



Indianapolis Power & Light Company
Petersburg Generating Station

Hazard Potential Classification Assessment of
CCR Surface Impoundments

Prepared by



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1 PURPOSE

This document provides the initial hazard potential classification assessment for the existing coal combustion residual (CCR) surface impoundments at Indianapolis Power & Light Company's (IPL) Petersburg Generating Station for compliance with 40 CFR 257.73(a)(2). Based on its applicability criteria, 40 CFR 257.73(a)(2) applies to Ponds A, A', and C at the Petersburg Generating Station.

2 BASIS FOR HAZARD POTENTIAL CLASSIFICATION

This assessment considered hypothetical dike breaches at any of the existing CCR surface impoundments' dikes regardless of potential causes and/or apparent dike stability. Each surface impoundment was considered independently from the other surface impoundments and, at the time of the hypothetical failure, was considered to be filled with liquid.

2.1 POTENTIAL FOR LOSS OF HUMAN LIFE

The following items were considered when evaluating the potential for a general loss of human life should a hypothetical failure or mis-operation occur at any of the existing CCR surface impoundments:

- Absence of nearby residences, businesses, and public buildings,
- Absence of nearby campgrounds and public spaces,
- Absence of nearby public roads and highways, and
- Proximity to rail lines.

The eastern dikes of Ponds A and C are adjacent to a rail line operated by the Indiana Southern Railroad (ISRR). Based on a review of the type and frequency of this rail line's service, the rail line predominately transports agricultural commodities and coal. The rail line does not provide transportation services for the general public. Therefore, a loss of human life along the ISRR rail line is not probable should a hypothetical failure or mis-operation occur at Pond A or Pond C.

Based on the preceding observations, a loss of human life in areas accessible to the general public is not probable should a hypothetical failure or mis-operation occur at Ponds A, A', or C.

The following items were considered when evaluating the potential for loss of Station personnel lives should a hypothetical failure or mis-operation occur at any of the existing CCR surface impoundments:

- Proximity to the Station's power block and balance-of-plant structures,
- Frequency of Station personnel activity near the surface impoundments, and
- Topography of the ground surface between the CCR surface impoundments and the Station's facilities.

Ponds A' and C are not located near any significant Station facilities or other areas regularly occupied by Station personnel. Pond A, however, is in close proximity to several Station facilities, such as a Station cooling tower and a laydown area. During a hypothetical failure of this pond's western dike, water is anticipated to flow into these areas. The passive emergency spillway located on the partition dike between Ponds A and A' limits the amount of water that can accumulate in Pond A and, therefore, limits the amount of water that can be released by a breach near these Station facilities. As such, the anticipated

flow from a hypothetical failure of Pond A's western dike would not likely be significant enough (i.e., velocity, depth, etc.) to result in a probable loss of Station personnel lives in the adjacent work areas. Thus, a loss of Station personnel lives is not probable should a hypothetical failure or mis-operation occur at Ponds A, A', or C.

Per the preceding observations, a loss of human life is not probable should a hypothetical failure or mis-operation occur at Ponds A, A', or C.

2.2 POTENTIAL FOR ECONOMIC & ENVIRONMENTAL LOSSES

The following items were considered when evaluating the risks of economic and environmental losses should a hypothetical failure or mis-operation occur at any of the existing CCR surface impoundments:

- Proximity to the Lick Creek and the White River,
- Potential disruption of or damage to the ISRR rail line,
- Potential disruption of lifeline facilities, such as the nearby electrical transmission towers,
- Topography of the ground surface between the CCR surface impoundments and the aforementioned features.

Discharged water from Pond A' flows into Lick Creek and subsequently into the White River. Therefore, a hypothetical failure along the western dike of Pond A' could deposit CCR into Lick Creek, which could eventually spread into the White River and immediate downstream areas beyond IPL's property. Similarly, the topography adjacent to the northern dike of Pond C slopes down towards the White River. Thus, flow from a hypothetical breach of this dike could deposit CCR directly into the White River, causing environmental damage to the river and immediate downstream areas.

As previously mentioned, Ponds A and C are adjacent to and west of an ISRR rail line, which traverses the site at an elevation of approximately 443 feet per the North American Vertical Datum of 1988 (NAVD88). The dike of Pond A that abuts the ISRR rail line is effectively incised into the adjacent topography and, thus, should not disrupt ISRR services during a hypothetical failure or mis-operation event. The crest elevation of Pond C along the same rail line is approximately 455 feet (NAVD88) – approximately 12 feet higher than the rail line. Therefore, a hypothetical failure or mis-operation of Pond C along its eastern dike could disrupt ISRR services and/or damage the rail line, which would potentially result in economic losses.

As previously mentioned, a hypothetical failure or mis-operation at Pond A's western dike could release the surface impoundment's contents into adjacent Station facilities. While a loss of Station personnel lives is not probable, the potential disruption of power-generating operations at the Station would potentially result in economic losses.

Based on the preceding observations, a hypothetical failure or mis-operation at Ponds A, A', or C could cause economic losses and environmental damages beyond IPL's property.

2.3 SUMMARY OF HAZARD POTENTIAL CLASSIFICATION ASSESSMENTS

Hypothetical failures or mis-operations at Ponds A, A', and C result in no probable loss of human life. However, hypothetical failures or mis-operations at these existing CCR surface impoundments could result in environmental damage to the White River and other areas immediately downstream that are beyond IPL's property, in addition to economic losses.

3 CONCLUSION

The following initial hazard potential classifications have been assigned to the existing CCR surface impoundments at the Petersburg Generating Station in accordance with 40 CFR 257.73(a)(2):

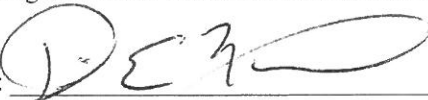
- Pond A: significant hazard potential,
- Pond A': significant hazard potential, and
- Pond C: significant hazard potential.



4 CERTIFICATION

This initial hazard potential classification assessment meets the requirements of 40 CFR 257.73(a)(2).

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: 10-14-2016

Seal:



