

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES

Matt Blunt, Governor • Doyle Childers, Director

www.dnr.mo.gov

SEP 4 2007

Mr. Gerald Lawrence
Maintenance Supervisor
St. John's Regional Medical Center Boulevard
Joplin, MO 64804

RE: St. John's Regional Medical Center, 097-0021
Permit Number: **OP2007-042**

Dear Sir/Madam:

Enclosed with this letter is your intermediate 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 you read and understand the requirements contained in your permit.

You may appeal this permit to the Administrative Hearing Commission (AHC), P.O. Box 1557, Jefferson City, MO 65102, as provided in RSMo 643.075.6 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 Administrative Hearing Commission.

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

Sincerely,

AIR POLLUTION CONTROL PROGRAM


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

MJS: jwn

Enclosure

c: Ms. Tamara Freeman, U.S. EPA Region VII
Southwest Regional Office
PAMS File: 2006-07-025



INTERMEDIATE STATE 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 here in.

Intermediate Operating Permit Number: OP2007-042
Expiration Date: AUG 27 2012
Installation ID: 097-0021
Project Number: 2006-07-025

Installation Name and Address

St. John's Medical Center
2727 McClelland Blvd.
Joplin, MO 64804
Jasper County

Parent Company's Name and Address

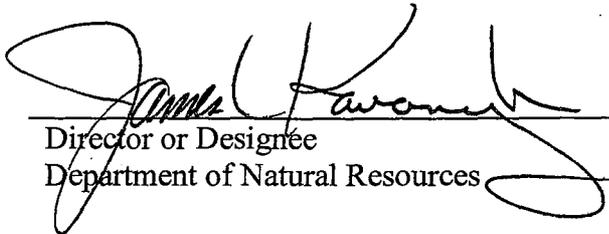
Catholic Health Corporation
920 South 107 Avenue
Omaha, NE 68114

Installation Description:

This facility provides health care. Air pollutant-emitting processes include natural gas-fired boilers, emergency generators, and fuel oil storage tanks.

AUG 28 2007

Effective Date


Director or Designee
Department of Natural Resources

I. Installation Description and Equipment Listing

INSTALLATION DESCRIPTION

This facility provides health care. Air pollutant-emitting processes include natural gas-fired boilers, emergengenerators, and fuel oil storage tanks.

Reported Air Pollutant Emissions, tons per year							
Year	Particulate Matter ≤ Ten Microns (PM-10)	Sulfur Oxides (SO _x)	Nitrogen Oxides (NO _x)	Volatile Organic Compounds (VOC)	Carbon Monoxide (CO)	Lead (Pb)	Hazardous Air Pollutants (HAPs)
2005	0.35	0.14	5.05	0.27	4.03	---	---
2004	0.33	0.08	4.58	0.24	3.37	---	---
2003	0.34	0.08	4.63	0.25	3.78	---	---
2002	0.59	0.39	5.86	0.31	3.75	---	---
2001	0.28	0.11	4.29	0.22	3.41	---	---

EMISSION UNITS WITH LIMITATIONS

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

<u>Emission Unit #</u>	<u>Description of Emission Unit</u>	<u>Emission Point</u>
EU0010	Water Tube Boiler, 25.0 MMBtu/hr	EP-04
EU0020	Water Tube Boiler, 25.0 MMBtu/hr	EP-05
EU0030	12.56 MMBtu/hr Boiler	EP-22
EU0040	Fire Pump Engine, 255 hp	EP-06
EU0050	Emergency Generator, 900 hp	EP-02
EU0060	Emergency Generator, 900 hp	EP-03
EU0070	Emergency Generator, 166 hp	EP-07
EU0080	Emergency Generator, 685 hp	EP-16
EU0090	Emergency Generator, 685 hp	EP-17

EMISSION UNITS WITHOUT LIMITATIONS

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

Description of Emission Source

- Water Heater, 0.0714 MMBtu/hr, natural gas-fired (EP-08)
- Water Heater, 0.0714 MMBtu/hr, natural gas-fired (EP-09)
- Water Heater, 0.0714 MMBtu/hr, natural gas-fired (EP-10)
- Air furnace building heat, 0.3 MMBtu/hr, natural gas-fired (EP-11)
- Air furnace building heat, 0.3 MMBtu/hr, natural gas-fired (EP-12)
- Air furnace building heat, 0.3 MMBtu/hr, natural gas-fired (EP-13)
- Air furnace building heat, 0.175 MMBtu/hr, natural gas-fired (EP-14)
- Underground distillate fuel oil storage tank, 6,000 gallons (EP-18)

North above-ground distillate fuel oil storage tank, 12,000 gallons (EP-19)
South above-ground distillate fuel oil storage tank, 12,000 gallons (EP-20)
Underground distillate fuel oil storage tank, 6,000 gallons (EP-21)

DOCUMENTS INCORPORATED BY REFERENCE

These documents have been incorporated by reference into this permit.

None.

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 this permit is issued.

PERMIT CONDITION PW001

10 CSR 10-6.065(2)(C) and 10 CSR 10-6.065(5)(A) Voluntary Limitation(s)

Emission Limitation:

The permittee shall not combust fuel oil containing more than 0.421 percent sulfur by weight.

Monitoring/Recordkeeping

The permittee shall maintain records of supplier statements of fuel oil sulfur content. Attachment A contains calculations that demonstrate that the installation's potential to emit sulfur oxides is less than 100 tons per year if this fuel oil sulfur limit is not exceeded.

Reporting:

- 1) The permittee shall report to the Missouri Department of Natural Resources' Air Pollution Control Program Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after the permittee determines that the percent sulfur (by weight) in fuel oil combusted at the facility exceeds 0.421 percent.
- 2) The permittee shall report any deviations from the monitoring, recordkeeping and reporting requirements of this permit condition in the annual monitoring report and compliance certification required by Section V of this permit.

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.

EU0010 and EU0020– Water Tube Boilers			
Emission Unit	Description	Manufacturer/Model #	2005 EIQ Reference #
EU0010 and EU0020	Two (s) 25.0 MMBtu Boilers; Primary Fuel Natural Gas; Secondary Fuel #2 Fuel Oil; Constructed March 1966; No Control Device	Cleaver Brooks/D60; S/N 1859 & L860	EP-04 and EP-05

PERMIT CONDITION (EU0010 through EU0020)-001
 10 CSR 10-6.220 Restriction of Emission of Visible Air Contaminants

Emission Limitation:

- 1) No owner or other person shall cause or permit emissions to be discharged into the atmosphere from any **existing** source any visible emissions with an opacity greater than 40%.
- 2) Exception: A person may discharge into the atmosphere from any source of emissions for a period(s) aggregating not more than six minutes in any 60 minutes air contaminants with an opacity up to 60%.

Monitoring:

- 1) The permittee shall conduct opacity readings on this emission unit using the procedures contained in USEPA Test Method 22. At a minimum, the observer should be trained and knowledgeable about the effects on visibility of emissions caused by background contrast, ambient lighting, observer position relative to lighting, wind and the presence of uncombined water. Readings are only required when the emission unit is operating and when the weather conditions allow. If no visible or other significant emissions are observed using these procedures, then no further observations would be required. For emission units with visible emissions perceived or believed to exceed the applicable opacity standard, the source representative would then conduct a Method 9 observation.
- 2) The following monitoring schedule must be maintained:
 - a) Weekly observations shall be conducted for a minimum of eight consecutive weeks after permit issuance. Should no violation of this regulation be observed during this period then-
 - b) Observations must be made once every two weeks for a period of eight weeks. If a violation is noted, monitoring reverts to weekly. Should no violation of this regulation be observed during this period then-
 - c) Observations must be made once per month. 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 (see Attachment B1 or B2), noting:

- a) Whether any air emissions (except for water vapor) were visible from the emission units,
 - b) All emission units from which visible emissions occurred, and
 - c) Whether the visible emissions were normal for the process.
- 2) The permittee shall maintain records of any equipment malfunctions. (see Attachment C)
 - 3) The permittee shall maintain records of any Method 9 test performed in accordance with this permit condition. (see Attachment D)
 - 4) Attachments B1 or B2, C and D contain logs including these recordkeeping requirements. These logs, or an equivalent created by the permittee, must be used to certify compliance with this requirement.
 - 5) These records shall be made available immediately for inspection to Department of Natural Resources personnel upon request.
 - 6) All records shall be maintained for five years.

Reporting:

- 1) The permittee shall report to the Air Pollution Control Program Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after the permittee determined using the Method 9 test that the emission unit(s) exceeded the opacity limit.
- 2) Reports of any deviations from monitoring, recordkeeping and reporting requirements of this permit condition shall be submitted semiannually, in the semi-annual monitoring report and annual compliance certification, as required by Section IV of this permit.

PERMIT CONDITION (EU0010 through EU0020)-002

10 CSR 10-3.060, Maximum Allowable Emissions of Particulate Matter from Fuel Burning
Equipment Used for Indirect Heating

Emission Limitation:

The permittee shall not emit particulate matter from these emission units in excess of 0.44 pounds per million Btu of heat input.

Operation Limitation/Equipment Specifications:

These emission units shall be limited to burning pipeline grade natural gas and fuel oil no. 2.

Monitoring/Recordkeeping:

- 1) The permittee shall maintain on the premises of the installation calculations demonstrating compliance with this rule (See Attachment E).
- 2) The calculations in Attachment E shall be made available immediately for inspection to the Department of Natural Resources' personnel upon request.

Reporting:

The permittee shall report any deviations/exceedances of this permit condition using the annual compliance certification to the Air Pollution Control Program Enforcement Section, P.O. Box 176, Jefferson City, MO 65102.

PERMIT CONDITION (EU0010 through EU0020)-003
10 CSR 10-6.260, Restriction of Emission of Sulfur Compounds

Emission Limitation:

- 1) No person shall cause or permit emissions of sulfur dioxide into the atmosphere from any indirect heating source in excess of eight pounds of sulfur dioxide per million BTUs actual heat input averaged on any consecutive three hour time period.
- 2) No person shall cause or permit the emission of sulfur compounds from any source which causes or contributes to concentrations exceeding those specified in 10 CSR 10-6.010 Ambient Air Quality Standards.

Pollutant	Concentration by Volume	Remarks
Sulfur Dioxide (SO ₂)	0.03 parts per million (ppm) (80 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$))	Annual arithmetic mean
	0.14 ppm (365 $\mu\text{g}/\text{m}^3$)	24-hour average not to be exceeded more than once per year
	0.5 ppm (1300 $\mu\text{g}/\text{m}^3$)	3-hour average not to be exceeded more than once per year
Hydrogen Sulfide (H ₂ S)	0.05 ppm (70 $\mu\text{g}/\text{m}^3$)	1/2-hour average not to be exceeded over 2 times per year
	0.03 ppm (42 $\mu\text{g}/\text{m}^3$)	1/2-hour average not to be exceeded over 2 times in any 5 consecutive days
Sulfuric Acid (H ₂ SO ₄)	10 $\mu\text{g}/\text{m}^3$	24-hour average not to be exceeded more than once in any 90 consecutive days

Operational Limitation/Equipment Specifications:

When burning fuel oil, these emission units shall be limited to fuel with a sulfur content of no more than 0.421 percent sulfur by weight.

Monitoring:

- 1) The permittee shall maintain an accurate record of the sulfur content of fuel oil used. Fuel purchase receipts, analyzed samples or certifications that verify the fuel type and sulfur content are acceptable.
- 2) Other methods approved by the permitting agency in advance may be used to verify compliance.

Recordkeeping:

- 1) The permittee shall maintain on the premises records of the analysis of all fuel used which shows weight percentage of sulfur in the fuel. Fuel purchase receipts, analyzed samples or certifications that verify the fuel type and sulfur content will be acceptable. The permittee shall keep Attachment F with this permit as demonstration that fuel oil combustion in the boilers will comply with the emission limit specified by this regulation.
- 2) These records shall be made available immediately for inspection to the Department of Natural Resources' personnel upon request.
- 3) All records shall be maintained for five years.

Reporting:

The permittee shall report to the Air Pollution Control Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after any exceedance of the emission limit or sulfur content limit established by 10 CSR 10-6.260, or any malfunction which causes an exceedance.

EU0030 - Boiler			
Emission Unit	Description	Manufacturer/Model #	2005 EIQ Reference #
EU0030	12.56 MMBtu/hr Natural Gas Boiler; Constructed in 1997; No Control Device	Cleaver Brooks/CB700-300-150; S/N OL097216	EP-22

PERMIT CONDITION EU0010-001
10 CSR 10-6.070 New Source Performance Regulations
40 CFR Part 60, Subpart A General Provisions and Subpart Dc – Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units

Monitoring and Recordkeeping Requirements:

- 1) The owner or operator of each affected facility shall record and maintain records of the amount of each fuel combusted during each day. (40 CFR 60.48c(g))
- 2) The permittee shall maintain the fuel combustion records for a period of two years following the date of each record. (40 CFR 60.48c(i))

PERMIT CONDITION EU0010-002
10 CSR 10-6.220 Restriction of Emission of Visible Air Contaminants

Emission Limitation:

- 1) No owner or other person shall cause or permit emissions to be discharged into the atmosphere from any **new** source any visible emissions with an opacity greater than 20%.
- 2) Exception: A person may discharge into the atmosphere from any source of emissions for a period(s) aggregating not more than six minutes in any 60 minutes air contaminants with an opacity up to 60%.

Monitoring:

- 1) The permittee shall conduct opacity readings on this emission unit using the procedures contained in USEPA Test Method 22. At a minimum, the observer should be trained and knowledgeable about the effects on visibility of emissions caused by background contrast, ambient lighting, observer position relative to lighting, wind and the presence of uncombined water. Readings are only required when the emission unit is operating and when the weather conditions allow. If no visible or other significant emissions are observed using these procedures, then no further observations would be required. For emission units with visible emissions perceived or believed to exceed the applicable opacity standard, the source representative would then conduct a Method 9 observation.
- 2) The following monitoring schedule must be maintained:
 - a) Weekly observations shall be conducted for a minimum of eight consecutive weeks after permit issuance. Should no violation of this regulation be observed during this period then-
 - b) Observations must be made once every two weeks for a period of eight weeks. If a violation is noted, monitoring reverts to weekly. Should no violation of this regulation be observed during this period then-
 - c) Observations must be made once per month. 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 (see Attachment B or B1), noting:
 - a) Whether any air emissions (except for water vapor) were visible from the emission units,
 - b) All emission units from which visible emissions occurred, and
 - c) Whether the visible emissions were normal for the process.
- 2) The permittee shall maintain records of any equipment malfunctions. (see Attachment C)
- 3) The permittee shall maintain records of any Method 9 test performed in accordance with this permit condition. (see Attachment D)
- 4) Attachments B1 or B2, C and D contain logs including these recordkeeping requirements. These logs, or an equivalent created by the permittee, must be used to certify compliance with this requirement.
- 5) These records shall be made available immediately for inspection to Department of Natural Resources personnel upon request.
- 6) All records shall be maintained for five years.

Reporting:

- 1) The permittee shall report to the Air Pollution Control Program Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after the permittee determined using the Method 9 test that the emission unit(s) exceeded the opacity limit.
- 2) Reports of any deviations from monitoring, recordkeeping and reporting requirements of this permit condition shall be submitted semiannually, in the semi-annual monitoring report and annual compliance certification, as required by Section IV of this permit.

EU0040 through EU0090 – EMERGENCY POWER UNITS			
Emission Unit	Description	Manufacturer/Model #	2005 EIQ Reference #
EU0040	225 hp Fire Pump Engine; Fueled by #2 Fuel Oil; Constructed March 1989; No Control Device	Cummins/6BTA-5.9; S/N 44349578	EP-06
EU0050	900-hp emergency generator; Fueled by #2 Fuel Oil; MHDR 6.586 MMBtu/hr; Constructed December 1982; No Control Device	Cummins/VTA28-G2; S/N 25163475	EP-02
EU0060	900-hp emergency generator; Fueled by #2 Fuel Oil; MHDR 6.586 MMBtu/hr; Constructed September 1988; No Control Device	Cummins/VTA1710GS 2; S/N 37106364	EP-03
EU0070	166-hp emergency generator; Fueled by #2 Fuel Oil; MHDR 1.169 MMBtu/hr; Constructed June 1996 (Like-kind replacement); No Control Device	Onan & Cummins/80DGDA; S/N F960609205 & 6BTS5.9-Gs; S/N 45373688	EP-07
EU0080	685-hp emergency generator; Fueled by #2 Fuel Oil; MHDR 5.013 MMBtu/hr; Constructed April 1995; No Control Device	Cummins/KTA1963; S/N 37156981	EP-16
EU0090	685-hp emergency generator; Fueled by #2 Fuel Oil; MHDR 5.013 MMBtu/hr; Constructed April 1995; No Control Device	Cummins/KTA1963; S/N 37157092	EP-17

PERMIT CONDITION (EU0040 through EU0090) – 001
10 CSR 10-6.061 Construction Permit Exemptions

Emission Limit/Operational Limitation:

The permittee may operate the emergency engines for a period of time not to exceed five hundred (500) hours per engine in any consecutive 12-month period. The emergency engines shall be operated only during emergency situations, such as when power from the utility is interrupted, and for short periods of time to perform maintenance and operational readiness testing.

Monitoring/Recordkeeping:

- 1) Each emergency engine shall be equipped with a non-resettable meter that displays elapsed time of operation.
- 2) The permittee shall maintain a log that contains a record of the number of hours the emergency engine is operated. The record shall include the date the engine is operated, the beginning and ending hours on the non-resettable meter, and the total number of hours the engine operated during each run. Records shall be kept on the form provided in Attachment G, or a substantially conforming form that contains the same information.
- 3) The permittee shall immediately make such records available to Department of Natural Resources personnel upon request.

Reporting:

The permittee shall report any deviations/exceedances of this permit condition using the annual compliance certification to the Air Pollution Control Program Enforcement Section, P.O. Box 176, Jefferson City, MO 65102.

PERMIT CONDITION (EU0040 through EU0090)-002
10 CSR 10-6.260, Restriction of Emission of Sulfur Compounds

Emission Limitation:

- 1) Emissions from any new source operation shall not contain more than five hundred parts per million by volume (500 ppmv) of sulfur dioxide.
- 2) Stack gasses shall not contain more than thirty-five milligrams (35 mg) per cubic meter of sulfuric acid or sulfur trioxide or any combination of those gases averaged on any consecutive three hour time period.
- 3) No person shall cause or permit the emission of sulfur compounds from any source which causes or contributes to concentrations exceeding those specified in 10 CSR 10-6.010 Ambient Air Quality Standards.

Pollutant	Concentration by Volume	Remarks
Sulfur Dioxide (SO ₂)	0.03 parts per million (ppm) (80 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$))	Annual arithmetic mean
	0.14 ppm (365 $\mu\text{g}/\text{m}^3$)	24-hour average not to be exceeded more than once per year
	0.5 ppm (1300 $\mu\text{g}/\text{m}^3$)	3-hour average not to be exceeded more than once per year
Hydrogen Sulfide (H ₂ S)	0.05 ppm (70 $\mu\text{g}/\text{m}^3$)	½-hour average not to be exceeded over 2 times per year
	0.03 ppm (42 $\mu\text{g}/\text{m}^3$)	½-hour average not to be exceeded over 2 times in any 5 consecutive days
Sulfuric Acid (H ₂ SO ₄)	10 $\mu\text{g}/\text{m}^3$	24-hour average not to be exceeded more than once in any 90 consecutive days

Operational Limitation/Equipment Specifications:

The emission unit shall be limited to fuel with a sulfur content of no more than 0.421% sulfur by weight.

Monitoring:

- 1) 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.
- 2) Other methods approved by the permitting agency in advance may be used to verify compliance.
- 3) The permittee shall maintain on the premises of the installation calculations demonstrating compliance with this rule (See Attachment H).
- 4) The calculations in Attachment H shall be made available immediately for inspection to the Department of Natural Resources' personnel upon request.

Recordkeeping:

- 1) The permittee shall maintain records on the premises of the analysis of all fuel used which shows weight percentage of sulfur in the fuel. Fuel purchase receipts, analyzed samples or certifications that verify the fuel type and sulfur content will be acceptable.
- 2) These records shall be made available immediately for inspection to the Department of Natural Resources' personnel upon request.
- 3) All records shall be maintained for five years.

Reporting:

The permittee shall report to the Air Pollution Control Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after any exceedance of the voluntary fuel sulfur content limit established by this operating permit.

IV. Core Permit Requirements

The installation shall comply with each of the following requirements. Consult the appropriate sections in the Code of Federal Regulations (CFR), 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.

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) Best 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 one information list to the director in writing at least ten days prior to any maintenance, start-up or shutdown, 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, it shall be given as soon as practicable prior to the release. If an unplanned excess release of emissions exceeding one hour occurs during maintenance, start-up or shutdown, the director shall be notified verbally as soon as practical during normal working hours and no later than the close of business of the following working day. A written notice shall follow within ten working days.
- 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 one 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. [10 CSR 10-6.065(5)(B)1.A(III)] The permittee shall retain the most current operating permit issued to this installation on-site. [10 CSR 10-6.065, §(5)(C)(1) and §(6)(C)1.C(II)] The permittee shall immediately make such permit available to any Missouri Department of Natural Resources personnel upon request. [10 CSR 10-6.065, §(5)(C)(1) and §(6)(C)3.B]

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

- 1) The permittee shall complete and submit an Emission Inventory Questionnaire (EIQ) in accordance with the requirements outlined in this rule.
- 2) 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.
- 3) The fees shall be payable to the Department of Natural Resources and shall be accompanied by the Emissions Inventory Questionnaire (EIQ) form or equivalent approved by the director.

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 10-6.170 Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin

- 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.

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. Qualified personnel shall perform all tests.
- 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 10-3.030 Open Burning Restrictions

- 1) The permittee shall not conduct, cause, permit or allow a salvage operation, the disposal of trade wastes or burning of refuse by open burning.
- 2) Exception - Open burning of trade waste or vegetation may be permitted only when it can be shown that open burning is the only feasible method of disposal or an emergency exists which requires open burning.
- 3) Any person intending to engage in open burning shall file a request to do so with the director. The request shall include the following:
 - a) The name, address and telephone number of the person submitting the application; The type of business or activity involved; A description of the proposed equipment and operating practices, the type, quantity and composition of trade wastes and expected composition and amount of air contaminants to be released to the atmosphere where known;
 - b) The schedule of burning operations;
 - c) The exact location where open burning will be used to dispose of the trade wastes;
 - d) Reasons why no method other than open burning is feasible; and
 - e) Evidence that the proposed open burning has been approved by the fire control authority which has jurisdiction.
- 4) Upon approval of the open burning permit application by the director, the person may proceed with the operation under the terms of the open burning permit. Be aware that such approval shall not exempt St. John's Regional Medical Center from the provisions of any other law, ordinance or regulation.
- 5) The permittee shall maintain files with letters from the director approving the open burning operation and previous Department of Natural Resources inspection reports.

10 CSR 10-3.090 Restriction of Emission of Odors

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 requirement is not federally enforceable.

10 CSR 10-5.240 Additional Air Quality Control Measures May be Required When Sources Are Clustered in a Small Land Area

The Air Conservation Commission may prescribe more restrictive air quality control requirements that are more restrictive and more extensive than provided in regulations of general application for:

- 1) Areas in which there are one or more existing sources and/or proposed new sources of particulate matter in any circular area with a diameter of two miles (including sources outside metropolitan area) from which the sum of particulate emissions allowed from these sources by regulations of general application are or would be greater than 2000 tons per year or 500 pounds per hour.
- 2) Areas in which there are one or more existing sources and/or proposed new sources of sulfur dioxide in any circular area with a diameter of two miles from which the sum of sulfur dioxide emissions from these sources allowed by regulations of general application are or would be greater than 1000 tons for any consecutive three months or 1000 pounds per hour.

Title VI – 40 CFR Part 82 Protection of Stratospheric Ozone

- 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 §82.106.
 - b) The placement of the required warning statement must comply with the requirements pursuant to §82.108.
 - c) The form of the label bearing the required warning statement must comply with the requirements pursuant to §82.110.
 - d) No person may modify, remove, or interfere with the required warning statement except as described in §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:
 - a) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to §82.156.
 - b) Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to §82.158.
 - c) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to §82.161.
 - d) Persons disposing of small appliances, MVACs, and MVAC-like appliances must comply with recordkeeping requirements pursuant to §82.166. ("MVAC-like" appliance as defined at §82.152).
 - e) Persons owning commercial or industrial process refrigeration equipment must comply with the leak repair requirements pursuant to §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 §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 as specified 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.

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.*

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 by a permittee:
 - 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.

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, §(5)(C)1 and §(6)(C)1.B Permit Duration

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.

10 CSR 10-6.065, §(5)(C)1 and §(6)(C)1.C General Recordkeeping and Reporting Requirements

- 1) Recordkeeping
 - 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, Enforcement Section, P. O. Box 176, Jefferson City, MO 65102.
 - b) The permittee shall submit a report of all required monitoring by:
 - i) April 1st for monitoring which covers the January through December time period.
 - ii) Exception. Monitoring requirements which require reporting more frequently than annually shall report no later than 30 days after the end of the calendar quarter in which the measurements were taken.
 - c) Each report shall identify any deviations from emission limitations, monitoring, recordkeeping, reporting, or any other requirements of the permit.
 - d) Submit supplemental reports as required or as needed. Supplemental reports are required no later than ten days after any exceedance of any applicable rule, regulation or other restriction. 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 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 annual report shall be reported on the schedule specified in this permit, and no later than ten days after any exceedance of any applicable rule, regulation, or other restriction.
- 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 §(5)(C)1 and §(6)(C)1.D Risk Management Plan Under Section 112(r)

The permittee shall comply with the requirements of 40 CFR Part 68, Accidental Release Prevention Requirements. If the permittee has more than a threshold quantity of a regulated substance in process, as determined by 40 CFR Section 68.115, the permittee shall submit a Risk Management Plan in accordance with 40 CFR Part 68 no later than the latest of the following dates:

- 1) June 21, 1999;
- 2) Three years after the date on which a regulated substance is first listed under 40 CFR Section 68.130; or
- 3) The date on which a regulated substance is first present above a threshold quantity in a process.

10 CSR 10-6.065(5)(C)1.A 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 under this rule.
- 6) Failure to comply with the limitations and conditions that qualify the installation for an Intermediate permit make the installation subject to the provisions of 10 CSR 10-6.065(6) and enforcement action for operating without a valid part 70 operating permit.

10 CSR 10-6.065(5)(C)1.C Reasonably Anticipated Operating Scenarios

None.

10 CSR 10-6.065, §(5)(B)4; §(5)(C)1, §(6)(C)3.B; and §(6)(C)3.D; and §(5)(C)3 and §(6)(C)3.E.(I) – (III) and (V) – (VI) 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 the Air Pollution Control Program, Enforcement Section, P.O. Box 176, Jefferson City, MO 65102. All deviations and exceedances 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, §(5)(C)1 and §(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(5)(C)5 Off-Permit Changes

- 1) Except as noted below, the permittee may make any change in its permitted installation's operations, activities or emissions that is not addressed in, constrained by or prohibited by this permit without obtaining a permit revision. 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 a Title I modification; Please Note: Changes at the installation which affect the emission limitation(s) classifying the installation as an intermediate source (add additional equipment to the recordkeeping requirements, increase the emissions above major source level) do not qualify for off-permit changes.
 - b) The permittee must provide written notice of the change to the Air Pollution Control Program, Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, as well as EPA Region VII, 901 North 5th Street, Kansas City, Kansas 66101, no later than the next annual emissions report. 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; and
 - 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.

10 CSR 10-6.065 §(5)(E)4 and §(6)(E)6.A(III)(a)-(c) Reopening-Permit for Cause

This permit may be reopened for cause if:

- 1) The Missouri Department of Natural Resources 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,
- 2) 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,

- 3) Missouri Department of Natural Resources or EPA determines that the permit must be reopened and revised to assure compliance with applicable requirements.

10 CSR 10-6.065 §(5)(E)1.A and §(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 A

Plant-Wide Sulfur Oxides Potential to Emit Calculations

The permittee has requested a voluntary limit on fuel oil sulfur content of 0.421 percent by weight. The calculations below show the installation's potential to emit sulfur oxides for the purpose of demonstrating that the facility's potential to emit SO_x is less than the major source threshold of 100 tons/year. The emergency generators combust distillate fuel oil and various heating equipment combusts natural gas only.

Two Existing Boilers, MHDR 25.0 MMBtu/hr Each

SO_x emission rate is greatest when fuel oil is combusted.

Distillate fuel heating value = 0.138 MMBtu/gal

SO_x emission factor = 142S lb/1000 gal, where S is weight percent sulfur (AP-42 Table 1.3-1)

$$PTE = \frac{25.0 \text{ MMBtu}}{\text{hr}} \times \frac{8760 \text{ hr}}{\text{yr}} \times \frac{\text{Gallon}}{0.138 \text{ MMBtu}} \times \frac{142(0.421) \text{ lb SO}_x}{1000 \text{ gal}} \times \frac{\text{ton}}{2000 \text{ lb}} = 47.44 \text{ tons}$$

Emergency Generators & Fire Pump

Engine	Power	MHDR in MMBtu/hr ^a	EIQ #
Cummins VTA28-G2, 1988	900 hp	2.29	EP-02
Cummins VTA1710GS2 1982	900 hp	2.29	EP-03
Cummins KTA 1963, 1995	685 hp	1.74	EP-16
Cummins KTA 1963, 1995	685 hp	1.74	EP-17
Fire pump engine	255 hp	0.648	EP-06
Onan set, Cummins, 1996	166 hp	0.422	EP-07
TOTAL	3591 hp		

^aThe values in this column were computed using a conversion factor of 2,542.5 Btu/hr per horsepower. (AP-42, Appendix A)

The operating permit operational limit on these engines is 500 hours per year.

AP-42 Table 3.4-1 lists gaseous air pollutant emission factors for large diesel-fired internal combustion engines. The emission factor for SO₂ is given as 0.00809S lb per hp-hr, where S is the percent sulfur by weight in the fuel. Fuel oil sulfur is limited at this installation to a maximum of 0.421 percent.

$$PTE = 0.00809(0.421) \text{ lb/hp-hr} \times 3591 \text{ hp} \times 500 \text{ hr/yr} \times \text{ton}/2000 \text{ lb} = \underline{3.06 \text{ tons/yr}}$$

Heating Equipment Fired Solely with Natural Gas

Unit	MHDR (MMBtu/hr)	EIQ#
Boiler, Cleaver Brooks	12.56	22
Hot water heater	0.0714	08
Hot water heater	0.0714	09
Hot water heater	0.0714	10
Air furnace bldg. heat	0.3	11
Air furnace bldg. heat	0.3	12
Air furnace bldg. heat	0.3	13
Air furnace bldg. heat	0.175	14
TOTAL	13.85	

Natural gas combustion produces 0.6 pounds of SO_x per million cubic feet burned (AP-42 Table 1.4-1). Therefore, the potential of this equipment to emit SO_x may be computed as follows:

$$\text{SO}_x \text{ PTE} = 13.85 \text{ MMBtu/hr} \times 8760 \text{ hr/yr} \times 0.6 \text{ lb SO}_x/10^6 \text{ cf} \times \text{cf}/1050 \text{ Btu} \times 10^6 \text{ Btu/MMBtu} \\ \times \text{ton}/2000 \text{ lb} = \underline{0.035 \text{ tons/yr}}$$

Installation Total Potential to Emit Sulfur Oxides

Units	SO _x tons/yr	
Boiler (fuel oil)	47.44	
Boiler (fuel oil)	47.44	
Emergency engines	3.06	
Heating equipment (including 12.56 MMBtu/hr boiler)	0.035	
Total	97.98	(which is less than 100 tons/yr)

Conclusion:

The installation's potential to emit sulfur oxides is less than 100 tons per year if the sulfur content of fuel oil is limited to a maximum of 0.421 percent by weight. With the plant-wide limitation on fuel oil sulfur content, this installation qualifies for an Intermediate State Operating Permit.

ATTACHMENT D

Method 9 Opacity Emission Observations	
Company	Observer
Location	Observer Certification Date
Date	Emission Unit
Time	Control Device

Hour	Min.	Seconds				Steam Plume (check if applicable)		Comments
		0	15	30	45	Attached	Detached	
	0							
	1							
	2							
	3							
	4							
	5							
	6							
	7							
	8							
	9							
	10							
	11							
	12							
	13							
	14							
	15							
	16							
	17							
	18							

SUMMARY OF AVERAGE OPACITY				
Set Number	Time		Opacity	
	Start	End	Sum	Average

Readings ranged from _____ to _____ % opacity.

Was the emission unit in compliance at the time of evaluation? _____
 YES NO Signature of Observer

ATTACHMENT E

**Calculations Showing Compliance with 10 CSR 10-3.060
 Indirect Heating Sources**

The PM₁₀ emission limit for indirect heating units at the plant is based on a total indirect heating unit capacity of 63.84 MMBtu/hr, as shown in the table below.

Emission Unit	Emission Point	Heat Input, MMBtu/hr
Boiler	EP-22	12.56
Boiler	EP-04	25.0
Boiler	EP-05	25.0
Hot water heater	EP-08	0.0714
Hot water heater	EP-09	0.0714
Hot water heater	EP-10	0.0714
Air furnace bldg. heat	EP-11	0.3
Air furnace bldg. heat	EP-12	0.3
Air furnace bldg. heat	EP-13	0.3
Air furnace bldg. heat	EP-14	0.175
Total =		63.85

PM₁₀ Emission Limit for Existing Indirect Heating Units

Emission limit: $E = 0.90(Q)^{-0.174}$ lb PM per million Btu of heat input

$$E = 0.90(63.85)^{-0.174} = 0.90(0.485) = \underline{0.44} \text{ lb PM per million Btu of heat input}$$

PM₁₀ Emission Limit for New Indirect Heating Units

Emission limit: $E = 1.31(Q)^{-0.338}$ lb PM per million Btu of heat input

$$E = 1.31(63.85)^{-0.338} = 1.31(0.245) = \underline{0.32} \text{ lb PM per million Btu of heat input}$$

PM₁₀ Emission Rate from Natural Gas Combustion

The AP-42 emission factor for PM₁₀ emissions from natural gas combustion is 7.6 lb per 10⁶ cubic feet. (AP-42 Table 1.4-2)

To demonstrate that natural gas combustion emissions comply with the plant-wide PM₁₀ emission limit established by 10 CSR 10-3.060, convert the emission factor to *pounds per million Btu* of heat input, which is the unit measurement of the emission standard:

$$7.6 \text{ lb PM}_{10}/\text{million ft}^3 \times \text{ft}^3/1050 \text{ Btu} = \underline{0.0072} \text{ pounds per million Btu}$$

Conclusion: natural gas combustion at this installation will comply continuously with the emission limits because the calculated emission rate of 0.0072 lb/MMBtu is well below either 0.44 lb/million Btu (limit for existing units) or 0.32 lb/million Btu (limit for new units).

PM₁₀ Emission Rate from Fuel Oil Combustion

AP-42 Table 1.3-1 lists the filterable PM emission factor for distillate fuel oil combustion as 2 pounds per thousand gallons burned. If the energy content of distillate fuel oil is taken to be 140,000 Btu/gallon (AP-42 Appendix A), then the PM emissions can be estimated for combustion units at the facility.

$$2 \text{ lb PM/1000 gal} \times \text{gal/140,000 Btu} \times 1,000,000 \text{ Btu/million Btu} = \underline{0.014 \text{ lb per million Btu}}$$

Conclusion: fuel oil combustion at this installation will comply continuously with the emission limits because the calculated emission rate of 0.014 lb/MMBtu is well below either 0.44 lb/million Btu (limit for existing units) or 0.32 lb/million Btu (limit for new units).

ATTACHMENT F

Calculations Demonstrating Compliance with 10 CSR 10-6.260

Indirect Heating Units

The Emission Limit for indirect heating units is 8 lb SO₂/MMBtu heat input. [10 CSR 10-6.260(3)(C)2.A]

SO₂ Emission Rate from Natural Gas Combustion

The AP-42 emission factor for SO_x emissions from natural gas combustion is 0.6 lb per 10⁶ cubic feet. (AP-42 Table 1.4-2)

To demonstrate that natural gas combustion emissions comply with the SO₂ emission limit established by 10 CSR 10-6.260, convert the SO_x emission factor to *pounds per million Btu* of heat input, which is the unit measurement of the emission standard:

$$0.6 \text{ lb SO}_x/10^6 \text{ ft}^3 \times \text{ft}^3/1050 \text{ Btu} = \underline{0.0006 \text{ pounds per million Btu}}$$

SO₂ Emission Rate from Fuel Oil Combustion

Heating value of #2 fuel oil is 140,000 Btu/gallon. AP-42 Table 1.3-1 lists the SO₂ emission factor for fuel oil combustion as 142S pounds per 1000 gallons, where S is the percent sulfur content by weight.

SO₂ Emissions:

$$142(0.421) \text{ lb}/1000 \text{ gal.} \times \text{gal.}/140,000 \text{ Btu} \times 1,000,000 \text{ Btu/MMBtu} = \underline{0.43 \text{ lb/MMBtu}}$$

Conclusion: SO_x emissions resulting from the combustion of either natural gas or fuel oil in the indirect heating equipment at the installation will comply with the emission limit 8 lb SO₂/MMBtu heat input.

ATTACHMENT H

Calculations Demonstrating Compliance with 10 CSR 10-6.260 Emergency Engines EU0200 through EU0250

The emission limit is 500 ppmv sulfur dioxide in any stack gas. [10 CSR 10-6.260(3)(A)2.]

AP-42 Table 3.4-1 lists gaseous air pollutant emission factors for large diesel-fired internal combustion engines. The emission factor for SO₂ is given as 0.00809S lb per hp-hr, where S is the percent sulfur by weight in the fuel. Fuel oil sulfur is limited at this installation to a maximum of 0.421 percent. SO₂ emissions at the maximum fuel oil sulfur content are: 0.00809(0.421) lb/hp-hr = 0.0034 lb/hp-hr.

Emergency Generators #3 (EP-02) and #4 (EP-03)

Stack gas exhaust rate = 5040 acfm [5040 acfm × 60 min/hr = 302,400 ft³/hr]
Engine rating = 900 hp
Stack gas temperature = 935°F or (935 + 460)°R = 1395°R

Calculate the ppmv of SO₂ in stack gas:

1. SO₂ emission rate = 900 hp × 0.0034 lb/hp-hr = 3.06 lb/hr
2. Estimate SO₂ stack gas volume in one hour of operation:

One lb-mole SO₂ weighs 64 lb and occupies 379.5 ft³ at 60°F
3.06 lb/hr × 379.5 ft³/64 lb = 18.14 ft³/hr at 60°F (or 60 + 460 °R = 520°R)
18.14 ft³/hr × 1395°R/520°R = 48.66 ft³/hr (at 935°F/1395°R)

3. Concentration of SO₂ in stack gas based on hourly exhaust gas volume is:

$$\frac{48.66 \text{ ft}^3 \text{ SO}_2}{302,400 \text{ ft}^3 \text{ stack gas}} \times 1,000,000 \text{ parts/million parts} = \underline{160.9 \text{ ppmv}}$$

The generators comply with the 500 ppmv emission limit.

Emergency Generators #1 (EP-16) and #2 (EP-17)

Stack gas exhaust rate = 3630 acfm [3630 acfm × 60 min/hr = 217,800 ft³/hr]
Engine rating = 685 hp
Stack gas temperature = 915°F or (915 + 460)°R = 1375°R

Calculate the ppmv of SO₂ in stack gas:

1. SO₂ emission rate = 685 hp × 0.0034 lb/hp-hr = 2.33 lb/hr
2. Estimate SO₂ stack gas volume in one hour of operation:

One lb-mole SO₂ weighs 64 lb and occupies 379.5 ft³ at 60°F
2.33 lb/hr × 379.5 ft³/64 lb = 13.81 ft³/hr at 60°F (or 60 + 460 °R = 520°R)
13.81 ft³/hr × 1375°R/520°R = 36.52 ft³/hr (at 915°F/1375°R)

3. Concentration of SO₂ in stack gas based on hourly exhaust gas volume is:

$$\frac{36.52 \text{ ft}^3 \text{ SO}_2}{217,800 \text{ ft}^3 \text{ stack gas}} \times 1,000,000 \text{ parts/million parts} = \underline{167.7 \text{ ppmv}}$$

The generators comply with the 500 ppmv emission limit.

Emergency Fire Pump Engine (EP-06)

AP-42 Table 3.4-1 lists the emission factor for SO₂ as 0.00809S lb per hp-hr, where S is the percent sulfur by weight in the fuel. Although this engine is not classified as "large" (i.e., greater than 600 hp) according to the AP-42 table, the SO₂ emission factor from this table is conservative and is the only internal combustion engine SO₂ emission factor that is given as a function of fuel sulfur content. Fuel oil sulfur is limited at this installation to a maximum of 0.421 percent. SO₂ emissions at the maximum fuel oil sulfur content are: 0.00809(0.421) lb/hp-hr = 0.0034 lb/hp-hr.

Stack gas exhaust rate = 953 acfm [953 acfm × 60 min/hr = 57,180 ft³/hr]

Engine rating = 255 hp

Stack gas temperature = 815°F or (815 + 460)°R = 1275°R

Calculate the ppmv of SO₂ in stack gas:

1. SO₂ emission rate = 255 hp × 0.0034 lb/hp-hr = 0.867 lb/hr

2. Estimate SO₂ stack gas volume in one hour of operation:

One lb-mole SO₂ weighs 64 lb and occupies 379.5 ft³ at 60°F

0.867 lb/hr × 379.5 ft³/64 lb = 5.14 ft³/hr at 60°F (or 60 + 460 °R = 520°R)

5.14 ft³/hr × 1275°R/520°R = 12.61 ft³/hr (at 815°F/1275°R)

3. Concentration of SO₂ in stack gas based on hourly exhaust gas volume is:

$$\frac{12.61 \text{ ft}^3 \text{ SO}_2}{57,180 \text{ ft}^3 \text{ stack gas}} \times 1,000,000 \text{ parts/million parts} = \underline{220.5 \text{ ppmv}}$$

The engine complies with the 500 ppmv emission limit.

Emergency Generator Engine (EP-07)

AP-42 Table 3.4-1 lists the emission factor for SO₂ as 0.00809S lb per hp-hr, where S is the percent sulfur by weight in the fuel. Although this engine is not classified as "large" (i.e., greater than 600 hp) according to the AP-42 table, the SO₂ emission factor from this table is conservative and is the only internal combustion engine SO₂ emission factor that is given as a function of fuel sulfur content. Fuel oil sulfur is limited at this installation to a maximum of 0.421 percent. SO₂ emissions at the maximum fuel oil sulfur content are: 0.00809(0.421) lb/hp-hr = 0.0034 lb/hp-hr.

Stack gas exhaust rate = 675 acfm [675 acfm × 60 min/hr = 40,500 ft³/hr]

Engine rating = 166 hp

Stack gas temperature = 950°F or (950 + 460)°R = 1410°R

Calculate the ppmv of SO₂ in stack gas:

1. SO₂ emission rate = 166 hp × 0.0034 lb/hp-hr = 0.564 lb/hr

2. Estimate SO₂ stack gas volume in one hour of operation:

One lb-mole SO₂ weighs 64 lb and occupies 379.5 ft³ at 60°F

$$0.564 \text{ lb/hr} \times 379.5 \text{ ft}^3/64 \text{ lb} = 3.34 \text{ ft}^3/\text{hr at } 60^\circ\text{F (or } 60 + 460 \text{ }^\circ\text{R} = 520^\circ\text{R)}$$

$$3.34 \text{ ft}^3/\text{hr} \times 1410^\circ\text{R}/520^\circ\text{R} = 9.07 \text{ ft}^3/\text{hr (at } 950^\circ\text{F}/1410^\circ\text{R)}$$

3. Concentration of SO₂ in stack gas based on hourly exhaust gas volume is:

$$\frac{9.07 \text{ ft}^3 \text{ SO}_2}{40,500 \text{ ft}^3 \text{ stack gas}} \times 1,000,000 \text{ parts/million parts} = \underline{224 \text{ ppmv}}$$

The engine complies with the 500 ppmv emission limit.

STATEMENT OF BASIS

Voluntary Limitations

In order to qualify for this Intermediate State Operating Permit, the permittee has accepted voluntary, federally enforceable emission limitations. Per 10 CSR 10-6.065(5)(C)1.A.(VI), if these limitations are exceeded, the installation immediately becomes subject to 10 CSR 10-6.065(6) and enforcement action for operating without a valid part 70 operating permit. It is the permittee's responsibility to monitor emission levels and apply for a part 70 operating permit far enough in advance to avoid this situation. This may mean applying more than eighteen months in advance of the exceedance, since it can take that long or longer to obtain a part 70 operating permit.

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) Intermediate Operating Permit Application, received July 10, 2006;
- 2) 2005 Emissions Inventory Questionnaire, received March 30, 2006; and
- 3) U.S. EPA document AP-42, "*Compilation of Air Pollutant Emission Factors*;" Volume I, Stationary Point and Area Sources, Fifth Edition.

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.

None.

Other Air Regulations Determined Not to Apply to the Operating Permit

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

10 CSR 10-3.060, "*Maximum Allowable Emissions of Particulate Matter From Fuel Burning Equipment Used for Indirect Heating*," does not apply to the natural gas-fired boiler (EU0010) subject to the provisions of 10 CSR 10-6.070. 10 CSR 10-3.060 does not apply to sources subject to 10 CSR 10-6.070, as stated in paragraph 10 CSR 10-3.060(3)(E).

10 CSR 10-6.100, "*Alternate Emissions Limit*," does not apply to this installation. Per 10 CSR 10-6.100 (1)(A), it is exempt because it is in an ozone attainment area.

10 CSR 10-6.220, "*Restriction of Emission of Visible Air Contaminants*," does not apply to the internal combustion engines that power the emergency generators and fire pump. Paragraph 10 CSR 10-6.220 (1)(A) exempts internal combustion engines operated outside the Kansas City and St. Louis metropolitan areas.

10 CSR 10-6.260, "*Restriction of Emissions of Sulfur Compounds*," does not apply to any emission unit at the installation that combusts solely natural gas or is subject to a rule in 10 CSR 10-6.070, such as the 12.56 MMBtu/hr boiler designated EU0010.

10 CSR 10-6.400, "*Restriction of Emission of Particulate Matter from Industrial Processes*," does not apply to the boilers or other heating units at the facility because paragraph 10 CSR 10-6.400(1)(B)6. exempts sources that burn fuel for indirect heating.

10 CSR 10-6.400, "*Restriction of Emission of Particulate Matter from Industrial Processes*," does not apply to the emergency generators because paragraph 10 CSR 10-6.400(1)(B)8. exempts sources that are exempt from construction permitting.

Construction Permit Revisions

The following revisions were made to construction permits for this installation:

Permit to Construct #1197-015 states that the emergency generators will combust #2 fuel oil with a sulfur content by weight of 0.415 percent or less. In its Intermediate Operating Permit application, the permittee requested a Plant-Wide limit of 0.421 percent sulfur in fuel oil used at the site. No limitation on the sulfur content of the fuel was made a condition of 1197-015, so the proposed limitation of 0.421 percent sulfur in fuel that is a part of this operating permit may be used without having to make a modification to 1197-015.

New Source Performance Standards (NSPS) Applicability

- 1) 40 CFR 60, Subpart Dc, *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units*. This standard applies to boilers with a heat input capacity greater than or equal to 10 MMBtu/hr but less than 100 MMBtu/hr that were constructed after June 9, 1989. Although the three boilers at this installation have heat input capacities within the range covered by the regulation, only EU0010, a Cleaver Brooks boiler rated at 12.55 MMBtu/hr heat input, was constructed after June 9, 1989. The other two steam generating units at the facility, EU0020 and EU0030, were constructed in 1966 and, therefore, are not subject to this NSPS.
- 2) 40 CFR 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*. Two 12,000-gallon (45.46 m³) fuel oil tanks were constructed at the site in 1995. These are the North above-ground distillate fuel oil storage tank (EP-19) and the South above-ground distillate fuel oil storage tank (EP-20). This subpart applies to tanks that have a capacity of 75 cubic meters (19,812.75 gallons), which means that the 12,000 gallon fuel oil storage tanks are not subject to the NSPS. In this operating permit the fuel storage tanks are listed as units without limitations.

Maximum Available Control Technology (MACT) Applicability

None.

National Emission Standards for Hazardous Air Pollutants (NESHAP) Applicability

In the permit application and according to APCP records, there was no indication that any Missouri Air Conservation Law, Asbestos Abatement, 643.225 through 643.250; 10 CSR 10-6.080, Emission Standards for Hazardous Air Pollutants, Subpart M, National Standards for Asbestos; and 10 CSR 10-6.250, Asbestos Abatement Projects - Certification, Accreditation, and Business Exemption Requirements apply to this installation. The installation is subject to these regulations if they undertake any projects that deal with or involve any asbestos containing materials. None of the installation's operating projects underway at the time of this review deal with or involve asbestos containing material. Therefore, the above regulations were not cited in the operating permit. If the installation should undertake any construction or demolition projects in the future that deal with or involve any asbestos containing materials, the installation must follow all of the applicable requirements of the above rules related to that specific project.

Other Regulatory Determinations

The MDNR has determined that seven natural gas-fired indirect heating units used to heat air (for building heat) and water are insignificant activities for operating permit purposes. The maximum heat input rating of the units ranges from 0.0714 to 0.3 MMBtu per hour and each unit's potential to emit regulated air contaminants is less than the State *de minimis* emission level for each contaminant. Natural gas combustion produces no visible emissions and negligible sulfur oxide emissions. Therefore, the combustion gases from these units will continuously comply with 10-CSR 10-6.220 and 10 CSR 10-3.060 and no monitoring, recordkeeping or reporting is necessary. Therefore, as a practical matter these units are insignificant and are listed in this permit as Emission Units Without Limitations

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 Air Pollution Control Program'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 Air Pollution Control Program a schedule for achieving compliance for that regulation(s).

Prepared by:



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