Professional Engineer's Certification

40 CFR 257.71 (b) Liner Design Criteria for Existing CCR Surface Impoundments

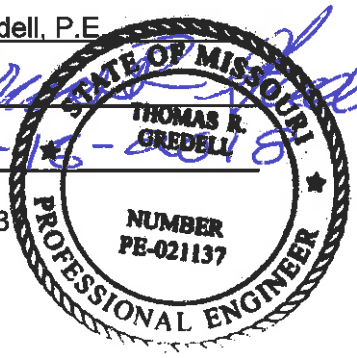
I, Thomas R. Gredell, P.E., GREDELL Engineering Resources, Inc., a professional engineer licensed in the State of Missouri, hereby certify in accordance with 40 CFR 257.71 (b) that the Fly Ash Pond located at the Sikeston Board of Municipal Utilities, Sikeston Power Station is not constructed with a liner that meets the requirements of 40 CFR 257.71(a)(1) as found in federal regulation 40 CFR 257, Subpart D – Standards for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments. This certification evaluation of closure by removal of CCR has been prepared using good engineering, environmental judgement, and standard accepted practices.

Name: Thomas R. Gredell, P.E.

Signature: _____

Date: 04-16-2018

Registration Number: PE-02113
State of Registration: Missouri



Sikeston Board of Municipal Utilities
Sikeston Power Station
Clay Liner Evaluation
Federal CCR Rule Record Document for Compliance with 40 CFR 257.107(f)(3)

On behalf of the Sikeston Board of Municipal Utilities (SBMU) Sikeston Power Station (SPS), GREDELL Engineering Resources, Inc. (Gredell Engineering) conducted a limited evaluation of the existing clay liner for SPS' Fly Ash Pond, a coal combustion residual (CCR) surface impoundment. A clay liner evaluation 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 71(a)). The Fly Ash Pond is subject to extension of compliance deadlines resulting from inactive status and Response to Partial Vacatur (the Direct Final Rule), for section (§) 40 CFR 257.100 (effective October 4, 2016) and the Federal CCR Rule §257.102(b) (effective October 19, 2015). Owners or operators of inactive CCR surface impoundments subject to the provisions of the new 40 CFR 257.100(e)(3)(i) must, by April 17, 2018, comply with the requirements at 40 CFR 257.71(a) and (b). Section 40 CFR 257.71(a) of the Federal CCR Rule is provided below for reference.

§257.71 Liner Design Criteria for Existing CCR Surface Impoundments

(a)(1) No later than October 17, 2016, the owner or operator of an existing CCR surface impoundment must document whether or not such unit was constructed with any one of the following:

(i) A liner consisting of a minimum of two feet of compacted soil with a hydraulic conductivity of no more than 1 x 10^{-7} cm/sec;

(ii) A composite liner that meets the requirements of §257.70(b); or

(iii) An alternative composite liner that meets the requirements of §257.70(c).

(a)(2) The hydraulic conductivity of the compacted soil must be determined using recognized and generally accepted methods.

(a)(3) An existing CCR surface impoundment is considered to be an existing unlined CCR surface impoundment if either:

(i) The owner or operator of the CCR unit determines that the CCR unit is not constructed with a liner that meets the requirements of paragraphs (a)(1)(i), (ii), or (iii) of this section; or

(ii) The owner or operator of the CCR unit fails to document whether the CCR unit was constructed with a liner that meets the requirements of paragraphs (a)(1)(i), (ii), or (iii) of this section.

(a)(4) All existing unlined CCR surface impoundments are subject to the requirements of §257.101(a).

Clay Liner Evaluation

Field work for the limited evaluation of the clay liner was conducted on July 26 and 27, 2016 for the Fly Ash Pond, which is located east of SPS's coal pile and directly north of the Bottom Ash Pond. Test pits were excavated at six separate locations along the side slopes of the impoundment and representative, undisturbed samples of the clay liner soils were obtained using Shelby tubes. The representative soil samples (in the Shelby tubes) were submitted to a qualified geotechnical laboratory for hydraulic conductivity analysis using ASTM Method D5084. All samples were extracted from the Shelby tubes by the laboratory, a general log was created, the length of the clay soil component was measured, and the general engineering characteristics of the clay soil samples were determined. One of the samples was found to include clay soils that met the minimum thickness criteria of 2.0 feet (24 inches). Only one of the samples was analyzed for hydraulic conductivity and did not meet the regulatory criteria specified under 40 CFR 257.71(a)(1)(i).

Based on these limited results, Gredell Engineering Resources, Inc. concludes at this time that the Fly Ash Pond clay liner system does not meet the criteria of 40 CFR 257.71(a)(1)(i). SBMU chooses not to complete additional sampling and laboratory testing at this time.