

CCR CERTIFICATION REPORT

LINER EVALUATION RESULTS FOR CCR SURFACE
IMPOUNDMENT

GYPSUM RECYCLE POND
ZIMMER POWER STATION
MOSCOW, OHIO

by Haley & Aldrich, Inc.
Cleveland, Ohio

for Dynegy Zimmer, LLC

File No. 129673-007
February 2018



1. Introduction

Haley & Aldrich, Inc. performed a liner design criteria evaluation for the Gypsum Recycle Pond, an existing CCR surface impoundment located at the Zimmer Power Station in Moscow, Ohio. This is an updated evaluation and supersedes the previous liner evaluation completed for the Gypsum Recycle Pond prior to October 17, 2016. This updated evaluation was performed in accordance with the U.S. Environmental Protection Agency's (EPA's) Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities, 40 CFR Part 257, specifically §257.71(a)(1), which provides that 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 1×10^{-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), it will be considered an existing unlined CCR surface impoundment.

2. Liner Evaluation

The previous liner evaluation concluded that the Gypsum Recycle Pond liner system was constructed with 8 inches of concrete overlying 3 feet of compacted clay, but construction records were not available to determine the in situ hydraulic conductivity.

A supplemental field investigation and laboratory testing program was completed in 2017 by Haley & Aldrich to confirm as-built conditions and to determine the in situ hydraulic conductivity. The investigation demonstrated that the liner system as-built conditions consist of 8.0 to 10.4 inches of a reinforced concrete slab overlying a minimum of two feet of compacted clay with a hydraulic conductivity of less than 1×10^{-7} cm/sec. The average clay liner thickness of 3.1 feet (ranging between 2.5 and 4.0 feet) is greater than the minimum 2 feet required and the average hydraulic conductivity of 1.9×10^{-8} cm/sec (ranging between 5.5×10^{-9} cm/sec and 4.4×10^{-8} cm/sec) is less than the maximum allowable hydraulic conductivity requirement. The hydraulic conductivity was determined using recognized and generally accepted methods. The results of the investigation are documented in the operating record.

Based on evaluation of design drawings, available construction drawings, and results of the supplemental field investigation and laboratory testing program, the Gypsum Recycle Pond meets the §257.71(a)(1)(i) design criteria for a lined impoundment.

3. Conclusion

The Gypsum Recycle Pond 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, the Gypsum Recycle Pond was constructed with a liner that meets the design criteria

specified in §257.71(a)(1)(i) and, is therefore, considered a “lined CCR surface impoundment” for purposes of the CCR Rule. As a result, the Gypsum Recycle Pond is not subject to §257.101(a) of the CCR Rule.

4. Certification

§257.71(b): The owner or operator of the CCR unit must obtain a certification from a qualified professional engineer attesting that the documentation as to whether a CCR unit meets the requirements of paragraph (a) of this section is accurate.

I, Steven F. Putrich, 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 as-built liner system for the Gypsum Recycle Pond meets the design criteria of 40 CFR §257.71(a)(1)(i) and that the documentation in the operating record supporting that conclusion is accurate.



Signed: _____
Consulting Engineer

Print Name: Steven F. Putrich
Ohio License No.: 67329
Title: Vice President
Company: Haley & Aldrich, Inc.

Professional Engineer’s Seal:

