

PERMIT BOOK

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES

Matt Blunt, Governor • Doyle Childers, Director

www.dnr.mo.gov

AUG 26 2008

Mr. Paul Ling
Environmental Manager
Kansas City Power & Light
P.O. Box 418679
Kansas City, MO 64141-9679

RE: New Source Review Temporary Permit Request – Project Number: 2008-08-015
Installation ID Number: 095-0031
Temporary Permit Number: **08 2008 - 020**
Expiration Date: April 1, 2009

Dear Mr. Paul Ling:

The Missouri Department of Natural Resources' Air Pollution Control Program has completed a review of your request to perform an additional trial burn of biomass fuels at Kansas City Power & Light's Sibley Generating Station. The Air Pollution Control Program is hereby granting your request to conduct these temporary operations at this location according to Missouri State Rule 10 CSR 10-6.060(3). Permission to conduct the above activities is hereby granted provided that no more than 3,600 tons of biofuel during this trial is burned.

The Sibley Generating Station previously assessed the feasibility of burning biomass fuels in their cyclone boilers under Temporary Permit No. 022008-003. The limited tests showed that the biofuel could be burned in the boilers; however, more information is needed to determine operation impacts. In order to obtain this information, the Sibley Generating Station is requesting approval to perform an additional test on Sibley Unit 1.

As was done previously, the biofuel will be directly fed to existing conveyor belts. Sibley Generating Station will vary the blend up to 10% with coal for a six month time period. The biofuel will consist of pelletized waste nuts, seeds shells, hulls, wood chips, etc. Through testing, the heat content of the biofuel will be approximately 7,770 British thermal units per pound (Btu/lb)

There are currently no emission factors available for the introduction of biomass fuel into the boiler except for those of chipped wood. These emission factors were obtained from Environmental Protection Agency document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition, Section 1.6, *Wood Residue Combustion in Boilers (9/03)* and the emissions for burning 3,600 tons of chipped ground wood is shown in Table 1.

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Table 1: Emissions based on 3,600 tons of wood consumed per year

	PM ₁₀ *	Sulfur Oxides	Nitrogen Oxides	Carbon Monoxide	VOC*	HAPs
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