

Sikeston Board of Municipal Utilities
Sikeston Power Station
Initial Hazard Potential Classification Assessment
Federal CCR Rule Record Document for Compliance with
40 CFR 257.107(f)(4)

On behalf of the Sikeston Board of Municipal Utilities, Sikeston Power Station (SPS), GREDELL Engineering Resources, Inc. conducted an initial hazard potential classification assessment for SPS' Bottom Ash Pond, a coal combustion residual (CCR) surface impoundment. An initial hazard potential classification assessment is required by the United States Code of Federal Regulations, Chapter 40, and Part 257 – Criteria for Classification of Solid Waste Disposal Facilities and Practices, Subpart D – Standards for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments (the Federal CCR Rule – Section 73(a)(2)). The preamble to the Federal CCR Rule references the Federal Guidelines for Dam Safety: Hazard Potential Classification System for Dams (FEMA, April 2004) to define low, significant, and high hazard potential for CCR surface impoundment berms. The federal guidelines evaluate the consequences of a potential failure, not the likelihood of a failure. This primarily effects the flood event required to be used for the Inflow Flood Control System evaluation. Excerpts from the Federal CCR Rule and the Federal Guidelines for Dam Safety: Hazard Potential Classification System for Dams (FEMA, April 2004) are included below.

40 CFR §257.73(a)(2) Periodic Hazard Potential Classification Assessment.

(a)(2)(i) The owner or operator of the CCR unit must conduct initial and periodic hazard potential classification assessments of the CCR unit according the timeframes specified in paragraph (f) of this section. The owner or operator must document the hazard potential classification of each CCR unit as either a high hazard potential CCR surface impoundment, a significant hazard potential CCR surface impoundment, or a low hazard potential CCR surface impoundment. The owner or operator must also document the basis for each hazard potential classification.

(a)(2)(ii) The owner or operator of the CCR unit must obtain a certification from a qualified professional engineer stating that the initial hazard potential classification and each subsequent periodic classification specified in paragraph (a)(2)(i) of this section was conducted in accordance with the requirements of this section.

Federal Guidelines for Dam Safety: Hazard Potential Classification System for Dams

Low Hazard Potential – Dams assigned the low hazard potential classification are those where failure or misoperation results in no probable loss of human life and low economic and/or environmental losses. Losses are principally limited to the owner's property.

Significant Hazard Potential – Dams assigned the significant hazard potential classification are those dams where failure or misoperation results in no probable loss of human life but can

cause economic loss, environmental damage, disruption of lifeline facilities, or can impact other concerns. Significant hazard potential classification dams are often located in predominately rural or agricultural areas but could be located in areas with population and significant infrastructure.

High Hazard Potential – Dams assigned the high hazard potential classification are those where failure or misoperation will probably cause loss of human life.

Hazard Potential Classification

The Bottom Ash Pond at SPS resides in the southeast portion of the SPS property, and directly south of SPS's coal pile and inactive Fly Ash Pond. SPS and the Bottom Ash Pond are located at a transition between agricultural and urban areas. The Bottom Ash Pond is surrounded by agricultural, commercial, and residential areas. Residential areas are located approximately 150 feet east/southeast of the Bottom Ash Pond. Commercial areas are located approximately 700 feet south of the Bottom Ash Pond. The remaining area around the Bottom Ash Pond is agricultural land.

A worst-case scenario breach due to failure of the berm or misoperation of the Bottom Ash Pond was modeled using HydroCAD. This evaluation determined the flood water from a worst-case scenario breach in the Bottom Ash Pond berms would likely travel off SPS property into the adjacent residential area, but would not result in probable loss of human life. Because the flood water encroached on the adjacent residential area, it was concluded the flood water would likely cause economic loss, environmental damage, disruption of lifeline facilities, or impact other concerns.

Based on the Federal Guidelines for Dam Safety: Hazard Potential Classification System for Dams (FEMA, April 2004), the Bottom Ash Pond is classified as a Significant Hazard Potential.

Professional Engineer's Certification

40 CFR 257.73(a)(2) Periodic Hazard Potential Classification Assessment

I, John N. Browning, P.E., a professional engineer licensed in the State of Missouri, hereby certify in accordance with 40 CFR 257.73(a)(2)(ii) that the hazard potential classification for the Sikeston Board of Municipal Utilities, Sikeston Power Station, Bottom Ash Pond has been conducted in accordance with the requirements of 40 CFR 257.73(a)(2)(i) as found in federal regulation 40 CFR 257, Subpart D – Standards for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments and has been prepared using good engineering and environmental judgment and standard accepted practices.

Name: John N. Browning, P.E.

Signature: 

Date: 10-17-2016

Registration Number: PE-020769

State of Registration: Missouri

