

Missouri Department of dnr.mo.gov

NATURAL RESOURCES

Michael L. Parson, Governor

Carol S. Comer, Director

APR 16 2019

Mr. Kenneth R. Davis, P.E.
Sr. Assistant Director, Campus Facilities – Energy Management
University of Missouri
417 South Fifth Street
Columbia, MO 65211

RE: New Source Review Temporary Permit Request - Project Number: 2019-01-038
Installation ID Number: 019-0004
Temporary Permit Number: **042019-008**
Expiration Date: March 22, 2020

Dear Mr. Davis:

The Missouri Department of Natural Resources' Air Pollution Control Program has completed a review of your request to conduct trial burns to test the feasibility of combusting up to 100 weight percent Convergen fuel pellets in Boilers 7, 8, 9, and 10 at the University of Missouri power plant, located in Columbia, Missouri. The Air Pollution Control Program is hereby granting your request to conduct this temporary operation at this location in accordance with Missouri State Rule 10 CSR 10-6.060(10).

University of Missouri is authorized to conduct trial testing of the Convergen fuel pellets. Total Convergen fuel pellet combustion as allowed by this permit shall not exceed 7,500 tons. No new equipment shall be added to the installation because of this permit.

Chemical analyses of the Convergen fuel pellets indicate:

- Convergen fuel pellets contain approximately equivalent amounts of ash compared to coal
- Convergen fuel pellets contain more volatile matter compared to coal
- Convergen fuel pellets contain less chlorine, mercury, nitrogen, and sulfur than coal

While Convergen fuel pellets will likely result in an increase in VOC and CO emissions, the increase is expected to be less than 100 tons; therefore, temporary combustion of Convergen fuel pellets meets the applicability requirements of 10 CSR 10-6.060(10).



Recycled paper

Permission to conduct the trial burns is granted with the following conditions:

1. The permittee shall combust no more than 7,500 tons of Convergen fuel pellets in Boilers 7, 8, 9, and 10 combined.
2. No later than 90 days after the expiration date of this permit, the permittee shall submit a project report to the Air Pollution Control Program. The report shall include:
 - ◆ A copy of the analytical data for a representative sample of Convergen fuel pellets combusted during the trial burns.
 - ◆ The start date, start time, and duration of each trial burn.
 - ◆ The quantity in tons and the heat content in Btu of the Convergen fuel pellets combusted during the trial burns.
 - ◆ Any HCl, Hg, PM, PM₁₀, PM_{2.5}, NO_x, SO_x, CO, VOC, and HAP emissions data collected during the trial burns.
 - ◆ The lime injection rate during each trial burn.
 - ◆ The pressure drop across the baghouse during each trial burn.
 - ◆ The MERV or fraction efficiency rating of the baghouse filters during each trial burn.
 - ◆ Conclusions reached concerning the long-term feasibility of Convergen fuel pellet combustion in Boilers 7, 8, 9, and/or 10.

Please note: if the University of Missouri wishes to use data from this trial burn to permit future combustion of Convergen fuel pellets in the boilers, the following information should also be obtained:

- ◆ A table of emission factors developed from the stack testing conducted during the trial burns. The developed emission factor table shall include sample calculations and a full stack testing report.
- ◆ The emission factors shall be reported in both pounds of pollutant per MMBtu and pounds of pollutant per ton.
- ◆ An emission factor comparison for the different types of fuels combusted.
- ◆ A steam production rate comparison for the different types of fuels combusted.
- ◆ An emission factor summary including discussion of the methods used to develop the emission factors.
- ◆ A copy of the stack test reports

The permittee is still obligated to meet all applicable air pollution control rules, Department of Natural Resources' rules, or any other applicable federal, state, or local agency regulations.

Specifically, you should avoid violating:

- ◆ 10 CSR 10-6.165 *Restriction of Emission of Odors*
- ◆ 10 CSR 10-6.170 *Restriction of PM to the Ambient Air Beyond the Premises of Origin*
- ◆ 10 CSR 10-6.260 *Restriction of Emission of Sulfur Compounds*
- ◆ 10 CSR 10-6.261 *Control of Sulfur Dioxide Emissions*
- ◆ 10 CSR 10-6.405 *Restriction of PM Emissions From Fuel Burning Equipment Used for Indirect Heating*
- ◆ 40 CFR Part 63, Subpart DDDDD
- ◆ Construction Permit 092015-001

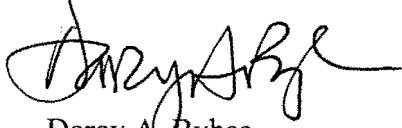
Mr. Kenneth R. Davis, P.E.

Page Three

A copy of this letter should be kept with the unit and be made available to Department of Natural Resources' personnel upon verbal request. If you have any questions regarding this determination, please do not hesitate to contact Alana Hess at the departments' Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102 or by telephone at (573) 751-4817. Thank you for your time and attention to this matter.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

A handwritten signature in black ink, appearing to read "Darcy A. Bybee". The signature is fluid and cursive, with a large initial "D" and "B".

Darcy A. Bybee
Director

DAB:ahj

c: PAMS File: 2019-01-038
Northeast Regional Office