

2021 CCR Surface Impoundment Structural Stability Assessment



Revision A
October 5, 2021
Issue Purpose: Use
Project No.: 10572-142

1.0 PURPOSE

AES Indiana's Eagle Valley Generating Station ("Eagle Valley" or the "Station") has three existing coal combustion residual (CCR) surface impoundments, Ponds A, B, and C, that are regulated by the U.S. Environmental Protection Agency's (EPA) "Standards for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments," 40 CFR Part 257 Subpart D, also referred to herein as the Federal CCR Rule. In accordance with 40 CFR 257.73(d)(1), this report documents the 2021 structural stability assessment for Ponds A, B, and C at Eagle Valley. Pursuant to 40 CFR 257.73(f), this structural stability assessment was conducted and completed within five years of the previous assessment.

2.0 STRUCTURAL STABILITY ASSESSMENT RESULTS

To develop the assessment presented herein, a review of the available construction documents, soil borings through the dikes, the annual inspections conducted to date by a qualified professional engineer in accordance with 40 CFR 257.83(b)(1), and AES Indiana's observations of the dikes has been completed. Pursuant to 40 CFR 257.73(d)(1), the standard for this evaluation is consistent with recognized and generally accepted good engineering practices.

2.1 STABLE FOUNDATIONS & ABUTMENTS

Federal CCR Rule Reference: 40 CFR 257.73(d)(1)(i)

The soils supporting the exterior dikes of Ponds A, B, and C are considered stable for the maximum volume of CCR and CCR wastewater which can be impounded therein.

2.2 ADEQUATE SLOPE PROTECTION

Federal CCR Rule Reference: 40 CFR 257.73(d)(1)(ii)

The slopes of the dikes are adequately protected against surface erosion, wave action, and adverse effects of sudden drawdown.

2.3 COMPACTED DIKES

Federal CCR Rule Reference: 40 CFR 257.73(d)(1)(iii)

As documented by the Station's Safety Factor Assessment (completed in accordance with 40 CFR 257.73(e)), the dikes are adequately compacted to provide the required engineering properties to achieve the stability safety factors for the required loading conditions.

2.4 VEGETATED SLOPES

Federal CCR Rule Reference: 40 CFR 257.73(d)(1)(iv)

The requirement that vegetation on slopes of dikes and surrounding areas “not...exceed a height of six inches above the slope of the dike” was vacated by the U.S. Court of Appeals, District of Columbia Circuit after the provision was challenged following publication of the Federal CCR Rule in April 2015. See *USWAG et al. v. EPA*, No. 15-1219 (D.C. Circ. 2015). The U.S. EPA has yet to finalize a rule that re-establishes vegetative cover height limitations for CCR surface impoundments.

2.5 SPILLWAY

Federal CCR Rule Reference: 40 CFR 257.73(d)(1)(v)

The dikes, which are perched, do not have spillways. The Station’s Inflow Design Flood Control System Plan (completed in accordance with 40 CFR 257.82(c)) indicates that spillways are not required for these CCR surface impoundments to adequately manage flow during and following the design storm event.

2.6 HYDRAULIC STRUCTURES

Federal CCR Rule Reference: 40 CFR 257.73(d)(1)(vi)

Based on the annual inspections conducted to date by a qualified professional engineer in accordance with 40 CFR 257.83(b)(1), the hydraulic structures that pass through and beneath the dikes are in sound condition to the extent they are accessible.

2.7 ADJACENT WATER BODIES

Federal CCR Rule Reference: 40 CFR 257.73(d)(1)(vii)

The downstream slopes of the exterior dikes are appropriate for the flooding risks of the adjacent White River and Discharge Canal.

3.0 CORRECTIVE MEASURES

Federal CCR Rule Reference: 40 CFR 257.73(d)(2)

No corrective measures are recommended.

4.0 CONCLUSION

This structural stability assessment confirms that the three existing CCR surface impoundments at Eagle Valley – Pond A, Pond B, and Pond C – have been designed, constructed, operated, and maintained consistent with recognized and generally accepted good engineering practices to provide structural stability for the maximum volume of CCR and CCR wastewater which can be impounded therein.

5.0 CERTIFICATION

Federal CCR Rule Reference: 40 CFR 257.73(d)(3)

I certify that:

- This periodic structural stability assessment was prepared by me or under my direct supervision.
- The work was conducted in accordance with the requirements of 40 CFR 257.73(d).
- I am a registered professional engineer under the laws of the State of Indiana.

Certified By: David E. Nielson

Date: October 5, 2021

Seal:

