



Indianapolis Power & Light Company
Eagle Valley Generating Station

Safety Factor Assessment of
CCR Surface Impoundments

Prepared by



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Issue Purpose: Use

1 PURPOSE

Pursuant to 40 CFR 257.73(e), this document provides the initial safety factor assessment for the exterior dikes of the existing coal combustion residual (CCR) surface impoundments at Indianapolis Power & Light Company's (IPL) Eagle Valley Generating Station. Based on the applicability criteria presented in 40 CFR 257.73(b), the following existing CCR surface impoundments are addressed herein:

- Pond A,
- Pond B, and
- Pond C.

2 RESULTS & CONCLUSIONS

Slope stability analyses were performed for critical cross sections of the exterior dikes of each CCR surface impoundment (CCR unit). The lowest factors of safety (FOS) corresponding to the potential failure surfaces that could result in uncontrolled releases of CCR are summarized in Table 1 for each CCR unit.

Table 1: Summary of Safety Factors for Each CCR Unit

FOS Assessment	Pond A	Pond B	Pond C	Minimum Allowable FOS
40 CFR 257.73(e)(1)(i) Calculated Static FOS for Long-Term, Maximum Storage Pool Loading Condition	1.51	Note 1	Note 1	1.50
40 CFR 257.73(e)(1)(ii) Calculated Static FOS for Maximum Surcharge Pool Loading Condition	1.44	Note 1	Note 1	1.40
40 CFR 257.73(e)(1)(iii) Calculated Seismic FOS Loading Condition	1.05	Note 1	Note 1	1.00
40 CFR 257.73(e)(1)(iv) Calculated Liquefaction FOS Loading Condition	1.27	Note 1	Note 1	1.20
Does CCR Unit Satisfy the Requirements of 40 CFR 257.73(e)?	Yes	Yes	Yes	—

Notes: 1) Slope stability analyses were not performed for the exterior dikes of Ponds B and C. Borings indicated generally more competent ground conditions compared to the other borings used to analyze Pond A. In addition, the heights of the dikes around Ponds B and C do not exceed seven to eight feet. Thus, the critical cross section for these existing CCR surface impoundments was located in Pond A. An adequate safety factor is conservatively verified and bounded by the analysis performed for the exterior dikes of Pond A.

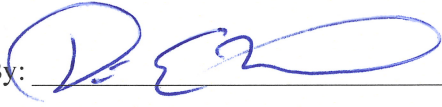
The factors of safety calculated for each required load case for each CCR unit satisfy the required minimum safety factors specified in 40 CFR 257.73(e)(1)(i) through (iv) for the critical cross sections of the exterior dikes.

3 CERTIFICATION

This initial safety factor assessment satisfies the safety factor requirements of 40 CFR 257.73(e).

I certify that this document was prepared by me or under my direct supervision and that I am a registered professional engineer under the laws of the State of Indiana.

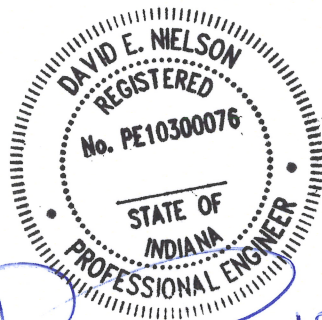
Certified By: _____



Date: _____

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