

Initial Semi-Annual Progress Report Assessment of Corrective Measures Selection of Final Remedy

Whitewater Valley Station Surface Impoundment
Richmond Power and Light
Whitewater Valley Station
Wayne County, Indiana

GAI Project Number: C151119.22
April 2021



Prepared by: GAI Consultants, Inc.
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Prepared for: Richmond Power and Light
2000 U.S. 27 South
Richmond, Indiana 47374

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1.0 Introduction and Background

The Whitewater Valley Station (Station) is a coal-fired electric generating station located in the city of Richmond, Wayne County, Indiana, and is owned by Richmond Power & Light (RP&L). The Station consists of two generating units, which can produce a combined 100 megawatts of electricity.

Coal Combustion Residuals (CCR) generated at the Station were historically sluiced to the Surface Impoundment (Impoundment), which was built in the 1950s. From discussion with Station personnel, sluicing of fly ash and bottom ash to the Impoundment was reduced significantly during the mid-1970s, with rare instances when the Impoundment received sluiced fly ash as a backup option until October 19, 2015. From the mid-1970s to October 19, 2015, the Surface Impoundment also received Bottom Ash Hydrobin overflow and drain water on days the Station operated, as reported by Station personnel. Starting in 2012, the Station began operating as a peaking station and typically operates on the order of 20 to 30 days per year. The size of the Impoundment is approximately 14 acres. The state identification number for the Impoundment is 89-UP-04.

The Impoundment is currently inactive and only receives localized site stormwater runoff. Construction of a coal pond is underway to eliminate stormwater runoff to the Impoundment.

A polishing pond known as Pond P1-P3 is situated just north of the Impoundment. The Impoundment currently discharges to Pond P1-P3 via a series of gravel drains, and some CCR material has been observed in Pond P1-P3. Water can eventually drain from Pond P1-P3 through Pond P-4 to the Richmond Sanitary District sewer line on the north side of the property, as part of a Non-Categorical Industrial Wastewater Discharge Permit.

The Impoundment is regulated as an existing CCR surface impoundment under the Environmental Protection Agency's "Standards for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments" [40 CFR 257 Subpart D] published in the Federal Register on April 17, 2015, with an effective date of October 19, 2015, (CCR Rule) and subsequent revisions. The Impoundment meets the provisions of the CCR Rule's "Extension of Compliance Deadlines for Certain Inactive Surface Impoundments: Response to Partial Vacatur," effective October 4, 2016.

In February 2020 a notice documenting that a statistically significant level of molybdenum had been observed in a groundwater monitoring well was placed within the Station's operating record. As per CCR Rule requirements, GAI Consultants, Inc. (GAI) prepared an Assessment of Corrective Measures (ACM) for the Impoundment (GAI, 2020).

2.0 Purpose

Pursuant to CCR Rule Section 257.97(a), the owner of a CCR impoundment must prepare a semiannual report describing the progress in selecting and designing a remedy based on the ACM. This Progress Report includes:

- Summary of Work Completed;
- Summary of Corrective Measures Assessed; and
- Planned Activities and Anticipated Schedule.

3.0 Summary of Work Completed

A groundwater monitoring system was established at the Impoundment site beginning in 2016. In March 2019 a statistically significant increase in fluoride was observed in two downgradient monitoring wells. Subsequent assessment monitoring, beginning in September 2019, revealed a statistically significant level of molybdenum in a downgradient well.

Offsite monitoring wells were installed in July 2020 to assess the extent of potential groundwater impacts. Preliminary results from these wells indicated the presence of arsenic, cobalt, and lead in one well during the initial sampling (likely due to well installation) and lithium in several wells, but neither lithium nor cobalt were observed in the nearest downgradient offsite potable well. As a result of these findings, preparation of an Assessment of Corrective Measures report is required by the CCR Rule. This report was completed in September 2020.

GAI, RP&L, and the Indiana Department of Environmental Management (IDEM) have had preliminary discussions regarding the expectations and requirements for any selected corrective measures. In addition, GAI has prepared opinions of probable costs for feasible corrective measures.

Additional groundwater monitoring occurred in March 2021.

4.0 Summary of Corrective Measures Assessed

The ACM report listed several corrective measures for potential use at the Impoundment site. These included:

- Monitored Natural Attenuation
 - Physical measures (including dilution, dispersion, and flushing)
 - Chemical mechanisms (including adsorption and precipitation)
- Source Removal with Post-Removal Monitoring
- Hydraulic Containment
- Physical Containment/Hydraulic Barrier
- Permeable Reactive Barrier
- In-Situ Stabilization

5.0 Planned Activities and Anticipated Schedule

Following the March 2021 groundwater monitoring and evaluation of data, a public meeting will be scheduled to discuss the ACM report. As required by the CCR Rule, this will occur at least 30 days prior to the selection of a corrective measures remedy and is anticipated to occur in April or May 2021.

Once the final remedy is selected, remedial activities must be initiated within 90 days. As stated in Section 257.98 (a), implementation of the corrective action program includes:

- Establishing a corrective action groundwater monitoring program;
- Implementing the corrective action remedy; and
- Taking interim measures to reduce contaminants leaching from the Impoundment and/or potential exposures to human or ecological receptors.

The corrective action groundwater monitoring program is currently in place and functioning. Since IDEM will need to approve the closure plan for the Impoundment and implementing the corrective action remedy is considered part of the closure activities, commencing with the design and approval

process for the selected remedy within 90 days of selection will meet the requirement of the CCR Rule. The closure plan is anticipated to be submitted to IDEM in August or September 2021.

Once the Impoundment closure plan is approved by IDEM, construction documents will be prepared to achieve the closure. Construction of the ACM remedy will commence at this time. Closure is expected to be completed within four to six years after initiation.

6.0 References

Environmental Protection Agency, *40 CFR Parts 257 and 261, Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities*, April 17, 2015, revised July 2018.

GAI Consultants, *Assessment of Corrective Measures*, September 2020.