



Missouri Department of dnr.mo.gov

NATURAL RESOURCES

Michael L. Parson, Governor

Carol S. Comer, Director

JUN 11 2018

Mr. Brent A. Ross
Manager, Environmental, Health and Safety
Essex Power Plant
2814 S. Golden, P. O. Box 754
Springfield, MO 65801

RE: Part 70 Operating Permit Significant Modification - Permit Number: OP2013-045A
Project Number: 2017-12-050; Installation Number: 207-0064

Dear Mr. Ross:

Your Part 70 Operating Permit OP2013-045 is being modified in response to your December 15, 2017 request. Your request was for incorporation of Construction Permit 122016-005.

Construction Permit 122016-005 was amended on February 20, 2018. Construction Permit 122016-005A supersedes all of the special conditions in Construction Permit 122016-005; therefore, the Air Pollution Control Program (APCP) is incorporating the special conditions of Construction Permit 122016-005A rather than Construction Permit 122016-005.

Construction Permit 122016-005A supersedes all of the special conditions in Construction Permits 0998-022, 0998-022A, and 122016-005; therefore, Permit Condition EU01-001 of Part 70 Operating Permit OP2013-045 is being removed which had incorporated the special conditions from Construction Permit 0998-022A. Your permit is revised by replacing Permit Condition EU01-001 with the Permit Condition EU01-005 on the attached pages. All other terms and conditions within Part 70 Operating Permit OP2013-045 remain applicable and valid.

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



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

If you have any questions regarding this modification, please do not hesitate to contact Mary Evelyn Barnes, at the department's Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102 or at (573) 751-4817. Thank you for your attention to this matter.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Kendall B. Hale

Kendall B. Hale
Permits Section Chief

KBH:mbj

Enclosures

c: Southeast Regional Office
PAMS File: 2017-12-050



PART 70 PERMIT TO OPERATE

Operating Permit Number: OP2013-045A
Installation Name: Essex Power Plant
Installation ID: 207-0064
Project Number: 2017-12-050

Description of Part 70 Significant Modification:

Essex Power Plant submitted a request dated December 15, 2017 for incorporation of Construction Permit 122016-005. Construction Permit 122016-005 was amended on February 20, 2018. Construction Permit 122016-005A supersedes all of the special conditions in Construction Permit 122016-005; therefore, the Air Pollution Control Program (APCP) is incorporating the special conditions of Construction Permit 122016-005A rather than Construction Permit 122016-005. Construction Permit 122016-005A supersedes all of the special conditions in Construction Permits 0998-022, 0998-022A, and 122016-005. Permit Condition EU01-001 of Part 70 Operating Permit OP2013-045 is being removed which had incorporated the special conditions from Construction Permit 0998-022A. Operating Permit OP2013-045 is revised by replacing Permit Condition EU01-001 with the following Permit Condition EU01-005. All other terms and conditions within Part 70 Operating Permit OP2013-045 remain applicable and valid.

PERMIT CONDITION EU01-005

10 CSR 10-6.060 Construction Permits Required
Construction Permit 122016-005A, issued February 20, 2018

Emission Limitations:

1. The permittee shall emit less than 250 tons of NO_x in any consecutive 12-month period from EU01 Combustion Turbine 1. This limit shall include NO_x emissions generated during start-up, shutdown, and malfunction periods.[Special Condition 2.A]
2. The permittee shall emit less than 250 tons of CO in any consecutive 12-month period from EU01 Combustion Turbine 1. This limit shall include CO emissions generated during start-up, shutdown, and malfunction periods.[Special Condition 4.A]

Operational Limitations:

1. The permittee shall combust only pipeline natural gas as defined by §72.2 in EU01 Combustion Turbine 1. [Special Condition 3.A]
2. The permittee shall not combust more than 5,610,000 MMBtu of natural gas in any consecutive 12-month period in EU01 Combustion Turbine 1. All natural gas combustion, including natural gas combustion during start-up, shutdown, and malfunction periods, shall be included in this limit. [Special Condition 3.B]

Monitoring/Record Keeping:

1. To demonstrate compliance with Special Condition 2.A, the permittee shall: [Special Condition 2.B]
 - a) Determine and record their hourly NO_x emission rates (lb/MMBtu) during each hour of operation by one of the following methods:[Special Condition 2.B.1]
 - i) If EU01 Combustion Turbine 1 does not meet the definition of peaking unit at §72.2, the permittee shall meet the general operating requirements in §75.10 for the operation of a NO_x CEMS and use the procedures in 40 CFR Part 75 Appendix F to determine their hourly NO_x emission rate (lb/MMBtu) during each hour of operation.[Special Condition 2.B.1.a]
 - ii) If EU01 Combustion Turbine 1 meets the definition of peaking unit at §72.2, the permittee shall estimate hourly NO_x emissions using the procedures in 40 CFR Part 75 Appendix E.[Special Condition 2.B.1.b]
 - b) Determine and record their hourly heat input (MMBtu/hr) using the procedures in Section 2.1.3 of 40 CFR Part 75 Appendix E during each hour of operation.[Special Condition 2.B.2]
 - c) Determine and record their hourly NO_x emission rate (lb/hr) by multiplying their hourly NO_x emission rate (lb/MMBtu) by their hourly heat input (MMBtu/hr) for each hour of operation.[Special Condition 2.B.3]
 - d) Determine and record their monthly NO_x emissions (tons) each month by summing all hourly NO_x emission rates (lb/hr) for the calendar month and multiplying by a conversion factor of 0.0005 tons/lb. [Special Condition 2.B.4]
 - e) Determine and record their 12-month rolling total NO_x emissions (tons) each month by summing all monthly NO_x emissions for the most recent 12-month period. [Special Condition 2.B.5]
2. To demonstrate compliance with Special Condition 3.B, the permittee shall: [Special Condition 3.C]
 - a) Determine and record their heat input (MMBtu) hourly as required by Special Condition 2.B.2. [Special Condition 3.C.1]
 - b) Determine and record their heat input (MMBtu) monthly by summing all hourly heat inputs (MMBtu) for each hour of operation during the calendar month. [Special Condition 3.C.2]
 - c) Determine and record 12-month rolling total heat input (MMBtu) each month by summing all monthly heat input (MMBtu) for the most recent 12 month period. [Special Condition 3.C.3]
3. To demonstrate compliance with Special Condition 4.A, the permittee shall: [Special Condition 4.B]
 - a) Establish a CO Curve. [Special Condition 4.B.1]
 - i) Conduct CO emissions testing according to 40 CFR Part 60 Appendix A Method 10, or other Air Pollution Control Program approved method, at the same time as conducting NO_x emissions testing under 40 CFR Part 75 Appendix E. [Special Condition 4.B.1.a]
 - ii) Convert CO concentrations (ppm) to CO emission rates (to the nearest 0.001 lb/MMBtu) according to equation 19-1 of 40 CFR Part 60 Appendix A Method 19. [Special Condition 4.B.1.b]
 - iii) Calculate the CO emission rate in lb/MMBtu for each sampling point and determine the arithmetic average CO emission rate of each test run. Record the arithmetic average of the three test runs at each load level as the CO emission rate for that load. [Special Condition 4.B.1.c]
 - iv) Plot the tabulated CO emission rates and 40 CFR Part 75 Appendix E heat input rates as an x-y graph. Plot the heat input rate (MMBtu/hr) as the independent (or x) variable and the CO emission rates (lb/MMBtu) as the dependent (or y) variable for each load point. Construct the graph by drawing straight-line segments between each load point. Draw a horizontal line to the y-axis from the minimum heat input (load) point. [Special Condition 4.B.1.d]
 - b) Determine and record their hourly CO emission rates (lb/MMBtu) during each hour of operation. [Special Condition 4.B.2]
 - i) Use the CO curve correlation to determine the CO emission rate (lb/MMBtu) corresponding to the heat input rate (MMBtu/hr) required to be determined by Special Condition 2.B.2. [Special Condition 4.B.2.a]

- c) Determine and record their hourly CO emission rate (lb/hr) by multiplying their hourly CO emission rate (lb/MMBtu) by their hourly heat input (MMBtu/hr) for each hour of operation. [Special Condition 4.B.3]
- d) Determine and record their monthly CO emissions (tons) each month by summing all hourly CO emission rates (lb/hr) for the calendar month and multiplying by a conversion factor of 0.0005 tons/lb. [Special Condition 4.B.4]
- e) Determine and record their 12-month rolling total CO emissions (tons) each month by summing all monthly CO emissions for the most recent 12-month period. [Special Condition 4.B.5]
4. The permittee shall maintain all records required by this permit for not less than five years and shall make them available immediately to any Missouri Department of Natural Resources' personnel upon request. [Special Condition 6.A]
5. Records may be retained electronically or in paper form.

Performance Testing:

1. The permittee shall submit a completed Proposed Test Plan Form (enclosed) to the Air Pollution Control Program 30 days prior to their proposed CO and NOx test date so that the Air Pollution Control Program may arrange a pretest meeting, if necessary, and assure that the test date is acceptable for an observer to be present. The Proposed Test Plan may serve the purpose of notification and requires approval by the Director prior to conducting the required emission testing. [Special Condition 5.A]
2. The permittee shall submit one electronic copy of a written report of the performance test results to StackTesting@dnr.mo.gov within 60 days of completion of any required testing. The report shall include legible copies of the raw data sheets, analytical instrument laboratory data, and complete sample calculations from the required U.S. EPA Method for at least one sample run. [Special Condition 5.B]
3. The test report is to account fully for all operational and emission parameters addressed both in the permit conditions as well as in any other applicable state or federal rules or regulations. [Special Condition 5.C]

Reporting:

1. The permittee shall report to the Air Pollution Control Program's Compliance/Enforcement Section, by mail at P.O. Box 176, Jefferson City, MO 65102 or by email at AirComplianceReporting@dnr.mo.gov, no later than 10 days after the end of the month during which any record required by this permit shows an exceedance of a limitation imposed by this permit. [Special Condition 6.B]
2. The permittee shall report any deviations from the requirements of this permit condition in the semi-annual monitoring report and compliance certification required by Section V of this permit. [§70.6(a)(3)(iii)]

Response to Public Comments

The Part 70 Operating Permit Significant Modification, Project 2017-12-050, for Essex Power Plant (AECI, 207-0064) was placed on public notice as of March 30, 2018, for a 30-day comment period. The public notice was published on the Department of Natural Resources' Air Pollution Control Program's web page at: <http://www.dnr.mo.gov/env/apcp/PermitPublicNotices.htm> on Friday, March 30, 2018. The Air Pollution Control Program received no comments on the draft permit during the public comment period.