

**MISSOURI**  
DEPARTMENT OF  
NATURAL RESOURCES

**MISSOURI AIR CONSERVATION COMMISSION**

**PERMIT TO CONSTRUCT**

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

Permit Number: 072017-020

Project Number: 2017-06-025

Installation Number: 099-0016

Parent Company: Ameren Corporation

Parent Company Address: 1901 Chouteau Ave., St. Louis, MO 66149

Installation Name: Ameren Missouri Rush Island Energy Center

Installation Address: 100 Big Hollow Road, Festus, MO 63028

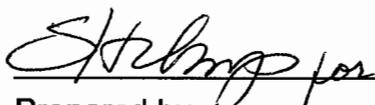
Location Information: Jefferson County, S4,5,8,9, T39N, R7E

Application for Authority to Construct was made for:

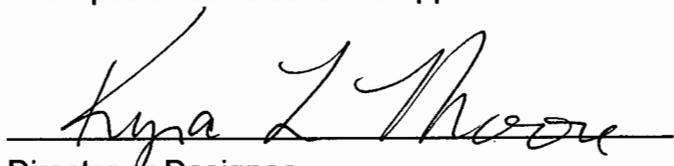
New auxiliary boiler (B-5) replacing auxiliary boiler (B-3). This review was conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*.

Standard Conditions (on reverse) are applicable to this permit.

Standard Conditions (on reverse) and Special Conditions are applicable to this permit.



Prepared by  
David Little, PE  
Environmental Engineer III  
New Source Review Unit



Director or Designee  
Department of Natural Resources

**JUL 31 2017**

Effective Date

**STANDARD CONDITIONS:**

Permission to construct may be revoked if you fail to begin construction or modification within two years from the effective date of this permit. Permittee should notify the Enforcement and Compliance Section of the Air Pollution Control Program if construction or modification is not started within two years after the effective date of this permit, or if construction or modification is suspended for one year or more.

You will be in violation of 10 CSR 10-6.060 if you fail to adhere to the specifications and conditions listed in your application, this permit and the project review. In the event that there is a discrepancy between the permit application and this permit, the conditions of this permit shall take precedence. Specifically, all air contaminant control devices shall be operated and maintained as specified in the application, associated plans and specifications.

You must notify the Enforcement and Compliance Section of the Department's Air Pollution Control Program of the anticipated date of start up of this (these) air contaminant source(s). The information must be made available within 30 days of actual startup. Also, you must notify the Department's regional office responsible for the area within which you are located within 15 days after the actual start up of this (these) air contaminant source(s).

A copy of the permit application and this permit and permit review shall be kept at the installation address and shall be made available to Department's personnel upon request.

You may appeal this permit or any of the listed special conditions to the Administrative Hearing Commission (AHC), P.O. Box 1557, Jefferson City, MO 65102, as provided in RSMo 643.075.6 and 621.250.3. If you choose to appeal, you must file a petition with the AHC within 30 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 choose not to appeal, this certificate, the project review and your application and associated correspondence constitutes your permit to construct. The permit allows you to construct and operate your air contaminant source(s), but in no way relieves you of your obligation to comply with all applicable provisions of the Missouri Air Conservation Law, regulations of the Missouri Department of Natural Resources and other applicable federal, state and local laws and ordinances.

The Air Pollution Control Program invites your questions regarding this air pollution permit. Please contact the Construction Permit Unit using the contact information below.

Contact Information:

Missouri Department of Natural Resources  
Air Pollution Control Program  
P.O. Box 176  
Jefferson City, MO 65102-0176  
(573) 751-4817

The regional office information can be found at the following website:

<http://dnr.mo.gov/regions/>

**SPECIAL CONDITIONS:**

The permittee is authorized to construct and operate subject to the following special conditions:

*The special conditions listed in this permit were included based on the authority granted the Missouri Air Pollution Control Program by the Missouri Air Conservation Law (specifically 643.075) and by the Missouri Rules listed in Title 10, Division 10 of the Code of State Regulations (specifically 10 CSR 10-6.060). For specific details regarding conditions, see 10 CSR 10-6.060 paragraph (12)(A)10. "Conditions required by permitting authority."*

Ameren Missouri Rush Island Energy Center  
Jefferson County, S4,5,8,9, T39N, R7E

**1. Fuel Type**

- A. Ameren Missouri Rush Island Energy Center shall fire auxiliary boiler (B-5) exclusively with *distillate oil* as defined in 40 CFR 60.41b (NSPS Subpart Db *Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units*), as written the date of this permit's issuance.
- B. Ameren Missouri Rush Island Energy Center shall demonstrate compliance with Special Condition 1.A. by onsite inspection from MoDNR personnel showing the auxiliary boiler (B-5) fuel supply piping is connected only to tank(s) containing the allowed fuels. Ameren Missouri Rush Island Energy Center shall keep onsite a copy of the fuel contract showing only fuel oil not exceeding 15 ppmw sulfur can be received and records showing all fuel deliveries to the tank(s).

**2. Fuel Throughput**

- A. Ameren Missouri Rush Island Energy Center shall not fire more than 987,491 gallons of distillate oil in auxiliary boiler (B-5) in any 12-month period.
  - 1) If the installed design heat input capacity is tested lower than 155 MMBtu/hr, then a new 12-month heat input limit shall be calculated using the equation: design heat input capacity (MMBtu/hr) / 0.1375 (MMBtu/gal) x 8,760 (hr/yr) x 10%.
  - 2) If the installed design heat input capacity is tested higher than 155 MMBtu/hr, then the conservatively lower 987,491 gallons limit may be used, or a new 12-month heat input limit may be calculated using the equation from Special Condition 2.A.1).
  - 3) Any new 12-month heat input limit shall be submitted in a construction permit amendment application to the program within 60 days of the design heat input capacity test.
- B. Ameren Missouri Rush Island Energy Center shall demonstrate compliance with the 12-month heat input limit by installing a non-resettable fuel flow/usage meter on the fuel line to auxiliary boiler (B-5). The meter shall be installed and maintained according to manufacturer's specifications. Ameren Missouri Rush Island Energy Center shall monitor

**SPECIAL CONDITIONS:**

The permittee is authorized to construct and operate subject to the following special conditions:

and record the fuel flow rate in accordance with 40 CFR 63.7555(a)(3) (MACT Subpart DDDDD *National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters*), and in accordance with 40 CFR 60.49b(d) (NSPS Subpart Db *Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units*), as written the date of this permit's issuance.

3. Record Keeping and Reporting Requirements

- A. Ameren Missouri Rush Island Energy Center 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. These records shall include SDS for all materials used.
  
- B. Ameren Missouri Rush Island Energy Center shall report to the Air Pollution Control Program's Compliance/Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than 30 days after the end of the period during which any record required by this permit shows an exceedance of a limitation imposed by this permit.

REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT AND OPERATE  
SECTION (5) REVIEW

Project Number: 2017-06-025

Installation ID Number: 099-0016

Permit Number: 07 2017 - 020

Installation Address:

Ameren Missouri Rush Island Energy Center  
100 Big Hollow Road  
Festus, MO 63028

Parent Company:

Ameren Corporation  
1901 Chouteau Ave.  
St. Louis, MO 66149

Jefferson County, S4,5,8,9, T39N, R7E

REVIEW SUMMARY

- Ameren Missouri Rush Island Energy Center has applied for authority to install auxiliary boiler (B-5).
- The application was deemed complete on June 20, 2017.
- HAP emissions are expected from the new boiler and existing fuel tank, but in individual amounts below the SMAL and in combined amounts below 25.0 tpy for the project.
- 40 CFR 60 Subpart Db, *Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units*, applies to the boiler.
- None of the NESHAPs under 40 CFR 61 apply to the project.
- 40 CFR 63 Subpart DDDDD, *National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters*, applies to the boiler.
- No control devices are required to be used on the boiler. It is equipped with low NO<sub>x</sub> burners and flue gas recirculation, but potential NO<sub>x</sub> emissions did not include these devices.
- This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of all pollutants are below de minimis levels. Potential emissions of SO<sub>2</sub> and NO<sub>x</sub> exceed the insignificant emission exemption levels in 10 CSR 10-6.061(3)(A)3.A.
- This installation is located in Jefferson County, with the following NAAQS status,
  - Ozone, 1-hour, 1979, serious nonattainment, redesignated to maintenance in 2003, currently revoked

- Ozone, 8-hour, 1997, moderate nonattainment, redesignated to maintenance in 2015, currently revoked
  - Ozone, 8-hour, 2008, currently marginal nonattainment
  - PM<sub>2.5</sub>, 1997, currently moderate nonattainment
  - Part of Jefferson County is a nonattainment area for the 2010 SO<sub>2</sub> standard. This installation is located in that area.
  - Part of Jefferson County is a nonattainment area for the 1978 and 2008 lead standards. This installation is not located in those areas.
  - Jefferson County is an attainment area or unclassifiable for all other criteria pollutants.
- This installation is on the List of Named Installations found in 10 CSR 10-6.020(3)(B), Table 2. The installation is classified as item number 26. Fossil-fuel-fired steam electric plants of more than 250 million British thermal units per hour heat input. The installation's major source level is 100 tons per year and fugitive emissions are counted toward major source applicability.
  - Ambient air quality modeling was not performed since potential emissions of the application are below de minimis levels and SMALs.
  - 40 CFR 60 Subpart Db requires opacity testing and maximum heat input capacity testing. Testing may be required as part of other state, federal or applicable rules.
  - The installation of auxiliary boiler B-5 is an off-permit change to the part 70 operating permit, requiring contemporaneous notification according to 10 CSR 10-6.065(6)(C)9.
  - Approval of this permit is recommended with special conditions.

## INSTALLATION DESCRIPTION

Ameren Missouri Rush Island Energy Center is a baseload electric generating station primarily fired by coal. The installation consists of two tangentially fired coal boilers, an auxiliary oil-fired boiler, fuel and ash handling, haul roads, storage piles, and emergency equipment. The installation is a major source of PM, PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub>, NO<sub>x</sub>, VOC, CO, GHG, and HAPs for construction and operating permits. It is located in Jefferson County. The following New Source Review permits have been issued to Ameren Missouri Rush Island Energy Center from the Air Pollution Control Program.

**Table 1: NSR Permit History**

Permit Number	Description
0992-017	SO <sub>3</sub> injection
N/A	Temporary permit under project EX22800016006 expired 12/7/1997
0992-017A	Amendment
012001-021	Coal handling
012004-007	Generator
052011-009	Dry sorbent injection
102011-013	Temporary permit for refined coal

062016-014	Ash handling
062016-014A	Amendment to include emergency ash handling scenario

## PROJECT DESCRIPTION

Ameren Missouri Rush Island Energy Center proposes to install a new auxiliary boiler (B-5). It is proposed to be used when both main boilers are down, to provide steam to bring them online for a cold start. B-5 will replace existing auxiliary boiler B-3. B-5 will be fired exclusively with distillate oil as defined in NSPS Db (essentially fuel oil No. 1, fuel oil No. 2, or diesel) obtained from existing tanks. It is rated at 155 MMBtu/hr input when firing ULSD. B-5 will not be an EGU. B-5 will be equipped with low NO<sub>x</sub> burners and flue gas recirculation, but operation of these control devices is not enforceable as a practical manner.

The installation of emission units in permit 062016-014 are related to relocating the existing auxiliary boiler (B-3). Boiler B-3 is being replaced by B-5 in a new location, rather than being relocated. The program did not make a formal determination on if permit 062016-014, 062016-014A and this project should be aggregated. However, the potential emissions were conservatively combined. The resulting combined PTE does not trigger a major review.

Manufacturer specifications were available during the permit application review, which confirmed the 155 MMBtu/hr input design capacity. Therefore no special condition was written requiring an as-built confirmation of design capacity. However, NSPS Db requires capacity testing.

## EMISSIONS/CONTROLS EVALUATION

Annual PTE was calculated based upon a 10% annual capacity factor. This value is required as an enforceable limit in order to be defined as a limited use boiler in MACT DDDDD and to avoid emission limits in NSPS Db. This limits annual fuel usage to 135,780 MMBtu heat input, converted to 987,491 gal/yr based upon a HHV of 137,500 Btu/gal. That HHV is based upon ultra-low sulfur distillate according to the U.S. Energy Information Administration. The sulfur content of the fuel is close to that of ULSD, 0.005% vs 0.0015%. Therefore, it was assumed the tank(s) are holding essentially ULSD at the time of permit issuance. As of January 1, 2017, the installation can accept only 15 ppm (0.0015%) weight maximum sulfur fuel oil into the tank(s) supplying this boiler. Monitoring of fuel usage is required to demonstrate compliance. NSPS Db requires monthly recordkeeping based upon a 12-month rolling total or each month, not a calendar year as in the MACT DDDDD and NSPS Db definitions of annual capacity factor.

SO<sub>2</sub> PTE was calculated using 0.005% weight sulfur in the fuel oil. This amount was obtained from testing conducted during the permit review. It is much less than the definition of *very low sulfur oil* in NSPS Db, 0.30%. By meeting this limit the boiler is not subject to the SO<sub>2</sub> or PM emission limits in NSPS Db. As of January 1, 2017, the

installation can accept only 15 ppm (0.0015%) weight maximum sulfur fuel oil into the tank(s) supplying this boiler. Therefore, the in-tank sulfur content may continually decrease.

NO<sub>x</sub> PTE was calculated using the EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition, Table 1.3-1, September 1999. The value of 24 lbs/1,000 gal fuel oil was selected. This is an uncontrolled value. The boiler is equipped with NO<sub>x</sub> controls. However, their operation is not enforceable as a practical manner, therefore the uncontrolled value was used. Not requiring the control devices also avoids potentially onerous monitoring requirements, onerous considering the accompanying small annual emission reductions when the controls are required. The NO<sub>x</sub> PTE is below de minimis by a wide margin. If complying with the 10% annual capacity factor limit, the boiler is not subject to the NSPS Db NO<sub>x</sub> emission limit.

PM filterable PTE was calculated using the manufacturer's emission factor of 0.05 lbs PM filterable/MMBtu input. This equates to 6.9 lbs/1,000 gallons fuel, and is much higher than the AP-42 value of 2 lbs/1,000 gal. As operation of low NO<sub>x</sub> burners and flue gas recirculation may result in a cooler flame or incomplete combustion, the higher value was chosen for potential emissions. PM<sub>10</sub> filterable and PM<sub>2.5</sub> filterable were calculated using a ratio of the PM filterable (6.9/2) multiplied by the AP-42 PM<sub>10</sub> and PM<sub>2.5</sub> filterable values in Table 1.3-6. Condensables were obtained from AP-42 Table 1.3-2 without any modification.

CO PTE was calculated using the manufacturer's emission factor of 0.037 lb/MMBtu input. This equates to 5.1 lb/1,000 gal. It is slightly higher than the AP-42 value of 5. The higher factor was chosen as it is more conservative, even if due to calculation approximations. It was also chosen because operation of the NO<sub>x</sub> controls may result in incomplete combustion and higher CO.

VOC and HAP emission factors were obtained from AP-42 Tables 1.3-3, 1.3-8, 1.3-9, and 1.3-10. GHG emission factors were obtained from 40 CFR 98 Tables C-1 and C-2. 100 year global warming potentials were obtained from Table A-1, January 1, 2014.

No emission netting was performed for this permit, and there is no requirement to shutdown the existing auxiliary boiler.

Potential emissions for fuel delivery on existing haul roads were calculated using AP-42 Chapter 13.2.1, January 2011. No new haul roads are being constructed for this project.

Fuel storage PTE was calculated using the EPA program TANKS 4.0.9d. No new tanks are being constructed for this project. The new boiler will draw from existing tanks that also supply the main EGU boilers. The PTE associated with tank throughputs for the new boiler are 0.03 tpy VOC and smaller amounts of HAPs.

The following tables provide an emissions summary for this project. Existing potential emissions were obtained from the draft operating permit under project 2015-02-041.

Combined project PTE represents the ash handling project and auxiliary boiler.

Table 2: Combined Project Emissions Summary (tpy)

Pollutant	Regulatory <i>De Minimis</i> Levels / SMAL	Permit 062016-014A PTE	Auxiliary Boiler Project PTE	Combined Project PTE
PM	25.0	16.09	3.39	19.48
PM <sub>10</sub>	15.0	4.19	2.34	6.53
PM <sub>2.5</sub>	10.0	1.91	1.07	2.98
SO <sub>2</sub>	40.0	N/A	0.35	0.35
NO <sub>x</sub>	40.0	N/A	11.85	11.85
VOC	40.0	N/A	0.10	0.10
CO	100.0	N/A	2.51	2.51
Lead	0.6	6.5E-04	6.1E-04	1.3E-03
GHG (CO <sub>2</sub> e)	N/A	N/A	11,107.6	11,107.6
GHG (mass)	N/A	N/A	11,070.2	11,070.2
Combined HAPs	25.0	6.7E-03	0.04	0.05
Formaldehyde	2.0	N/A	0.03	0.03
Antimony Compounds	5	3.9E-05	N/D	3.9E-05
Arsenic Compounds	0.005	1.4E-03	2.7E-04	1.7E-03
Beryllium Compounds	0.008	7.1E-05	2.0E-04	2.7E-04
Cadmium Compounds	0.01	9.7E-05	2.0E-04	3.0E-04
Chromium Compounds	5	9.8E-04	2.0E-04	1.2E-03
Cobalt Compounds	0.1	1.8E-04	N/D	1.8E-04
Lead Compounds	0.01	6.5E-04	6.1E-04	1.3E-03
Manganese Compounds	0.8	2.1E-03	4.1E-04	2.5E-03
Mercury Compounds	0.01	4.2E-06	2.0E-04	2.1E-04
Nickel Compounds	1	7.0E-04	2.0E-04	9.0E-04
Selenium Compounds	0.1	5.9E-04	1.0E-03	1.6E-03

N/A = Not Applicable; N/D = Not Determined

Other HAPs are potentially emitted from the boiler project. All HAP PTE are below respective SMAL.

**Table 3: Emissions Summary (tpy)**

Pollutant	Regulatory <i>De Minimis</i> Levels / SMAL	Existing Potential Emissions	Existing Actual Emissions (2016 EIQ)	Combined Project PTE	New Installation Potential
PM	25.0	2,049.12	N/D	19.48	2,068.60
PM <sub>10</sub>	15.0	1,603.16	531.96	6.53	1,609.69
PM <sub>2.5</sub>	10.0	950.92	195.13	2.98	953.90
SO <sub>2</sub>	40.0	59,570.32	17,384.33	0.35	59,570.67
NO <sub>x</sub>	40.0	20,770.60	2,661.79	11.85	20,782.45
VOC	40.0	215.68	118.70	0.10	215.78
CO	100.0	1,897.93	990.37	2.51	1,900.44
Lead	0.6	N/D	0.04	1.3E-03	N/D
GHG (CO <sub>2</sub> e)	N/A	Major	7,533,128	11,107.6	Major
GHG (mass)	N/A	Major	7,475,063	11,070.2	Major
Combined HAPs	25.0	605.49	N/D	0.05	605.54
Formaldehyde	2.0	23.12	N/D	0.03	23.15
Antimony Compounds	5	0.06	0.02	3.9E-05	0.06
Arsenic Compounds	0.005	1.28	0.027	1.7E-03	1.28
Beryllium Compounds	0.008	0.07	0.0025	2.7E-04	0.07
Cadmium Compounds	0.01	0.16	0.009	3.0E-04	0.16
Chromium Compounds	5	0.81	0.0815	1.2E-03	0.81
Cobalt Compounds	0.1	0.31	0.021	1.8E-04	0.31
Lead Compounds	0.01	1.31	N/D	1.3E-03	1.31
Manganese Compounds	0.8	1.53	0.095	2.5E-03	1.53
Mercury Compounds	0.01	0.06	N/D	2.1E-04	0.06
Nickel Compounds	1	0.88	0.084	9.0E-04	0.88
Selenium Compounds	0.1	4.06	0.62	1.6E-03	4.06

N/A = Not Applicable; N/D = Not Determined

- Other HAPs are potentially emitted from the project and installation. All project HAP PTE are below respective SMAL.
- The new installation potential was not reduced for removal of auxiliary boiler B-3.
- HAP actual emissions were obtained from the 2016 EIQ, however the 2016 EIQ did not show formaldehyde, HCl, HF, mercury, and many other HAPs.
- GHG actual emissions were obtained from EPA's facility level information on greenhouse gases tool.

### APPLICABLE REQUIREMENTS

Ameren Missouri Rush Island Energy Center shall comply with the following applicable requirements. The Missouri Air Conservation Laws and Regulations should be consulted for specific record keeping, monitoring, and reporting requirements. Compliance with these emission standards, based on information submitted in the application, has been verified at the time this application was approved. For a complete list of applicable requirements for your installation, please consult your operating permit.

## GENERAL REQUIREMENTS

- *Operating Permits*, 10 CSR 10-6.065
- *Start-Up, Shutdown, and Malfunction Conditions*, 10 CSR 10-6.050
- *Submission of Emission Data, Emission Fees and Process Information*, 10 CSR 10-6.110
  - Per 10 CSR 10-6.110(4)(B)2.B(II) and (4)(B)2.C(II) a full EIQ is required for the first full calendar year the equipment (or modifications) approved by this permit are in operation.
- *Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin*, 10 CSR 10-6.170
- *Restriction of Emission of Visible Air Contaminants*, 10 CSR 10-6.220 does not apply. Auxiliary boiler B-5 meets exception (1)(H), also (1)(J)1.
- *Restriction of Emission of Odors*, 10 CSR 10-6.165

## SPECIFIC REQUIREMENTS

- *New Source Performance Regulations*, 10 CSR 10-6.070
  - *Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units*, 40 CFR Part 60, Subpart Db. Please see the regulation for all requirements. The emission standards are summarized below.

Auxiliary boiler B-5 is subject to a federally enforceable requirement limiting operation of the affected facility to the firing of distillate oil and an annual capacity factor of 10%, therefore it is not subject to a NO<sub>x</sub> emission limit.

Units firing only *very low sulfur oil* (the ULSD required to be filled into the tank per 10 CSR 10-6.261(3)(D)) with a mixture of another fuel (pre-existing fuel in the tank) with a potential SO<sub>2</sub> emission rate of 0.32 lb/MMBtu input or less are exempt from the SO<sub>2</sub> emission limit in paragraph (k)(1). The SO<sub>2</sub> potential emissions are based upon 0.005% weight sulfur tested in the fuel oil. The sulfur content in the tank will continually reduce to approximately 0.0015% weight. At 137,500 Btu/gal and 7.1 lb/gal this equates to 0.0052 lb SO<sub>2</sub>/MMBtu input, which is less than 0.32. Other approximations for HHV and density still show the SO<sub>2</sub> rate is less than the limit by a wide margin. Therefore, the boiler is exempt from the SO<sub>2</sub> emission limit in paragraph (k)(1).

On and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, an owner or operator of an affected facility not located in a noncontinental area that commences construction, reconstruction, or modification after February 28, 2005, and that combusts only oil that contains no more than 0.30 weight percent sulfur, coke oven gas, a mixture of these fuels, or either fuel (or a mixture of these fuels) in combination with other fuels not subject to a PM standard in §60.43b and not using a post-combustion technology (except a wet scrubber) to reduce SO<sub>2</sub> or PM emissions is not subject to the PM limits in (h)(1) of this section.

On and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that combusts coal, oil, wood, or mixtures of these fuels with any other fuels shall cause to be discharged into the atmosphere any gases that exhibit greater than 20 percent opacity (6-minute average), except for one 6-minute period per hour of not more than 27 percent opacity.

- **MACT Regulations, 10 CSR 10-6.075**
  - **National Emission Standards for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters, 40 CFR Part 63, Subpart DDDDD.** Please see the regulation for all requirements. Auxiliary boiler B-5 is a proposed limited use boiler due to the 10% annual capacity factor. Limited-use boilers and process heaters must complete a tune-up every 5 years as specified in §63.7540. They are not subject to the emission limits in Tables 1 and 2 or 11 through 13 to this subpart, the annual tune-up, or the energy assessment requirements in Table 3 to this subpart, or the operating limits in Table 4 to this subpart.
- **Control of Sulfur Dioxide Emissions, 10 CSR 10-6.261.** According to (3)(D), no later than January 1, 2017, owners or operators of sources subject to this rule in Jackson and Jefferson Counties must accept for delivery only ultra-low sulfur distillate fuel oil with a maximum fuel sulfur content of fifteen (15) ppm for use in unit(s) fueled, in whole or in part, by diesel, No. 1 fuel oil and/or No. 2 fuel oil.
- **Restriction of Particulate Matter Emissions From Fuel Burning Equipment Used for Indirect Heating, 10 CSR 10-6.405.** Auxiliary boiler B-5 will be fired with fuel oil with less than 1.2% sulfur, therefore it is deemed in compliance with the rule.

#### STAFF RECOMMENDATION

On the basis of this review conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*, it is recommended that this permit be granted with special conditions.

## PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated June 8, 2017, received June 12, 2017, designating Ameren Corporation as the owner and operator of the installation.
- Emails between Michael Hutcheson (Ameren Corporation) and David Little (Air Pollution Control Program) dated June 16, 2017 and June 20, 2017.

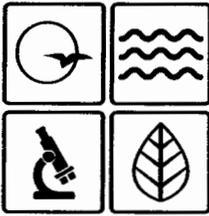
The following documents are permit references:

- U.S. EPA document, *AP-42 Compilation of Air Pollutant Emission Factors*, Fifth Edition.
- Draft permit titled, *2017-06-025 draft 1.pdf*, dated July 6, 2017.
- Draft permit titled, *2017-06-025 draft 2.pdf*, dated July 12, 2017.
- Draft permit titled, *2017-06-025 draft 3.pdf*, dated July 19, 2017.
- *Chemical Analysis Report Laboratory Services Department Ameren Missouri*. Login Record File 17070364, Report Date July 19, 2017.
- *The Transition to Ultra-Low-Sulfur Diesel Fuel: Effects on Prices and Supply*. U.S. Energy Information Administration, Report #: SR-OIAF/2001-01.
- *Large reduction in distillate fuel sulfur content has only minor effect on energy content*. U.S. Energy Information Administration, February 24, 2015.
- Emails between Michael Hutcheson (Ameren Corporation) and David Little (Air Pollution Control Program) dated July 11, 2017 to July 21, 2017.

## APPENDIX A

### Abbreviations and Acronyms

<b>%</b> .....percent	<b>Mgal</b> .....1,000 gallons
<b>°F</b> .....degrees Fahrenheit	<b>MW</b> .....megawatt
<b>acfm</b> .....actual cubic feet per minute	<b>MHDR</b> .....maximum hourly design rate
<b>BACT</b> .....Best Available Control Technology	<b>MMBtu</b> ....Million British thermal units
<b>BMPs</b> .....Best Management Practices	<b>MMCF</b> .....million cubic feet
<b>Btu</b> .....British thermal unit	<b>MoDNR</b> ....Missouri Department of Natural Resources
<b>CAM</b> .....Compliance Assurance Monitoring	<b>MSDS</b> .....Material Safety Data Sheet
<b>CAS</b> .....Chemical Abstracts Service	<b>NAAQS</b> ....National Ambient Air Quality Standards
<b>CEMS</b> .....Continuous Emission Monitor System	<b>NESHAPs</b> National Emissions Standards for Hazardous Air Pollutants
<b>CFR</b> .....Code of Federal Regulations	<b>NO<sub>x</sub></b> .....nitrogen oxides
<b>CO</b> .....carbon monoxide	<b>NSPS</b> .....New Source Performance Standards
<b>CO<sub>2</sub></b> .....carbon dioxide	<b>NSR</b> .....New Source Review
<b>CO<sub>2</sub>e</b> .....carbon dioxide equivalent	<b>PM</b> .....particulate matter
<b>COMS</b> .....Continuous Opacity Monitoring System	<b>PM<sub>2.5</sub></b> .....particulate matter less than 2.5 microns in aerodynamic diameter
<b>CSR</b> .....Code of State Regulations	<b>PM<sub>10</sub></b> .....particulate matter less than 10 microns in aerodynamic diameter
<b>dscf</b> .....dry standard cubic feet	<b>ppm</b> .....parts per million
<b>EIQ</b> .....Emission Inventory Questionnaire	<b>PSD</b> .....Prevention of Significant Deterioration
<b>EP</b> .....Emission Point	<b>PTE</b> .....potential to emit
<b>EPA</b> .....Environmental Protection Agency	<b>RACT</b> .....Reasonable Available Control Technology
<b>EU</b> .....Emission Unit	<b>RAL</b> .....Risk Assessment Level
<b>fps</b> .....feet per second	<b>SCC</b> .....Source Classification Code
<b>ft</b> .....feet	<b>scfm</b> .....standard cubic feet per minute
<b>GACT</b> .....Generally Available Control Technology	<b>SDS</b> .....Safety Data Sheet
<b>GHG</b> .....Greenhouse Gas	<b>SIC</b> .....Standard Industrial Classification
<b>gpm</b> .....gallons per minute	<b>SIP</b> .....State Implementation Plan
<b>gr</b> .....grains	<b>SMAL</b> .....Screening Model Action Levels
<b>GWP</b> .....Global Warming Potential	<b>SO<sub>x</sub></b> .....sulfur oxides
<b>HAP</b> .....Hazardous Air Pollutant	<b>SO<sub>2</sub></b> .....sulfur dioxide
<b>hr</b> .....hour	<b>tph</b> .....tons per hour
<b>hp</b> .....horsepower	<b>tpy</b> .....tons per year
<b>lb</b> .....pound	<b>VMT</b> .....vehicle miles traveled
<b>lbs/hr</b> .....pounds per hour	<b>VOC</b> .....Volatile Organic Compound
<b>MACT</b> .....Maximum Achievable Control Technology	
<b>µg/m<sup>3</sup></b> .....micrograms per cubic meter	
<b>m/s</b> .....meters per second	



Missouri Department of dnr.mo.gov

# NATURAL RESOURCES

Eric R. Greitens, Governor

Carol S. Comer, Director

JUL 3 1 2017

Mr. Michael Hutcheson  
Consulting Environmental Engineer  
Ameren Corporation  
P.O. Box 66149 mc 602  
St. Louis, MO 66149

RE: New Source Review Permit - Project Number: 2017-06-025

Dear Mr. Hutcheson:

Enclosed with this letter is your permit to construct. Please study it carefully and refer to Appendix A for a list of common abbreviations and acronyms used in the permit. Also, note the special conditions on the accompanying pages. The document entitled, "Review of Application for Authority to Construct," is part of the permit and should be kept with this permit in your files. Operation in accordance with these conditions, your new source review permit application and with your amended operating permit is necessary for continued compliance. The reverse side of your permit certificate has important information concerning standard permit conditions and your rights and obligations under the laws and regulations of the State of Missouri.

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

If you were adversely affected by this permit decision, you may be entitled to pursue an appeal before the administrative hearing commission pursuant to Sections 621.250 and 643.075.6 RSMo. To appeal, you must file a petition with the administrative hearing commission within thirty days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed; if it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the administrative hearing commission, whose contact information is: Administrative Hearing Commission, United States Post Office Building, 131 West High Street, Third Floor, P.O. Box 1557, Jefferson City, Missouri 65102, phone: 573-751-2422, fax: 573-751-5018, website: [www.oh.mo.gov/ahc](http://www.oh.mo.gov/ahc).

Mr. Michael Hutcheson  
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If you have any questions regarding this permit, please do not hesitate to contact David Little, at the Department of Natural Resources' 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



Susan Heckenkamp  
New Source Review Unit Chief

SH:dlj

Enclosures

c: St. Louis Regional Office  
PAMS File: 2017-06-025

Permit Number:

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