

Attachment B

KANSAS DEPARTMENT OF HEALTH AND ENVIRONMENT'S EVALUATION OF KANSAS CITY, KANSAS BOARD OF PUBLIC UTILITIES, NEARMAN CREEK POWER STATION UNIT 1 PROPOSED BEST AVAILABLE CONTROL TECHNOLOGY (BACT) OPTIONS

Kansas City, Kansas Board of Public Utilities (BPU) evaluated the BACT analysis to control emissions from the Emission Reduction Project. The only significant emission increase from this project is Carbon Monoxide (CO).

CO BACT for the Emission Reduction Project

CO controls consist of good combustion practices or oxidation catalyst. Overfire air can provide an element of CO control as it allows further burn-out of the pollutant. Otherwise, the best identified method to control CO emission from a coal-fired boiler is through the use of appropriate combustion control techniques.

The PSD regulations require BACT, which requires the source to evaluate the control options for technical feasibility. Installing an oxidation catalyst to control CO emission was deemed technically infeasible for two main reasons. First, in addition to oxidizing CO, an oxidation catalyst will also oxidize a significant portion of SO₂ to SO₃ in the gas stream. SO₃ in the presence of water forms sulfuric acid mist which is highly corrosive to equipment downstream of the catalyst. Second, catalyst vendors do not generally have catalyst material suitable for coal-fired boilers if the catalyst is to be located upstream of the particulate control device. Therefore, the acid gases, particulate, and trace metals in the flue gas from the combustion of solid fuel would quickly poison standard catalysts, making the control technology ineffective in its intended role.

Based on the technical constraints, the use of good combustion practices to meet CO emission levels of 0.17 lb/mmBTU is proposed by Kansas City, Kansas Board of Public Utilities as BACT. KDHE agrees with this analysis.