7) | 17 | 4.83 NO _x | Reg. 2.16, section 1.23 |
| Existing natural gas emergency generators installed before 6/12/2006 (See Note 7) | 6 | 1.03 NO _x | Reg. 2.16, section 1.23 |
| Combustion Sources <1.0 MMBtu/hr, including 12 hot water boilers, 2 steam boilers, and 15 domestic hot water boilers (See Note 8) | 29 | 0.43 NO _x | Regulation 2.02, section 2.1 |
| Silver stream color+ negative maker | 1 | 0.0063 VOC | EPA White Papers |
| Digital dry toner printers | 3 | 0 | EPA White Papers |
| Residential/Domestic Equipment | 637 | 0 | Regulation 2.02, section 2.3.16 |

| Description | Quan. | PTE (tpy) | Basis for Exemption |
|---|-------|-----------------------|----------------------------------|
| Emergency relief vents and ventilating systems (not otherwise regulated) | 426 | 0 | Regulation 2.02, section 2.3.10 |
| Academic Labs for Research and Development | <100 | 0 | Regulation 2.02, section 2.3.27 |
| Diesel Fuel Storage Tanks used for emergency generators and boilers | 28 | 0.001 VOC | Regulation 2.02, section 2.3.25 |
| Four (4) 280 gallon used oil storage tanks and three (3) 294 gallon used cooking grease tank | 7 | 0.0001 VOC | Regulation 2.02, section 2.3.9.2 |
| Natural gas fired crucible furnace, capacity 1.75 gal (0.95 MMBtu/hr), for melting aluminum and bronze used in Fine Arts Department | 1 | 0.41 NO _x | Regulation 2.02, section 2.3.18 |
| Soil or Groundwater Remediation Projects - Passive or total removal | 1 | 0.01 VOC | Regulation 2.02, section 2.3.20 |
| Lab ventilating and exhausting systems for nonradioactive materials | 80 | 0.39 VOC | Regulation 2.02, section 2.3.11 |
| Cooling Towers | 7 | 0.87 PM ₁₀ | Reg. 2.16, section 1.23 |

- 1) Insignificant activities identified in District Regulation 2.02 Section 2, may be subject to size or production rate disclosure requirements pursuant to Regulation 2.16 section 3.5.4.1.4.
- 2) Insignificant activities identified in District Regulation 2.02 Section 2 shall comply with generally applicable requirements as required by Regulation 2.16 section 4.1.9.4.
- 3) The 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.
- 4) The Insignificant Activities Table is correct as of the date the permit was proposed for review by U.S. EPA, Region 4.
- 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 elected to monitor actual throughputs for each of the insignificant activities and calculate actual annual emissions to be reported on the annual emission inventory.
- 7) The emergency generators in the following table meet the definition of insignificant activity in Regulation 2.16, section 1.23. They are subject to

40 CFR 63, Subpart ZZZZ because it involves a stationary reciprocating internal combustion engine (RICE) located at a area source of HAP emissions. However, the proposed emergency generators meets the definition of an existing institutional emergency stationary RICE, which, per 63.6590(b)(3), does not have to meet the requirements of Subpart ZZZZ and no initial notification is necessary.

| 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. |
| 108 | Cardinal Stadium | Diesel | 2,049,000 | 805 | NE 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 | Natatorium | Natural Gas | 85,303 | 34 | W side of Bldg. |
| 14 | YUM Center | Natural Gas | 170,605 | 67 | W side of Bldg. |

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

| Location | Boiler Type | Capacity (Btu/hr) | Location Description |
|------------------|------------------|-------------------|--------------------------|
| Playhouse | hot water boiler | 500,000 | Basement Mech Room |
| University Club | hot water boiler | 900,000 | Basement Mech Room |
| Minority Affairs | hot water boiler | 225,000 | Mech Room |
| Red Barn | hot water boiler | 212,500 | 2nd Floor Mech Room |
| Triangle Frat | hot water boiler | 360,000 | Hatch Basement Mech Room |
| Sigma Chi | hot water boiler | 225,000 | Basement Mech Room |
| Duthie | hot water boiler | 700,000 | Central Mech Room |

| Location | Boiler Type | Capacity (Btu/hr) | Location Description |
|-----------------|---------------------------|-------------------|---------------------------|
| Public Safety | hot water boiler | 500,000 | North Mech Room |
| Public Safety | hot water boiler | 990,000 | South Mech Room |
| Cardinal Park | hot water boiler | 794,000 | South Mech Room |
| Cardinal Park | hot water boiler | 794,000 | North Mech Room |
| Fairfax | hot water boiler | 500,000 | East Mech Room |
| SAC | steam boiler | 358,920 | W Mech Penthouse |
| SAC | steam boiler | 650,000 | Flextube-W Mech Penthouse |
| SAC | domestic hot water boiler | 360,000 | W Mech Penthouse |
| 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 |

8. Basis of Regulation Applicability for IA units

a. **Emission Unit IA1 – One fly and bottom ash handling and storage system**

i. **Equipment:**

| P/PE | Capacity | Install Date | Applicable Regulation | Basis for Applicability |
|---|-------------|--------------|---|--|
| E4: one custom-made fly and bottom ash handling system | 250 tons/hr | 1977 | 5.00, 5.01, 5.02, 5.14, 5.20, 5.21, 5.22, 5.23, 7.08 | Regulation 5.00 establishes the requirements for Environmental Acceptability for TACs. The source is a Group I company with Category 1TACs which could exceed the de minimis values. The facilities are subject to the PM standards in Regulation 7.08 and were installed after September 1, 1976. |

ii. **Standards/Operating Limits**

1) **PM**

The emission standard for PM is determined in accordance with Regulation 7.08, section 3.1.2:

Maximum ash throughput = 0.94 ton/hr

PM limit = $3.59 \times (0.94)^{0.62} = 3.5$ lb/hr

2) **Opacity**

Regulation 7.08, section 3.1.1 limits the visible emissions to twenty percent (20%) opacity.

iii. **Monitoring and Record Keeping**

PM / Opacity

Regulation 7.08 does not require any specific monitoring and record keeping requirements for PM and Opacity. However, Regulation 2.16, section 4.1.9.1 and 4.1.9.2 establish monitoring and record keeping requirements to assure ongoing compliance with the terms and conditions of the permit. The source has the monitoring and record keeping requirements as specified in Specific Condition S2.a and S2.b.

iv. **Reporting**

PM /Opacity

Regulations 7.08 does not require any specific reporting requirements for PM, Opacity, however, Regulation 2.16, section 4.1.9.3 requires sufficient reporting to assure ongoing compliance with the terms and conditions of the permit. The source is required to identify all deviations from permit requirements for each pollutant and report semi-annually as specified in Specific Condition S3.a through S3.c.

b. **Emission Unit IA2 – One non-halogenated cold solvent parts cleaner**

i. **Equipment:**

| P/PE | Capacity | Install Date | Applicable Regulation | Basis for Applicability |
|--|-----------------|---------------------|------------------------------|--|
| E5: one non-halogenated cold solvent metal parts washer with a | 10 gallon | 1986 | 6.18 | Regulation 6.18 establishes the requirements for solvent metal cleaning equipment. |

| P/PE | Capacity | Install Date | Applicable Regulation | Basis for Applicability |
|---------------------|----------|--------------|-----------------------|-------------------------|
| secondary reservoir | | | | |

ii. **Standards/Operating Limits**

VOC

Regulation 6.18, section 4.1 through 4.3 establishes equipment requirements, operating requirements, and material requirements for cold cleaners.

iii. **Monitoring and Record Keeping**

VOC

Regulation 6.18, section 4.4 establishes record keeping requirements for cold cleaners.

iv. **Reporting**

VOC

Regulation 6.18 does not require any specific reporting requirements for VOC, however, Regulation 2.16, section 4.1.9.3 requires sufficient reporting to assure ongoing compliance with the terms and conditions of the permit. The source is required to identify all deviations from permit requirements for each pollutant and report semi-annually.

c. **Emission Unit IA3 – One emergency generator**

i. **Equipment:**

| P/PE | Capacity | Install Date | Applicable Regulation | Basis for Applicability |
|---|----------|--------------|--|--|
| E14: One (1) new diesel emergency generator, make Caterpillar, model 3412 and LC7 C18 | 805 HP | 2010 | 40 CFR 60, Subpart IIII 40 CFR 63, Subpart ZZZZ | 40CFR60 Subpart IIII applies to manufacturers, owner or operators of new stationary compression ignition internal combustion engines. 40CFR63 Subpart ZZZZ establishes national emission limitations and operating limitations for HAP emitted from |

| P/PE | Capacity | Install Date | Applicable Regulation | Basis for Applicability |
|------|----------|--------------|-----------------------|---|
| | | | | stationary RICE located at major and area sources of HAP emissions. |

ii. **Standards/Operating Limits**

1) **Unit Operation**

40 CFR 60.4211 establishes unit operation requirements for emergency generators.

2) **SO₂**

40 CFR 60.4207(b) refers to 40 CFR 80.510(b)(1)(i) which establishes the sulfur content requirement for nonroad diesel engines.

3) **HAP**

This emergency generator meets the definition of insignificant activities per Regulation 2.16, section 1.23. However, this emergency generator is subject to 40 CFR 63 Subpart ZZZZ and 40 CFR 60 Subpart IIII, because it involves a new stationary reciprocating internal combustion engine (RICE) located at an area source of HAP emissions. The proposed new stationary RICE meets the definition in 40 CFR 63.6675 of an emergency stationary RICE, which, per 40 CFR 63.6590(b)(1)(i), does not have to meet the requirements of 40 CFR 63 Subpart ZZZZ and of 40 CFR 63 Subpart A.

iii. **Monitoring and Record Keeping**

1) **Unit Operation**

Regulation 2.16, section 4.1.9.1 and 4.1.9.2 establish monitoring and record keeping requirements to assure ongoing compliance with the terms and conditions of the permit. The source has the monitoring and record keeping requirements as specified in Specific Condition S2.a and S2.b.

2) **SO₂**

40 CFR 80.510(b)(1)(i) establishes monitoring and record keeping requirements to assure compliance with Specific Condition S1.b.

3) **HAP**

There are no compliance monitoring or record keeping requirements for HAP.

iv. **Reporting**

1) **Unit Operation**

Regulation 2.16, section 4.1.9.3 requires sufficient reporting to assure ongoing compliance with the terms and conditions of the permit. The source is required to identify all deviations from permit requirements for each pollutant and report semi-annually.

2) **SO₂**

There are no routine reporting requirements for SO₂.

3) **HAP**

There are no routine reporting requirements for HAP.