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# CCR Certification Report: Liner Design Criteria Evaluation

For

D Basin

At Zimmer 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 Zimmer Power Station D 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 D Basin was constructed with a multilayer liner. The bottom and sideslopes of D Basin were originally constructed with a 3-foot compacted clay layer and 18-inches of granular material on the floor. Common fill was then placed in the bottom of D Basin to raise up the bottom elevation of the basin. The thickness of the common fill varied across the basin. A 1-foot thick compacted clay layer was installed above the common fill. A layer of geotextile fabric was placed over the compacted clay layer and covered with a 1-foot layer of granular material. The layer of granular material was covered by a second layer of geotextile fabric, and a 2-foot thick protective layer comprised of bottom ash was placed above the geotextile fabric. Permeability requirements and construction records were not available to determine in-situ hydraulic conductivity. Therefore, the D Basin cannot be certified as meeting the §257.71(a)(1) criteria for a lined impoundment.

## 3 CONCLUSION

The D Basin at the Zimmer 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, D Basin was not constructed with a liner that meets the design criteria specified in §257.71(a)(1).

## 4 CERTIFICATION

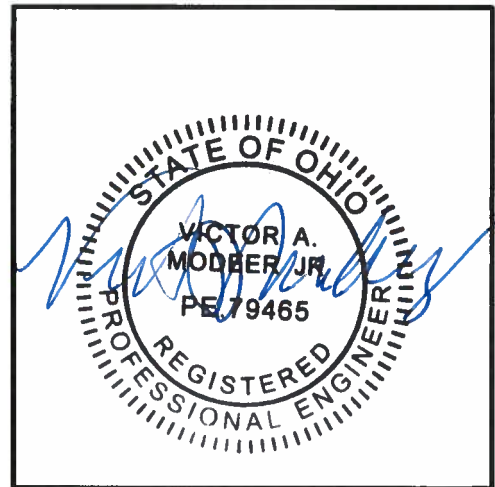
### Certification Statement 40 CFR § 257.71(b) – Liner Design Criteria for an Existing CCR Surface Impoundment

CCR Unit: Zimmer D Basin

I, Victor Modeer, being a Registered Professional Engineer in good standing in the State of Ohio, 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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