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CCR Certification Report: Liner Design Criteria Evaluation

For

East Ash Pond

At Havana Power Station

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1 INTRODUCTION

The purpose of this liner design criteria evaluation is to document that the requirements specified in 40 CFR §257.71(a)(1) have been evaluated to support the liner certification for the Havana Power Station East Ash Pond, an existing CCR surface impoundment as defined under 40 CFR §257.53.

Owners or operators of existing CCR surface impoundments must document, by October 17, 2016, whether or not such units were constructed with a liner meeting any one of the following criteria as defined in 40 CFR §257.71(a)(1):

- (i) A liner consisting of a minimum of two feet of compacted soil with a hydraulic conductivity of no more than 1×10^{-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).

In accordance with §257.71(a)(3), if the CCR unit was not constructed with a liner that meets the requirements of §257.71(a)(1)(i), (ii) or (iii) as listed above, it will be considered an existing unlined CCR surface impoundment.

2 LINER EVALUATION

The Havana East Ash Pond is comprised of four cells, referred to herein as Cell 1, Cell 2, Cell 3, and Cell 4. In accordance with 40 CFR §257.71(a)(1)(i), (ii) or (iii), the minimum criteria for liner certification must be met by all four cells in order for the East Ash Pond to be considered a lined impoundment.

The East Ash Pond cells were constructed separately. Based on the evaluation of design drawings and available construction records, each of the cells of the East Ash Pond was constructed with a compacted clay liner of varying thickness. According to design and construction records, Cells 1 and 4 were lined with 3-feet of compacted clay while Cells 2 and 3 were constructed with 1-foot of compacted clay underlying a 45-mil polypropylene geomembrane liner. Cell 1 was designed with a clay liner with a permeability of 1×10^{-7} cm/s and Cell 3 was designed with a clay liner with a permeability of 1×10^{-6} cm/s. Neither design nor construction records were found that specified any permeability requirements for the clay liners of Cells 2 and 4. The polypropylene geomembrane liner installed as part of the liner system for Cells 2 and 3 is not considered an acceptable material for use in a composite liner per 40 CFR §257.70(b). Therefore, the East Ash Pond cannot be certified as meeting the minimum criteria specified in §257.71(a)(1) for a lined impoundment because the individual cells do not meet the minimum requirements.

3 CONCLUSION

The East Ash Pond at the Havana Power Station was evaluated relative to the USEPA CCR Rule requirements for liner certification for an existing CCR surface impoundment (§257.71(a)(1)). Based on the evaluation presented herein, the East Ash Pond was not constructed with a liner that meets the design criteria specified in §257.71(a)(1).

4 CERTIFICATION

Certification Statement 40 CFR § 257.71(b) – Liner Design Criteria for an Existing CCR Surface Impoundment

CCR Unit: Havana East Ash Pond

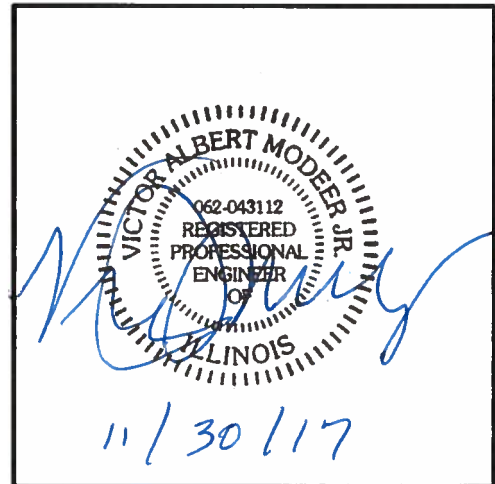
I, Victor Modeer, being a Registered Professional Engineer in good standing in the State of Illinois, do hereby certify, to the best of my knowledge, information, and belief, that the information contained in this certification has been prepared in accordance with the accepted practice of engineering. I certify, for the above-referenced CCR Unit, that the documentation as to whether the CCR Unit meets the requirements of 40 CFR § 257.71(a) is accurate.

VICTOR A MODEER JR.

Printed Name

10/13/16

Date



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