



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: OP2010-080
Expiration Date: JUL 18 2015
Installation ID: 097-0062
Project Number: 2003-04-114

Installation Name and Address

The Empire Energy Center (Energy Center)
2537 Fir Road
Sarcoxie, MO 64862
Jasper County

Parent Company's Name and Address

The Empire District Electric Company (Empire District)
P.O. Box 127
Joplin, MO 64802

Installation Description:

The Energy Center consists of two simple-cycle combustion turbines with an electrical output capacity of 90 MW each and two Twin Pac combustion turbine units consisting of two turbines coupled to a single electrical generator with an electrical output capacity of 55 MW per Twin Pac. All units may be fired with either natural gas or distillate fuel oil (No. 1, No. 2, or Jet A). Other stationary sources of emissions include an emergency fire pump and fuel oil storage tanks.

JUL 19 2010

Effective Date


Director or Designee
Department of Natural Resources

Table of Contents

I. INSTALLATION DESCRIPTION AND EQUIPMENT LISTING	4
II. PLANT WIDE EMISSION LIMITATIONS.....	6
III. EMISSION UNIT SPECIFIC EMISSION LIMITATIONS	7
EP4 – TURBINE 1	7
EP5 – TURBINE 2	7
PERMIT CONDITION EP5-001	7
10 CSR 10-6.060 Construction Permit Required; Permit 0181-EPA	7
PERMIT CONDITION (EP4 and EP5)-002.....	8
10 CSR 10-6.060 Construction Permit Required; Permit 0395-015	8
PERMIT CONDITION (EP4 and EP5)-003.....	10
10 CSR 10-6.260 Restriction of Emission of Sulfur Compounds	10
PERMIT CONDITION (EP4 and EP5)-004.....	11
10 CSR 10-6.362 Clean Air Interstate Rule Annual NOx Trading Program.....	11
10 CSR 10-6.364 Clean Air Interstate Rule Seasonal NOx Trading Program	11
10 CSR 10-6.366 Clean Air Interstate Rule SOx Trading Program.....	11
EP6-EP9 – TWO DUAL FUEL SIMPLE CYCLE TWIN PAC TURBINES	11
EP10 – EMERGENCY FIRE EQUIPMENT	11
PERMIT CONDITION (EP6-EP10)-001	11
10 CSR 10-6.060 Construction Permit Required; Construction Permit 112002-009	11
PERMIT CONDITION (EP6 through EP9)-002	14
10 CSR 10-6.060 Construction Permits Required.....	14
Construction Permit 112002-009, Issued July 25, 2002, Amended February 17, 2004	14
10 CSR 10-6.070 New Source Performance Regulations	14
40 CFR Part 60, Subpart A General Provisions and Subpart GG Standards of Performance for Stationary Gas Turbines - Nitrogen Oxides (NO _x).....	14
PERMIT CONDITION (EP6 through EP9)-003	16
10 CSR 10-6.060 Construction Permits Required.....	16
Construction Permit 112002-009, Issued July 25, 2002, Amended February 17, 2004	16
10 CSR 10-6.070 New Source Performance Regulations	16
40 CFR Part 60, Subpart A General Provisions and Subpart GG Standards of Performance for Stationary Gas Turbines - Sulfur Dioxide (SO ₂)	16
PERMIT CONDITION (EP6 through EP9)-004	19
10 CSR 10-6.060 Construction Permits Required.....	19
Construction Permit 112002-009, Issued July 25, 2002, Amended February 17, 2004 - PM ₁₀	19
PERMIT CONDITION (EP6 through EP10)-005	20
10 CSR 10-6.060 Construction Permits Required.....	20
Construction Permit 112002-009, Issued July 25, 2002, Amended February 17, 2004 - Volatile Organic Compounds (VOC)	20
PERMIT CONDITION (EP6 through EP10)-006	21
10 CSR 10-6.060 Construction Permits Required.....	21
Construction Permit 112002-009, Issued July 25, 2002, Amended February 17, 2004 - Carbon Monoxide (CO).....	21
PERMIT CONDITION (EP6 through EP9)-007	21
10 CSR 10-6.270 Acid Rain Source Permits Required	21
PERMIT CONDITION (EP6 through EP9)-008	22
10 CSR 10-6.362 Clean Air Interstate Rule Annual NOx Trading Program.....	22
10 CSR 10-6.364 Clean Air Interstate Rule Seasonal NOx Trading Program	22
10 CSR 10-6.366 Clean Air Interstate Rule SOx Trading Program.....	22
PERMIT CONDITION EP10-009.....	22
10 CSR 10-6.260 Restriction of Emission of Sulfur Compounds	22
IV. CORE PERMIT REQUIREMENTS	24

V. GENERAL PERMIT REQUIREMENTS	30
VI. ATTACHMENTS	36
ATTACHMENT A	37
Individual Turbine Operational Schedule	37
ATTACHMENT B	38
10 CSR 10-6.260 Compliance Demonstration	38
ATTACHMENT C	39
Operational Schedule of the Four (4) Pratt & Whitney Turbines.....	39
ATTACHMENT D	40
Emergency Fire Water Pump Operation Schedule.....	40
ATTACHMENT E	41
SO ₂ Compliance Worksheet.....	41
ATTACHMENT F.....	42
Daily SO ₂ Compliance Worksheet.....	42
ATTACHMENT G	43
Daily PM ₁₀ Compliance Worksheet.....	43
ATTACHMENT H	44
VOC Compliance Worksheet.....	44
ATTACHMENT I.....	45
CO Compliance Worksheet	45
ATTACHMENT J	46
TITLE IV: ACID RAIN PERMIT	46
ATTACHMENT K	52
Title V: Clean Air Interstate Rule Permit.....	52

I. Installation Description and Equipment Listing

INSTALLATION DESCRIPTION

The Energy Center consists of two simple-cycle combustion turbines with an electrical output capacity of 90 MW each and two Twin Pac combustion turbine units consisting of two turbines coupled to a single electrical generator with an electrical output capacity of 55 MW per Twin Pac. All units may be fired with either natural gas or distillate fuel oil. Other sources of emissions include an emergency fire pump and fuel oil storage tanks.

Reported Air Pollutant Emissions, tons per year								
Year	Particulate Matter ≤ Ten Microns (PM-10)	Particulate Matter ≤ 2.5 Microns (PM-2.5)	Sulfur Oxides (SO _x)	Nitrogen Oxides (NO _x)	Volatile Organic Compounds (VOC)	Carbon Monoxide (CO)	Lead (Pb)	Hazardous Air Pollutants (HAPs)
2008	3.37	3.37	0.40	40.81	1.07	6.01	0	0
2007	3.59	3.59	0.01	59.13	2.31	8.03	0	0
2006	4.55	4.51	0.02	78.56	2.60	12.02	0	0
2005	5.46	5.42	6.19	188.46	6.73	8.80	0	0
2004	1.93	1.93	1.69	33.38	1.75	4.23	0	0

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 Unit #	Description of Emission Unit
EP4	Turbine 1
EP5	Turbine 2
EP6	Turbine 3A
EP7	Turbine 3B
EP8	Turbine 4A
EP9	Turbine 4B
EP10	Emergency Equipment

EMISSION UNITS WITHOUT LIMITATIONS

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

Description of Emission Source	
EP1	Truck fuel oil unloading, 42 Thousand Gal/hr
EP2	5,250,000-gallon distillate fuel storage tank, installed 1978
EP3	420,000-gallon distillate fuel day tank 1, installed 1978
EP11	180,000-gallon distillate fuel day tank 2, installed 2002

DOCUMENTS INCORPORATED BY REFERENCE

These documents have been incorporated by reference into this permit.

- 1) Construction Permit No. 0181-EPA, Issued January 7, 1981
- 2) Construction Permit No. 0395-015, Issued February 28, 1995
- 3) Construction Permit No. 112002-009, Issued July 25, 2002
- 4) Construction Permit No. 112002-009 Amendment Letter Dated February 17, 2004
- 5) Acid Rain Permit, Issued
- 6) Clean Air Interstate Rule Permit, Issued

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.

There are no plant-wide emission limitations that apply to this facility.

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.

IV. EP4 – TURBINE 1		
Emission Unit	Description	Manufacturer/Model #
EP4	Simple cycle distillate fuel oil and natural gas electric generating turbine. Installed prior to 1978.	Westinghouse 501D

V. EP5 – TURBINE 2		
Emission Unit	Description	Manufacturer/Model #
EP5	Simple cycle distillate fuel oil and natural gas electric generating turbine. Installed 1981.	Westinghouse 501D

<p>PERMIT CONDITION EP5-001 10 CSR 10-6.060 Construction Permit Required; Permit 0181-EPA Prevention of Significant Air Quality Deterioration Permit. Issued on January 7, 1981 by the EPA.</p>

Note: This permit condition only applies to Turbine 2, installed in 1981, when distillate fuel oil is being used.

Emission Limitations:

No owner or operator shall cause to be discharged into the atmosphere from Turbine 2:

- 1) Nitrogen Oxides (NOx) in excess of 230 parts per million (ppm_v) instantaneous corrected to 15% oxygen on a dry basis, excluding periods of startup, shutdown, or malfunction.
- 2) Carbon Monoxide (CO) at an emission rate greater than 56 pounds per hour.
 [Special Condition No. 3]

Operation Limitation:

No owner or operator shall burn any fuel which contains sulfur in excess of 0.8 percent by weight in Turbine 2. [Special Condition No. 4]

Monitoring/Recordkeeping:

The owner or operator shall monitor the sulfur content of the distillate fuel oil being fired in accordance with 40 CFR 60.334(h). Reports are to be submitted in accordance with 40 CFR 60.7(c). Excess sulfur is defined in 40 CFR 60.334 as any daily period during which the sulfur content of the fuel being fired in the gas turbine exceeds 0.8 percent by weight. [Special Condition No. 6]

- 1) The permittee shall monitor the total sulfur content of the fuel oil being fired in Turbine 2 (EP5). The sulfur content of the fuel must be determined using total sulfur methods described in §60.335(b)(10) as listed below. [§60.334(h)(1)]

- 2) Analyze the samples for the total sulfur content of the fuel using ASTM D129–00, D2622–98, D4294–02, D1266–98, D5453–00 or D1552–01 (all of which are incorporated by reference, *see* §60.17). [§60.335(b)(10)]
- 3) For fuel oil, use one of the total sulfur sampling options and the associated sampling frequency described in Sections 2.2.3, 2.2.4.1, 2.2.4.2, and 2.2.4.3 of appendix D to part 75 of chapter 40 (*i.e.*, flow proportional sampling, daily sampling, sampling from the unit's storage tank after each addition of fuel to the tank, or sampling each delivery prior to combining it with fuel oil already in the intended storage tank). [§60.334(i)(1)]

Reporting:

The permittee shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after any deviation from or exceedance of any of the terms imposed by this permit condition, or any malfunction which causes a deviation from or exceedance of this permit condition.

PERMIT CONDITION (EP4 and EP5)-002

10 CSR 10-6.060 Construction Permit Required; Permit 0395-015

Addition of Natural Gas fuel to existing simple cycle turbines.

Issued February 28, 1995.

Emission Limitation:

- 1) Best Available Control Technology for the emissions of nitrogen oxides from the operation of each of these turbines at all load conditions is set at 42 parts per million (ppm) by volume, one hour rolling average, corrected to fifteen (15) percent oxygen (O₂) on a dry basis when burning natural gas, except during periods of startup, shutdown, or malfunction. This shall be achieved using water injection. [Special Condition No. 1]
- 2) Empire District is exempt from Emission Limitation No. 1 when the ice fog is deemed a traffic hazard by the owner or operator of the turbine. "Ice Fog" is defined as an atmospheric suspension of highly reflective ice crystals. [Special Condition No 10]

Operation Limitation:

- 1) The hours of operation from each turbine shall not total more than 5,000 hours of natural gas operation per 12-month period. This operating restriction is established on a rolling monthly basis, with the end of each month establishing a new yearly period. [Special Condition No. 2]
- 2) No fuels other than natural gas or distillate fuel oils shall be combusted in the turbines at any time. [Special Condition No. 3]
- 3) Empire District shall apply to the Air Pollution Control Program's Enforcement Section for an exemption from using water injection as stated in Emission Limitation 1, during periods of drought. [Special Condition No. 11]

Monitoring/Recordkeeping:

- 1) Records shall be kept on site which details the number of hours each turbine is operated, on a per-month basis. This information shall be made immediately available for inspection to the Department of Natural Resources' personnel upon verbal request.
- 2) In order to facilitate compliance with this condition, suitable instruments shall be installed, and maintained in operable condition, that will record the total number of hours each turbine is in operation. [Special Condition No. 2]

- 3) Attachment A or equivalent form of the company's own design can be used to track the hours per month and 12-month rolling total of hours each turbine was operated.
- 4) Empire District shall install and operate a continuous monitoring system to monitor and record the fuel consumption and the ratio of water to fuel being fired in the turbines. This system shall be accurate to within a ± 5 percent, and shall be approved by the Air Pollution Control Program Director. These records shall be kept on-site for a period of at least five years, and shall be made available to Department personnel during any site inspection. Excess emissions shall be reported to the Department on a quarterly basis. [Special Condition No. 4]
- 5) At least every 12 months, Empire District shall obtain from the natural gas vendor the typical sulfur content weight percent and keep this information on site. [Special Condition No. 5]

Reporting:

- 1) The notification and recordkeeping requirements of 40 CFR 60.7(c) shall be adhered to as they pertain to 40 CFR 60.334(c). Briefly, this requires that semi-annual reports to be submitted to the Director, detailing any exceedances of applicable emission limits. [Special Condition No. 6]
- 2) Empire District shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten (10) days after the end of each month, if the 12 month cumulative total records show that the source exceeded the limitation of 5,000 hours of operation. [Special Condition No. 12]
- 3) Empire District shall maintain for five years any compliance test reports of quality assurance checks for the monitoring system. [Special Condition No 15]
- 4) Empire District shall report promptly any deviations from permit requirements, including those attributable to upsets, and the report shall include the cause of such deviations and any corrective actions or preventative measures taken. Corrective actions may include a requirement for additional stack testing, or more frequent monitoring, or could trigger implementation of a corrective action plan. [Special Condition No 16]
- 5) Shutdown. Empire District shall notify the Director at least 24 hours in advance of the shutdown of any control equipment and, if the shutdown would cause an increase in emission of air contaminants over permitted limits, of a shutdown of any process equipment. At the time of notification, Empire District shall also notify the Director of the cause of the shutdown and the estimated duration. Empire District shall notify the Director when the shutdown is over. [Special Condition No. 17]
- 6) Breakdown. Empire District shall notify the Director as soon as practicable of a breakdown of more than one hour duration of any control equipment and, if the breakdown causes an increase in the emission of air contaminants, of a breakdown of any process equipment. At the time of notification or as soon thereafter as possible, Empire District shall also notify the Director of the cause of the breakdown and the estimated duration. Empire District shall notify the Director when the breakdown is over. [Special Condition No. 18]
- 7) Operation changes. In any shutdown or breakdown Empire District shall as soon as practicable take all practical steps to modify operations to reduce the emission of air contaminants. The Director may require feasible and practical modifications in the operation to reduce emissions of air contaminants. [Special Condition No. 19]

PERMIT CONDITION (EP4 and EP5)-003
 10 CSR 10-6.260 Restriction of Emission of Sulfur Compounds

Emission Limitations:

- 1) Emissions from any new source operation shall not contain more than five hundred parts per million by volume (500 ppm_v) 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 (µg/m ³))	Annual arithmetic mean
	0.14 ppm (365 µg/m ³)	24-hour average not to be exceeded more than once per year
	0.5 ppm (1300 µg/m ³)	3-hour average not to be exceeded more than once per year
Hydrogen Sulfide (H ₂ S)	0.05 ppm (70 µg/m ³)	½-hour average not to be exceeded over 2 times per year
	0.03 ppm (42 µg/m ³)	½-hour average not to be exceeded over 2 times in any 5 consecutive days
Sulfuric Acid (H ₂ SO ₄)	10 µg/m ³	24-hour average not to be exceeded more than once in any 90 consecutive days
	30 µg/m ³	1-hour average not to be exceeded more than once in any 2 consecutive days

Monitoring/Record Keeping/Reporting:

Turbines 1 and 2 (EP4 and EP5) will always be in compliance with this regulation. Calculations demonstrating compliance are in Attachment B. The permittee shall keep this attachment with this permit. No monitoring or reporting is required for this permit condition.

PERMIT CONDITION (EP4 and EP5)-004

10 CSR 10-6.362 Clean Air Interstate Rule Annual NOx Trading Program
 10 CSR 10-6.364 Clean Air Interstate Rule Seasonal NOx Trading Program
 10 CSR 10-6.366 Clean Air Interstate Rule SOx Trading Program

Emission Limitation:

Empire District shall obtain a Clean Air Interstate Rule (CAIR) Source Permit for the combustion turbine generator EP4 and EP5.

A CAIR Permit (Missouri Department of Natural Resources project 2007-06-074, ORIS Code 6223) is being issued to Empire District in conjunction with this Title V permit. (See Attachment K)

Monitoring/Recordkeeping:

Empire District shall retain the most current CAIR permit issued to this installation on-site and shall immediately make such permit available to any Missouri Department of Natural Resources’ personnel upon request.

Reporting:

Empire District shall report any deviations of the monitoring/recordkeeping requirements of this permit condition in the semi-annual monitoring report and annual compliance certification required by Section V of this permit.

VI. EP6-EP9 – TWO DUAL FUEL SIMPLE CYCLE TWIN PAC TURBINES		
Emission Unit	Description	Manufacturer/Model #
EP6	Turbine 3A – 27.5 megawatt dual fuel turbine. Installed 2003	Pratt & Whitney FT8
EP7	Turbine 3B – 27.5 megawatt dual fuel turbine. Installed 2003	Pratt & Whitney FT8
EP8	Turbine 4A – 27.5 megawatt dual fuel turbine. Installed 2003	Pratt & Whitney FT8
EP9	Turbine 4B – 27.5 megawatt dual fuel turbine. Installed 2003	Pratt & Whitney FT8

VII. EP10 – EMERGENCY FIRE EQUIPMENT		
Emission Unit	Description	Manufacturer/Model #
EP10	360 horsepower emergency fire pump. Installed 2003	Patterson/ JU6HUF50

PERMIT CONDITION (EP6-EP10)-001

10 CSR 10-6.060 Construction Permit Required; Construction Permit 112002-009
 Construction of Two Dual Fuel Twin Pack Generators
 Issued July 25, 2002, and Amended February 17, 2004.

Operation Limitation:

- 1) Except during periods of start up and shutdown Empire District is limited to 3,300 hours for each of the four Pratt and Whitney turbines in any consecutive 12 month period. This is based on natural gas being the main fuel combusted. Empire District may combust distillate fuel oil for up to 500 of the 3,300 hours of operation. [Special Condition No. 1.A.1]

- 2) If Empire District wishes to use another type of fuel, increase the number of hours in which distillate fuel oil can be combusted, or increase the hours of operation limitation, the BACT analysis and ambient air quality will need to be reevaluated. [Special Condition No. 1.A.2 and 3]
- 3) Except during periods of startup and shutdown Empire shall limit the total hours of operation for the four Pratt and Whitney turbines to less than 5,000 concurrent hours in any consecutive 12-month period. [Special Condition No. 1.B] If multiple units were to be run for one (1) hour, this would be considered one (1) concurrent hour. If a single unit were to be run for one (1) hour, this too would be considered one (1) concurrent hour.
- 4) Empire District shall only operational test the emergency fire water pump between the hours of 1:00 p.m. and 5:00 p.m. and shall limit the total hours of operation to less than 300 hours in any consecutive 12-month period. [Special Condition No. 1.C]
- 5) Except during periods of start-up and shutdown, Empire District shall limit Nitrogen Oxide (NO_x) emissions from each of the Pratt & Whitney turbines (emission points EP-06, EP-07, EP-08, and EP-09) when burning natural gas to 25 parts per million by volume (ppm_{vd}) corrected to 15 percent (%) oxygen on a dry basis for a three (3) hour rolling average. [Permit 112002-009, Special Condition 2.A]
- 6) Except during periods of start-up and shutdown, Empire District shall limit NO_x emissions from each of the Pratt & Whitney turbines ((emission points EP-06, EP-07, EP-08, and EP-09) when burning distillate fuel oil to 42 ppm_{vd} corrected to 15% oxygen on a dry basis for a three (3) hour rolling average. [Permit 112002-009, Special Condition 2.B]

Monitoring/Record Keeping:

- 1) Empire District shall keep monthly and the sum of the most recent 12-month records that are adequate to determine compliance with operation limitation 1 (individual turbine hours of operation). Attachment A, *Individual Turbine Operational Schedule*, or an equivalent form of the company's own design, is suitable for this purpose. The most recent 60 months of records shall be maintained on-site and shall be made immediately available to Missouri Department of Natural Resources' personnel upon request. [Permit 112002-009, Special Condition 5.A and 5.B]
- 2) Empire District shall keep monthly, and the sum of the most recent 12-months records that are adequate to determine compliance with operation limitation 3. (total installation concurrent hours of operation). Attachment C, *Operational Schedule of the Four Pratt & Whitney Turbines*, or an equivalent form of the company's own design, is suitable for this purpose. The most recent 60 months of records shall be maintained on-site and shall be made immediately available to Missouri Department of Natural Resources' personnel upon request.. [Permit 112002-009, Condition 5.C]
- 3) Empire District shall keep monthly and the sum of the most recent 12-months records that are adequate to determine compliance with operation limitation 4 (emergency fire water pump hours of operation). Attachment D, *Emergency Fire Water Pump Operational Schedule*, or an equivalent form of the company's own design, is suitable for this purpose. The most recent 60 months of records shall be maintained on-site and shall be made immediately available to Missouri Department of Natural Resources' personnel upon request. [Permit 112002-009, Special Condition 5.G]

Reporting:

- 1) Empire District shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten (10) days after the end of each month if the 12-month cumulative total records (Attachment A) show that the source exceeded operation limitation number one of 3,300 hours of operation per turbine. [Permit 112002-009, Special Condition 6.A]

- 2) Empire District shall report to the Air Pollution Control Program’s Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten (10) days after the end of each month if the 12-month cumulative total records (Attachment A) show that the source exceeded the operation limitation of 500 hours of operation per turbine for fuel oil. [Permit 112002-009, Special Condition 6.B]
- 3) Empire District shall report to the Air Pollution Control Program’s Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten (10) days after the end of each month if the 12-month cumulative total records (Attachment C) show that the source exceeded the operation limitation of 5,000 concurrent hours of operation. [Permit 112002-009, Special Condition 6.C]
- 4) Empire District shall report to the Air Pollution Control Program’s Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten (10) days after the end of each month if the 12-month cumulative total records (Attachment D) show that the source exceeded the emission limitation of 300 hours of operation for the emergency fire water pump. [Permit 112002-009, Special Condition 6.G]
 - a) Empire District shall submit reports of excess emissions and monitor downtime, using 60.7(c) as a reference standard. All excess emissions shall be defined and reported in accordance with the applicable emissions limit as stated above [Emission Limitations, 5 and 6]. If cause for excess is known, an exemption may be made such as those listed in 10 CSR 10-6.050 *Start-Up, Shutdown, and Malfunction Conditions*. For the purpose of reports required under 60.7 (c), periods of excess emissions and monitor downtime that shall be reported are defined as follows:
 - i) An hour of excess emissions shall be any unit operating hour in which the three (3) hour rolling average NO_x concentration exceeds the applicable emission limit as stated above [Emission Limitations, 5 and 6]. A three (3) hour rolling average NO_x concentration is the arithmetic average of the NO_x concentration measured by the CEMS for a given hour (corrected to 15 percent O₂) and the two (2) average NO_x concentration hours immediately preceding that unit operating hour. The hours used to determine the rolling average will be unit operating hours, excluding start-up and shutdown, and are not required to be consecutive.
 - ii) A period of monitor downtime shall be any unit operating hour in which sufficient data are not obtained to validate the hour, for either NO_x concentration or diluent (or both). Note: monitor downtime mandated by Part 75 measures is excluded for consideration.
 - iii) Each report shall include the ambient conditions (temperature, pressure, and humidity) at the time of the excess emission period and (if the owner or operator has claimed an emission allowance for fuel bound nitrogen) the nitrogen content of the fuel during the period of excess emissions. You do not have to report ambient conditions if you opt to use the worst case ISO correction factor as specified in §60.334(b)(3)(ii), or if you are not using the ISO correction equation under the provisions of §60.335(b)(1).
 - b) *Ice fog*. Each period during which an exemption provided in §60.332(f) is in effect shall be reported in writing to the Administrator quarterly. For each period the ambient conditions existing during the period, the date and time the air pollution control system was deactivated, and the date and time the air pollution control system was reactivated shall be reported. All quarterly reports shall be postmarked by the 30th day following the end of each calendar quarter. [§60.334(j)(3)]
 - c) All reports required under §60.7(c) shall be postmarked by the 30th day following the end of each 6-month period. [§60.334(j)(5)]

- 5) Empire District shall report to the Air Pollution Control Program’s Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten (10) after the end of the month, in which performance testing has been performed and indicates non-compliance with Emission Limitation Numbers 5 and 6. [Permit 112002-009, Condition 6.L]

PERMIT CONDITION (EP6 through EP9)-002

10 CSR 10-6.060 Construction Permits Required
Construction Permit 112002-009, Issued July 25, 2002, Amended February 17, 2004
10 CSR 10-6.070 New Source Performance Regulations
40 CFR Part 60, Subpart A General Provisions and Subpart GG Standards of Performance for
Stationary Gas Turbines - Nitrogen Oxides (NO_x)

Note: The NO_x emission limit of 40 CFR Part 60 Subpart GG §60.332(a)(1) is less stringent than the NO_x emission limit of Construction Permit 112002-009. Therefore, the §60.332(a)(1) emission limit is not listed as a permit condition to these units. Compliance with the BACT limits of Construction Permit 112002-009 will assure compliance with the §60.332(a)(1).

Standards for Nitrogen Oxides (NO_x)

Emission Limitations:

Empire District shall not discharge into the atmosphere in any day (12:00 a.m. to 12:00 a.m.), more than 3,708 pounds of NO_x from the four (4) Pratt & Whitney turbines (emission points EP-06, EP-07, EP-08, and EP-09) combined. [Permit 112002-009A, Special Condition 2.C]

Monitoring:

- 1) Empire District shall install, calibrate, maintain, and operate CEMS, and record the output of the systems, for measuring NO_x emissions discharged into the atmosphere. These systems shall be placed in an appropriate location on each combustion turbine's flue gas exhaust such that accurate readings are possible. [Permit 112002-009, Special Condition 4.A]
- 2) Empire District shall install, calibrate, maintain, and operate a CEMS, and record the output of the systems, for measuring the oxygen (O₂) content of the flue gases at each location where NO_x emissions are monitored. The O₂ content of the flue gases may be determined by use of either an O₂ CEMS or a CO₂ CEMS. If Empire District elects to use a CO₂ CEMS, the conversion process in EPA Method 20 must be used to correct the NO_x concentrations to 15% O₂. [Permit 112002-009, Special Condition 4.B]
- 3) The CEMS required by Monitoring Condition Number 1 shall be installed and operated according to the guidelines in 40 CFR Part 75 for the NO_x and diluent CEMS requirements. [Permit 112002-009, Condition 4.C; §60.334(b)]
- 4) The CEMS required by Monitoring Condition Number 2 shall be installed and operated according to the guidelines in 40 CFR §60.13, *Monitoring requirements*; in 40 CFR Part 60 Appendix B, Performance Specification 3 - *Specifications and test procedures of O₂ and CO₂ Continuous Emission Monitoring Systems in Stationary Sources*; and in 40 CFR Appendix F, *Quality Assurance Procedures*. [Permit 112002-009, Special Condition 4.D; §60.334(b)]
 - a) Each CEMS must be installed and certified according to PS 2 and 3 (for diluent) of 40 CFR Part 60, Appendix B, except the 7-day calibration drift is based on unit operating days, not calendar days. Appendix F, Procedure 1 is not required. The relative accuracy test audit (RATA) of the NO_x and diluent monitors may be performed individually or on a combined basis, *i.e.*, the relative accuracy tests of the CEMS may be performed either: [§60.334(b)(1)]
 - i) On a ppm basis (for NO_x) and a percent O₂ basis for oxygen; or [§60.334(b)(1)(i)]

- ii) On a ppm at 15 percent O₂ basis; or [§60.334(b)(1)(ii)]
- iii) On a ppm basis (for NO_x) and a percent CO₂ basis (for a CO₂ monitor that uses the procedures in Method 20 to correct the NO_x data to 15 percent O₂). [§60.334(b)(1)(iii)]
- b) As specified in §60.13(e)(2), during each full unit operating hour, each monitor must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each 15-minute quadrant of the hour, to validate the hour. For partial unit operating hours, at least one valid data point must be obtained for each quadrant of the hour in which the unit operates. For unit operating hours in which required quality assurance and maintenance activities are performed on the CEMS, a minimum of two valid data points (one in each of two quadrants) are required to validate the hour. [§60.334(b)(2)]
- c) For purposes of identifying excess emissions, CEMS data must be reduced to hourly averages as specified in §60.13(h). [§60.334(b)(3)]
 - i) For each unit operating hour in which a valid hourly average, as described in §60.334(b)(2), is obtained for both NO_x and diluent, the data acquisition and handling system must calculate and record the hourly NO_x emissions in the units of the applicable NO_x emission standard, *i.e.*, percent NO_x by volume, dry basis, corrected to 15 percent O₂ and International Organization for Standardization (ISO) standard conditions (if required as given in §60.335(b)(1)). For any hour in which the hourly average O₂ concentration exceeds 19.0 percent O₂, a diluent cap value of 19.0 percent O₂ may be used in the emission calculations. [§60.334(b)(3)(i)]
 - ii) A worst case ISO correction factor may be calculated and applied using historical ambient data. For the purpose of this calculation, substitute the maximum humidity of ambient air (H_o), minimum ambient temperature (T_a), and minimum combustor inlet absolute pressure (P_o) into the ISO correction equation. [§60.334(b)(3)(ii)]
 - iii) If the permittee has installed a NO_x CEMS to meet the requirements of part 75 of chapter 40, and is continuing to meet the ongoing requirements of part 75 of chapter 40, the CEMS may be used to meet the requirements of this section, except that the missing data substitution methodology provided for at 40 CFR Part 75, subpart D, is not required for purposes of identifying excess emissions. Instead, periods of missing CEMS data are to be reported as monitor downtime in the excess emissions and monitoring performance report required in §60.7(c).
- 5) Stationary gas turbines using water or steam injection for control of NO_x emissions are exempt from the NO_x emission limitation when ice fog is deemed a traffic hazard by the owner or operator of the gas turbine. [§60.332(f)]
- 6) In conducting the performance tests required in §60.8, the permittee shall use as reference methods and procedures the test methods in 40 CFR Part 60 Appendix A or other methods and procedures as specified in §60.335, except as provided for in §60.8(b). Acceptable alternative methods and procedures are given in §60.335(c). [§60.335(a)]
- 7) The permittee shall determine compliance with the applicable nitrogen oxides emission limitation as follows: [§60.335(b)]
 - a) For each run, the mean nitrogen oxides emission concentration (NO_{xo}) corrected to 15 percent O₂ shall be corrected to ISO standard conditions using the following equation:

$$NO_x = (NO_{xo}) \left(\frac{P_r}{P_o} \right)^{0.5} e^{19(H_o - 0.00633)} \left(\frac{288 \text{ K}}{T_a} \right)^{1.53}$$

[§60.335(b)(1)]

Where:

NO_X = emission rate of NO_X at fifteen percent (15%) O_2 and ISO standard ambient conditions, volume percent

NO_{XO} = observed NO_X concentration, ppm by volume.

P_r = reference combustor inlet absolute pressure at 101.3 kilopascals ambient pressure, mm Hg.

P_o = observed combustor inlet absolute pressure at test, mm Hg.

H_o = observed humidity of ambient air, g H_2O /g air.

e = transcendental constant, 2.718.

T_a = ambient temperature, K.

- 8) The permittee may use the following as alternatives to the reference methods and procedures specified in §60.335: [§60.335(c)]
- a) Instead of using the equation in §60.335(b)(1), manufacturers may develop ambient condition correction factors to adjust the nitrogen oxides emission level measured by the performance test as provided in §60.8 to ISO standard day conditions. [§60.335(c)(1)]

Record Keeping:

Empire District shall use data obtained from the CEMS to demonstrate compliance with Emission Limitation Condition 1 (daily NO_X emission limitation). These records are required only if distillate fuel oil is combusted during any part of a day (12:00 a.m. to 12:00 a.m.). The most recent 60 months of records shall be maintained on-site and shall be made immediately available to Missouri Department of Natural Resources' personnel upon request. [Permit 112002-009, Special Condition 5.J]

Reporting:

- 1) Empire District shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten (10) days after the day in which the daily NO_X emissions records show that the source exceeded the daily NO_X emission limitation of 3,708 pounds of NO_X per day [Permit 112002-009, Condition 6.H]
- 2) The permittee shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten (10) days after any exceedance of any of the terms imposed by this condition, or any malfunction which causes an exceedance of this condition.

PERMIT CONDITION (EP6 through EP9)-003

10 CSR 10-6.060 Construction Permits Required

Construction Permit 112002-009, Issued July 25, 2002, Amended February 17, 2004

10 CSR 10-6.070 New Source Performance Regulations

40 CFR Part 60, Subpart A General Provisions and Subpart GG Standards of Performance for Stationary Gas Turbines - Sulfur Dioxide (SO_2)

Note: The permittee has elected to use only pipeline grade natural gas which meets the definition of "natural gas" in §60.331(u). Therefore, the permittee is exempt from monitoring the total sulfur content of the gaseous fuel.

Standards for Sulfur Dioxide (SO₂)

Emission Limitations:

- 1) The permittee shall comply with one or the other of the following conditions: [§60.333]
 - a) The permittee shall not cause to be discharged into the atmosphere from any stationary gas turbine (EP6 through EP9) any gases which contain sulfur dioxide in excess of 0.015 percent by volume at 15 percent oxygen and on a dry basis. [§60.333(a)]
 - b) The permittee shall not burn in any stationary gas turbine (EP6 through EP9) any fuel which contains total sulfur in excess of 0.8 percent by weight (8000 ppmw). [§60.333(b)]
- 2) Empire District shall not discharge into the atmosphere from all four (4) Pratt & Whitney turbines (emission points EP-06, EP-07, EP-08, and EP-09) and the emergency fire pump (emission point EP-10) combined, Sulfur Oxides (SO_x) in excess of 40.0 tons in any consecutive 12-month period. [Permit 112002-009A, Special Condition 2.G]
- 3) Empire District shall not discharge into the atmosphere in any day (12:00 a.m. to 12:00 a.m.), more than 1,016 pounds of SO₂ from the four (4) Pratt & Whitney turbines (emission points EP-06, EP-07, EP-08, and EP-09) combined. [Permit 112002-009A, Special Condition 2.H]

Monitoring:

- 1) The permittee shall monitor the total sulfur content of the fuel oil being fired in the turbine. The sulfur content of the fuel must be determined using total sulfur methods described in §60.335(b)(10). [§60.334(h)(1)]
 - a) To determine the sulfur content of the fuel oil, a minimum of three fuel samples shall be collected. Analyze the samples for the total sulfur content of the fuel using ASTM D129–00, D2622–98, D4294–02, D1266–98, D5453–00 or D1552–01 (all of which are incorporated by reference, *see* §60.17). [§60.335(b)(10)(i)]
 - b) The fuel analyses required above may be performed by the permittee, a service contractor retained by the permittee, the fuel vendor, or any other qualified agency. [§60.335(b)(11)]
- 2) The permittee has elected to demonstrate that the gaseous fuel combusted in the turbines (EP6 through EP9), meets the definition of natural gas in §60.331(u). The permittee shall use one of the following sources of information to make the required demonstration: [§60.334(h)(3)]
 - a) The gas quality characteristics in a current, valid purchase contract, tariff sheet or transportation contract for the gaseous fuel, specifying that the maximum total sulfur content of the fuel is 20.0 grains/100 scf or less; or [§60.334(h)(3)(i)]
 - b) Representative fuel sampling data which show that the sulfur content of the gaseous fuel does not exceed 20 grains/100 scf. At a minimum, the amount of fuel sampling data specified in Section 2.3.1.4 or 2.3.2.4 of appendix D to part 75 of chapter 40 is required. [§60.334(h)(3)(ii)]
- 3) The frequency of determining the sulfur content of the fuel oil shall be as follows: [§60.334(i)]
 - a) For fuel oil, use one of the total sulfur sampling options and the associated sampling frequency described in Sections 2.2.3, 2.2.4.1, 2.2.4.2, and 2.2.4.3 of appendix D to part 75 of chapter 40 (*i.e.*, flow proportional sampling, daily sampling, sampling from the unit's storage tank after each addition of fuel to the tank, or sampling each delivery prior to combining it with fuel oil already in the intended storage tank). [§60.334(i)(1)]

Record Keeping:

- 1) Empire District shall keep monthly records that are adequate to determine the SO_x emissions from the four (4) Pratt & Whitney turbine (emission points EP-06, EP-07, EP-08, and EP-09) and the emergency fire water pump (emissions point EP-10) combined. These records shall also indicate the

- 2) total quantity of SO_x emissions from the four (4) Pratt & Whitney turbine (emission points EP-06, EP-07, EP-08, and EP-09) and the emergency fire water pump (emissions point EP-10) combined over the previous 12-month period. Attachment E, *SO_x Compliance Worksheet*, or an equivalent form of the company's own design, is suitable for this purpose. The most recent 60 months of records shall be maintained on-site and shall be made available to Missouri Department of Natural Resources' personnel upon request. [Permit 112002-009, Special Condition 5.D]
- 3) At least once every year, after commencement of operation, Empire District shall obtain from the fuel vendors or conduct their own fuel analysis to evaluate the typical sulfur content weight percent for natural gas. The fuel consumption records and statement shall be kept on-site for five (5) years and shall be made available to the Missouri Department of Natural Resources' personnel upon request. [Permit 112002-009, Special Condition 5.H]
- 4) Empire District shall obtain, for each fuel oil delivery, from the fuel vendors or conduct their own fuel analysis to evaluate the typical sulfur content weight percent for distillate fuel oil. The fuel consumption records and statement shall be kept on-site for five (5) years and shall be made immediately available to the Missouri Department of Natural Resources' personnel upon request. [Permit 112002-009, Special Condition 5.I]
- 5) Empire District shall keep daily records that are adequate to determine compliance with Emission Limitation Number 3 (daily SO₂ emission limitation). These records are required when any fuel with a sulfur content greater than 0.04% by weight is combusted in any part the 24-hour period in any turbine. Attachment F, *Daily SO₂ Compliance Worksheet*, or an equivalent form of the company's own design, is suitable for this purpose. The most recent 60 months of records shall be maintained on-site and shall be made immediately available to Missouri Department of Natural Resources' personnel upon request. [Permit 112002-009, Condition 5.L]

Reporting:

- 1) Empire District shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten (10) days after the end of each month if the 12-month cumulative total (Attachment E) records show that the source exceeded the emission limitation of 40.0 tons of SO_x. [Permit 112002-009, Special Condition 6.D]
- 2) Empire District shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten (10) days after the day in which the daily SO₂ emissions records (Attachment G) show that the source exceeded the emission limitation of 1,016 pounds of SO₂ per day. [Permit 112002-009, Special Condition 6.J]
- 3) Pursuant to 40 CFR §60.13(i), Empire District may make use of 40 CFR Part 75, Appendix D as an alternative to the fuel monitoring and sulfur fuel sampling and analysis requirements of subpart GG of the NSPS. If Empire District elects to use this alternative, Empire District is subject to the following requirements: [Permit 112002-009, Special Condition 6.K]
 - a) Empire District shall submit an excess emissions report to the Air Pollution Control Program's Enforcement Section consistent with the format and schedule described in 40 CFR §60.7(d); and [Permit 112002-009, Special Condition 6.K.1]
 - b) For the purpose of excess emission reporting, Empire District shall report each day during which the sulfur content of the fuel exceeds the 0.8% by weight limitation. [Permit 112002-009, Special Condition 6.K.2] All fuel is to be monitored. The sulfur content of natural gas is to be supplied by supplier.

- 4) The permittee shall submit reports of excess emissions and monitor downtime, in accordance with §60.7(c). Excess emissions shall be reported for all periods of unit operation, including startup, shutdown and malfunction. For the purpose of reports required under §60.7(c), periods of excess emissions and monitor downtime that shall be reported are defined as follows: [§60.334(j)]
 - a) If the permittee is required to monitor the sulfur content of the fuel, excess emissions and monitor downtime that shall be reported are defined as follows: [§60.334(j)(2)]
 - i) For samples of gaseous fuel and for oil samples obtained using daily sampling, flow proportional sampling, or sampling from the unit's storage tank, an excess emission occurs each unit operating hour included in the period beginning on the date and hour of any sample for which the sulfur content of the fuel being fired in the gas turbine exceeds 0.8 weight percent and ending on the date and hour that a subsequent sample is taken that demonstrates compliance with the sulfur limit. [§60.334(j)(2)(i)]
 - ii) If the option to sample each delivery of fuel oil has been selected, the permittee shall immediately switch to one of the other oil sampling options (*i.e.*, daily sampling, flow proportional sampling, or sampling from the unit's storage tank) if the sulfur content of a delivery exceeds 0.8 weight percent. The permittee shall continue to use one of the other sampling options until all of the oil from the delivery has been combusted, and shall evaluate excess emissions according to §60.334(j)(2)(i). When all of the fuel from the delivery has been burned, the permittee may resume using the as-delivered sampling option. [§60.334(j)(2)(ii)]
 - iii) A period of monitor downtime begins when a required sample is not taken by its due date. A period of monitor downtime also begins on the date and hour of a required sample, if invalid results are obtained. The period of monitor downtime shall include only unit operating hours, and ends on the date and hour of the next valid sample. [§60.334(j)(2)(iii)]
 - b) All reports required under §60.7(c) shall be postmarked by the 30th day following the end of each 6-month period. [§60.334(j)(5)]
- 5) The permittee shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten (10) days after any exceedance of any of the terms imposed by this condition, or any malfunction which causes an exceedance of this condition.

PERMIT CONDITION (EP6 through EP9)-004

10 CSR 10-6.060 Construction Permits Required

Construction Permit 112002-009, Issued July 25, 2002, Amended February 17, 2004 - PM₁₀

Standards for Particulate Matter Less Than 10 Microns (PM₁₀)

Emission Limitations:

- 1) Except during periods of start-up and shutdown, Empire District shall limit emissions of Particulate Matter less than ten microns in aerodynamic diameter (PM₁₀) from each of the Pratt & Whitney turbines (emission points EP-06, EP-07, EP-08, and EP-09) when burning natural gas to less than three (3.0) pounds per hour.. [Permit 112002-009A, Special Condition 2.D]
- 2) Except during periods of start-up and shutdown, Empire District shall limit emissions of PM₁₀ from each of the Pratt & Whitney turbines (emission points EP-06, EP-07, EP-08, and EP-09) when burning distillate fuel oil to less than twelve (12.0) pounds per hour. [Permit 112002-009A, Special Condition 2.E]

- 3) Empire District shall not discharge into the atmosphere in any day (12:00 a.m. to 12:00 a.m.), more than 532 pounds of PM₁₀ from the four (4) Pratt & Whitney turbines (emission points EP-06, EP-07, EP-08, and EP-09) combined. [Permit 112002-009A, Special Condition 2.F]

Record Keeping:

Empire District shall keep daily records that are adequate to determine compliance with emission limitation number 3 (daily PM₁₀ emission limitation). These records are required only if distillate fuel oil is combusted in any part the 24-hour period in any turbine. Attachment G, *Daily PM₁₀ Compliance Worksheet*, or an equivalent form of the company's own design, is suitable for this purpose. The most recent 60 months of records shall be maintained on-site and shall be made immediately available to Missouri Department of Natural Resources' personnel upon request. [Permit 112002-009, Special Condition 5.K]

Reporting:

Empire District shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten (10) days after the day in which the daily PM₁₀ emissions records (Attachment G) show that the source exceeded the emission limitation 532 pounds of PM₁₀ per day. [Permit 112002-009, Special Condition 6.I]

PERMIT CONDITION (EP6 through EP10)-005

10 CSR 10-6.060 Construction Permits Required

Construction Permit 112002-009, Issued July 25, 2002, Amended February 17, 2004 - Volatile Organic Compounds (VOC)

Standards for Volatile Organic Compounds (VOC)

Emission Limitation:

Empire District shall not discharge into the atmosphere from all four (4) Pratt & Whitney turbines (emission points EP-06, EP-07, EP-08, and EP-09) and the emergency fire pump (emission point EP-10) combined, Volatile Organic Compounds (VOC) in excess of 40.0 tons in any consecutive 12-month period. [Permit 112002-009A, Special Condition 2.I]

Monitoring/ Record Keeping:

Empire District shall keep monthly records that are adequate to determine the VOC emissions from the four (4) Pratt & Whitney turbine (emission points EP-06, EP-07, EP-08, and EP-09) and the emergency fire water pump (emissions point EP-10) combined. These records shall also indicate the total quantity of VOC emissions from the four (4) Pratt & Whitney turbine (emission points EP-06, EP-07, EP-08, and EP-09) and the emergency fire water pump (emissions point EP-10) combined over the previous 12-month period. The records will utilize an emission factor developed during VOC compliance testing. Attachment H, *VOC Compliance Worksheet*, or an equivalent form of the company's own design, is suitable for this purpose. The most recent 60 months of records shall be maintained on-site and shall be made immediately available to Missouri Department of Natural Resources' personnel upon request. [Permit 112002-009, Special Condition 5.E]

Reporting:

Empire District shall report to the Air Pollution Control Program’s Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten (10) days after the end of each month if the 12-month cumulative total records (Attachment H) show that the source exceeded the emission limitation of 40.0 tons of VOC. [Permit 112002-009, Special Condition 6.E]

PERMIT CONDITION (EP6 through EP10)-006

10 CSR 10-6.060 Construction Permits Required

Construction Permit 112002-009, Issued July 25, 2002, Amended February 17, 2004 - Carbon Monoxide (CO)

Standards for Carbon Monoxide (CO)

Emission Limitation:

Empire District shall not discharge into the atmosphere from all four (4) Pratt & Whitney turbines (emission points EP-06, EP-07, EP-08, and EP-09) and the emergency fire pump (emission point EP-10) combined, Carbon Monoxide (CO) in excess of 100.0 tons in any consecutive 12-month period. [Permit 112002-009A, Special Condition 2.J]

Monitoring/ Record Keeping:

Empire District shall keep monthly records that are adequate to determine the CO emissions from the four (4) Pratt & Whitney turbines (emission points EP-06, EP-07, EP-08, and EP-09) and the emergency fire water pump (emissions point EP-10) combined. These records shall also indicate the total quantity of CO emissions from the four (4) Pratt & Whitney turbines (emission points EP-06, EP-07, EP-08, and EP-09) and the emergency fire water pump (emissions point EP-10) combined over the previous 12-month period. The records will utilize an emission factor developed during CO compliance testing. Attachment I, *CO Compliance Worksheet*, or an equivalent form of the company’s own design, is suitable for this purpose. The most recent 60 months of records shall be maintained on-site and shall be made immediately available to Missouri Department of Natural Resources’ personnel upon request [Permit 112002-009, Special Condition 5.F]

Reporting:

Empire District shall report to the Air Pollution Control Program’s Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten (10) days after the end of each month if the 12-month cumulative total records (Attachment I) show that the source exceeded the emission limitation of 100.0 tons of CO. [Permit 112002-009, Special Condition 6.F]

PERMIT CONDITION (EP6 through EP9)-007

10 CSR 10-6.270 Acid Rain Source Permits Required

Emission Limitation:

The permittee shall obtain an Acid Rain Source Permit for EP6 through EP9 pursuant to Title IV of the Clean Air Act.

An acid rain permit (Missouri Department of Natural Resources project 2009-11-042, ORIS Code 6223, OP2010-080) is issued to Empire District in conjunction with this Title V permit. SO₂ limitations are referenced in this Title IV: Phase II Acid Rain Permit for the installation. (See Attachment J)

Monitoring/Record Keeping:

The permittee shall retain the most current acid rain permit issued to this installation on-site and shall immediately make such permit available to any Missouri Department of Natural Resources' personnel upon request.

Reporting:

Empire District shall report any deviations of the monitoring/recordkeeping requirements of this permit condition in the semi-annual monitoring report and annual compliance certification required by Section V of this permit.

PERMIT CONDITION (EP6 through EP9)-008

10 CSR 10-6.362 Clean Air Interstate Rule Annual NO_x Trading Program
10 CSR 10-6.364 Clean Air Interstate Rule Seasonal NO_x Trading Program
10 CSR 10-6.366 Clean Air Interstate Rule SO_x Trading Program

Emission Limitation:

Empire District shall obtain a Clean Air Interstate Rule (CAIR) Source Permit for the combustion turbine generator EP6 through EP9.

A CAIR Permit (Missouri Department of Natural Resources project 2007-06-074, ORIS Code 6223, OP2010-080) is being issued to Empire District in conjunction with this Title V permit. (See Attachment K)

Monitoring/Recordkeeping:

Empire District shall retain the most current CAIR permit issued to this installation on-site and shall immediately make such permit available to any Missouri Department of Natural Resources' personnel upon request.

Reporting:

Empire District shall report any deviations of the monitoring/recordkeeping requirements of this permit condition in the semi-annual monitoring report and annual compliance certification required by Section V of this permit.

PERMIT CONDITION EP10-009

10 CSR 10-6.260 Restriction of Emission of Sulfur Compounds

Emission Limitations:

- 1) Emissions from any new source operation shall not contain more than five hundred parts per million by volume (500 ppm_v) 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 (µg/m ³))	Annual arithmetic mean
	0.14 ppm (365 µg/m ³)	24-hour average not to be exceeded more than once per year
	0.5 ppm (1300 µg/m ³)	3-hour average not to be exceeded more than once per year
Hydrogen Sulfide (H ₂ S)	0.05 ppm (70 µg/m ³)	½-hour average not to be exceeded over 2 times per year
	0.03 ppm (42 µg/m ³)	½-hour average not to be exceeded over 2 times in any 5 consecutive days
Sulfuric Acid (H ₂ SO ₄)	10 µg/m ³	24-hour average not to be exceeded more than once in any 90 consecutive days
	30 µg/m ³	1-hour average not to be exceeded more than once in any 2 consecutive days

Monitoring/Record Keeping/Reporting:

Fire Pump (EP10) will always be in compliance with this regulation. Calculations demonstrating compliance are in Attachment B. The permittee shall keep this attachment with this permit. No monitoring or reporting is required for this permit condition.

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) 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 following is only an excerpt from the regulation or code, and is 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.
 - (A) Refer to the regulation for a complete list of allowances.
- (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.
- (3) Empire District - Energy Center may be issued an annually renewable open burning permit for open burning provided that an air curtain destructor or incinerator is utilized and only tree trunks, tree limbs, vegetation or untreated wood waste are burned. Open burning shall occur at least two hundred (200) yards from the nearest occupied structure unless the owner or operator of the occupied structure provides a written waiver of this requirement. Any waiver shall accompany the open burning permit application. The permit may be revoked if Empire District - Energy Center fails to comply with the provisions or any condition of the open burning permit.
 - (A) In a nonattainment area, as defined in 10 CSR 10-6.020, paragraph (2)(N)5., the Director shall not issue a permit under this section unless the owner or operator can demonstrate to the satisfaction of the Director that the emissions from the open burning of the specified material would be less than the emissions from any other waste management or disposal method.
- (4) Reporting and Record Keeping. New Source Performance Standard (NSPS) 40 CFR Part 60 Subpart CCCC establishes certain requirements for air curtain destructors or incinerators that burn wood trade waste. These requirements are established in 40 CFR 60.2245-60.2260. The provisions of 40 CFR Part 60 Subpart CCCC promulgated as of September 22, 2005 shall apply and are hereby incorporated by reference in this rule, as published by the U.S. Government Printing Office, 732 N Capitol Street NW, Washington, DC 20401. To comply with NSPS 40 CFR 60.2245-60.2260, sources must conduct an annual Method 9 test. A copy of the annual Method 9 test results shall be submitted to the Director.
- (5) Test Methods. The visible emissions from air pollution sources shall be evaluated as specified by 40 CFR Part 60, Appendix A–Test Methods, Method 9–Visual Determination of the Opacity of Emissions from Stationary Sources. The provisions of 40 CFR Part 60, Appendix A, Method 9 promulgated as of December 23, 1971 is incorporated by reference in this rule, as published by the U.S. Government Printing Office, 732 N Capitol Street NW, Washington, DC 20401.

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 1 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 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. [10 CSR 10-6.065(6)(B)1.A(V)] The permittee shall retain the most current operating permit issued to this installation on-site. [10 CSR 10-6.065(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(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) annually.
- 2) The permittee may be required by the Director to file additional reports.
- 3) 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.
- 4) 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 to satisfy the requirements of the Federal Clean Air Act, Title V.
- 5) The permittee shall complete required reports on state supplied EIQ forms or in a form satisfactory to the Director and the reports shall be submitted to the Director by June 1 after the end of each reporting period.
- 6) The reporting period shall end on December 31 of each calendar year. Each report shall contain the required information for each emission unit for the twelve (12)-month period immediately preceding the end of the reporting period.
- 7) The permittee shall collect, record and maintain the information necessary to complete the required forms during each year of operation of the installation.

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

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.

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 10-3.090 Restriction of Emission of Odors

This requirement is not federally enforceable.

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.

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 record keeping 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.
- 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*

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(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(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's Enforcement Section, P. O. Box 176, Jefferson City, MO 65102.
 - b) The permittee shall submit a report of all monitoring required in this permit 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.
 - iii) Exception. Monitoring requirements which require reporting more frequently than semi 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, 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. 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.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, 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(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(6)(C)1.E Title IV Allowances

This permit prohibits emissions which exceed any allowances the installation holds under Title IV of the Clean Air Act.

No permit revisions shall be required for increases in emissions that are authorized by allowances acquired pursuant to the acid rain program if the increases do not require a permit revision under any other applicable requirement.

Limits cannot be placed on the number of allowances that may be held by an installation. The installation may not use these allowances, however, as a defense for noncompliance with any other applicable requirement.

Any allowances held by a Title IV installation shall be accounted for according to procedures established in rules promulgated under Title IV of the Clean Air Act.

A CAIR Permit (Missouri Department of Natural Resources project 2007-06-074, ORIS Code 6223) is being issued to Empire District in conjunction with this Title V permit. (See Attachment K)

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.J Emissions Trading

The Empire District -Energy Center is subject to the Clean Air Interstate Rule (CAIR), which was issued by the EPA to provide states with a cap and trading system to reduce nitrogen oxides and sulfur dioxide. CAIR provides an interstate solution to emissions that drift from across state boundaries. The CAIR permit is Attachment K.

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, 901 North 5th Street, Kansas City, Kansas 66101, as well as the Air Pollution Control Program, 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 application 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's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, as well as EPA Region VII, 901 North 5th Street, Kansas City, KS 66101, 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's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, as well as EPA Region VII, 901 North 5th Street, Kansas City, KS 66101, 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 Air Pollution Control Program shall place a copy with the permit in the public file. Written notice shall be provided to the EPA and the Air Pollution Control Program 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 Air Pollution Control Program 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 application, 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 written notice of the change to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, as well as EPA Region VII, 901 North 5th Street, Kansas City, KS 66101, no later than the next annual emissions report. This notice shall not be required for changes that are insignificant activities under 10 CSR 10-6.065(6)(B)3. 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)12 Responsible Official

The application utilized in the preparation of this permit was signed by Joe Simmons, Plant Manager. 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 may be reopened for cause if:

- 1) The Missouri Department of Natural Resources (MDNR) 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) 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,
- 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) The 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(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
Individual Turbine Operational Schedule

Empire District Energy Center

This sheet covers the period from _____ to _____.
(month/year) (month/year)

This sheet is for Turbine Emission Point EP-_____

Copy this sheet as needed.

Total Hours of Operation for this Month	(Note 1)	
12-Month Total Operational Hours From Previous Month's Worksheet	(Note 2)	
Monthly Total Operational Hours From Previous Year's Worksheet	(Note 3)	
Current 12-Month Total Operational Hours	(Note 4)	

Note 1: Total number of hours that this turbine was burning natural gas or fuel oil for this month use separate sheet for each fuel type.

Note 2: Running 12-month total of operational hours from previous month's worksheet.

Note 3: Operational hours reported for this month in the last calendar year.

Note 4: Amount reported in Note 2 minus amount reported in Note 3 plus amount reported in Note 1.

Attachment B
10 CSR 10-6.260 Compliance Demonstration

This attachment may be used to demonstrate that Turbines 1 and 2 (EP4 and EP5) and Fire Pump (EP10) are always in compliance with 10 CSR 10-6.260, *Restriction of Emission of Sulfur Compounds*

Turbines 1 and 2 (EP4 and EP5)

General Equation

$\text{ppm}_v \text{ SO}_2 = \text{SO}_2 \text{ Emission Factor (lb/MMBtu)} \div \text{F factor (wscf/MMBtu)} \div \text{Conversion Factor (lb/scf)}$

- 1) The SO₂ emission factor distillate oil-fired turbines = 1.01S lb/MMBtu, where S = 0.8 (EPA AP-42 Table 3.1-2a)
- 2) The F factor is the ratio of gas volume of products of combustion to the heat content of the fuel. For fuel oil the F factor is 10,320 wscf/MMBtu (Part 60 Appendix A Method 19 Table 19-2)
- 3) Conversion factor for lb/scf to ppm_v is 1.660E-7 lb/scf per ppm (Part 60 Appendix A Method 19 Table 19-1)

Compliance Demonstration

$$\text{ppmv SO}_2 = \left(0.808 \frac{\text{lb}}{\text{MMBtu}} \right) \left(\frac{\text{MMBtu}}{10,320 \text{ ft}^3} \right) \left(\frac{\text{ppmv}}{1.660E^{-7} \text{ lb/scf}} \right) = 471 \text{ ppmv} < 500 \text{ ppmv}$$

Fire Pump (EP10) Diesel-fired

General Equation

$\text{ppm}_v \text{ SO}_2 = \text{SO}_2 \text{ Emission Factor (lb/MMBtu)} \div \text{F factor (wscf/MMBtu)} \div \text{Conversion Factor (lb/scf)}$

- 1) The SO₂ emission factor diesel engines < 600 HP = 0.29 lb/MMBtu (EPA AP-42 Table 3.3-1)
- 2) The F factor is the ratio of gas volume of products of combustion to the heat content of the fuel. For fuel oil the F factor is 10,320 wscf/MMBtu (Part 60 Appendix A Method 19 Table 19-2)
- 3) Conversion factor for lb/scf to ppm_v is 1.660E-7 lb/scf per ppm (Part 60 Appendix A Method 19 Table 19-1)

Compliance Demonstration

$$\text{ppmv SO}_2 = \left(0.29 \frac{\text{lb}}{\text{MMBtu}} \right) \left(\frac{\text{MMBtu}}{10,320 \text{ ft}^3} \right) \left(\frac{\text{ppmv}}{1.660E^{-7} \text{ lb/scf}} \right) = 169 \text{ ppmv} \ll 500 \text{ ppmv}$$

Attachment C
 Operational Schedule of the Four (4) Pratt & Whitney Turbines

Empire District Energy Center

This sheet covers the period from _____ to _____.
 (month/year) (month/year)

Copy this sheet as needed.

Hours that the Pratt & Whitney Twin Pacs are Producing Electricity = Electricity Hours (Note 1)		
Total Electricity Hours for this Month	(Note 2)	
12-Month Total Electricity Hours From Previous Month's Worksheet	(Note 3)	
Monthly Total Electricity Hours From Previous Year's Worksheet	(Note 4)	
Current 12-Month Total Electricity Hours	(Note 5)	

- Note 1: The Pratt & Whitney Twin Pacs consists of the four (4) Pratt & Whitney (Emission Points EP-06, EP-07, EP-08, EP-09) dual fuel simple cycle combustion turbines.
- Note 2: Total number of hours that this installation had any of the four (4) or combination of the four (4) turbines (Emission Points EP6, EP7, EP8, EP9) connected to the utility grid by closure of the generator breaker using any fuel.
- Note 3: Running 12-month total of electricity hours from previous month's worksheet.
- Note 4: Electricity hours reported for this month in the last calendar year.
- Note 5: Amount reported in Note 2 minus amount reported in Note 3 plus amount reported in Note 1. Less than 5,000 concurrent hours indicates compliance.

Attachment E
SO₂ Compliance Worksheet
 Empire District Energy Center

This sheet covers the month of _____ in the year _____.

Copy this sheet as needed.

Column A	Column B	Column C	Column D	Column E
Fuel Type	Amount Burned (gallons) (Note 1)	Density (pounds/gallon)	Sulfur Content (Weight Percent) (Note 2)	SO₂ Emissions (tons) (Note 3)
Nat Gas				
Fuel Oil				
Total SO ₂ Emissions for Current Month (tons) 4)			(Note	
12-Month SO ₂ Emissions Total From Previous Month's Worksheet (tons) 5)			(Note	
Monthly SO ₂ Emissions Total From Previous Year's Worksheet (tons) 6)			(Note	
Current 12-Month Total SO ₂ Emissions (tons)			(Note 7)	

- Note 1: Total amount of natural gas, fuel oil number 1, or fuel oil number 2 burned in the four (4) Pratt & Whitney turbines and emergency fire water pump during this month.
- Note 2: The percent sulfur content of each type of fuel.
- Note 3: The SO_x emissions assuming that all of the sulfur in the fuel is emitted as SO₂. The following equation should be used in calculating the SO₂ emissions. $Column\ E = (Column\ B) \cdot (Column\ C) \cdot (Column\ D / 100) \cdot (2) \div (2000)$
- Note 4: Sum of the column.
- Note 5: Running 12-month total of SO₂ emissions from previous month's worksheet.
- Note 6: SO₂ Emissions reported for this month in the last calendar year.
- Note 7: Amount reported in Note 5 plus amount reported in Note 4 minus amount reported in Note 6. Less than 40.0 tons indicate compliance.

Attachment F
 Daily SO₂ Compliance Worksheet
 Empire District Energy Center

This sheet covers the day of _____ in the year _____.

Copy this sheet as needed.

Column A	Column B	Column C	Column D	Column E
Fuel Type	Amount Burned (gallons) (Note 1)	Density (pounds/gallon)	Sulfur Content (Weight Percent) (Note 2)	SO₂ Emissions (tons) (Note 3)
Nat Gas				
Fuel Oil				
Total SO ₂ Emissions for Current Month (tons)			(Note 4)	

- Note: This record keeping page is only required to be kept for the days in which any fuel oil is burned in any of the four (4) Pratt & Whitney turbines.
- Note 1: Total amount of natural gas or distillate fuel oil burned in the four (4) Pratt & Whitney turbines and emergency fire water pump during this month.
- Note 2: The percent sulfur content of each type of fuel.
- Note 3: The SO_x emissions assuming that all of the sulfur in the fuel is emitted as SO₂. The following equation should be used in calculating the SO₂ emissions. $Column\ E = (Column\ B) \cdot (Column\ C) \cdot (Column\ D / 100) \cdot (2) \div (2000)$
- Note 4: Sum of the column, not to exceed 1,016 pounds of SO₂ emissions in any day (12:00 a.m. to 12:00 p.m.).

Attachment G
 Daily PM₁₀ Compliance Worksheet
 Empire District Energy Center

This sheet covers the day of _____ in the year _____.

Copy this sheet as needed.

Column A	Column B	Column C	Column D	Column E	Column F	Column G	Column H
Fuel Source	Amount of Natural Gas Burned (MMCF) (Note 1)	PM₁₀ Emission Factor (lb/MMCF) (Note 2)	Amount of Fuel Oil Burned (1000 gallons) (Note 3)	PM₁₀ Emission Factor (lb/1000 gal) (Note 4)	Hours of Operation	Emission Factor (lb/hr) (Note 5)	PM₁₀ Emissions (tons)
Turbines (Nat Gas)							(Note 6)
Turbines (Fuel Oil)							(Note 7)
Total PM ₁₀ Emissions for Current day (tons)						(Note 8)	

Note: This record keeping page is only required to be kept for the days in which any fuel oil is burned in any of the four (4) Pratt & Whitney turbines.

Note 1: Total amount of natural gas burned in the four (4) Pratt & Whitney turbines during this month.

Note 2: PM10 emission factor(s) for natural gas combustion determined from stack tests..

Note 3: Total amount of distillate fuel oil burned in the four (4) Pratt & Whitney turbines during this month.

Note 4: PM10 emission factor(s) fuel oil combustion determined from stack test.

Note 5: Emissions factor for the emergency fire water pump is based upon the emission rate supplied by the manufacturer.

Note 6: Column H = (Column B) • (Column C) ÷ (2000 lb/ton)

Note 7: Column H = (Column D) • (Column E) ÷ (2000 lb/ton)

Note 8: Sum of the column, not to exceed 532 pounds of PM₁₀ in any day (12:00 a.m. to 12:00 p.m.).

Attachment H
VOC Compliance Worksheet
 Empire District Energy Center

This sheet covers the month of _____ in the year _____.

Copy this sheet as needed.

Column A	Column B	Column C	Column D	Column E	Column F	Column G	Column H
Fuel Source	Amount of Natural Gas Burned (MMCF) (Note 1)	VOC Emission Factor (lb/MMCF) (Note 2)	Amount of Fuel Oil Burned (1000 gallons) (Note 3)	VOC Emission Factor (lb/1000 gal) (Note 4)	Hours of Operation	Emission Factor (lb/hr) (Note 5)	VOC Emissions (tons)
Turbines (Nat Gas)							(Note 6)
Turbines (Fuel Oil)							(Note 7)
Emergency Pump							(Note 8)
Total VOC Emissions for Current Month (tons)					(Note 9)		
12-Month VOC Emissions Total From Previous Month's Worksheet (tons)					(Note 10)		
Monthly VOC Emissions Total From Previous Year's Worksheet (tons)					(Note 11)		
Current 12-Month Total VOC Emissions (tons)					(Note 12)		

- Note 1: Total amount of natural gas burned in the four (4) Pratt & Whitney turbines during this month.
- Note 2: VOC emission factor(s) for natural gas combustion will be determined from stack tests required by Special Condition 3.B.
- Note 3: Total amount of distillate fuel oil burned in the four (4) Pratt & Whitney turbines during this month.
- Note 4: VOC emission factor(s) fuel oil combustion will be determined from stack test required by Special Condition 3.B.
- Note 5: Emissions factor for the emergency fire water pump is based upon the emission rate supplied by the manufacturer.
- Note 6: Column H = (Column B) • (Column C) ÷ (2000 lb/ton)
- Note 7: Column H = (Column D) • (Column E) ÷ (2000 lb/ton)
- Note 8: Column H = (Column F) • (Column G) ÷ (2000 lb/ton)
- Note 9: Sum of the column.
- Note 10: Running 12-month total of VOC emissions from previous month's worksheet.
- Note 11: VOC Emissions reported for this month in the last calendar year.
- Note 12: Amount reported in Note 10 plus amount reported in Note 9 minus amount reported in Note 11. Less than 40.0 tons indicate compliance.

Attachment I
 CO Compliance Worksheet
 Empire District Energy Center

This sheet covers the month of _____ in the year _____.

Copy this sheet as needed.

Column A	Column B	Column C	Column D	Column E	Column F	Column G	Column H
Fuel Source	Amount of Natural Gas Burned (MMCF) (Note 1)	CO Emission Factor (lb/MMCF) (Note 2)	Amount of Fuel Oil Burned (1000 gallons) (Note 3)	CO Emission Factor (lb/1000 gal) (Note 4)	Hours of Operation	Emission Factor (lb/hr) (Note 5)	CO Emissions (tons)
Turbines (Nat Gas)							(Note 6)
Turbines (Fuel Oil)							(Note 7)
Emergency Pump							(Note 8)
Total CO Emissions for Current Month (tons)					(Note 9)		
12-Month CO Emissions Total From Previous Month's Worksheet (tons)					(Note 10)		
Monthly CO Emissions Total From Previous Year's Worksheet (tons)					(Note 11)		
Current 12-Month Total CO Emissions (tons)					(Note 12)		

- Note 1: Total amount of natural gas burned in the four (4) Pratt & Whitney turbines during this month.
- Note 2: CO emission factor(s) for natural gas combustion determined from stack tests.
- Note 3: Total amount of distillate fuel oil burned in the four (4) Pratt & Whitney turbines during this month.
- Note 4: CO emission factor(s) fuel oil combustion determined from stack test.
- Note 5: Emissions factor for the emergency fire water pump is based upon the emission rate supplied by the manufacturer.
- Note 6: Column H = (Column B) • (Column C) ÷ (2000 lb/ton)
- Note 7: Column H = (Column D) • (Column E) ÷ (2000 lb/ton)
- Note 8: Column H = (Column F) • (Column G) ÷ (2000 lb/ton)
- Note 9: Sum of the column.
- Note 10: Running 12-month total of CO emissions from previous month's worksheet.
- Note 11: CO Emissions reported for this month in the last calendar year.
- Note 12: Amount reported in Note 10 plus amount reported in Note 9 minus amount reported in Note 11. Less than 100.0 tons indicate compliance.

Attachment J
TITLE IV: ACID RAIN PERMIT

TITLE IV: ACID RAIN PERMIT

In accordance with Titles IV and V of the Clean Air Act and Missouri State Rule 10 CSR 10-6.270, *Acid Rain Source Permits Required*, the State of Missouri issues this Acid Rain Permit.

Installation Name: Empire District - Energy Center, ORIS Code: 6223
Project Number: 2009-11-042, **Permit Number:** OP2010-080
Unit IDs: 3A, 3B, 4A, and 4B
Effective Dates: through

The permit application submitted for this source, as corrected by the State of Missouri Department of Natural Resources (MDNR), Air Pollution Control Program (APCP), Operating Permit Section, is attached. The owners and operators of this source must comply with the standard requirements and special provisions set forth in this application.

The number of allowances actually held by an affected source in a unit account may differ from the number allocated by the United States Environmental Protection Agency. Pursuant to 40 CFR 72.84, *Automatic permit amendment*, this does not necessitate a revision to any unit SO₂ allowance allocations identified in this permit.

These units have never burned coal, and are therefore not subject to the Nitrogen Oxides Emissions Reduction Program of the Acid Rain Program.

This acid rain permit is effective for the five-year period shown above, per 40 CFR 72.69, *Issuance and effective date of acid rain permits*. The designated representative must submit an application for renewal of this permit no later than _____, per 40 CFR 72.30, *Requirement to apply*, and in conjunction with the operating permit renewal application.

Date

Director or Designee,
Department of Natural Resources

Empire District Electric Company-
Energy Center
Facility (Source) Name (from STEP 1)

Acid Rain - Page 2

Permit Requirements

STEP 3

Read the standard requirements.

- (1) The designated representative of each affected source and each affected unit at the source shall:
 - (i) Submit a complete Acid Rain permit application (including a compliance plan) under 40 CFR part 72 in accordance with the deadlines specified in 40 CFR 72.30; and
 - (ii) Submit in a timely manner any supplemental information that the permitting authority determines is necessary in order to review an Acid Rain permit application and issue or deny an Acid Rain permit;
- (2) The owners and operators of each affected source and each affected unit at the source shall:
 - (i) Operate the unit in compliance with a complete Acid Rain permit application or a superseding Acid Rain permit issued by the permitting authority; and
 - (ii) Have an Acid Rain Permit.

Monitoring Requirements

- (1) The owners and operators and, to the extent applicable, designated representative of each affected source and each affected unit at the source shall comply with the monitoring requirements as provided in 40 CFR part 75.
- (2) The emissions measurements recorded and reported in accordance with 40 CFR part 75 shall be used to determine compliance by the source or unit, as appropriate, with the Acid Rain emissions limitations and emissions reduction requirements for sulfur dioxide and nitrogen oxides under the Acid Rain Program.
- (3) The requirements of 40 CFR part 75 shall not affect the responsibility of the owners and operators to monitor emissions of other pollutants or other emissions characteristics at the unit under other applicable requirements of the Act and other provisions of the operating permit for the source.

Sulfur Dioxide Requirements

- (1) The owners and operators of each source and each affected unit at the source shall:
 - (i) Hold allowances, as of the allowance transfer deadline, in the source's compliance account (after deductions under 40 CFR 73.34(c)), not less than the total annual emissions of sulfur dioxide for the previous calendar year from the affected units at the source; and
 - (ii) Comply with the applicable Acid Rain emissions limitations for sulfur dioxide.
- (2) Each ton of sulfur dioxide emitted in excess of the Acid Rain emissions limitations for sulfur dioxide shall constitute a separate violation of the Act.
- (3) An affected unit shall be subject to the requirements under paragraph (1) of the sulfur dioxide requirements as follows:
 - (i) Starting January 1, 2000, an affected unit under 40 CFR 72.6(a)(2); or
 - (ii) Starting on the later of January 1, 2000 or the deadline for monitor certification under 40 CFR part 75, an affected unit under 40 CFR 72.6(a)(3).

Empire District Electric Company-
Energy Center
Facility (Source) Name (from STEP 1)

Acid Rain - Page 3

Sulfur Dioxide Requirements, Cont'd.

STEP 3, Cont'd.

- (4) Allowances shall be held in, deducted from, or transferred among Allowance Tracking System accounts in accordance with the Acid Rain Program.
- (5) An allowance shall not be deducted in order to comply with the requirements under paragraph (1) of the sulfur dioxide requirements prior to the calendar year for which the allowance was allocated.
- (6) An allowance allocated by the Administrator under the Acid Rain Program is a limited authorization to emit sulfur dioxide in accordance with the Acid Rain Program. No provision of the Acid Rain Program, the Acid Rain permit application, the Acid Rain permit, or an exemption under 40 CFR 72.7 or 72.8 and no provision of law shall be construed to limit the authority of the United States to terminate or limit such authorization.
- (7) An allowance allocated by the Administrator under the Acid Rain Program does not constitute a property right.

Nitrogen Oxides Requirements

The owners and operators of the source and each affected unit at the source shall comply with the applicable Acid Rain emissions limitation for nitrogen oxides.

Excess Emissions Requirements

- (1) The designated representative of an affected source that has excess emissions in any calendar year shall submit a proposed offset plan, as required under 40 CFR part 77.
- (2) The owners and operators of an affected source that has excess emissions in any calendar year shall:
- (i) Pay without demand the penalty required, and pay upon demand the interest on that penalty, as required by 40 CFR part 77; and
 - (ii) Comply with the terms of an approved offset plan, as required by 40 CFR part 77.

Recordkeeping and Reporting Requirements

- (1) Unless otherwise provided, the owners and operators of the source and each affected unit at the source shall keep on site at the source each of the following documents for a period of 5 years from the date the document is created. This period may be extended for cause, at any time prior to the end of 5 years, in writing by the Administrator or permitting authority:
- (i) The certificate of representation for the designated representative for the source and each affected unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation, in accordance with 40 CFR 72.24; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such documents are superseded because of the submission of a new certificate of representation changing the designated representative;

Empire District Electric Company-
Energy Center
Facility (Source) Name (from STEP 1)

Acid Rain - Page 4

Recordkeeping and Reporting Requirements, Cont'd.

STEP 3, Cont'd.

- (ii) All emissions monitoring information, in accordance with 40 CFR part 75, provided that to the extent that 40 CFR part 75 provides for a 3-year period for recordkeeping, the 3-year period shall apply.
 - (iii) Copies of all reports, compliance certifications, and other submissions and all records made or required under the Acid Rain Program; and,
 - (iv) Copies of all documents used to complete an Acid Rain permit application and any other submission under the Acid Rain Program or to demonstrate compliance with the requirements of the Acid Rain Program.
- (2) The designated representative of an affected source and each affected unit at the source shall submit the reports and compliance certifications required under the Acid Rain Program, including those under 40 CFR part 72 subpart I and 40 CFR part 75.

Liability

- (1) Any person who knowingly violates any requirement or prohibition of the Acid Rain Program, a complete Acid Rain permit application, an Acid Rain permit, or an exemption under 40 CFR 72.7 or 72.8, including any requirement for the payment of any penalty owed to the United States, shall be subject to enforcement pursuant to section 113(c) of the Act.
- (2) Any person who knowingly makes a false, material statement in any record, submission, or report under the Acid Rain Program shall be subject to criminal enforcement pursuant to section 113(c) of the Act and 18 U.S.C. 1001.
- (3) No permit revision shall excuse any violation of the requirements of the Acid Rain Program that occurs prior to the date that the revision takes effect.
- (4) Each affected source and each affected unit shall meet the requirements of the Acid Rain Program.
- (5) Any provision of the Acid Rain Program that applies to an affected source (including a provision applicable to the designated representative of an affected source) shall also apply to the owners and operators of such source and of the affected units at the source.
- (6) Any provision of the Acid Rain Program that applies to an affected unit (including a provision applicable to the designated representative of an affected unit) shall also apply to the owners and operators of such unit.
- (7) Each violation of a provision of 40 CFR parts 72, 73, 74, 75, 76, 77, and 78 by an affected source or affected unit, or by an owner or operator or designated representative of such source or unit, shall be a separate violation of the Act.

Effect on Other Authorities

No provision of the Acid Rain Program, an Acid Rain permit application, an Acid Rain permit, or an exemption under 40 CFR 72.7 or 72.8 shall be construed as:

- (1) Except as expressly provided in title IV of the Act, exempting or excluding the owners and operators and, to the extent applicable, the designated representative of an affected source or affected unit from compliance with any other provision of the Act, including the provisions of title I of the Act relating

Empire District Electric Company-
Energy Center
Facility (Source) Name (from STEP 1)

Acid Rain - Page 5

Effect on Other Authorities, Cont'd.

STEP 3, Cont'd.

to applicable National Ambient Air Quality Standards or State Implementation Plans;

(2) Limiting the number of allowances a source can hold; *provided*, that the number of allowances held by the source shall not affect the source's obligation to comply with any other provisions of the Act;

(3) Requiring a change of any kind in any State law regulating electric utility rates and charges, affecting any State law regarding such State regulation, or limiting such State regulation, including any prudence review requirements under such State law;

(4) Modifying the Federal Power Act or affecting the authority of the Federal Energy Regulatory Commission under the Federal Power Act; or,

(5) Interfering with or impairing any program for competitive bidding for power supply in a State in which such program is established.

Certification

STEP 4
Read the
certification
statement,
sign, and date.

I am authorized to make this submission on behalf of the owners and operators of the affected source or affected units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.

Name <i>GEORGE G. THULLESEN</i>	
Signature <i>[Handwritten Signature]</i>	Date <i>11/6/09</i>

Attachment K
Title V: Clean Air Interstate Rule Permit

TITLE V: CLEAN AIR INTERSTATE RULE (CAIR) PERMIT

In accordance with Title V of the Clean Air Act and Missouri State Rules 10 CSR 10-6.362, *Clean Air Interstate Rule Annual Nox Trading Program*, 10 CSR 10-6.364, *Clean Air Interstate Rule Seasonal NO_x Trading Program*, and 10 CSR 10-6.366, *Clean Air Interstate Rule SO_x Trading Program*, the State of Missouri issues this CAIR Permit.

Installation Name: Empire District - Energy Center, **ORIS Code:** 6223
Project Number: 2007-036-074, **Permit Number:** OP2010-080
Unit IDs: 1, 2, 3A, 3B, 4A, and 4B
Effective Dates: through

The permit application submitted for this source, as corrected by the State of Missouri Department of Natural Resources' Air Pollution Control Program, Operating Permit Section, is attached. The owners and operators of this source must comply with the standard requirements and special provisions set forth in this application.

This CAIR permit is effective for the dates shown above. The designated representative must submit an application for renewal of this permit no later than _____, and in conjunction with the operating permit renewal application.

Date

Director or Designee,
Department of Natural Resources

CAIR Permit Application
 (for sources covered under a CAIR SIP)

RECEIVED

Page 1

2007 JUN -8 PM 12: 03

For more information, refer to 40 CFR 96.121, 96.122, 96.221, 96.222, 96.321, and 96.322

ACCEPTANCE
 CONTROL PGM

This submission is: New Revised

STEP 1
 Identify the source by plant name, State, and ORIS or facility code

Plant Name: Empire District Electric Co. Energy Center	State MO	ORIS/Facility Code: 6223
--	----------	--------------------------

STEP 2
 Enter the unit ID# for each CAIR unit and indicate to which CAIR programs each unit is subject (by placing an "X" in the column)

Unit ID#	NO _x Annual	SO ₂	NO _x Ozone Season
1	X	X	X
2	X	X	X
3A	X	X	X
3B	X	X	X
4A	X	X	X
4B	X	X	X

STEP 3
 Read the standard requirements and the certification, enter the name of the CAIR designated representative, and sign and date

Standard Requirements

(a) Permit Requirements.

- (1) The CAIR designated representative of each CAIR NO_x source, CAIR SO₂ source, and CAIR NO_x Ozone Season source (as applicable) required to have a title V operating permit and each CAIR NO_x unit, CAIR SO₂ unit, and CAIR NO_x Ozone Season unit (as applicable) required to have a title V operating permit at the source shall:
 - (i) Submit to the permitting authority a complete CAIR permit application under §96.122, §96.222, and §96.322 (as applicable) in accordance with the deadlines specified in §96.121, §96.221, and §96.321 (as applicable); and
 - (ii) Submit in a timely manner any supplemental information that the permitting authority determines is necessary in order to review a CAIR permit application and issue or deny a CAIR permit.
- (2) The owners and operators of each CAIR NO_x source, CAIR SO₂ source, and CAIR NO_x Ozone Season source (as applicable) required to have a title V operating permit and each CAIR NO_x unit, CAIR SO₂ unit, and CAIR NO_x Ozone Season unit (as applicable) required to have a title V operating permit at the source shall have a CAIR permit issued by the permitting authority under subpart CC, CCC, and CCCC (as applicable) of 40 CFR part 96 for the source and operate the source and the unit in compliance with such CAIR permit.
- (3) Except as provided in subpart II, III, and IIII (as applicable) of 40 CFR part 96, the owners and operators of a CAIR NO_x source, CAIR SO₂ source, and CAIR NO_x Ozone Season source (as applicable) that is not otherwise required to have a title V operating permit and each CAIR NO_x unit, CAIR SO₂ unit, and CAIR NO_x Ozone Season unit (as applicable) that is not otherwise required to have a title V operating permit are not required to submit a CAIR permit application, and to have a CAIR permit, under subpart CC, CCC, and CCCC (as applicable) of 40 CFR part 96 for such CAIR NO_x source, CAIR SO₂ source, and CAIR NO_x Ozone Season source (as applicable) and such CAIR NO_x unit, CAIR SO₂ unit, and CAIR NO_x Ozone Season unit (as applicable).

Plant Name (from Step 1) Empire District Electric Co. Energy Center

CAIR Permit Application
Page 2

STEP 3,
continued

(b) Monitoring, reporting, and recordkeeping requirements.

(1) The owners and operators, and the CAIR designated representative, of each CAIR NO_x source, CAIR SO₂ source, and CAIR NO_x Ozone Season source (as applicable) and each CAIR NO_x unit, CAIR SO₂ unit, and CAIR NO_x Ozone Season unit (as applicable) at the source shall comply with the monitoring, reporting, and recordkeeping requirements of subparts HH, HHH, and HHHH (as applicable) of 40 CFR part 96.

(2) The emissions measurements recorded and reported in accordance with subparts HH, HHH, and HHHH (as applicable) of 40 CFR part 96 shall be used to determine compliance by each CAIR NO_x source, CAIR SO₂ source, and CAIR NO_x Ozone Season source (as applicable) with the CAIR NO_x emissions limitation, CAIR SO₂ emissions limitation, and CAIR NO_x Ozone Season emissions limitation (as applicable) under paragraph (c) of §96.106, §96.206, and §96.306 (as applicable).

(c) Nitrogen oxides emissions requirements.

(1) As of the allowance transfer deadline for a control period, the owners and operators of each CAIR NO_x source and each CAIR NO_x unit at the source shall hold, in the source's compliance account, CAIR NO_x allowances available for compliance deductions for the control period under §96.154(a) in an amount not less than the tons of total nitrogen oxides emissions for the control period from all CAIR NO_x units at the source, as determined in accordance with subpart HH of 40 CFR part 96.

(2) A CAIR NO_x unit shall be subject to the requirements under paragraph (c)(1) of §96.106 for the control period starting on the later of January 1, 2009 or the deadline for meeting the unit's monitor certification requirements under §96.170(b)(1), (2), or (5) and for each control period thereafter.

(3) A CAIR NO_x allowance shall not be deducted, for compliance with the requirements under paragraph (c)(1) of §96.106, for a control period in a calendar year before the year for which the CAIR NO_x allowance was allocated.

(4) CAIR NO_x allowances shall be held in, deducted from, or transferred into or among CAIR NO_x Allowance Tracking System accounts in accordance with subparts FF, GG, and II of 40 CFR part 96.

(5) A CAIR NO_x allowance is a limited authorization to emit one ton of nitrogen oxides in accordance with the CAIR NO_x Annual Trading Program. No provision of the CAIR NO_x Annual Trading Program, the CAIR permit application, the CAIR permit, or an exemption under §96.105 and no provision of law shall be construed to limit the authority of the State or the United States to terminate or limit such authorization.

(6) A CAIR NO_x allowance does not constitute a property right.

(7) Upon recordation by the Administrator under subpart EE, FF, GG, or II of 40 CFR part 96, every allocation, transfer, or deduction of a CAIR NO_x allowance to or from a CAIR NO_x source's compliance account is incorporated automatically in any CAIR permit of the source that includes the CAIR NO_x unit.

Sulfur dioxide emission requirements.

(1) As of the allowance transfer deadline for a control period, the owners and operators of each CAIR SO₂ source and each CAIR SO₂ unit at the source shall hold, in the source's compliance account, a tonnage equivalent of CAIR SO₂ allowances available for compliance deductions for the control period under §96.254(a) and (b) not less than the tons of total sulfur dioxide emissions for the control period from all CAIR SO₂ units at the source, as determined in accordance with subpart HHH of 40 CFR part 96.

(2) A CAIR SO₂ unit shall be subject to the requirements under paragraph (c)(1) of §96.206 for the control period starting on the later of January 1, 2010 or the deadline for meeting the unit's monitor certification requirements under §96.270(b)(1), (2), or (5) and for each control period thereafter.

(3) A CAIR SO₂ allowance shall not be deducted, for compliance with the requirements under paragraph (c)(1) of §96.206, for a control period in a calendar year before the year for which the CAIR SO₂ allowance was allocated.

(4) CAIR SO₂ allowances shall be held in, deducted from, or transferred into or among CAIR SO₂ Allowance Tracking System accounts in accordance with subparts FFF, GGG, and III of 40 CFR part 96.

(5) A CAIR SO₂ allowance is a limited authorization to emit sulfur dioxide in accordance with the CAIR SO₂ Trading Program. No provision of the CAIR SO₂ Trading Program, the CAIR permit application, the CAIR permit, or an exemption under §96.205 and no provision of law shall be construed to limit the authority of the State or the United States to terminate or limit such authorization.

(6) A CAIR SO₂ allowance does not constitute a property right.

(7) Upon recordation by the Administrator under subpart FFF, GGG, or III of 40 CFR part 96, every allocation, transfer, or deduction of a CAIR SO₂ allowance to or from a CAIR SO₂ source's compliance account is incorporated automatically in any CAIR permit of the source that includes the CAIR SO₂ unit.

Nitrogen oxides ozone season emissions requirements.

(1) As of the allowance transfer deadline for a control period, the owners and operators of each CAIR NO_x Ozone Season source and each CAIR NO_x Ozone Season unit at the source shall hold, in the source's compliance account, CAIR NO_x Ozone Season allowances available for compliance deductions for the control period under §96.354(a) in an amount not less than the tons of total nitrogen oxides emissions for the control period from all CAIR NO_x Ozone Season units at the source, as determined in accordance with subpart HHHH of 40 CFR part 96.

(2) A CAIR NO_x Ozone Season unit shall be subject to the requirements under paragraph (c)(1) of §96.306 for the control period starting on the later of May 1, 2009 or the deadline for meeting the unit's monitor certification requirements under §96.370(b)(1), (2), (3) or (7) and for each control period thereafter.

(3) A CAIR NO_x Ozone Season allowance shall not be deducted, for compliance with the requirements under paragraph (c)(1) of §96.306, for a control period in a calendar year before the year for which the CAIR NO_x Ozone Season allowance was allocated.

(4) CAIR NO_x Ozone Season allowances shall be held in, deducted from, or transferred into or among CAIR NO_x Ozone Season Allowance Tracking System accounts in accordance with subparts FFFF, GGGG, and IIII of 40 CFR part 96.

(5) A CAIR NO_x Ozone Season allowance is a limited authorization to emit one ton of nitrogen oxides in accordance with the CAIR NO_x Ozone Season Trading Program. No provision of the CAIR NO_x Ozone Season Trading Program, the CAIR permit application, the CAIR permit, or an exemption under §96.305 and no provision of law shall be construed to limit the authority of the State or the United States to terminate or limit such authorization.

(6) A CAIR NO_x Ozone Season allowance does not constitute a property right.

(7) Upon recordation by the Administrator under subpart EEEE, FFFF, GGGG, or IIII of 40 CFR part 96, every allocation, transfer, or deduction of a CAIR NO_x Ozone Season allowance to or from a CAIR NO_x Ozone Season source's compliance account is incorporated automatically in any CAIR permit of the source.

Plant Name (from Step 1) Empire District Electric Co. Energy Center

**STEP 3,
continued**

(d) Excess emissions requirements.

If a CAIR NO_x source emits nitrogen oxides during any control period in excess of the CAIR NO_x emissions limitation, then:

(1) The owners and operators of the source and each CAIR NO_x unit at the source shall surrender the CAIR NO_x allowances required for deduction under §96.154(d)(1) and pay any fine, penalty, or assessment or comply with any other remedy imposed, for the same violations, under the Clean Air Act or applicable State law; and

(2) Each ton of such excess emissions and each day of such control period shall constitute a separate violation of this subpart, the Clean Air Act, and applicable State law.

If a CAIR SO₂ source emits sulfur dioxide during any control period in excess of the CAIR SO₂ emissions limitation, then:

(1) The owners and operators of the source and each CAIR SO₂ unit at the source shall surrender the CAIR SO₂ allowances required for deduction under §96.254(d)(1) and pay any fine, penalty, or assessment or comply with any other remedy imposed, for the same violations, under the Clean Air Act or applicable State law; and

(2) Each ton of such excess emissions and each day of such control period shall constitute a separate violation of this subpart, the Clean Air Act, and applicable State law.

If a CAIR NO_x Ozone Season source emits nitrogen oxides during any control period in excess of the CAIR NO_x Ozone Season emissions limitation, then:

(1) The owners and operators of the source and each CAIR NO_x Ozone Season unit at the source shall surrender the CAIR NO_x Ozone Season allowances required for deduction under §96.354(d)(1) and pay any fine, penalty, or assessment or comply with any other remedy imposed, for the same violations, under the Clean Air Act or applicable State law; and

(2) Each ton of such excess emissions and each day of such control period shall constitute a separate violation of this subpart, the Clean Air Act, and applicable State law.

(e) Recordkeeping and Reporting Requirements.

(1) Unless otherwise provided, the owners and operators of the CAIR NO_x source, CAIR SO₂ source, and CAIR NO_x Ozone Season source (as applicable) and each CAIR NO_x unit, CAIR SO₂ unit, and CAIR NO_x Ozone Season unit (as applicable) at the source shall keep on site at the source each of the following documents for a period of 5 years from the date the document is created. This period may be extended for cause, at any time before the end of 5 years, in writing by the permitting authority or the Administrator.

(i) The certificate of representation under §96.113, §96.213, and §96.313 (as applicable) for the CAIR designated representative for the source and each CAIR NO_x unit, CAIR SO₂ unit, and CAIR NO_x Ozone Season unit (as applicable) at the source and all documents that demonstrate the truth of the statements in the certificate of representation; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such documents are superseded because of the submission of a new certificate of representation under §96.113, §96.213, and §96.313 (as applicable) changing the CAIR designated representative.

(ii) All emissions monitoring information, in accordance with subparts HH, HHH, and HHHH (as applicable) of 40 CFR part 96, provided that to the extent that subparts HH, HHH, and HHHH (as applicable) of 40 CFR part 96 provides for a 3-year period for recordkeeping, the 3-year period shall apply.

(iii) Copies of all reports, compliance certifications, and other submissions and all records made or required under the CAIR NO_x Annual Trading Program, CAIR SO₂ Trading Program, and CAIR NO_x Ozone Season Trading Program (as applicable).

(iv) Copies of all documents used to complete a CAIR permit application and any other submission under the CAIR NO_x Annual Trading Program, CAIR SO₂ Trading Program, and CAIR NO_x Ozone Season Trading Program (as applicable) or to demonstrate compliance with the requirements of the CAIR NO_x Annual Trading Program, CAIR SO₂ Trading Program, and CAIR NO_x Ozone Season Trading Program (as applicable).

(2) The CAIR designated representative of a CAIR NO_x source, CAIR SO₂ source, and CAIR NO_x Ozone Season source (as applicable) and each CAIR NO_x unit, CAIR SO₂ unit, and CAIR NO_x Ozone Season unit (as applicable) at the source shall submit the reports required under the CAIR NO_x Annual Trading Program, CAIR SO₂ Trading Program, and CAIR NO_x Ozone Season Trading Program (as applicable) including those under subparts HH, HHH, and HHHH (as applicable) of 40 CFR part 96.

(f) Liability.

(1) Each CAIR NO_x source, CAIR SO₂ source, and CAIR NO_x Ozone Season source (as applicable) and each NO_x unit, CAIR SO₂ unit, and CAIR NO_x Ozone Season unit (as applicable) shall meet the requirements of the CAIR NO_x Annual Trading Program, CAIR SO₂ Trading Program, and CAIR NO_x Ozone Season Trading Program (as applicable).

(2) Any provision of the CAIR NO_x Annual Trading Program, CAIR SO₂ Trading Program, and CAIR NO_x Ozone Season Trading Program (as applicable) that applies to a CAIR NO_x source, CAIR SO₂ source, and CAIR NO_x Ozone Season source (as applicable) or the CAIR designated representative of a CAIR NO_x source, CAIR SO₂ source, and CAIR NO_x Ozone Season source (as applicable) shall also apply to the owners and operators of such source and of the CAIR NO_x units, CAIR SO₂ units, and CAIR NO_x Ozone Season units (as applicable) at the source.

(3) Any provision of the CAIR NO_x Annual Trading Program, CAIR SO₂ Trading Program, and CAIR NO_x Ozone Season Trading Program (as applicable) that applies to a CAIR NO_x unit, CAIR SO₂ unit, and CAIR NO_x Ozone Season unit (as applicable) or the CAIR designated representative of a CAIR NO_x unit, CAIR SO₂ unit, and CAIR NO_x Ozone Season unit (as applicable) shall also apply to the owners and operators of such unit.

Plant Name (from Step 1)	Empire District Electric Co. Energy Center
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CAIR Permit Application
Page 4

STEP 3,
continued

(g) Effect on Other Authorities.

No provision of the CAIR NO_x Annual Trading Program, CAIR SO₂ Trading Program, and CAIR NO_x Ozone Season Trading Program (as applicable), a CAIR permit application, a CAIR permit, or an exemption under § 96.105, §96.205, and §96.305 (as applicable) shall be construed as exempting or excluding the owners and operators, and the CAIR designated representative, of a CAIR NO_x source, CAIR SO₂ source, and CAIR NO_x Ozone Season source (as applicable) or CAIR NO_x unit, CAIR SO₂ unit, and CAIR NO_x Ozone Season unit (as applicable) from compliance with any other provision of the applicable, approved State implementation plan, a federally enforceable permit, or the Clean Air Act.

Certification

I am authorized to make this submission on behalf of the owners and operators of the source or units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.

Name		Harold R. Colgin, II
Signature	<i>Harold R. Colgin II</i>	Date 6-9-07

STATEMENT OF BASIS

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 April 28, 2003;
- 2) 2008 Emissions Inventory Questionnaire, received May 19, 2009; and
- 3) U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*; Volume I, Stationary Point and Area Sources, Fifth Edition.

Historical Notes

The following notes explain the differences between the original and previous Operating Permit 097-0062-0001 and this operating permit:

- 1) Since the issuance of Operating Permit 097-0062-0001, Construction Permit 112002-009 was issued which authorized the construction of Turbines 3A, 3B, 4A, and 4B (EP6 through EP9), and the emergency fire pump (EP10).
- 2) Operating Permit 097-0062-0001 erroneously stated that Turbines 1 and 2 (EP4 and EP5) were subject to the provisions of 40 CFR Part 60 Subpart GG based on an error in Construction Permit 0395-015. Construction Permit 0395-015 was modified by this operating permit to eliminate the application of subpart GG to Turbines 1 and 2. For complete explanation see “Construction Permit Revisions” section.

Operational Notes

The permittee has elected not to claim an allowance for fuel bound nitrogen at this time. Therefore, the permittee is exempt from fuel nitrogen testing and monitoring requirements of subpart GG. Sections of subpart GG referring to fuel nitrogen testing and monitoring have not been included in this permit condition.

The Energy Center Power Plant facility uses water injection only as a control device.

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.

- 1) 10 CSR 10-6.180, *Measurement of Emissions of Air Contaminants*, is included as a core permit requirement for all installations in Missouri.
- 2) 10 CSR 10-6.260, *Restriction of Emission of Sulfur Compounds* is applicable to Turbines 1 and 2 (EP4 and EP5) and the Fire Pump (EP10).
- 3) 10 CSR 10-6.280, *Compliance Monitoring Usage*, is included as a core permit requirement for all installations in Missouri.

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.

- 1) 10 CSR 10-6.075, *Maximum Achievable Control Technologies Regulations*, 40 CFR Part 63, Subpart YYYYY, *National Emission Standards for Stationary Combustion Turbines*, was listed as applicable on Form OP-D04 of the permit application. However, the installation is not a major source for Hazardous Air Pollutants (HAP); therefore, it is not subject to MACT regulations.
- 2) 10 CSR 10-6.100, *Alternate Emission Limits*, is not applicable because the installation is in an ozone attainment area.
- 3) 10 CSR 10-6.220, *Restriction of Emission of Visible Air Contaminants*, was marked as applicable on the permit application. However, the rule is not applicable to the Combustion Turbines (EP4 through EP9) or Fire Pump (EP10) because per §(1)(A), all internal combustion engines operated outside the Kansas City or St. Louis metropolitan areas are exempt.
- 4) 10 CSR 10-6.400, *Restriction of Emission of Particulate Matter from Industrial Processes*, was marked as applicable on the permit application. However, the rule is not applicable to the Combustion Turbines (EP4 through EP9) or Fire Pump (EP10) because the rule specifically states that liquid and gaseous fuels are not to be considered in determining the “process weight” introduced into the emission unit.

Construction Permit Revisions

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

- 1) Construction Permit 0181-EPA authorized the installation of Turbine 2 (EP4).
 - a) Special Conditions 1, 2, and 5 pertain to initial and start up testing and have not been included because they have already been completed..
 - b) Condition 6 states “*The owner or operator of the turbine subject to the provisions of this permit shall monitor the sulfur content of the fuel being fired in the turbine in accordance with 40 CFR 60.334(b).*” 40 CFR 60.334(b) was amended since the issuance of this construction permit. In the amended subpart GG, §§60.334(h) and (i) concern monitoring the sulfur content of fuel and are included in Permit Condition EP4-001.
- 2) Construction Permit 0395-015 authorized the modification of the Turbines 1 and 2 (EP4 and EP5) to allow the use of natural gas as a secondary fuel. Turbine 2 was previously permitted by Permit 0181-EPA to allow the use of fuel oil only. Turbine 1 was not previously permitted because it was a grandfathered source (constructed prior to permitting regulations).
 - a) In the Review Summary of this construction permit it states that 40 CFR Part 60 Subpart GG will apply to these turbines. However, since the permittee entered into a contractual obligation to purchase Turbines 1 and 2 prior to the applicability date (September 10, 1979) of subpart GG and the modification allowed by permit 0395-015 (use of natural gas) did not cause an increase in NO_x emissions, subpart GG should not have been applied to this source. Therefore, subpart GG is not applied to Turbines 1 and 2 (EP4 and EP5) in this operating permit.
 - b) On June 1, 1995, a No Permit Required letter was issued to the installation by the Air Pollution Control Program allowing the use of distillate fuel oil No. 1 interchangeably with distillate fuel oil No. 2. Condition 3 has been rewritten in this operating permit to state “*No fuels other than natural gas or Nos. 1 or 2 fuel oils shall be combusted in the turbines at any time.*”

- c) Condition 4 states that records shall be kept on-site for a period of at least two years. Because the current operating rule, 10 CSR 10-6.065, requires records to be kept for at least five years, the condition was amended to five years.
 - d) Condition 6 states “*The notification and recordkeeping requirements of 40 CFR 60.7(c) shall be adhered to as they pertain to 40 CFR 60.334(c). Briefly, this requires that quarterly reports be submitted to the Director, within 30 days after the end of each quarter, detailing any exceedances of applicable emission limits.*” 40 CFR 60.334(c) was amended since the issuance of this construction permit. In the amended subpart GG, §60.334(j) concerns the notification and recordkeeping requirements of §60.7(c) and is included in Permit Condition (EP4 and EP5)-002.
 - e) Condition 7 is not included in this permit because it concerns the Initial Testing which was completed by the permittee in 2000.
 - f) This permit listed 10 CSR 10-3.080, *Restriction of Emission of Visible Air Contaminants*, as an applicable rule. However, this regulation was rescinded on May 30, 2000.
- 3) Construction Permit 112002-009 authorized the construction of four simple-cycle combustion turbines, Turbines 3A, 3B, 4A, and 4B (EP6 through EP9), and an emergency fire pump (EP10).
- a) This permit was amended on February 17, 2004, to change the PM₁₀ emission limits established by Condition 2.E based upon results of testing. The amended PM₁₀ emission limit of 12 lb/hr when burning fuel oil is included in Permit Condition (EP6 through EP9)-004.
 - b) Condition 3 is not included in this permit because it concerns the Compliance Testing which was completed by the permittee in 2003.
 - c) This permit listed 10 CSR 10-6.220, *Restriction of Emission of Visible Air Contaminants*, as an applicable rule. However, per §(1)(A) internal combustion engines operated outside the Kansas City or St. Louis metropolitan areas are exempt from this regulation.

Operating Permit Application Revisions

The following revisions were made to operating permit application for this installation:

The application lists 10 CSR 10-6.350 *Emission Limitations and Emissions Trading of Oxides of Nitrogen* as an applicable rule to the facility’s combustion turbines. This rule was established to reduce nitrogen oxides thereby reducing ozone and its precursors. This rule also served as a NO_x emissions trading program for the state of Missouri. The Clean Air Interstate Rule (CAIR) was issued by the EPA to provide states with a cap and trading system to reduce nitrogen oxides and sulfur dioxide. CAIR provides an interstate solution to emissions that drift from across state boundaries. CAIR takes precedence over 10 CSR 10-6.350.

New Source Performance Standards (NSPS) Applicability

40 CFR Part 60 Subpart K, *Standards of Performance For Storage Vessels For Petroleum Liquids For Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior To May 19, 1978* and 40 CFR Part 60 Subpart Ka, *Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984* are not applicable to the 5,250,000-gallon storage tank (EP-02) or the 420,000-gallon storage tank (EP3) which were constructed in 1978, because the storage tanks store distillate fuels which are not included in the definition of “petroleum liquids”.

- 1) 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* is not applicable to the 180,000-gallon distillate storage tank (EP11) because storage tanks with a capacity greater than or equal to 40,000 gallons (151 m³) which store a liquid with a maximum true vapor pressure less than 3.5 kilopascals (kPa) are exempt.
- 2) 40 CFR Part 60, Subpart GG, *Standards of Performance for Stationary Gas Turbines*
 - a) This regulation is not applicable to Turbine 1 (EP4) because the permittee entered into a contractual obligation to purchase Turbine 1 prior to the applicability date (September 10, 1979) of Subpart GG.
 - b) This regulation is not applicable to Turbine 2 (EP5) because the permittee entered into a contractual obligation to purchase Turbine 2 prior to the applicability date (September 10, 1979) of Subpart GG. However, because Construction Permit 0181-EPA states that “*Although the proposed turbine is not to be subject to the NSPS for gas turbines promulgated September 10, 1979(44 FR 52792), the EPA is requiring that the turbine be installed and operated in accordance with the aforementioned NSPS provisions as a PSD requirement*” the installation and operational requirements of subpart GG are included in Permit Condition EP4-001.
 - c) This regulation is applicable to Turbines 3A, 3B, 4A, and 4B (EP6 through EP9). However, as shown in the calculations below, the most restrictive NO_x emission limits required by subpart GG (75 ppm_v) is less stringent than the NO_x emission limits established by Construction Permit 112002-009 (25 ppm_v when burning gas, 42 ppm_v when burning oil).
Allowable Emission Rate per 40 CFR 60.332(a)(1)
 $STD = (0.0075)(14.4/Y) + F$
Where:
STD = allowable NO_x emissions (% by volume at 15 percent oxygen and on a dry basis)
Y = manufacture’s rated heat rate at manufacturer’s rated load (kilojoules per watt hour) or, actual measured heat rate based on lower heating value of fuel as measured at actual peak load for the facility.
Given that the value of Y shall not exceed 14.4 kilojoules per watt-hour and the installation assumes no fuel bound nitrogen allowance, i.e. F = 0
 $STD = (0.0075)(14.4/Y) + F$
 $= (0.0075)(14.4/14.4) + 0$
 $= 0.0075 \%$ or 75 ppm_v NO_x at 15 % oxygen
This limit (75 ppm_v) is less stringent than the NO_x emission limits established by Construction Permit 112002-009 (25 ppm_v when burning gas, 42 ppm_v when burning oil) as set forth in Permit Condition (EP4 and EP5)-002.
- 3) 40 CFR Part 60 Subpart KKKK, *Standards of Performance for Stationary Combustion Turbine*, are not applicable to the combustion turbines (EP4 through EP9) because construction, modification or reconstruction has not commenced after February 18, 2005.

Maximum Available Control Technology (MACT) Applicability

MACT regulations apply only to installations that emit hazardous air pollutants (HAP) in amounts defined as “major” by 40 CFR Part 63. The Air Pollution Control Program has determined that Empire District - Energy Center is not a major source for HAP; therefore, it is not subject to MACT regulations.

40 CFR Part 63 Subpart YYYYY *National Emission Standard for Hazardous Air Pollutants for Stationary Combustion Turbines* does not apply because Empire District – Energy Center is not a major source of HAPs.

National Emission Standards for Hazardous Air Pollutants (NESHAP) Applicability

10 CSR 10-6.080, *Emission Standards for Hazardous Air Pollutant*, 40 CFR Part 61 Subpart M, *National Emission Standard for Asbestos*, 10 CSR 10-6.250, *Asbestos Abatement Projects – Certification, Accreditation, and Business Exemption Requirements*, and Missouri Air Conservation Law, 643.225 through 643.250, *Asbestos Abatement*

In the permit application and according to Air Pollution Control Program records, there was no indication that any of these regulations 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.

Compliance Assurance Monitoring (CAM) Applicability

The Combustion Turbines (EP4 through EP9) have the uncontrolled potential to emit NO_x above the major source threshold levels (as defined by Part 70), and use control devices (as defined by 40 CFR §64.1) to comply with applicable emission. However, the emission units are not required to submit a CAM plan because per §64.2(b)(1)(vi) emission limitations or standards for which a part 70 or 71 permit specifies a continuous compliance determination method, as defined in §64.1 are exempt. Turbines 1 and 2 (EP4 and EP5) each have a continuous monitoring system (CMS) installed to monitor the fuel consumption and ratio of water to fuel being fired in the turbines. Turbines 3A, 3B, 4A, and 4B (EP6 through EP9) each have a NO_x continuous emission monitor (CEM) installed to monitor NO_x emissions.

Other Regulatory Determinations

- 1) 10 CSR 10-6.220, *Restriction of Emission of Visible Air Contaminants*, is not applicable to the Combustion Turbines (EP4 through EP9) or Fire Pump (EP10) because per §(1)(A), all internal combustion engines operated outside the Kansas City or St. Louis metropolitan areas are exempt.
- 2) 10 CSR 10-6.260, *Restriction of Emission of Sulfur Compounds*
 - a) This regulation is applicable to Turbines 1 and 2 (EP4 and EP5) and the Fire Pump (EP10). Calculations demonstrating compliance are shown in Attachment B.
 - b) This regulation is not applicable to Turbines 3A, 3B, 4A, and 4B (EP6 through EP9) because per §(1)(A)1, emission sources subject to an applicable sulfur compound emission limit under 10 CSR 10-6.070 are exempt.

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:

Tandi Edelman
Environmental Engineer