

PART 70

PERMIT TO OPERATE

Under the authority of RSMo 643 and the Federal Clean Air Act the applicant is authorized to operate the air contaminant source(s) described below, in accordance with the laws, rules, and conditions set forth herein.

Operating Permit Number: OP2018-051

Expiration Date: JUN 18 2023

Installation ID: 510-0040

Project Number: 2017-07-023

Installation Name and Address

Washington University
500 South Euclid
St. Louis, MO 63110
City of St. Louis County

Parent Company's Name and Address

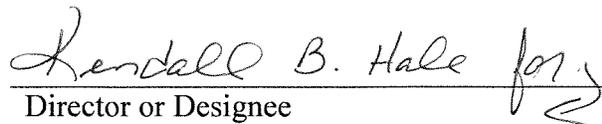
Washington University
500 South Euclid
St. Louis MO, 63110

Installation Description:

Washington University is a large medical school complex located within the City of St. Louis, Missouri. Air pollutant sources at this installation include heating boilers, emergency generators, and fuel oil tanks. The installation has the potential to emit nitrogen oxides (NO_x) and carbon monoxide (CO) above the major source thresholds.



Prepared by
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Operating Permit Unit



Director or Designee
Department of Natural Resources

JUN 18 2018

Effective Date

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I. Installation Equipment Listing

EMISSION UNITS WITH LIMITATIONS

The following list provides a description of the equipment at this installation that emits air pollutants and that are identified as having unit-specific emission limitations.

Emission Source	Designation	Description
EP-04	-	Boiler #5, 85 MMBtu/hr
EP-05	-	Boiler #6, 85 MMBtu/hr
EP-07	-	Natural Gas-Fired Pathological Incinerator, 1.65 MMBtu/hr
EP-25A	-	Boiler #1 with low NO _x burner, 88 MMBtu/hr
EP-25B	-	Boiler #4 with low NO _x burner, 85 MMBtu/hr
EP-29	ROBEMG1	200 KW Diesel Emergency Generator
EP-29	PGCEMG1	100 KW Emergency Diesel Generator
EP-29	ECBEMG1	500 KW Emergency Diesel Generator
EP-29	BTCCEMG1	350 KW Emergency Diesel Generator
EP-29	MCMEMG1	250 KW Emergency Diesel Generator
EP-29	RENEMG1	350 KW Emergency Diesel Generator
EP-29	MCDEMG1	400 KW Emergency Diesel Generator
EP-29	WESEMG1	600 KW Emergency Diesel Generator
EP-29	CSREMG1	520 KW Emergency Diesel Generator
EP-29	CSREMG2	520 KW Emergency Diesel Generator
EP-29	EIREMG1	250 KW Emergency Diesel Generator
EP-29	SIREMG1	500 KW Emergency Diesel Generator
EP-29	EMDEMG1	1000 KW Emergency Diesel Generator
EP-29	NTAEMG1	1500 KW Emergency Diesel Generator
EP-29	EPPEMG1	800 KW Emergency Diesel Generator
EP-29	CIREMG1	810 KW Emergency Diesel Generator
EP-29	NOREMG1	1000 KW Emergency Diesel Generator
EP-29	FPEEMG1	275 KW Emergency Diesel Generator
EP-29	SREEMG1	1750 KW Emergency Diesel Generator
EP-29	TABEMG1	55 KW Emergency Diesel Generator
EP-29	WOCEMG1	450 KW Emergency Diesel Generator
EP-29	FP4EMG1	180 KW Emergency Diesel Generator
EP-29	CTXEMG1	230 KW Emergency Diesel Generator
EP-29	PGMEMG1	125 KW Emergency Diesel Generator
EP-29	NWTEMG1	200 KW Emergency Diesel Generator
EP-29	GDCCEMG2	2000 KW Emergency Diesel Generator
EP-29	NTAEMG2	1500 KW Emergency Diesel Generator
EP-29	GDCCEMG1	2000 KW Emergency Diesel Generator
EP-29	MATEMG1	300 KW Emergency Diesel Generator
EP-29	BR1EMG1	2250 KW Emergency Diesel Generator
EP-29	EMDEMG2	1500 KW Emergency Diesel Generator
EP-29	WOHEMG1	500 KW Emergency Diesel Generator
EP-29	GDCCEMG3	2000 KW Emergency Diesel Generator
EP-29	GDCCEMG4	2000 KW Emergency Diesel Generator
EP-29	MCDEMG2	350 KW Emergency Diesel Generator
EP-29	BR1EMG2	2500 KW Emergency Diesel Generator
EP-29	EHSEMG1	255 KW Emergency Diesel Generator

Emission Source	Designation	Description
EP-29	SMREMG-1	1000 KW Emergency Diesel Generator
EP-29	MCCEMG1	800 KW Emergency Diesel Generator
-	-	3M Ethylene Oxide Sterilizers (2)
-	-	Anprolene Ethylene Oxide Sterilizers (4)
-	-	42 Above-ground Diesel Storage Tanks supporting the Emergency Generators and Boilers (Sizes Range from 100 – 42,000 gal), and Two Underground Diesel Storage Tanks (2,000 gal each)

EMISSION UNITS WITHOUT SPECIFIC LIMITATIONS

The following list provides a description of the equipment that does not have unit specific limitations at the time of permit issuance.

Emission Source	Description
EP-08	Natural Gas-Fired Space Heaters and Miscellaneous Combustion Units: Four 0.125 MMBtu/hr each Two 0.120 MMBtu/hr each One 0.110 MMBtu/hr each One 0.242 MMBtu/hr One 3.15 MMBtu/hr Two 1.25 MMBtu/hr each One 1.26 MMBtu/hr each One 2.154 MMBtu/hr Three 2.657 MMBtu/hr each One 0.650 MMBtu/hr Eight 0.200 MMBtu/hr each One 1.2 MMBtu/hr One water heater (TAB Bldg.) 0.125 MMBtu/hr Two water heaters (TAB Bldg.) 0.1999 MMBtu/hr each Two dock heaters (TAB Bldg.) 0.075 MMBtu/hr each Three roof-top units (TAB Bldg.) 0.5 MMBtu/hr each Three roof-top units (TAB Bldg.) 0.35 MMBtu/hr each
EP-11	Wet Cooling Towers (Power Plant)
EP-27	400 KW Mir Emergency Natural Gas Generator (MIREMG1), installed 1996
EP-28	Wet Cooling Towers (Satellite Buildings)
-	Acid Neutralization Tank with Fume Hood
-	Carpentry Shop
-	Routine Maintenance Activities including Welding
-	Machine Shop Fume Hood
-	Laboratory Hoods – Medical and Research

II. Plant Wide Emission Limitations

The installation shall comply with each of the following emission limitations. Consult the appropriate sections in the Code of Federal Regulations (CFR) and Code of State Regulations (CSR) for the full text of the applicable requirements. All citations, unless otherwise noted, are to the regulations in effect as of the date that this permit is issued. The plant wide conditions apply to all emission units at this installation. All emission units are listed in Section I under Emission Units with Limitations and Emission Units without Limitations. The following general conditions apply to all units contained in this permit, unless stated otherwise:

Recordkeeping:

1. The permittee shall record all required record keeping in an appropriate format.
2. Records may be kept electronically using database or workbook systems, as long as all required information is readily available for compliance determinations.
3. The permittee shall keep a copy of this operating permit and review on site as well as copies of all issued construction permits and reviews on site.
4. All records must be kept for a minimum of 5 years and be made available to Department of Natural Resources' personnel upon request.

Reporting:

1. The permittee shall report any exceedance of any of the terms imposed by this permit, or any malfunction which could cause an exceedance of any of the terms imposed by this permit, no later than ten (10) days after the exceedance or event causing the exceedance (unless otherwise specified in the specific condition).
2. The permittee shall report any deviations from the monitoring, recordkeeping, and reporting requirements of the permit conditions of this operating permit in the semi-annual monitoring reports and the annual compliance certification.
3. All reports and certifications shall be submitted to the Air Pollution Control Program's Compliance/Enforcement Section, P.O. Box 176, Jefferson City, MO 65102 or AirComplianceReporting@dnr.mo.gov.

III. Emission Unit Specific Emission Limitations

The installation shall comply with each of the following emission limitations. Consult the appropriate sections in the Code of Federal Regulations (CFR) and Code of State Regulations (CSR) for the full text of the applicable requirements. All citations, unless otherwise noted, are to the regulations in effect as of the date that this permit is issued.

PERMIT CONDITION 001	
10 CSR 10-6.220 Restriction of Emission of Visible Air Contaminants	
Emission Source¹	Description
EP-04	Boiler #5 – 85 MMBtu/hr, natural gas-fired, diesel #2 as back-up fuel; installed 2007
EP-05	Boiler #6 – 85 MMBtu/hr, natural gas-fired, diesel #2 as back-up fuel; installed 2007

Emission Limitation:

1. The permittee shall not cause or permit to be discharged into the atmosphere from these emission sources any visible emissions with an opacity greater than 20%.
2. Exception: The permittee may discharge into the atmosphere from any source of emissions for a period aggregating not more than six minutes in any 60 minutes air contaminants with an opacity up to 60%.

Monitoring:

1. The permittee shall conduct visible emission observations on each emission unit using the procedures contained in USEPA Test Method 22. The permittee is only required to make observations when the emission unit is operating and when the weather conditions allow. If the permittee observes no visible emissions using these procedures, then no further observations are required. For emission units with visible emissions, the source representative would then conduct a Method 9 observation.
2. The permittee must maintain the following monitoring schedule. Issuance of a renewal operating permit does not restart this schedule:
 - a) The permittee shall conduct weekly observations for a minimum of eight (8) consecutive weeks after permit issuance.
 - b) Should the permittee observe no violations of this regulation during this period then-
 - i) The permittee may observe once every two (2) weeks for a period of eight (8) weeks.
 - ii) If a violation is noted, monitoring reverts to weekly.
 - iii) Should no violation of this regulation be observed during this period then-
 - (1) The permittee may observe once per month.
 - (2) If a violation is noted, monitoring reverts to weekly.
3. If the source reverts to weekly monitoring at any time, monitoring frequency will progress in an identical manner from the initial monitoring frequency.

Recordkeeping:

1. The permittee shall maintain records of all observation results (Attachment A or an equivalent), noting:
 - a) Whether any air emissions (except for water vapor) were visible from the emission units;

¹ This condition does not apply to the boilers while they are using natural gas.

- b) All emission units from which visible emissions occurred;
- c) Whether the visible emissions were normal for the process;
- d) The permittee shall maintain records of any equipment malfunctions, which may contribute to visible emissions using Attachment G or an equivalent; and,
- e) The permittee shall maintain records of all USEPA Method 9 opacity tests performed using Attachment B or an equivalent.

PERMIT CONDITION 002	
10 CSR 10-6.070 New Source Performance Regulations 40 CFR Part 60 Subpart Dc, Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units	
Emission Source	Description
EP-04	Boiler #5, 85 MMBtu/hr, natural gas-fired, diesel #2 as back-up fuel; installed 2007
EP-05	Boiler #6, 85 MMBtu/hr, natural gas-fired, diesel #2 as back-up fuel; installed 2007

Operational Limitations:

- 1. Standard for sulfur dioxide:
 - a) The permittee shall not combust oil in the affected facility that contains greater than 0.5 weight percent sulfur. [§60.42c(d)]
 - b) The fuel oil sulfur limits apply at all times, including periods of startup, shutdown, and malfunction. [§60.42c(i)]

Monitoring/Recordkeeping:

- 1. The permittee shall record and maintain records of the amount of each fuel combusted during each calendar month. [§60.48c(g)(2)]
- 2. For distillate oil: Records of fuel supplier certification.
 - a) The permittee shall keep copies of the fuel supplier certification, which shall include the name of the oil supplier; and a statement from the oil supplier that the oil complies with the specifications for distillate oil (fuel oil that complies with the specifications for fuel oil number 2, as defined by the American Society for Testing and Materials in ASTM D396 (incorporated by reference, see §60.17), diesel fuel oil number 2, as defined by the American Society for Testing and Materials in ASTM D975 (incorporated by reference, see §60.17). [§60.48c(f)(1) & §60.41c – Definition]

Reporting:

- 1. The permittee shall keep records and submit reports as required under §60.48c(d), including the following information, as applicable. [§60.48c(e)]
 - a) Calendar dates covered in the reporting period. [§60.48c(e)(1)]
 - b) Each 30-day average sulfur content (weight percent), calculated during the reporting period, ending with the last 30-day period; reasons for any noncompliance with the emission standards; and a description of corrective actions taken. [§60.48c(e)(2)]
 - c) If fuel supplier certification is used to demonstrate compliance, records of fuel supplier certification as described under §60.48c(f)(1), as applicable. In addition to records of fuel supplier certifications, the report shall include a certified statement signed by the permittee of the affected facility that the records of fuel supplier certifications submitted represent all of the fuel combusted during the reporting period. [§60.48c(e)(11)]

2. The reporting period for the reports required under this subpart is each six-month period. All reports shall be submitted to the Director and shall be postmarked by the 30th day following the end of the reporting period. [§60.48c(j)]

PERMIT CONDITION 003 10 CSR 10-6.060 Construction Permits Required Construction Permit 062007-010, issued June 21, 2007	
Emission Source	Description
EP-04	Boiler #5, 85 MMBtu/hr, natural gas-fired, diesel #2 as back-up fuel; installed 2007
EP-05	Boiler #6, 85 MMBtu/hr, natural gas-fired, diesel #2 as back-up fuel; installed 2007

Emission Limitation:

1. The permittee shall emit less than 40 tons/year of nitrogen oxides (NO_x) from the boilers of this permit condition in any consecutive 12-month period. [Special Condition 1A]
2. The permittee shall emit less than 40 tons of sulfur oxides (SO_x) from the boilers of this permit condition in any consecutive 12-month period. [Special Condition 1B]

Monitoring/Recordkeeping:

1. The permittee shall use Attachment C and Attachment D, or equivalent forms approved by the Air Pollution Control Program, to demonstrate compliance with this permit condition. [Special Condition 1C]
2. The permittee shall maintain all records required by this permit for not less than five years and shall make them immediately available to any Missouri Department of Natural Resources' personnel upon request. [Special Condition 1C]

PERMIT CONDITION 004 10 CSR 10-6.070 New Source Performance Regulations 40 CFR Part 60 Subpart Dc, Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units	
Emission Source	Description
EP-25A	Boiler #1, 88 MMBtu/hr with low NO _x burner, natural gas-fired, diesel #2 as back-up fuel; installed 1995
EP-25B	Boiler #4, 85 MMBtu/hr with low NO _x burner, natural gas-fired, diesel #2 as back-up fuel; installed 2001

Operational Limitation:

1. Standard for sulfur dioxide:
 - a) The permittee shall not combust oil in the boilers that contains greater than 0.5 weight percent sulfur. [§60.42c(d)]
 - b) The fuel oil sulfur limits apply at all times, including periods of startup, shutdown, and malfunction. [§60.42c (i)]

Emission Limitation:

1. Standard for particulate matter:
 - a) The permittee shall not cause to be discharged into the atmosphere from the installation 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. [§60.43c(c)]

- b) The opacity standards apply at all times, except during periods of startup, shutdown, or malfunction. [§60.43c(d)]

Monitoring:

1. Particulate Matter (Opacity): PM monitoring applies to Boiler #1 (EP-25A) and Boiler #4 (EP-25B). When the emission unit(s) is burning distillate oil, the following conditions shall apply:
 - a) The permittee shall conduct subsequent performance tests as requested by the Director, to determine compliance with the opacity standard using Method 9 of Appendix A-4 of 40 CFR Part 60. [§60.45c(a)(8)]
 - b) The permittee shall conduct a performance test using Method 9 of Appendix A-4 of 40 CFR Part 60 and the procedures in §60.11 to demonstrate compliance with the applicable limit in §60.43c and shall comply with either §60.47c(a)(1), (a)(2), or (a)(3). If during the initial 60 minutes of observation all six-minute averages are less than 10% and all individual 15-second observations are less than or equal to 20%, the observation period may be reduced from three hours to 60 minutes. [§60.47c(a)]
 - i) Except as provided in §60.47c(a)(2) and (a)(3), the permittee shall conduct subsequent Method 9 of Appendix A-4 of 40 CFR Part 60 performance tests using the procedures in §60.47c(a) according to the applicable schedule in §60.47c(a)(1)(i) through (a)(1)(iv), as determined by the most recent Method 9 of Appendix A-4 of 40 CFR Part 60 performance test results. [§60.47c(a)(1)]
 - (1) If no visible emissions are observed, a subsequent Method 9 of Appendix A-4 of 40 CFR Part 60 performance test must be completed within 12 calendar months from the date that the most recent performance test was conducted; [§60.47c (a)(1)(i)]
 - (2) If visible emissions are observed but the maximum six-minute average opacity is less than or equal to 5%, a subsequent Method 9 of Appendix A-4 of 40 CFR Part 60 performance test must be completed within six calendar months from the date that the most recent performance test was conducted; [§60.47c (a)(1)(ii)]
 - (3) If the maximum six-minute average opacity is greater than 5% but less than or equal to 10%, a subsequent Method 9 of Appendix A-4 of 40 CFR Part 60 performance test must be completed within three calendar months from the date that the most recent performance test was conducted; or [§60.47c (a)(1)(iii)]
 - (4) If the maximum six-minute average opacity is greater than 10%, a subsequent Method 9 of Appendix A-4 of 40 CFR Part 60 performance test must be completed within 30 calendar days from the date that the most recent performance test was conducted. [§60.47c (a)(1)(iv)]
 - ii) If the maximum six-minute opacity is less than 10% during the most recent Method 9 of Appendix A-4 of 40 CFR Part 60 performance test, the permittee may, as an alternative to performing subsequent Method 9 of Appendix A-4 of 40 CFR Part 60 performance tests, elect to perform subsequent monitoring using Method 22 of Appendix A-7 of 40 CFR Part 60 according to the procedures specified in §60.47c(a)(2)(i) and (ii). [§60.47c (a)(2)]
 - (1) The permittee shall conduct ten 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 40 CFR Part 60 and demonstrate that the sum of the occurrences of any visible emissions is not in excess of 5% 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% of the observation period (i.e., 90 seconds per 30 minute period) the permittee 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% during a 30 minute observation (i.e., 90 seconds) or conduct a new Method 9 of Appendix A–4 of 40 CFR Part 60 performance test using the procedures in §60.47c(a) within 30 calendar days according to the requirements in §60.45c(a)(8). [§60.47c (a)(2)(i)]
- (2) If no visible emissions are observed for 10 operating days during which an opacity standard is applicable, observations can be reduced to once every seven operating days during which an opacity standard is applicable. If any visible emissions are observed, daily observations shall be resumed. [§60.47c (a)(2)(ii)]
- iii) If the maximum six-minute opacity is less than 10% during the most recent Method 9 of Appendix A–4 of 40 CFR Part 60 performance test, the permittee 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 Director. The observations shall be similar, but not necessarily identical, to the requirements in §60.47c(a)(2). 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. [§60.47c (a)(3)]

Recordkeeping:

1. The permittee shall submit to the Director the performance test data from the initial and any subsequent performance tests. [§60.48c(b)]
2. In addition to the applicable requirements in §60.7, the permittee shall maintain records according to the requirements specified in §60.48c(c)(1) through (3), as applicable to the visible emissions monitoring method used. [§60.48c(c)]
 - a) For each performance test conducted using Method 9 of Appendix A–4 of 40 CFR Part 60, the permittee shall keep the records including the information specified in §60.48c(c)(1)(i) through (iii). [§60.48c(c)(1)]
 - i) Dates and time intervals of all opacity observation periods; [§60.48c(c)(1)(i)]
 - ii) Name, affiliation, and copy of current visible emission reading certification for each visible emission observer participating in the performance test; and [§60.48c(c)(1)(ii)]
 - iii) Copies of all visible emission observer opacity field data sheets; [§60.48c(c)(1)(iii)]
 - b) For each performance test conducted using Method 22 of Appendix A–4 of 40 CFR Part 60, the permittee shall keep the records including the information specified in §60.48c(c)(2)(i) through (iv). [§60.48c(c)(2)]
 - i) Dates and time intervals of all visible emissions observation periods; [§60.48c(c)(2)(i)]
 - ii) Name and affiliation for each visible emission observer participating in the performance test; [§60.48c(c)(2)(ii)]
 - iii) Copies of all visible emission observer opacity field data sheets; and [§60.48c(c)(2)(iii)]

- iv) Documentation of any adjustments made and the time the adjustments were completed to the affected facility operation by the permittee to demonstrate compliance with the applicable monitoring requirements. [§60.48c(c)(2)(iv)]
3. The permittee shall keep copies of fuel supplier certifications, which shall include the name of the oil supplier; and a statement from the oil supplier that the oil complies with the specifications for distillate oil, and the sulfur content or maximum sulfur content of the oil. Distillate oil means fuel oil that complies with the specifications for fuel oil numbers 1 or 2, as defined by the American Society for Testing and Materials in ASTM D396 (incorporated by reference, see §60.17), diesel fuel oil numbers 1 or 2, as defined by the American Society for Testing and Materials in ASTM D975 (incorporated by reference, see §60.17). [§60.48c(f)(1) & §60.41c – Definition]
4. The permittee shall record and maintain records of the amounts of each fuel combusted during each day. As an alternative to maintaining records of the amounts of each fuel combusted during each day, if the permittee combusts only natural gas, wood, fuels using fuel certification in §60.48c(f) to demonstrate compliance with the SO₂ standard, fuels not subject to an emissions standard (excluding opacity), or a mixture of these fuels may elect to record and maintain records of the amount of each fuel combusted during each calendar month. [§60.48c(g)]

Reporting:

1. In addition to the applicable requirements in §60.7, the permittee of an affected facility subject to the opacity limits in §60.43c(c) shall submit excess emission reports for any excess emissions from the affected facility that occur during the reporting period. [§60.48c(c)]
2. The permittee of each affected facility subject to fuel oil sulfur limits under §60.42c shall keep records and submit reports as required under paragraph (d) of §60.48c, including the following information, as applicable. [§60.48c(e)]
 - a) Calendar dates covered in the reporting period. [§60.48c(e)(1)]
 - b) Each 30-day average sulfur content (weight percent), calculated during the reporting period, ending with the last 30-day period; reasons for any noncompliance with the emission standards; and a description of corrective actions taken. [§60.48c(e)(2)]
 - c) If fuel supplier certification is used to demonstrate compliance, records of fuel supplier certification shall be as described under §60.48c(f)(1). In addition to records of fuel supplier certifications, the report shall include a certified statement signed by the permittee of the affected facility that the records of fuel supplier certifications submitted represent all of the fuel combusted during the reporting period. [§60.48c(e)(11)]
3. The reporting period for the reports required under this subpart is each six-month period. All reports shall be submitted to the Director and shall be postmarked by the 30th day following the end of the reporting period. [§60.48c(j)]

PERMIT CONDITION 005 10 CSR 10-6.060 Construction Permits Required St. Louis City Air Program Construction Permit 95-05-056PM	
Emission Source	Description
EP-25A	Boiler #1, 88 MMBtu/hr with low NO _x burner, natural gas-fired, diesel #2 as back-up fuel; installed 1995

Operational Limitations:

1. Natural gas throughput shall be limited to 770 million cubic feet in any consecutive twelve (12) month period. [Section II, Item A]
2. Fuel Oil No. 2 throughput shall be limited to 2,080,000 gallons in any consecutive twelve (12) month period. [Section II, Item B]

Operating Limitation:

1. The permittee shall only burn pipeline grade natural gas or Fuel Oil No. 2. [Section III, Item B]
2. The boiler shall be equipped with a low NO_x burner, which is designed to reduce NO_x emission levels to a maximum 0.10 lb/MMBtu for natural gas firing and 0.27 lbs/MMBtu for Fuel Oil No. 2. [Section II, Item C]
3. The boiler shall be operated in accordance with the manufacturer's recommendations. [Section III, Item D]

Monitoring/Recordkeeping:

The permittee shall record a monthly rolling total of fuel throughput using Attachment E or an equivalent. [Section IV, Item A&B]

PERMIT CONDITION 006 10 CSR 10-6.060 Construction Permits Required St. Louis City Air Program Construction Permit 01-05-013 10 CSR 10-6.065(6)(C)2. Voluntary Limitation(s)	
Emission Source	Description
EP-25B	Boiler #4, 85 MMBtu/hr with low NO _x burner, natural gas-fired, diesel #2 as back-up fuel; installed 2001

Operational Limitation:

1. The permittee shall only fire this boiler (EP-25B) with natural gas or distillate oil. [Section II, Item B]
2. The boiler shall be equipped with a low NO_x burner, which is designated to reduce NO_x emission levels to a maximum of 0.10 lbs/MMBtu for natural gas firing and 0.27 lb/MMBtu for Fuel Oil No. 2. [Voluntary]

PERMIT CONDITION 007	
10 CSR 10-6.060 Construction Permits Required St. Louis City Air Program Construction Permit 96-10-083	
Emission Source	Description
EP-07	Natural Gas-Fired Pathological Incinerator, 1.65 MMBtu/hr, installed 1989

Emission Limitation:

The particulate emission shall not exceed more than 0.03 grains per dry standard cubic foot of exhaust gas corrected to seven percent (7%) of oxygen. [Section II, Item A]

Operational Limitation:

1. The incinerator shall be operated in accordance with the plans and specifications of the manufacturer. [Section I, Item B]
2. This incinerator shall only be charged with human remains and/or animal remains that contain no chlorine. The permittee may incinerate fiberglass or plastic, including fiberglass or plastic that contains chlorine. [Section I, Item C]
3. The incinerator operation shall be limited to twelve (12) hours a day, five (5) days per week. [Section I, Item D]
4. The incinerator shall be equipped with an operable charging lock-out mechanism which prohibits charging during the manufacturer's burn cycle. [Section I, Item E]
5. Incinerator shall have a plate affixed to the incinerator inscribed with the essential steps necessary for satisfactory operation of the incinerator. It shall state the Refuse Burn Capacity (RBC) in pounds of waste burned per hour or per batch. [Section I, Item F]
6. A trained operator shall be on duty and immediately available during all periods of incinerator operation. [Section I, Item G]
7. Human remains charges shall not exceed three hundred twelve (312) tons per consecutive 12 months. [Section I, Item H]
8. Human charges shall not exceed a limit of two hundred (200) pounds per hour.² [Section I, Item I]
9. The secondary combustion chamber gases shall be pre-heated to and maintained at or above 1400°F prior to charging and throughout the incineration process. [Section II, Item C]
10. Residence of the gases within the secondary chamber shall be at least one (1) second. [Section II, Item E].

Monitoring/Recordkeeping:

1. The permittee shall continuously record the secondary combustion chamber temperatures. [Section IV, Item 1]
2. The permittee shall use Attachment F or an equivalent to record the monthly and consecutive 12-month human charge rate.
3. The permittee shall record the quantity and type of waste incinerated using Attachment F or an equivalent. In addition, if the material incinerated did not originate within the installation, a record of the supplier or any containers and/or human/animal remains incinerated shall also be kept. [Section IV, Item 2]

² The permittee is in compliance with this limitation; the incinerator is rated at 150 lb/hr.

4. The manufacturer's operating instructions, guidelines, and specification sheets shall be available on-site at all times. [Section I, Item G]
5. The permittee shall use Attachment G or an equivalent to record all maintenance and malfunction activities performed on the incinerator. [Section IV, Item 3]
6. The permittee shall keep record of any performance or other emission tests performed on this unit or a MoDNR-approved emission test on a similar unit. [Section IV, Item 4]
7. The permittee shall keep records of incineration operational hours using Attachment F or an equivalent. [Section IV, Item 5]
8. The permittee shall keep record or written certification of the appropriate training received by the operator, with the dates of training that includes a listing of the instructor's qualifications or applicable certification school, which shall be available at the incinerator site at all times. [Section IV, Item 6]

Compliance Demonstration:

1. The permittee has the option to either obtain approval from MoDNR for a similar unit stack test or conduct a stack test for the incinerator to demonstrate compliance with the emission limitation within 180 days after issuance of this operating permit.
2. If pursuing the stack test:
 - a) A completed Proposed Test Plan Form must be submitted to the Air Pollution Control Program 30 days prior to the proposed test date so that the Air Pollution Control Program may arrange a pretest meeting, if necessary, and assure that the test date is acceptable for an observer to be present. The Proposed Test Plan may serve the purpose of notification and must be approved by the Director prior to conducting the required emission testing.
 - b) Any performance test shall be conducted during period of representative conditions and shall be conducted at the maximum process rate or within ten percent (10%) of this rated capacity, not to include periods of start-up, shutdown, or malfunction.
 - c) Two (2) copies of a written report of the performance test shall be submitted to the Director within 30 days of the completion of any required testing. The report must include legible copies of the raw data sheets, analytical instrument laboratory data, and complete sample calculations from the required U.S. EPA Method for at least one sample run.
 - d) The test report is to fully account for all operational and emission parameters addressed in the permit conditions of this operating permit as well as any other applicable state or federal rules or regulations.
 - e) If testing shows that the incinerator does not meet compliance with the emission limitations of this permit condition, the permittee shall submit a Compliance Plan to the Air Pollution Control Program within 90 days of testing indicating plans to modify or replace the incinerator in order to meet compliance with its limitations.

PERMIT CONDITION 008	
10 CSR 10-6.060 Construction Permits Required St. Louis City Air Program Construction Permit 96-10-083	
Emission Source	Description
EP-07	Natural Gas-Fired Pathological Incinerator, 1.65 MMBtu/hr, installed 1989

Emission Limitation:

The incinerator shall be operated in such a manner that the emission from the stack will not exceed 10% opacity for a period in excess of 6 minutes in any consecutive 60 minute period. [Section II, Item B]

Monitoring/Recordkeeping:

1. The permittee shall conduct visible emission checks on the incinerator using the opacity monitoring device attached to the incinerator exit gas stack or by sight. Readings are only required when the incinerator is operating and when weather conditions allow. If the opacity monitoring device is not functional for any reason, a visible emission check shall be done by sight.
2. Readings shall be recorded using Attachment A or an equivalent form using Method 22. If visible emissions of 5% opacity or less are observed using these procedures, then no further observations shall be required. If the incinerator has visible emissions greater than 5% opacity as indicated by the opacity monitor or by a sight test, the permittee shall conduct a Method 9 observation using Attachment B or an equivalent.
 - a) The permittee must maintain the following monitoring schedule. Reissuance of an operating permit does not reset this schedule:
 - i) The permittee shall conduct weekly observations for a minimum of eight (8) consecutive weeks after permit issuance.
 - ii) Should the permittee observe no violations of this regulation during this period then-
 - iii) The permittee may observe once every two (2) weeks for a period of eight (8) weeks.
 - iv) If a violation is noted, monitoring reverts to weekly.
 - v) Should no violation of this regulation be observed during this period then-
 - (1) The permittee may observe once per month.
 - (2) If a violation is noted, monitoring reverts to weekly.
3. If the source reverts to weekly monitoring at any time, monitoring frequency will progress in an identical manner from the initial monitoring frequency.
4. The permittee shall maintain an operating and maintenance log (Attachment G or an equivalent) for the opacity monitoring device, which shall include the following:
 - a) Incidents of malfunction, with impact on emissions, duration of event, probable cause, and corrective actions;
 - b) Maintenance activities, with inspection schedule, repair actions, and replacements, etc.; and
 - c) A record of routine, scheduled inspections, and the date and results of all inspections, including any actions or maintenance activities that result from the inspection.

PERMIT CONDITION 009		
10 CSR 10-6.261 Control of Sulfur Dioxide Emissions		
Emission Source	Designation	Description
EP-29	ROBEMG1	200 KW Diesel Emergency Generator, installed 1998
EP-29	PGCEMG1	100 KW Emergency Diesel Generator, installed 1992
EP-29	ECBEMG1	500 KW Emergency Diesel Generator, installed 2004
EP-29	CIREMG1	810 KW Emergency Diesel Generator, installed 2000
EP-29	NOREMG1	1000 KW Emergency Diesel Generator, installed 2005
EP-29	FPEEMG1	275 KW Emergency Diesel Generator, installed 2006
EP-29	SREEMG1	1750 KW Emergency Diesel Generator, installed 2005
EP-29	TABEMG1	55 KW Emergency Diesel Generator, installed 2005
EP-29	WOCEMG1	450 KW Emergency Diesel Generator, installed 1989
EP-29	FP4EMG1	180 KW Emergency Diesel Generator, installed 2006
EP-29	MCDEMG1	400 KW Emergency Diesel Generator, installed 1996

Note: As of issuance of this permit, 10 CSR 10-6.261 is a State Only requirement³

Operational Limitation:

Fuel sulfur content shall not contain more than 8,812 parts per million (ppm_v) of sulfur for distillate fuel.

Monitoring/Recordkeeping:

1. The permittee shall determine compliance using fuel delivery records, fuel sampling and analysis, performance tests, continuous emission monitoring, or other compliance methods approved by the staff director and the U.S. Environmental Protection agency and incorporated into the state implementation plan.
2. The permittee must maintain a record of data, calculations, results, records and reports from any performance test, continuous emission monitoring, fuel deliveries, and/or fuel sampling tests.
3. The permittee must maintain a record of any applicable monitoring data, performance evaluations, calibration checks, monitoring system and device performance tests, and any adjustments and maintenance performed on these systems or devices.
4. If the permittee is using fuel delivery records for compliance they must also maintain the fuel supplier certification information to certify all fuel deliveries. Bills of lading and/or other fuel deliver documentation containing the following information for all fuel purchases or deliveries are deemed acceptable to comply with the requirements of this rule:
 - a) The name, address, and contact information of the fuel supplier;
 - b) The type of fuel;
 - c) The sulfur content or maximum sulfur content expressed in percent sulfur by weight or in ppm sulfur; and
 - d) The heating value of the fuel.

³ This regulation has not yet been adopted into Missouri's SIP; therefore, this regulation is a state only requirement. Upon adoption into Missouri's SIP this regulation will be both a state and federal requirement. No action on the part of the permittee is needed to revise the operating permit.

PERMIT CONDITION 010		
10 CSR 10-6.260, Restriction of Emission of Sulfur Compounds ⁴		
Emission Source	Designation	Description
EP-29	ROBEMG1	200 KW Diesel Emergency Generator, installed 1998
EP-29	PGCEMG1	100 KW Emergency Diesel Generator, installed 1992
EP-29	ECBEMG1	500 KW Emergency Diesel Generator, installed 2004
EP-29	CIREMG1	810 KW Emergency Diesel Generator, installed 2000
EP-29	NOREMG1	1000 KW Emergency Diesel Generator, installed 2005
EP-29	FPEEMG1	275 KW Emergency Diesel Generator, installed 2006
EP-29	SREEMG1	1750 KW Emergency Diesel Generator, installed 2005
EP-29	TABEMG1	55 KW Emergency Diesel Generator, installed 2005
EP-29	WOCEMG1	450 KW Emergency Diesel Generator, installed 1989
EP-29	FP4EMG1	180 KW Emergency Diesel Generator, installed 2006
EP-29	MCDEMG1	400 KW Emergency Diesel Generator, installed 1996

Emission Limitation:

1. The permittee shall not allow the emission in the atmosphere gases containing more than five hundred parts per million by volume (500 ppm_v) of sulfur dioxide from the engines.
2. Stack gases from the engines shall not contain more than thirty five milligrams per cubic meter (35 mg/m³) of sulfuric acid or sulfur trioxide or any combination of those gases averaged on any consecutive three (3)-hour time period.

Monitoring/Recordkeeping:

As required by Permit Condition 009.

⁴ This regulation was rescinded from Missouri Code of State Regulations on November 30, 2015 but it still remains in the EPA-approved SIP and thus still remains an applicable federal regulation. Upon adoption of 10 CSR 10-6.261 into Missouri's SIP, 10 CSR 10-6.260 will be removed from the SIP and thus this rule will no longer be applicable to the installation. No action on the part of the permittee is needed to revise the operating permit. Upon removal of 10 CSR 10-6.260 from the SIP, Permit Condition 010 shall no longer be enforceable.

PERMIT CONDITION 011		
10 CSR 10-6.060 Construction Permits Required		
St. Louis City Air Program Construction Permit 96-10-060		
St. Louis City Air Program Construction Permit 01-05-014		
Emission Source	Designation	Description
EP-29	BTCCEMG1	350 KW Emergency Diesel Generator
EP-29	MCMEMG1	250 KW Emergency Diesel Generator
EP-29	RENEMG1	350 KW Emergency Diesel Generator
EP-29	MCDEMG1	400 KW Emergency Diesel Generator
EP-29	WESEMG1	600 KW Emergency Diesel Generator
EP-29	CSREMG1	520 KW Emergency Diesel Generator
EP-29	CSREMG2	520 KW Emergency Diesel Generator
EP-29	EIREMG1	250 KW Emergency Diesel Generator
EP-29	SIREMG1	500 KW Emergency Diesel Generator
EP-29	EMDEMG1	1000 KW Emergency Diesel Generator
EP-29	NTAEMG1	1500 KW Emergency Diesel Generator
EP-29	EPPEMG1	800 KW Diesel Emergency Generator

Operational Limitations:

1. The following emergency generators shall not exceed 240 hours of operation per generator in any consecutive twelve (12) month period: [CP 96-10-060: Section II, Item B]

Designation	Description
BTCCEMG1	350 KW Emergency Diesel Generator
MCMEMG1	250 KW Emergency Diesel Generator
RENEMG1	350 KW Emergency Diesel Generator
MCDEMG1	400 KW Emergency Diesel Generator
WESEMG1	600 KW Emergency Diesel Generator
CSREMG1	520 KW Emergency Diesel Generator
CSREMG2	520 KW Emergency Diesel Generator
EIREMG1	250 KW Emergency Diesel Generator
SIREMG1	500 KW Emergency Diesel Generator

2. The following emergency generators shall not exceed 300 hours of operation per generator in any consecutive twelve (12) month period: [CP 96-10-060: Section II, Item A]

Designation	Description
EMDEMG1	1000 KW Emergency Diesel Generator
NTAEMG1	1500 KW Emergency Diesel Generator

3. The following emergency generator shall not exceed 500 hours of operation in any consecutive twelve (12) month period. [CP 01-05-014: Section II, Item A]

Designation	Description
EPPEMG1	800 KW Diesel Emergency Generator

4. The emergency generators shall only be operated during periods of testing and maintenance or during periods when electrical service to the installation is interrupted. [CP 96-10-060: Section III, Item A&B]
5. The emergency generators shall only burn Fuel Oil No. 2 with a sulfur content not to exceed 0.5 percent by weight. [CP 96-10-060: Section III, Item C&D; CP 01-05-014: Section III, Item A]

Monitoring/Recordkeeping:

1. The permittee shall keep monthly records of the hours of operation for each generator, including a calculated rolling total for every consecutive twelve (12)-month period of time using Attachment H or an equivalent. [CP 96-10-060: Section IV, Item A; CP 01-05-014: Section IV, Item B]
2. The permittee shall maintain an accurate record of the sulfur content of fuel used. Fuel purchase receipts, analyzed samples, or certifications that verify the fuel type and sulfur content will be acceptable. [CP 01-05-014: Section IV, Item A]

PERMIT CONDITION 012		
10 CSR 10-6.070 New Source Performance Regulations		
40 CFR Part 60, Subpart IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines		
10 CSR 10-6.075 Maximum Achievable Control Technology Regulations		
40 CFR Part 63, Subpart ZZZZ – National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines		
Emission Source	Designation	Description
EP-29	GDCEMG2	2000 KW Emergency Diesel Generator, installed 2008
EP-29	NTAEMG2	1500 KW Emergency Diesel Generator, installed 2008
EP-29	WESEMG1	600 KW Emergency Diesel Generator, installed 2016
EP-29	NWTEMG1	200 KW Emergency Diesel Generator, installed 2007
EP-29	CTXEMG1	230 KW Emergency Diesel Generator, installed 2007
EP-29	PGMEMG1	125 KW Emergency Diesel Generator, installed 2007
EP-29	GDCEMG1	2000 KW Emergency Diesel Generator, installed 2009
EP-29	MATEMG1	300 KW Emergency Diesel Generator, installed 2009
EP-29	BR1EMG1	2250 KW Emergency Diesel Generator, installed 2008
EP-29	EMDEMG2	1500 KW Emergency Diesel Generator, installed 2009
EP-29	WOHEMG1	500 KW Emergency Diesel Generator, installed 2011
EP-29	GDCEMG3	2000 KW Emergency Diesel Generator, installed 2012
EP-29	GDCEMG4	2000 KW Emergency Diesel Generator, installed 2012
EP-29	MCDEMG2	350 KW Emergency Diesel Generator, installed 2013
EP-29	BR1EMG2	2500 KW Emergency Diesel Generator, installed 2009
EP-29	EHSEMG1	255 KW Emergency Diesel Generator, installed 2015
EP-29	SMREMG-1	1000 KW Emergency Diesel Generator, installed 2015
EP-29	MCCEMG1	800 KW Emergency Diesel Generator, installed 2016

Emission Limitation/Standards:

1. The permittee must comply with the emission standards for new nonroad CI engines in §60.4202, for all pollutants, for the same model year and maximum engine power for their 2007 model year and later emergency stationary CI ICE. [§60.4205(b)]

2. For engines with a maximum engine power greater than or equal to 37 kilowatt (KW) (50 horsepower (HP)), the certification emission standards for new nonroad CI engines for the same model year and maximum engine power in 40 CFR 89.112 for all pollutants beginning in model year 2007. [§60.4202(a)(2)]
 - a) Exhaust emissions shall not exceed the following: [Table 1 of 40 CFR 89.112]
 - i) 6.4 grams per kilowatt-hour (g/KW-hr) of non-methane hydrocarbon (NMHC) and oxides of nitrogen (NO_x);
 - ii) 3.5 g/KW-hr of CO; and
 - iii) 0.20 g/KW-hr of PM.
3. The permittee must operate and maintain the emergency stationary CI ICE that achieve the emission standards as required in §60.4205(b) over the entire life of the engines. [§60.4206]

Operational Limitation:

1. The permittee shall use diesel fuel that meets the requirements of 40 CFR 80.510(b), as stated below: [§60.4207(b)]
 - a) Sulfur content. 15 parts per million (ppm) maximum. [§80.510(b)(1)]
 - b) Cetane index or aromatic content, as follows: [§80.510(b)(2)]
 - i) A minimum cetane index of 40; or [§80.510(b)(2)(i)]
 - ii) A maximum aromatic content of 35 volume percent. [§80.510(b)(2)(ii)]
2. The permittee must operate the emergency stationary ICE according the requirements in §60.211(f)(1) through (3). In order for the engine to be considered an emergency stationary ICE under NSPS IIII, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year, as described in §60.211(f)(1) through (3), is prohibited. If the permittee does not operate the engine according to the requirements in §60.211(f)(1) through (3) or this section, the engine will not be considered an emergency engine under NSPS IIII and must meet all requirements for non-emergency engines. [§60.211(f)]
 - a) There is no time limit for the use of emergency stationary ICE in emergency situations. [§60.211(f)(1)]
 - b) The permittee may operate their emergency stationary ICE for any combination of the purposes specified in §60.211(f)(2)(i) for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by §60.211(f)(3) counts as part of the 100 hours per calendar year allowed by §60.211(f)(2). [§60.211(f)(2)]
 - i) Emergency stationary ICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state, or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The permittee may petition the Director for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the permittee maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours of calendar year. [§60.211(f)(2)(i)]
 - c) 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 §60.211(f)(2). Except as provided in §60.211(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. [§60.211(f)(3)]

- i) The 50 hours per year for non-emergency situations can be used to supply power as part of a financial arrangement with another entity if all of the following conditions are met:
 - [§60.211(f)(3)(i)]
 - (A) The engine is dispatched by the local balancing authority or local transmission and distribution system operator. [§60.211(f)(3)(i)(A)]
 - (B) The dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region. [§60.211(f)(3)(i)(B)]
 - (C) The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines. [§60.211(f)(3)(i)(C)]
 - (D) The power is provided only to the facility itself or to support the local transmission and distribution system. [§60.211(f)(3)(i)(D)]
 - (E) The permittee identifies and records the entity that dispatches the engine and the specific NERC, regional, state, public utility commission or local standards or guidelines that are being followed for dispatching the engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the permittee. [§60.211(f)(3)(i)(E)]

MACT ZZZZ:

The permittee is compliant with MACT ZZZZ if meeting compliance with NSPS III. No other MACT ZZZZ conditions apply. [§63.6590(c)]

General Provisions:

The permittee shall comply with the General Provisions in 40 CFR §§60.1 through 60.19 as indicated in Table 8 of NSPS III, except that initial notification is not required. [§60.4218 & §60.4214(b)]

Monitoring/Recordkeeping:

1. The permittee must install a non-resettable hour meter on each engine prior to startup of the each engine. [§60.4209(a)]
2. The permittee must do all of the following, except as permitted under §60.4211(g): [§60.4211(a)]
 - a) Operate and maintain the stationary CI internal combustion engine and control device according to the manufacturer's emission-related written instructions; [§60.4211(a)(1)]
 - b) Change only those emission-related settings that are permitted by the manufacturer; and [§60.4211(a)(2)]
 - c) Meet the requirements of 40 CFR Parts 89, 94 and/or 1068, as they apply. [§60.4211(a)(3)]
3. The permittee shall ensure that the engines shall be certified to the emission standards in §60.4205(b), for the same model year and maximum engine power. The engine shall be installed and configured according to the manufacturer's emission-related specifications, except as permitted in §60.4211(g). [§60.4211(c)]

PERMIT CONDITION 013		
10 CSR 10-6.075 Maximum Achievable Control Technology		
40 CFR Part 63, Subpart WWWW, National Emission Standards for Hospital Ethylene Oxide Sterilizers		
10 CSR 10-6.065(6)(C)2. Voluntary Limitation(s)		
Emission Source	Description	Control Device/Model
-	3M Ethylene Oxide Sterilizers (2)	3M EO Abator Model 50AN
-	Anprolene Ethylene Oxide Sterilizers (4)	-

Management Practice Standard:

The permittee must sterilize full loads of items having a common aeration time, except under medically necessary circumstances⁵. [§63.10390]

Operating Limitations:

1. The permittee shall operate the air pollution control abatement equipment during operation of the Ethylene Oxide Sterilizers. [Voluntary]
2. The permittee must maintain and operate the air pollution control abatement equipment per the manufacturer's operating requirements. [Voluntary]

General Provisions:

The permittee shall comply with the General Provisions in 40 CFR §63.1 through §63.16 that apply to the installation as listed in Table 1 of MACT WWWW. [§63.10440]

Monitoring:

1. 3M EO Sterilizers:
 - a) Not applicable due to being equipped with an air pollution control device. [§63.10420]
2. Anprolene EO Sterilizers:
 - a) The permittee shall record the date and time of each sterilization cycle, whether each sterilization cycle contains a full load of items, and if not, a statement from a hospital central services staff, a hospital administrator, or a physician that it was medically necessary. [§63.10420]

Recordkeeping:

1. A copy of the Initial Notification of Compliance Status that was submitted to comply with Subpart WWWW. [§63.10432(a)]
2. The permittee shall keep a maintenance log for the air pollution abatement equipment using Attachment G or an equivalent.

⁵ *Medically necessary* means circumstances that a hospital central services staff, a hospital administrator, or a physician concludes, based on generally accepted medical practices, necessitate sterilizing without a full load in order to protect human health.

PERMIT CONDITION 014	
10 CSR 10-5.500, Control of Emissions From Volatile Organic Liquid Storage	
Emission Source⁶	Description
-	42 Above-ground Diesel Storage Tanks supporting the Emergency Generators and Boilers (Sizes Range from 100 – 42,000 gal), and Two Underground Diesel Storage Tanks (2,000 gal each)

Recordkeeping:

The permittee shall maintain and keep the following records for all tanks with capacities less than 40,000 gallons: dimensions and analysis of the capacity of each storage vessel. [10 CSR 10-5.500(4)(F)]

⁶ The tanks 40,000 gallons and above are exempt from this permit condition due to having a maximum true vapor pressure below 0.5 psia. [10 CSR 10-5.500(1)(B)1]

IV. Core Permit Requirements

The installation shall comply with each of the following regulations or codes. Consult the appropriate sections in the Code of Federal Regulations (CFR), the Code of State Regulations (CSR), and local ordinances for the full text of the applicable requirements. All citations, unless otherwise noted, are to the regulations in effect as of the date that this permit is issued. The following are only excerpts from the regulation or code, and are provided for summary purposes only.

10 CSR 10-6.045 Open Burning Requirements

- 1) General Provisions. The open burning of tires, petroleum-based products, asbestos containing materials, and trade waste is prohibited, except as allowed below. Nothing in this rule may be construed as to allow open burning which causes or constitutes a public health hazard, nuisance, a hazard to vehicular or air traffic, nor which violates any other rule or statute.
- 2) Certain types of materials may be open burned provided an open burning permit is obtained from the director. The permit will specify the conditions and provisions of all open burning. The permit may be revoked if the owner or operator fails to comply with the conditions or any provisions of the permit.

10 CSR 10-6.050 Start-up, Shutdown and Malfunction Conditions

- 1) In the event of a malfunction, which results in excess emissions that exceed one hour, the permittee shall submit to the director within two business days, in writing, the following information:
 - a) Name and location of installation;
 - b) Name and telephone number of person responsible for the installation;
 - c) Name of the person who first discovered the malfunction and precise time and date that the malfunction was discovered.
 - d) Identity of the equipment causing the excess emissions;
 - e) Time and duration of the period of excess emissions;
 - f) Cause of the excess emissions;
 - g) Air pollutants involved;
 - h) Estimate of the magnitude of the excess emissions expressed in the units of the applicable requirement and the operating data and calculations used in estimating the magnitude;
 - i) Measures taken to mitigate the extent and duration of the excess emissions; and
 - j) Measures taken to remedy the situation that caused the excess emissions and the measures taken or planned to prevent the recurrence of these situations.
- 2) The permittee shall submit the paragraph 1 information to the director in writing at least ten days prior to any maintenance, start-up or shutdown activity which is expected to cause an excessive release of emissions that exceed one hour. If notice of the event cannot be given ten days prior to the planned occurrence, notice shall be given as soon as practicable prior to the activity.
- 3) Upon receipt of a notice of excess emissions issued by an agency holding a certificate of authority under section 643.140, RSMo, the permittee may provide information showing that the excess emissions were the consequence of a malfunction, start-up or shutdown. The information, at a minimum, should be the paragraph 1 list and shall be submitted not later than 15 days after receipt of the notice of excess emissions. Based upon information submitted by the permittee or any other pertinent information available, the director or the commission shall make a determination whether the excess emissions constitute a malfunction, start-up or shutdown and whether the nature, extent and duration of the excess emissions warrant enforcement action under section 643.080 or 643.151, RSMo.

- 4) Nothing in this rule shall be construed to limit the authority of the director or commission to take appropriate action, under sections 643.080, 643.090 and 643.151, RSMo to enforce the provisions of the Air Conservation Law and the corresponding rule.
- 5) Compliance with this rule does not automatically absolve the permittee of liability for the excess emissions reported.

10 CSR 10-6.060 Construction Permits Required

The permittee shall not commence construction, modification, or major modification of any installation subject to this rule, begin operation after that construction, modification, or major modification, or begin operation of any installation which has been shut down longer than five years without first obtaining a permit from the permitting authority.

10 CSR 10-6.065 Operating Permits

The permittee shall file a complete application for renewal of this operating permit at least six months before the date of permit expiration. In no event shall this time be greater than eighteen months. The permittee shall retain the most current operating permit issued to this installation on-site. The permittee shall immediately make such permit available to any Missouri Department of Natural Resources personnel upon request.

10 CSR 10-6.080 Emission Standards for Hazardous Air Pollutants and 40 CFR Part 61 Subpart M National Emission Standard for Asbestos

The permittee shall follow the procedures and requirements of 40 CFR Part 61, Subpart M for any activities occurring at this installation which would be subject to provisions for 40 CFR Part 61, Subpart M, National Emission Standard for Asbestos.

10 CSR 10-6.100 Alternate Emission Limits

Proposals for alternate emission limitations shall be submitted on Alternate Emission Limits Permit forms provided by the department. An installation owner or operator must obtain an Alternate Emission Limits Permit in accordance with 10 CSR 10-6.100 before alternate emission limits may become effective.

10 CSR 10-6.110 Reporting of Emission Data, Emission Fees and Process Information

- 1) The permittee shall submit a Full Emissions Report either electronically via MoEIS, which requires Form 1.0 signed by an authorized company representative, or on Emission Inventory Questionnaire (EIQ) paper forms on the frequency specified in this rule and in accordance with the requirements outlined in this rule. Alternate methods of reporting the emissions, such as spreadsheet file, can be submitted for approval by the director.
- 2) Public Availability of Emission Data and Process Information. Any information obtained pursuant to the rule(s) of the Missouri Air Conservation Commission that would not be entitled to confidential treatment under 10 CSR 10-6.210 shall be made available to any member of the public upon request.
- 3) The permittee shall pay an annual emission fee per ton of regulated air pollutant emitted according to the schedule in the rule. This fee is an emission fee assessed under authority of RSMo. 643.079.

10 CSR 10-6.130 Controlling Emissions During Episodes of High Air Pollution Potential

This rule specifies the conditions that establish an air pollution alert (yellow/orange/red/purple), or emergency (maroon) and the associated procedures and emission reduction objectives for dealing with each. The permittee shall submit an appropriate emergency plan if required by the Director.

10 CSR 10-6.150 Circumvention

The permittee shall not cause or permit the installation or use of any device or any other means which, without resulting in reduction in the total amount of air contaminant emitted, conceals or dilutes an emission or air contaminant which violates a rule of the Missouri Air Conservation Commission.

10 CSR 10-6.165 Restriction of Emission of Odors

This requirement is a State Only permit requirement.

No person may cause, permit or allow the emission of odorous matter in concentrations and frequencies or for durations that odor can be perceived when one volume of odorous air is diluted with seven volumes of odor-free air for two separate trials not less than 15 minutes apart within the period of one hour. This odor evaluation shall be taken at a location outside of the installation's property boundary.

10 CSR 10-6.170

Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin

Emission Limitation:

- 1) The permittee shall not cause or allow to occur any handling, transporting or storing of any material; construction, repair, cleaning or demolition of a building or its appurtenances; construction or use of a road, driveway or open area; or operation of a commercial or industrial installation without applying reasonable measures as may be required to prevent, or in a manner which allows or may allow, fugitive particulate matter emissions to go beyond the premises of origin in quantities that the particulate matter may be found on surfaces beyond the property line of origin. The nature or origin of the particulate matter shall be determined to a reasonable degree of certainty by a technique proven to be accurate and approved by the director.
- 2) The permittee shall not cause nor allow to occur any fugitive particulate matter emissions to remain visible in the ambient air beyond the property line of origin.
- 3) Should it be determined that noncompliance has occurred, the director may require reasonable control measures as may be necessary. These measures may include, but are not limited to, the following:
 - a) Revision of procedures involving construction, repair, cleaning and demolition of buildings and their appurtenances that produce particulate matter emissions;
 - b) Paving or frequent cleaning of roads, driveways and parking lots;
 - c) Application of dust-free surfaces;
 - d) Application of water; and
 - e) Planting and maintenance of vegetative ground cover.

Monitoring:

The permittee shall conduct inspections of its facilities sufficient to determine compliance with this regulation. If the permittee discovers a violation, the permittee shall undertake corrective action to eliminate the violation.

The permittee shall maintain the following monitoring schedule:

- 1) The permittee shall conduct weekly observations for a minimum of eight (8) consecutive weeks after permit issuance.
- 2) Should no violation of this regulation be observed during this period then-
 - a) The permittee may observe once every two (2) weeks for a period of eight (8) weeks.
 - b) If a violation is noted, monitoring reverts to weekly.
 - c) Should no violation of this regulation be observed during this period then-

- i) The permittee may observe once per month.
 - ii) If a violation is noted, monitoring reverts to weekly.
- 3) If the permittee reverts to weekly monitoring at any time, monitoring frequency will progress in an identical manner to the initial monitoring frequency.

Recordkeeping:

The permittee shall document all readings on Attachment I, or its equivalent, noting the following:

- 1) Whether air emissions (except water vapor) remain visible in the ambient air beyond the property line of origin.
- 2) Whether equipment malfunctions contributed to an exceedance.
- 3) Any violations and any corrective actions undertaken to correct the violation.

10 CSR 10-6.180 Measurement of Emissions of Air Contaminants

- 1) The director may require any person responsible for the source of emission of air contaminants to make or have made tests to determine the quantity or nature, or both, of emission of air contaminants from the source. The director may specify testing methods to be used in accordance with good professional practice. The director may observe the testing. All tests shall be performed by qualified personnel.
- 2) The director may conduct tests of emissions of air contaminants from any source. Upon request of the director, the person responsible for the source to be tested shall provide necessary ports in stacks or ducts and other safe and proper sampling and testing facilities, exclusive of instruments and sensing devices as may be necessary for proper determination of the emission of air contaminants.
- 3) The director shall be given a copy of the test results in writing and signed by the person responsible for the tests.

10 CSR 10-6.250 Asbestos Abatement Projects – Certification, Accreditation, and Business Exemption Requirements

This requirement is a State Only permit requirement.

The permittee shall conduct all asbestos abatement projects within the procedures established for certification and accreditation by 10 CSR 10-6.250. This rule requires individuals who work in asbestos abatement projects to be certified by the Missouri Department of Natural Resources Air Pollution Control Program. This rule requires training providers who offer training for asbestos abatement occupations to be accredited by the Missouri Department of Natural Resources Air Pollution Control Program. This rule requires persons who hold exemption status from certain requirements of this rule to allow the department to monitor training provided to employees.

10 CSR 10-6.280 Compliance Monitoring Usage

- 1) The permittee is not prohibited from using the following in addition to any specified compliance methods for the purpose of submission of compliance certificates:
 - a) Monitoring methods outlined in 40 CFR Part 64;
 - b) Monitoring method(s) approved for the permittee pursuant to 10 CSR 10-6.065, "Operating Permits", and incorporated into an operating permit; and
 - c) Any other monitoring methods approved by the director.
- 2) Any credible evidence may be used for the purpose of establishing whether a permittee has violated or is in violation of any such plan or other applicable requirement. Information from the use of the following methods is presumptively credible evidence of whether a violation has occurred at an installation:

- a) Monitoring methods outlined in 40 CFR Part 64;
 - b) A monitoring method approved for the permittee pursuant to 10 CSR 10-6.065, "Operating Permits", and incorporated into an operating permit; and
 - c) Compliance test methods specified in the rule cited as the authority for the emission limitations.
- 3) The following testing, monitoring or information gathering methods are presumptively credible testing, monitoring, or information gathering methods:
- a) Applicable monitoring or testing methods, cited in:
 - i) 10 CSR 10-6.030, "Sampling Methods for Air Pollution Sources";
 - ii) 10 CSR 10-6.040, "Reference Methods";
 - iii) 10 CSR 10-6.070, "New Source Performance Standards";
 - iv) 10 CSR 10-6.080, "Emission Standards for Hazardous Air Pollutants"; or
 - b) Other testing, monitoring, or information gathering methods, if approved by the director, that produce information comparable to that produced by any method listed above.

10 CSR 10-5.040 Use of Fuel in Hand-Fired Equipment Prohibited

No owner or operator shall operate applicable hand-fired fuel burning equipment unless the owner or operator meets the conditions set forth in 10 CSR 10-5.040. This regulation shall apply to all hand-fired fuel-burning equipment at commercial facilities including, but not limited to, furnaces, heating and cooking stoves and hot water furnaces. It shall not apply to wood-burning fireplaces and wood-burning stoves in dwellings, nor to fires used for recreational purpose, nor to fires used solely for the preparation of food by barbecuing or to other equipment exempted under 10 CSR 10-5.040. Hand-fired fuel-burning equipment is any stove, furnace, or other fuel-burning device in which fuel is manually introduced directly into the combustion chamber.

10 CSR 10-5.060 Refuse Not to be Burned in Fuel Burning Installations (Rescinded on February 11, 1979, Contained in State Implementation Plan)

No person shall burn or cause or permit the burning of refuse in any installation which is designed for the primary purpose of burning fuel.

10 CSR 10-5.120 Information on Sales of Fuels to be Provided and Maintained

Every delivery of coal or residual fuel oil when first delivered to a consumer or wholesaler in the St. Louis metropolitan area must be accompanied by a ticket prepared in triplicate and containing at least the name and address of the seller and the buyer; the grade of fuel; ash content of coal, the source of the fuel, which must be an approved source, and such other information as the Air Conservation Commission may require. One copy of each ticket shall be kept by the person delivering the fuel and be retained for one year; one copy is to be given to the recipient of the fuel to be retained for one year; and, upon request, within 30 days after delivery of the fuel, the delivering party shall mail one copy to the Air Conservation Commission.

40 CFR Part 82 Protection of Stratospheric Ozone (Title VI)

- 1) The permittee shall comply with the standards for labeling of products using ozone-depleting substances pursuant to 40 CFR Part 82, Subpart E:
 - a) All containers in which a class I or class II substance is stored or transported, all products containing a class I substance, and all products directly manufactured with a class I substance must bear the required warning statement if it is being introduced into interstate commerce pursuant to 40 CFR §82.106.

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- b) The placement of the required warning statement must comply with the requirements of 40 CFR §82.108.
 - c) The form of the label bearing the required warning statement must comply with the requirements of 40 CFR §82.110.
 - d) No person may modify, remove, or interfere with the required warning statement except as described in 40 CFR §82.112.
- 2) The permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR Part 82, Subpart F, except as provided for motor vehicle air conditioners (MVACs) in Subpart B of 40 CFR Part 82:
 - a) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices described in 40 CFR §82.156.
 - b) Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment described in 40 CFR §82.158.
 - c) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 CFR §82.161.
 - d) Persons disposing of small appliances, MVACs, and MVAC-like appliances must comply with the record keeping requirements of 40 CFR §82.166. ("MVAC-like" appliance as defined at 40 CFR §82.152).
 - e) Persons owning commercial or industrial process refrigeration equipment must comply with the leak repair requirements pursuant to 40 CFR §82.156.
 - f) Owners/operators of appliances normally containing 50 or more pounds of refrigerant must keep records of refrigerant purchased and added to such appliances pursuant to 40 CFR §82.166.
 - 3) If the permittee manufactures, transforms, imports, or exports a class I or class II substance, the permittee is subject to all the requirements as specified in 40 CFR part 82, Subpart A, Production and Consumption Controls.
 - 4) If the permittee performs a service on motor (fleet) vehicles when this service involves ozone-depleting substance refrigerant (or regulated substitute substance) in the motor vehicle air conditioner (MVAC), the permittee is subject to all the applicable requirements contained in 40 CFR part 82, Subpart B, Servicing of Motor Vehicle Air Conditioners. The term "motor vehicle" as used in Subpart B does not include a vehicle in which final assembly of the vehicle has not been completed. The term "MVAC" as used in Subpart B does not include the air-tight sealed refrigeration system used as refrigerated cargo, or system used on passenger buses using HCFC-22 refrigerant.
 - 5) The permittee shall be allowed to switch from any ozone-depleting substance to any alternative that is listed in the Significant New Alternatives Program (SNAP) promulgated pursuant to 40 CFR part 82, Subpart G, Significant New Alternatives Policy Program. *Federal Only - 40 CFR Part 82.*

V. General Permit Requirements

The installation shall comply with each of the following requirements. Consult the appropriate sections in the Code of Federal Regulations (CFR) and Code of State Regulations (CSR) for the full text of the applicable requirements. All citations, unless otherwise noted, are to the regulations in effect as of the date that this permit is issued,

10 CSR 10-6.065(6)(C)1.B Permit Duration

10 CSR 10-6.065(6)(E)3.C Extension of Expired Permits

This permit is issued for a term of five years, commencing on the date of issuance. This permit will expire at the end of this period unless renewed. If a timely and complete application for a permit renewal is submitted, but the Air Pollution Control Program fails to take final action to issue or deny the renewal permit before the end of the term of this permit, this permit shall not expire until the renewal permit is issued or denied.

10 CSR 10-6.065(6)(C)1.C General Record Keeping and Reporting Requirements

- 1) Record Keeping
 - a) All required monitoring data and support information shall be retained for a period of at least five years from the date of the monitoring sample, measurement, report or application.
 - b) Copies of all current operating and construction permits issued to this installation shall be kept on-site for as long as the permits are in effect. Copies of these permits shall be made immediately available to any Missouri Department of Natural Resources' personnel upon request.
- 2) Reporting
 - a) All reports shall be submitted to the Air Pollution Control Program, Compliance and Enforcement Section, P. O. Box 176, Jefferson City, MO 65102.
 - b) The permittee shall submit a report of all required monitoring by:
 - i) October 1st for monitoring which covers the January through June time period, and
 - ii) April 1st for monitoring which covers the July through December time period.
 - c) Each report shall identify any deviations from emission limitations, monitoring, record keeping, reporting, or any other requirements of the permit, this includes deviations or Part 64 exceedances.
 - d) Submit supplemental reports as required or as needed. All reports of deviations shall identify the cause or probable cause of the deviations and any corrective actions or preventative measures taken.
 - i) Notice of any deviation resulting from an emergency (or upset) condition as defined in paragraph (6)(C)7.A of 10 CSR 10-6.065 (Emergency Provisions) shall be submitted to the permitting authority either verbally or in writing within two working days after the date on which the emission limitation is exceeded due to the emergency, if the permittee wishes to assert an affirmative defense. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that indicate an emergency occurred and the permittee can identify the cause(s) of the emergency. The permitted installation must show that it was operated properly at the time and that during the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or requirements in the permit. The notice must contain a description of the emergency, the steps taken to mitigate emissions, and the corrective actions taken.

- ii) Any deviation that poses an imminent and substantial danger to public health, safety or the environment shall be reported as soon as practicable.
- iii) Any other deviations identified in the permit as requiring more frequent reporting than the permittee's semiannual report shall be reported on the schedule specified in this permit, .
- e) Every report submitted shall be certified by the responsible official, except that, if a report of a deviation must be submitted within ten days after the deviation, the report may be submitted without a certification if the report is resubmitted with an appropriate certification within ten days after that, together with any corrected or supplemental information required concerning the deviation.
- f) The permittee may request confidential treatment of information submitted in any report of deviation.

10 CSR 10-6.065(6)(C)1.D Risk Management Plan Under Section 112(r)

If the installation is required to develop and register a risk management plan pursuant to Section 112(R) of the Act, the permittee will verify that it has complied with the requirement to register the plan.

10 CSR 10-6.065(6)(C)1.F Severability Clause

In the event of a successful challenge to any part of this permit, all uncontested permit conditions shall continue to be in force. All terms and conditions of this permit remain in effect pending any administrative or judicial challenge to any portion of the permit. If any provision of this permit is invalidated, the permittee shall comply with all other provisions of the permit.

10 CSR 10-6.065(6)(C)1.G General Requirements

- 1) The permittee must comply with all of the terms and conditions of this permit. Any noncompliance with a permit condition constitutes a violation and is grounds for enforcement action, permit termination, permit revocation and re-issuance, permit modification or denial of a permit renewal application.
- 2) The permittee may not use as a defense in an enforcement action that it would have been necessary for the permittee to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit
- 3) The permit may be modified, revoked, reopened, reissued or terminated for cause. Except as provided for minor permit modifications, the filing of an application or request for a permit modification, revocation and reissuance, or termination, or the filing of a notification of planned changes or anticipated noncompliance, does not stay any permit condition.
- 4) This permit does not convey any property rights of any sort, nor grant any exclusive privilege.
- 5) The permittee shall furnish to the Air Pollution Control Program, upon receipt of a written request and within a reasonable time, any information that the Air Pollution Control Program reasonably may require to determine whether cause exists for modifying, reopening, reissuing or revoking the permit or to determine compliance with the permit. Upon request, the permittee also shall furnish to the Air Pollution Control Program copies of records required to be kept by the permittee. The permittee may make a claim of confidentiality for any information or records submitted pursuant to 10 CSR 10-6.065(6)(C)1.

10 CSR 10-6.065(6)(C)1.H Incentive Programs Not Requiring Permit Revisions

No permit revision will be required for any installation changes made under any approved economic incentive, marketable permit, emissions trading, or other similar programs or processes provided for in this permit.

10 CSR 10-6.065(6)(C)1.I Reasonably Anticipated Operating Scenarios

None.

10 CSR 10-6.065(6)(C)3 Compliance Requirements

- 1) Any document (including reports) required to be submitted under this permit shall contain a certification signed by the responsible official.
- 2) Upon presentation of credentials and other documents as may be required by law, the permittee shall allow authorized officials of the Missouri Department of Natural Resources, or their authorized agents, to perform the following (subject to the installation's right to seek confidential treatment of information submitted to, or obtained by, the Air Pollution Control Program):
 - a) Enter upon the premises where a permitted installation is located or an emissions-related activity is conducted, or where records must be kept under the conditions of this permit;
 - b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
 - c) Inspect, at reasonable times and using reasonable safety practices, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit; and
 - d) As authorized by the Missouri Air Conservation Law, Chapter 643, RSMo or the Act, sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with the terms of this permit, and all applicable requirements as outlined in this permit.
- 3) All progress reports required under an applicable schedule of compliance shall be submitted semiannually (or more frequently if specified in the applicable requirement). These progress reports shall contain the following:
 - a) Dates for achieving the activities, milestones or compliance required in the schedule of compliance, and dates when these activities, milestones or compliance were achieved, and
 - b) An explanation of why any dates in the schedule of compliance were not or will not be met, and any preventative or corrective measures adopted.
- 4) The permittee shall submit an annual certification that it is in compliance with all of the federally enforceable terms and conditions contained in this permit, including emissions limitations, standards, or work practices. These certifications shall be submitted annually by April 1st, unless the applicable requirement specifies more frequent submission. These certifications shall be submitted to EPA Region VII, 11201 Renner Blvd., Lenexa, KS 66219, as well as the Air Pollution Control Program, Compliance and Enforcement Section, P.O. Box 176, Jefferson City, MO 65102. All deviations and Part 64 exceedances and excursions must be included in the compliance certifications. The compliance certification shall include the following:
 - a) The identification of each term or condition of the permit that is the basis of the certification;
 - b) The current compliance status, as shown by monitoring data and other information reasonably available to the installation;
 - c) Whether compliance was continuous or intermittent;
 - d) The method(s) used for determining the compliance status of the installation, both currently and over the reporting period; and
 - e) Such other facts as the Air Pollution Control Program will require in order to determine the compliance status of this installation.

10 CSR 10-6.065(6)(C)6 Permit Shield

- 1) Compliance with the conditions of this permit shall be deemed compliance with all applicable requirements as of the date that this permit is issued, provided that:
 - a) The applicable requirements are included and specifically identified in this permit, or
 - b) The permitting authority, in acting on the permit revision or permit application, determines in writing that other requirements, as specifically identified in the permit, are not applicable to the installation, and this permit expressly includes that determination or a concise summary of it.
- 2) Be aware that there are exceptions to this permit protection. The permit shield does not affect the following:
 - a) The provisions of section 303 of the Act or section 643.090, RSMo concerning emergency orders,
 - b) Liability for any violation of an applicable requirement which occurred prior to, or was existing at, the time of permit issuance,
 - c) The applicable requirements of the acid rain program,
 - d) The authority of the Environmental Protection Agency and the Air Pollution Control Program of the Missouri Department of Natural Resources to obtain information, or
 - e) Any other permit or extra-permit provisions, terms or conditions expressly excluded from the permit shield provisions.

10 CSR 10-6.065(6)(C)7 Emergency Provisions

- 1) An emergency or upset as defined in 10 CSR 10-6.065(6)(C)7.A shall constitute an affirmative defense to an enforcement action brought for noncompliance with technology-based emissions limitations. To establish an emergency- or upset-based defense, the permittee must demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence, the following:
 - a) That an emergency or upset occurred and that the permittee can identify the source of the emergency or upset,
 - b) That the installation was being operated properly,
 - c) That the permittee took all reasonable steps to minimize emissions that exceeded technology-based emissions limitations or requirements in this permit, and
 - d) That the permittee submitted notice of the emergency to the Air Pollution Control Program within two working days of the time when emission limitations were exceeded due to the emergency. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and any corrective actions taken.
- 2) Be aware that an emergency or upset shall not include noncompliance caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.

10 CSR 10-6.065(6)(C)8 Operational Flexibility

An installation that has been issued a Part 70 operating permit is not required to apply for or obtain a permit revision in order to make any of the changes to the permitted installation described below if the changes are not Title I modifications, the changes do not cause emissions to exceed emissions allowable under the permit, and the changes do not result in the emission of any air contaminant not previously emitted. The permittee shall notify the Air Pollution Control Program, Compliance and Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, as well as EPA Region VII, 11201 Renner Blvd., Lenexa, KS 66219, at least seven days in advance of these changes, except as allowed for emergency or upset conditions. Emissions allowable under the permit means a federally enforceable permit term or condition determined at issuance to be required by an applicable requirement that establishes an

emissions limit (including a work practice standard) or a federally enforceable emissions cap that the source has assumed to avoid an applicable requirement to which the source would otherwise be subject.

- 1) Section 502(b)(10) changes. Changes that, under section 502(b)(10) of the Act, contravene an express permit term may be made without a permit revision, except for changes that would violate applicable requirements of the Act or contravene federally enforceable monitoring (including test methods), record keeping, reporting or compliance requirements of the permit.
 - a) Before making a change under this provision, The permittee shall provide advance written notice to the Air Pollution Control Program, Compliance and Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, as well as EPA Region VII, 11201 Renner Blvd., Lenexa, KS 66219, describing the changes to be made, the date on which the change will occur, and any changes in emission and any permit terms and conditions that are affected. The permittee shall maintain a copy of the notice with the permit, and the ACP shall place a copy with the permit in the public file. Written notice shall be provided to the EPA and the ACP as above at least seven days before the change is to be made. If less than seven days notice is provided because of a need to respond more quickly to these unanticipated conditions, the permittee shall provide notice to the EPA and the ACP as soon as possible after learning of the need to make the change.
 - b) The permit shield shall not apply to these changes.

10 CSR 10-6.065(6)(C)9 Off-Permit Changes

- 1) Except as noted below, the permittee may make any change in its permitted operations, activities or emissions that is not addressed in, constrained by or prohibited by this permit without obtaining a permit revision. Insignificant activities listed in the permit, but not otherwise addressed in or prohibited by this permit, shall not be considered to be constrained by this permit for purposes of the off-permit provisions of this section. Off-permit changes shall be subject to the following requirements and restrictions:
 - a) The change must meet all applicable requirements of the Act and may not violate any existing permit term or condition; the permittee may not change a permitted installation without a permit revision if this change is subject to any requirements under Title IV of the Act or is a Title I modification;
 - b) The permittee must provide contemporaneous written notice of the change to the Air Pollution Control Program, Compliance and Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, as well as EPA Region VII, 11201 Renner Blvd., Lenexa, KS 66219. This notice shall not be required for changes that are insignificant activities under 10 CSR 10-6.065(6)(B)3 of this rule. This written notice shall describe each change, including the date, any change in emissions, pollutants emitted and any applicable requirement that would apply as a result of the change.
 - c) The permittee shall keep a record describing all changes made at the installation that result in emissions of a regulated air pollutant subject to an applicable requirement and the emissions resulting from these changes; and
 - d) The permit shield shall not apply to these changes.

10 CSR 10-6.020(2)(R)34 Responsible Official

The application utilized in the preparation of this permit was signed by James Steuber, Director of Facilities. If this person terminates employment, or is reassigned different duties such that a different person becomes the responsible person to represent and bind the installation in environmental permitting affairs, the owner or operator of this air contaminant source shall notify the Director of the Air Pollution Control Program of the change. Said notification shall be in writing and shall be submitted within 30 days of the change. The notification shall include the name and title of the new person assigned by the

source owner or operator to represent and bind the installation in environmental permitting affairs. All representations, agreement to terms and conditions and covenants made by the former responsible person that were used in the establishment of limiting permit conditions on this permit will continue to be binding on the installation until such time that a revision to this permit is obtained that would change said representations, agreements and covenants.

10 CSR 10-6.065(6)(E)6 Reopening-Permit for Cause

This permit shall be reopened for cause if:

- 1) The Missouri Department of Natural Resources (MoDNR) receives notice from the Environmental Protection Agency (EPA) that a petition for disapproval of a permit pursuant to 40 CFR § 70.8(d) has been granted, provided that the reopening may be stayed pending judicial review of that determination,
- 2) MoDNR or EPA determines that the permit contains a material mistake or that inaccurate statements were made which resulted in establishing the emissions limitation standards or other terms of the permit,
- 3) Additional applicable requirements under the Act become applicable to the installation; however, reopening on this ground is not required if—:
 - a) The permit has a remaining term of less than three years;
 - b) The effective date of the requirement is later than the date on which the permit is due to expire;or
 - c) The additional applicable requirements are implemented in a general permit that is applicable to the installation and the installation receives authorization for coverage under that general permit,
- 4) The installation is an affected source under the acid rain program and additional requirements (including excess emissions requirements), become applicable to that source, provided that, upon approval by EPA, excess emissions offset plans shall be deemed to be incorporated into the permit; or
- 5) MoDNR or EPA determines that the permit must be reopened and revised to assure compliance with applicable requirements.

10 CSR 10-6.065(6)(E)1.C Statement of Basis

This permit is accompanied by a statement setting forth the legal and factual basis for the permit conditions (including references to applicable statutory or regulatory provisions). This Statement of Basis, while referenced by the permit, is not an actual part of the permit.

VI. Attachments

Attachments follow.

Attachment H
Emergency Generator Operational Log

This attachment is for the month of _____ in the year _____.

Generator	Monthly Hours of Operation	Rolling 12-Month Sum of Hours of Operation²³	12-Month Rolling Hourly Limit
BTCEMG1			240
MCMEMG1			240
RENEMG1			240
MCDEMG1			240
WESEMG1			240
CSREMG1			240
CSREMG2			240
EIREMG1			240
SIREMG1			240
EMDEMG1			300
NTAEMG1			300
EPPEMG1			500

²³ A 12-Month Rolling Total Sum of Hours of Operation less than the 12-Month Rolling Hourly Limit indicates compliance.

STATEMENT OF BASIS

INSTALLATION DESCRIPTION

Washington University is a large medical school complex located within the City of St. Louis, Missouri. Air pollutants sources at this installation include heating boilers, emergency generators, and fuel oil tanks. The installation has the potential to emit, nitrogen oxides (NO_x) and carbon monoxide (CO) above the major source thresholds.

Updated Potential to Emit for the Installation

Pollutant	Potential to Emit (tons/yr) ²⁴
PM ₁₀	25.3 ²⁵
PM _{2.5}	25.3
Sulfur Oxides (SO _x) ²⁶	71.1
Nitrogen Oxides (NO _x)	340.3
Volatile Organic Compounds (VOCs)	11.4
Carbon Monoxide (CO)	138.9
Hazardous Air Pollutants (HAPs) ²⁷	2.7
Hexane	2.3
Formaldehyde	0.3
Hydrogen Chloride	0.1

²⁴ Each emission unit was evaluated at 8,760 hours of uncontrolled annual operation unless otherwise noted. Emergency generators with limitations are calculated with respect to their annual hour limitations. All other emergency generators were estimated at 500 hours of uncontrolled annual operation. The tanks were not included in the PTE calculation.

²⁵ PM₁₀ PTE is lower than the reported actuals. This is due to PTE calculation of the cooling towers. Previous EIQs used emission factors of 2.55 lb/MMgal and 2.805 lb/MMgal; however the permittee does not know the source of these factors. The cooling towers PTE is based on a drift rate of 0.001% (confirmed by the vendor) and a TDS of 2000 ppm in the recirculating water using calculation methods from AP-42, Chapter 13.4. Recalculating the emission factor resulted in a value of 0.167 lb/MMgal. The permittee shall be using this correct value in future EIQs.

²⁶ Sulfur content of distillate fuel was calculated at 15 ppm sulfur content even though the conditions of this operating permit limit sulfur content to a higher 0.5 wt%. While the installation is permitted to use sulfur content higher than 15 ppm, standard fuel oil #2 contains a sulfur content of 15 ppm, and thus calculating PTE using this value is more accurate. If the installation uses fuel oil #2 with a sulfur content of 0.5 wt%, their sulfur PTE would be at a major levels (343.4 tpy).

²⁷ Individual HAPs under 0.1 tons/year not listed.

Reported Air Pollutant Emissions, tons per year

Pollutants	2016	2015	2014	2013	2012
Particulate Matter ≤ Ten Microns (PM ₁₀)	32.41	33.03	33.16	33.29	32.85
Particulate Matter ≤ 2.5 Microns (PM _{2.5})	20.75	21.37	21.43	21.61	21.18
Sulfur Oxides (SO _x)	0.73	0.65	0.41	1.80	1.65
Nitrogen Oxides (NO _x)	44.15	52.36	51.54	56.66	50.69
Volatile Organic Compounds (VOC)	2.60	2.98	2.82	3.65	3.26
Carbon Monoxide (CO)	30.11	37.98	39.82	29.66	26.51
Lead (Pb)	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Hazardous Air Pollutants ²⁸ (HAPs)	-	-	-	-	-

Permit Reference Documents

These documents were relied upon in the preparation of the operating permit. Because they are not incorporated by reference, they are not an official part of the operating permit.

1. Part 70 Operating Permit Application, received July 10, 2017;
2. 2016 Emissions Inventory Questionnaire, received March 21, 2017;
3. U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*; Volume I, Stationary Point and Area Sources, Fifth Edition;
4. WebFIRE;
5. Operating Permit OP2012-057A, issued May 14, 2014;
6. Construction Permit 98-10-060, issued December 12, 1998;
7. Construction Permit 01-05-014, issued September 15, 2001;
8. Construction Permit 01-05-013, issued October 31, 2001;
9. Construction Permit 95-05-056PM, issued May 4, 2003;
10. Construction Permit 062007-010, issued June 21, 2007;
11. Construction Permit 01-05-014A, issued October 25, 2017

Applicable Requirements Included in the Operating Permit but Not in the Application or Previous Operating Permits

In the operating permit application, the installation indicated they were not subject to the following regulation(s). However, in the review of the application, the agency has determined that the installation is subject to the following regulation(s) for the reasons stated.

²⁸ HAPs were below the reporting threshold in the EIQ.

40 CFR Part 63, Subpart ZZZZ – *National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*

This rule was not included in the previous operating permit. The engines at this installation meet the definition of institutional emergency generators due to being located at an institution of higher education. The previous operating permit indicated that all institutional emergency engines were exempt from MACT ZZZZ. As of issuance of this operating permit, MACT ZZZZ states that only *existing* institutional emergency generators are exempt from this subpart. As a result, it does apply to the engines considered ‘new’ as defined in MACT ZZZZ. ‘Existing’ is defined as an engine that had commenced construction or reconstruction before June 12, 2006; ‘new’ is after this date.

Other Air Regulations Determined Not to Apply to the Operating Permit

The Air Pollution Control Program (APCP) has determined the following requirements to not be applicable to this installation at this time for the reasons stated.

10 CSR 10-5.300, *Control of Emissions From Solvent Metal Cleaning*

This rule does not apply. It had previously applied to EU0060 Parts Washer, however this emission source has been dismantled and removed from the installation.

10 CSR 10-5.510, *Control of Emissions of Nitrogen Oxides*

This rule does not apply. The emergency engines are exempt per 10 CSR 10-5.510(1)(C)4. The boilers are exempt per 10 CSR 10-5.510(1)(C)8 due to having a more stringent NO_x emissions limitation from voluntary limitations and construction permits. The space heaters (EP-08)’s individual potential-to-emit is below 30 tons/year each. 10 CSR 10-5.510(1)(C)9 exempts units with actual annual NO_x emissions of 30 tons/year or less. The space heaters do not have the capacity to reach actual NO_x emissions of 30 tons/year and is thus exempt from the rule.

10 CSR 10-5.570, *Control of Sulfur Emissions from Stationary Boilers*

This rule applies to installations located in the counties of Franklin, Jefferson, St. Charles, St. Louis, and St. Louis City that owns or operates an industrial, commercial, or institutional boiler or process heater that has a name plate capacity greater than 50 MMBtu/hr. Boilers that exclusively burn natural gas, liquefied petroleum gas (LPG), and/or Fuel Oil No. 2 with less than 0.5 percent sulfur are not subject to this rule per 10 CSR 10-5.570(1)(C)5. Since the boilers at this installation burn natural gas as a primary fuel and Fuel Oil No. 2 with a sulfur content of less than 0.5 percent as back-up fuel, the boilers are not subject to this rule.

10 CSR 10-6.200, *Hospital, Medical, Infectious Waste Incinerators*

This rule does not apply. The incinerator was constructed and installed before the applicability date of June 20, 1996 per 10 CSR 10-6.200(1)(A)1. Additionally, it is within 50 miles from the boundary of the nearest Metropolitan Statistical Area (St. Louis); as a result 10 CSR 10-6.200(3)(A)2 is not applicable.

10 CSR 10-6.400, *Restriction of Emission of Particulate Matter From Industrial Processes*

This rule does not apply. The engines and space heaters do not meet the definition of process weight. The remaining emission points emit below 0.5 lb/hr and are thus exempt per 10 CSR 10-6.400(1)(B)12. Due to the nature of Laboratory Hoods and Routine Maintenance Activities, low particulate emissions below 0.5 lb/hr are expected and thus are also exempt from this rule.

Emission Source	Description	MHDR	Emission Factor	Source	PTE (lb/hr)	Exempt?
EP-07	Incinerator	312 ton/yr ²⁹	6.0 lb/ton	SDAPCD	0.21	Yes, < 0.5 lb/hr
EP-11	Wet Cooling Towers (Power Plant)	24,512.9 gal/min recirculation ³⁰	-	Ch 13.4 of AP-42	< 0.01	Yes, < 0.5 lb/hr
EP-28	Wet Cooling Towers (Satellite Buildings)	56,708.5 gal/min recirculation	-	Ch 13.4 of AP-42	< 0.01	Yes, < 0.5 lb/hr
-	Carpentry Shop	52 lb/yr ³¹	2000 lb/ton	Conservative Assum.	< 0.01	Yes, < 0.5 lb/hr
-	Machine Shop	52 lb/yr	2000 lb/ton	Conservative Assum.	< 0.01	Yes, < 0.5 lb/hr

10 CSR 10-6.405, Maximum Allowable Emission of Particulate Matter from Fuel Burning Equipment Used for Indirect Heating

According to 10 CSR 10-6.405(1)(E), an installation is exempt from this rule if all of the installation's applicable units are fueled only by landfill gas, propane, natural gas, Fuel Oil No. 2 through 6 (with less than one and two-tenths percent (1.2 %) sulfur), or other gases (with hydrogen sulfide levels less than or equal to four (4) parts per million volume as measured using ASTM D4084, or equivalent and mercury concentrations less than forty (40) micrograms per cubic meter as measured using ASTM D5954, or ASTM D6350, or equivalent or any combination of these fuels. All the indirect heating sources operated at this installation exclusively combust natural gas/ propane and Fuel Oil No. 2, therefore the installation is not subject to this rule.

Construction Permit History

Construction Permit 96-10-083, issued October 8, 1996

The construction permit was issued in accordance with 10 CSR 10-6.060 for EP-07 Pathological Incinerator.

- Section I contains operational limitations on the incinerator. Item A was excluded from this permit because city ordinances are not state or federally enforceable. All other items from this section have been added to this permit.
- Section II contains specific conditions for operation of the incinerator. Item B limits opacity. This condition has been added to the operating permit.
- Section III requires submittal of a performance test from this unit or a similar unit to verify particulate matter emissions. The installation was previously using a similar unit stack test (Emissions Testing of the Chas. E. Davis Funeral Home, Inc. Human Crematory, Inverness, Florida, May 5, 1993) for compliance. However, after closer review of the 1993 stack test during the renewal of this operating permit, it was determined that it could not be considered similar enough to use for compliance; there was too large a difference in temperature. The operating permit contains conditions that give 180 days after operating permit issuance to find a MoDNR-approved stack test or conduct testing on the incinerator.

²⁹ Based on Construction Permit 96-10-083's limitation.

³⁰ The MHDRs of EP-11 and EP-28 are assumed to be double their actual 2016 water throughput.

³¹ Maximum dust collected assumed to be 1 lb/week for both the Carpentry Shop and Machine Shop.

- Section IV contains recordkeeping requirements. Item 7 requires records to be kept for up to 3 years. 10 CSR 10-6.065 requires Title V sources to retain all records for a minimum of 5 years. To be in compliance with the construction permit and the Title V record retention period, this installation will keep records for 5 years.

Construction Permit 98-10-060, issued December 12, 1998

This construction permit was issued in accordance with 10 CSR 10-6.060 for the installation of emergency generators and fuel tanks.

- Section II limits the hours of operation for the emergency generators. These requirements have been added to this permit.
- Section III limits when the emergency generators can be used, limits fuel type, and limits fuel sulfur content. These requirements have been added to this permit.
- Section IV requires records of operation for the generators and requires records to be kept for five years. These requirements have been added to this permit.

Construction Permit 01-05-014, issued September 15, 2001

This construction permit was issued in accordance with 10 CSR 10-6.060 for the installation of an emergency generator and fuel tank.

- Section II limits the hours of operation of the emergency generator. It has been added to this permit.
- Section III limits the fuel sulfur content and requires opacity monitoring of the generator. The opacity limitations were superseded by Construction Permit 01-05-014A. The fuel sulfur content limit has been added to this permit.
- Section IV requires recordkeeping and reporting of fuel records, hours of operation of the generator, Method 22 observations, permit exceedances, and it also requires records to be kept for a minimum of 5 years. These requirements have been added to this permit.

Construction Permit 01-05-013, issued October 31, 2001

This construction permit was issued in accordance with 10 CSR 10-6.060 for the installation of a replacement boiler (EP-25B).

- Section II limits the opacity of the new boiler and limits fuel usage. The opacity limitation in 40 CFR Part 60 Subpart Dc is equivalent to the opacity limit of this construction permit which has been applied to the boiler. In order to streamline this operating permit, the opacity limitation from the construction permit has not been included in this operating permit. The fuel usage limitation has been included in this permit.
- Section III requires fuel records to be kept and limits sulfur content. This limitation is equivalent to a requirement in 40 CFR Part 60 Subpart Dc. In order to streamline this operating permit, this construction permit limitation has not been added. This section also requires the old coal-fired boilers to be removed or rendered inoperable. This condition has been met and thus has not been added to this permit.
- Section IV requires recordkeeping of fuel records, fuel supplier records, exceedances of Method 22 and Method 9 observations, and requires maintenance of the records. These conditions are equivalent to those required in 40 CFR Part 60 Subpart Dc and thus have not been added to this permit.

Construction Permit 95-05-056PM, issued May 4, 2003

This construction permit modification was issued in accordance with 10 CSR 10-6.060, and supersedes construction permit 95-05-056A.

- Section II contains limitations to fuel throughput and opacity. The fuel throughput limitations have been included in this permit. The opacity limitation was not included in order to streamline this permit; equivalent opacity limitations have been applied to Boiler #1 from 40 CFR Part 60, Subpart Dc. (EP-25A).
- Section III supersedes all conditions from 95-05-056A, limits fuel type, requires the boiler to be equipped with a low NO_x burner, and requires the boiler to be operated by the manufacturer's recommendations. While the section also limits fuel sulfur content to 0.5 wt% or less, this limit has already been applied to the boiler in 40 CFR Part 60, Subpart Dc and has not been included in order to streamline this permit.
- Section IV requires fuel throughput tracking, the retaining of fuel receipts, and other requirements that require updating their operating permit and reporting exceedances. The fuel receipts requirement was not added to this permit in order to streamline this permit; the requirement to keep fuel records has already been required in 40 CFR Part 60, Subpart Dc.

Construction Permit 062007-010, issued June 21, 2007

This construction permit was issued in accordance with 10 CSR 10-6.060 for the replacement of two existing boilers with new ones. The boilers were renumbered in 2007, hence why in this construction permit Boiler #5 is listed as Boiler #4, and Boiler #6 is listed as Boiler #5.

- Special Condition 1 limits NO_x and SO_x below de minimis levels and requires tracking of these pollutants. It also requires reporting to the Air Pollution Control Program if records indicate an exceedance of the limitations of this permit. These requirements have been added to this permit.
- Special Condition 2 requires compliance with 40 CFR Part 60, Subpart Dc. This federal rule has been applied within this permit to the new boilers; as a result, this special condition has not been added to this permit.

Construction Permit 01-05-014A, issued October 25, 2017

This construction permit was issued in accordance with 10 CSR 10-6.060 to remove opacity limitations placed on an emergency generator EPPEMG1 introduced in CP 01-05-014.

- Special Condition 1 supersedes Item B of Section III and Item C of Section IV of Construction Permit 01-05-014.

New Source Performance Standards (NSPS) Applicability

40 CFR Part 60, Subpart D – Standards of Performance for Fossil-Fueled-Fired Steam Generators for Which Construction is Commenced After August 17, 1971

This subpart does not apply. The provisions of this subpart apply to each fossil-fuel-fired steam generating unit of more than 73 MW (250 MMBtu/hr) constructed or modified after August 17, 1971 and not covered under Subpart Da. None of the boilers are rated at greater than 73 MW (250 MMBtu/hr), therefore this subpart does not apply to this installation.

40 CFR Part 60, Subpart Da – Standards of Performance for Electric Utility Steam Generating Units for Which Construction is commenced After September 18, 1978

This subpart does not apply. The provisions of this subpart apply to each electric utility fossil-fuel- (either alone or in combination with any other fuel) fired steam generating unit of more than 73 MW (250 MMBtu/hr) constructed or modified after September 18, 1978. None of the boilers are electric utility steam generating units as defined in this subpart nor are rated at greater than 73 MW (250 MMBtu/hr), therefore this subpart does not apply to this installation.

40 CFR Part 60, Subpart Db – *Standards of Performance for Industrial-Commercial-Institutional-Steam Generating Units*

This subpart does not apply. The provisions of this subpart apply to each steam generating unit that commences construction, modification, or reconstruction after June 19, 1984, and that has a heat input capacity from fuels combusted in the steam generating unit of greater than 29 MW (100 MMBtu/hr). None of the boilers are electric utility steam generating units as defined in this subpart nor are rated at greater than 73 megawatts heat input rate (250 MMBtu/hr), therefore this subpart does not apply to this installation.

40 CFR Part 60, Subpart Dc – *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units*

This subpart applies. It applies to each steam generating unit that commences construction, modification, or reconstruction after July 19, 1989, and that has a heat input capacity from fuels combusted in the steam generating unit of greater than 29 MW (100 MMBtu/hr). Boiler #5 (EP-04), Boiler #6 (EP-05), and Boiler #4 (EP-25B), with a maximum design heat input capacity less than 100 MMBtu/hr, but greater than 10 MMBtu/hr. are the boilers constructed after the applicability date of this subpart that are subject to this subpart.

40 CFR Part 60, Subpart Ce – *Emission Guidelines and Compliance Times for Hospital/Medical/Infectious Waste Incinerators*

This subpart applies due to the incinerator being constructed and installed before June 20, 1996. This subpart's purpose is to be a guideline for states to create their own State plan for applicable incinerators. 10 CSR 10-6.200 incorporates guidelines from Subpart Ce into its regulations. See 10 CSR 10-6.200.

40 CFR Part 60, Subpart Ec – *Standards of Performance for Hospital/Medical/Infection Incinerators for Which Construction is Commenced After June 20, 1996*

This subpart does not apply. The incinerator was constructed before June 20, 1996.

40 CFR Part 60, Subpart K – *Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, Or Modification Commenced After July 11, 1973, and Prior to May 19, 1978*

40 CFR Part 60, Subpart Ka – *Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, Or Modification Commenced After May 19, 1978, and Prior to July 23, 1984*

This subpart does not apply. The installation does not have any petroleum storage vessels as defined in these subparts that are subject to these regulations.

40 CFR Part 60, Subpart Kb – *Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, Or Modification Commenced After July 23, 1984*

This subpart does not apply. The diesel fuel storage tanks are either not large enough for this subpart to apply or have a maximum true vapor pressure less than 3.5 kPa.

40 CFR Part 60, Subpart CCCC – *Standards of Performance for Commercial and Industrial Solid Waste Incineration Units*

This subpart does not apply. The incinerator only burns pathological waste (as defined in Subpart CCCC) and is thus exempt per §60.2020(a).

40 CFR Part 60, Subpart IIII – *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*

This rule applies the diesel-fired emergency generators that were manufactured after the applicability date of April 1, 2006. All engines are constant-speed engines and are thus exempt from 40 CFR 89.113's smoke emission standard required by §60.4202(a)(2).

Maximum Achievable Control Technology (MACT) Applicability

40 CFR Part 63, Subpart O – *Ethylene Oxide Emissions Standards for Sterilization Facilities*

This subpart does not apply. The installation fits under the definition of 'research facility' as defined in section 112(c)(7) of title III of the Clean Air Act Amendment of 1990 and is thus exempt per §63.360(d).

40 CFR Part 63, Subpart Q – *National Emission Standards for Hazardous Air Pollutants for Industrial Process Cooling Towers*

This subpart does not apply. The provisions of this subpart apply to all new and existing industrial process cooling towers that are operated with chromium-based water treatment chemicals on or after September 8, 1994, and are either major sources or are integral parts of facilities that are major sources as defined in 40 CFR 63.401. The cooling towers located at this facility do not use chromium-based water treatment chemicals nor are a major source; therefore, this rule was not included in the operating permit.

40 CFR Part 63, Subpart T – *National Emission Standards for Halogenated Solvent Cleaning*

This subpart does not apply. The provisions of this subpart apply to each individual batch vapor, in-line vapor, in-line cold, and batch cold solvent cleaning machine that uses any solvent containing methylene chloride, perchloroethylene, trichloroethylene, 1,1,1-trichloroethane, carbon tetrachloride or chloroform, or any combination of these halogenated HAP solvents, in a total concentration greater than 5 percent by weight, as a cleaning and/or drying agent. Wipe cleaning activities, such as using a rag containing halogenated solvent are not covered under the provisions of this subpart. The cold cleaners at this installation do not use the following solvents: methylene chloride, perchlorethylene, triclourethylene, 1,1,1-trichlorethylene, carbon tetrachloride, or any chloroform. Therefore, this rule was not included in the operating permit.

40 CFR Part 63, Subpart ZZZZ – *National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*

This subpart applies. Washington University Medical School (WUSM) is a university/higher education institution. Institutional emergency stationary RICE are emergency stationary reciprocating internal combustion engine (RICE) used in institutional establishments such as medical centers, nursing homes, research centers, institutions of higher education, correctional facilities, elementary and secondary schools, libraries, religious establishments, police stations, and fire stations. The engines at this installation are institutional emergency stationary RICE. According to §63.6585(f)(3), existing (as defined in MACT ZZZZ) institutional emergency RICE are exempt from MACT ZZZZ and thus have not been applied to the applicable engines. New (as defined by MACT ZZZZ) institutional emergency engines are not exempt from MACT ZZZZ and thus this regulation has been applied to these engines in this permit. Engines MIREMG1 (EP-27), FPEEMG1 (EP-29), and FP4EMG1 (EP-29) are considered existing institutional engines under MACT ZZZZ and thus are not subject to this subpart.

40 CFR Part 63, Subpart DDDDD – *National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters*

This subpart does not apply. This rule applies to a boiler or process heater located at, or part of, a major source of hazardous air pollutants (HAP). A major source of HAP emissions is any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit any single HAP at a rate of 10 tons or more per year or any combination of HAP at a rate of 25 tons or more annually. This installation does not have the potential to exceed major levels of hazardous air pollutants (HAPs).

40 CFR Part 63, Subpart JJJJJ – *National Emission Standards for Hazardous Air Pollutants for Area Sources: Industrial, Commercial, and Institutional Boilers*

This subpart does not apply. This rule applies to boilers that burn coal, oil, biomass, or other solid and liquid non-waste materials and located at an area source. The boilers use natural gas except during gas curtailment and supply emergencies when Fuel Oil No. 2 is used. Gas-fired boilers are not affected by this rule. According to this rule, gas-fired boiler includes any boiler that burns gaseous fuels not combined with any solid fuels, burns liquid fuel only during periods of gas curtailment, gas supply emergencies, or periodic testing on liquid fuel. Therefore the boilers are not subject to this rule.

40 CFR Part 63, Subpart WWWW – *National Emission Standards for Hospital Ethylene Oxide Sterilizers*

The term ‘hospital’, according to MACT WWWW, is defined as, “a facility that provides medical care and treatment for patients acutely ill or chronically ill on an inpatient basis...” [§63.10448] It was originally determined that the Washington University does not provide inpatient medical care or treatment, therefore MACT WWWW does not apply to the existing two (2) Ethylene Oxidizer sterilizers, which were part of the medical school and thus exempt. The units included inherent Ethylene oxide emission control using water for the Ethylene Oxide emissions and were exempt from permitting requirements when originally installed. One (1) existing unit was removed from service August 26, 2013 upon installation of the new EO unit (see below) and the other existing ethylene oxide sterilizer was removed in October 2013.

A new Ethylene Oxide Sterilizer unit for the WUSM Department of Comparative Medicine (DCM) was installed August 26, 2013 and was not subject to construction permitting due to its potential-to-emit. An additional Ethylene Oxide Sterilizer unit was installed March 26, 2014 and both units are controlled by abatement equipment which shuts off the sterilizers in the event of abatement shutdown. The units are subject to MACT WWWW based on discussion with USEPA and MoDNR in May 2013 that determined that because the installation is a part of the Washington University Medical Center complex that includes hospitals, the ethylene oxide sterilizers would fall under MACT WWWW. The installation complies with the provisions required by this regulation in maintaining pollution control abatement equipment per manufacturer's operating requirements.

40 CFR Part 63, Subpart HHHHHH – *National Emission Standards for Hazardous Air Pollutants: Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources*

This subpart does not apply. This installation does not perform paint stripping using MeCl (methylene chloride) for the removal of dried paint (including, but not limited to, paint, enamel, varnish, shellac, and lacquer) from wood, metal, plastic, and other substrates. The installation does not perform spray-applied coating operations (as defined in §63.11180) to motor vehicles and mobile equipment (the installation may if the spray application fits under the definition of facility maintenance under §63.11180). Any spray-applied coating operations (as defined in §63.11180) not considered facility maintenance do not contain a target HAP (chromium, lead, manganese, nickel, or cadmium). If the installation later performs any of these activities, this subpart may become applicable.

40 CFR Part 63, Subpart XXXXXX – *National Emission Standards for Hazardous Air Pollutants Area Source Standards for Nine Metal Fabrication and Finishing Source Categories*

This subpart does not apply. While welding does occur at the installation, they are not 'primarily engaged' (as defined in the subpart) in the activities listed in §63.11514(a) to be applicable to the rule.

National Emission Standards for Hazardous Air Pollutants (NESHAP) Applicability

None.

Compliance Assurance Monitoring (CAM) Applicability

40 CFR Part 64, *Compliance Assurance Monitoring (CAM)*

The CAM rule applies to each pollutant specific emission unit that:

- Is subject to an emission limitation or standard, and
- Uses a control device to achieve compliance, and
- Has pre-control emissions that exceed or are equivalent to the major source threshold.

40 CFR Part 64 is not applicable. While some of the emission points are required to use control devices, none of the individual emission points that are controlled have pre-control emissions that exceed the major source threshold.

Greenhouse Gas Emissions

Note that this source may be subject to the Greenhouse Gas Reporting Rule. However, the preamble of the GHG Reporting Rule clarifies that Part 98 requirements do not have to be incorporated in Part 70 permits operating permits at this time. In addition, Missouri regulations do not require the installation to report CO₂ emissions in their Missouri Emissions Inventory Questionnaire; therefore, the installation's CO₂ emissions were not included within this permit. The applicant is required to report the data directly to EPA if subject. The public may obtain CO₂ emissions data for this installation by visiting <http://epa.gov/ghgreporting/ghgdata/reportingdatasets.html>.

Other Regulatory Determinations

10 CSR 10-5.500, *Control of Emissions From Volatile Organic Liquid Storage*

This regulation applies to volatile organic liquid storage vessels. The majority of this regulation applies to vessels with capacities greater than 40,000 gallons, however there is a recordkeeping requirement for all vessels, regardless of capacity. The installation does have vessels over 40,000 gallons, but they are exempt from this rule due to having a maximum vapor pressure of less than 0.5 psia per 10 CSR 10-5.500(1)(B)1.

10 CSR 10-6.220, *Restriction of Visible Air Contaminants*

This rule applies. Internal combustion engines are exempt from this rule. The boilers are subject to this rule when burning distillate fuel, but not when burning natural gas because natural gas-fired equipment is exempt this rule. While subject to this rule, boilers EP-25A and EP-25B have a more stringent opacity limitation and monitoring requirements from NSPS Dc and thus in order to streamline this operating permit, these two boilers are not included in Permit Condition 001.

10 CSR 10-6.260, *Restriction of Emission of Sulfur Compounds*

This rule applies. This rule was rescinded from the Missouri Code of State Regulations on November 30, 2015 but is still in the EPA approved SIP and is thus still an applicable federal requirement. The boilers subject to 40 CFR Part 60 Subpart Dc with a sulfur limitation are exempt from this rule per 10 CSR 10-6.260(1)(A)1. The engines subject to 40 CFR Part 60, Subpart III's sulfur limitations are also exempt from this rule per the same exemption.

10 CSR 10-6.261, *Control of Sulfur Dioxide Emissions*

This rule applies. Several engines and the boilers have a more stringent sulfur limitation and are thus exempt from this rule per 10 CSR 10-6.261(1)(C). The engines that do not have sulfur limitations or ones more stringent than this rule are subject. Once 10 CSR 10-6.261 is incorporated into the SIP it will become a federal requirement and will no longer be just a State Only requirement.

Other Regulations Not Cited in the Operating Permit or the Above Statement of Basis

Any regulation which is not specifically listed in either the Operating Permit or in the above Statement of Basis does not appear, based on this review, to be an applicable requirement for this installation for one or more of the following reasons:

1. The specific pollutant regulated by that rule is not emitted by the installation;
2. The installation is not in the source category regulated by that rule;
3. The installation is not in the county or specific area that is regulated under the authority of that rule;
4. The installation does not contain the type of emission unit which is regulated by that rule;

5. The rule is only for administrative purposes.

Should a later determination conclude that the installation is subject to one or more of the regulations cited in this Statement of Basis or other regulations which were not cited, the installation shall determine and demonstrate, to the APCP's satisfaction, the installation's compliance with that regulation(s). If the installation is not in compliance with a regulation which was not previously cited, the installation shall submit to the APCP a schedule for achieving compliance for that regulation(s).

Response to Public Comments

Public comments were received from Mark A. Smith of EPA Region VII on April 19, 2018. The comments are addressed in the order in which they appear within the letter.

Comment #1:

Permit Condition 007 details the requirements applicable to Natural Gas-Fired Pathological Incinerator, Emission Unit EP-07. Operational Limitation 7., limits the charges of human remains to less than 312 tons per consecutive 12-month period and Operational Limitation 8., limits human remains charges to less than 200 pounds per hour. However, Permit Condition 007 includes no monitoring/ record keeping verifying compliance with these two operational limitations. EPA recommends MoDNR consider including a monitoring / record keeping requirement for verification of Operational Limitations 7 and 8. Also, Monitoring / Recordkeeping requirement 2, in Permit Condition 007, requires the permittee to record quantity and type of waste material incinerated which did not originate within the installation. Attachment F has been provided as the compliance demonstration document, however, Attachment F provides no indication where the permittee is to record information associated with materials accepted from outside the installation or record names of suppliers. EPA recommends MoDNR consider revising Attachment F to include verification that all of the information, required by Permit Condition 007, is captured.

Response to Comment #1:

Monitoring/Recordkeeping of Permit Condition 007 has been modified to specify Attachment F should be used to record human charge rates. Additionally, Attachment F has been modified to require the permittee to record the supplier and supplier's address of any outside waste incinerated. Additionally, Attachment F has been reformatted in order to streamline the recordkeeping requirements.

Comment #2:

Permit Condition 002 lists sulfur dioxide standards for Boiler #5 (Emission Unit EP-04) and Boiler #6 (Emission Unit EP-05) as *Emission Limitations* (emphasis added). These sulfur dioxide standards appear to more closely resemble operational limitations and EPA suggests MoDNR consider relabeling the sulfur dioxide standards in Permit Condition 002 as *Operational Limitations* (emphasis added). Additionally, natural gas and fuel oil No.2 throughput limits, in Permit Condition 005, are identified as *Emission Limitations* (emphasis added). It appears that boiler fuel throughput more closely resembles Operational Limitations; and EPA suggests MoDNR consider including these limitations as Operational Limitations, in lieu of Emission Limitations.

Response to Comment #2:

The referenced labels in Permit Condition 002 and 005 have been changed to the more appropriate 'Operational Limitations'.

Comment #3:

Third, Monitoring/ Record keeping requirement, in Permit Condition 010, refers the permittee to the requirements of Permit Condition 008. It appears to EPA, that a more appropriate reference if Permit Condition 009 and suggest MoDNR consider replacing Permit Condition 008 with Permit Condition 009.

Response to Comment #3:

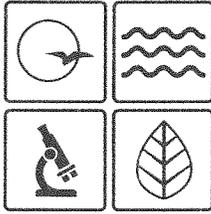
This error has been corrected in the operating permit.

Comment #4:

Section IV: Core Permit Requirements includes 10 CSR 10-6.250: Asbestos Abatement Projects-Certification, Accreditation, and Business Exemption Requirements incorporating the Asbestos Hazard Emergency Response Act (AHERA) and its regulations for school districts and personnel working on asbestos activities in schools. The requirements associated with 10 CSR 10-6.250 have not been adopted into the EPA approved Missouri State Implementation Plan (SIP) and is therefore a "State Only Requirement," and EPA recommends MDNR consider adding a "State Only Requirement" designation to 10 CSR 10-6.250.

Response to Comment #4:

This error has been corrected in the operating permit.



Missouri Department of dnr.mo.gov

NATURAL RESOURCES

Eric R. Greitens, Governor

Carol S. Comer, Director

JUN 18 2018

Mr. James Steuber
Washington University
500 South Euclid
St. Louis, MO 63110

Re: Washington University, 510-0040
Permit Number: OP2018-051

Dear Mr. Steuber:

Enclosed with this letter is your Part 70 operating permit. Please review this document carefully. Operation of your installation in accordance with the rules and regulations cited in this document is necessary for continued compliance. It is very important that you read and understand the requirements contained in your permit.

This permit may include requirements with which you may not be familiar. If you would like the department to meet with you to discuss how to understand and satisfy the requirements contained in this permit, an appointment referred to as a Compliance Assistance Visit (CAV) can be set up with you. To request a CAV, please contact your local regional office or fill out an online request. The regional office contact information can be found at <http://dnr.mo.gov/regions/>. The online CAV request can be found at <http://dnr.mo.gov/cav/compliance.htm>.

You may appeal this permit to the Administrative Hearing Commission (AHC), P.O. Box 1557, Jefferson City, MO 65102, as provided in RSMo 643.078.16 and 621.250.3. If you choose to appeal, you must file a petition with the AHC within thirty days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed. If it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the AHC.

If you have any questions or need additional information regarding this permit, please contact the Air Pollution Control Program (APCP) at (573) 751-4817, or you may write to the Department of Natural Resources, Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102.

Sincerely,

AIR POLLUTION CONTROL PROGRAM


Michael J. Stansfield, P.E.
Operating Permit Unit Chief

MJS:kwj

Enclosures

c: PAMS File: 2017-07-023

