

# CCR Certification Report: Liner Design Criteria Evaluation

## For

### Bottom Ash Basin

### At Duck Creek 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 Duck Creek Power Station Bottom Ash Basin, 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  $1 \times 10^{-7}$  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

Based on the evaluation of design drawings and available construction records, the Bottom Ash Basin was constructed with a lower and upper liner. The lower liner consists of a 1-foot layer of compacted clay overlain by a 60-mil HDPE membrane. The upper liner consists of 8-inches of reinforced concrete. Permeability requirements and construction records were not available to determine the in-situ hydraulic conductivity. Therefore, the Bottom Ash Basin cannot be certified as meeting the §257.71(a)(1) criteria for a lined impoundment.

## 3 CONCLUSION

The Bottom Ash Basin at the Duck Creek Power Station was evaluated relative to the USEPA CCR Rule requirements for liner certification for existing CCR surface impoundment (§257.71(a)(1)). Based on the evaluation presented herein, the Bottom Ash Basin 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: Duck Creek Bottom Ash Basin

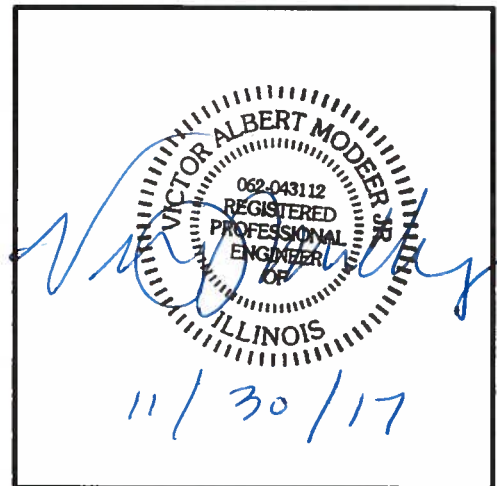
I, Victor Modeer, being a Registered Professional Engineer in good standing in the State of Illinois, do hereby certify, to the best of my knowledge, information, and belief that the information contained in this certification has been prepared in accordance with the accepted practice of engineering. 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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