Memo

Date: Wednesday, July 30, 2025

To: Lansing Board of Water & Light

From: HDR Michigan, Inc.

Subject: Erickson Power Station Semiannual Progress Report for Selection of Remedy per 40 CFR §257.97(a)

Erickson had CCR impoundments that are subject to the U.S. Environmental Protection Agency's (EPA's) Coal Combustion Residuals (CCR) Rule specified in 40 CFR §257: the Forebay, Retention Basin, and Clear Water Pond (CWP) (**Figure 1, Figure 2**). The CCR impoundments triggered assessment of corrective measures and therefore are the subject of this remedy selection semiannual progress report.

The purpose of this Memo is to provide an update since the completion of the *Conceptual Site Model and Assessment of Corrective Measures* Report (ACM Report) on November 25, 2021 and posted to BWL's public website (HDR, 2021). The ACM Report, a phased program has been implemented to support remedy selection, primarily through plume delineation and aquifer characterization. This is the semiannual progress update describing progress in the first half of 2025 toward selecting a remedy for corrective action, as required by 40 CFR §257.97(a) of the CCR Rule.

BWL completed numerous tasks in the first half of 2025 to further characterize the impact to groundwater to further the assessment of corrective measures. Between January and June 2025, BWL completed the following tasks:

- 2024 Groundwater Monitoring Annual Report for Erickson, published by HDR on January 30, 2025
- Updated the Monitoring Well Installation Report and Groundwater Monitoring Network System Certification, both published on May 15, 2025.
- Performed a Tier I Evaluation for Monitored Natural Attenuation (MNA) of the site contaminants of concern (COCs) related to the former CCR surface impoundments.
- Developed a sampling strategy for collecting soil, groundwater, and well sediments to support subsequent Tier II MNA evaluation and bench tests to evaluate the treatability of groundwater in-situ via various potential reagents.
- Completed the installation of five monitoring wells (MW-19A, MW-19B, MW-19C, MW-19D, and MW-20) along the northern boundary of the BWL property.

- Performed sampling and analysis associated with semiannual assessment monitoring and higher frequency background monitoring for newly installed MW-17 series, MW-18 series, and MW-19 series multi-level wells.
- Completed site restoration efforts for the former Forebay, Retention Basin, and CWP following the removal of CCR source materials.

Nature and Extent Characterization

Previous groundwater monitoring network data currently suggest that the plume is delineated to the east and south of the former CCR impoundments, and as stated in 2024 Semiannual Progress Report the delineation efforts to the north continue in 2025.

Initial data collected from the MW-17 and MW-18 series wells through June 2025 (installed in September 2024) indicate that concentrations above GPS for multiple constituents of concern have been identified in both the glacial and bedrock aquifers for these multi-level series wells. However, a statistical analysis of the samples has not been performed due to these wells not having completed enough sampling events to be considered statistically significant. Consequently, the GPS exceedances for these wells are not representative of SSLs for the site at this time.

BWL evaluated potential paths in order to continue to delineate the groundwater plume to the north and in May 2025, a new monitoring well cluster (MW-19A, MW-19B, MW-19C, and MW-19D) and new piezometer (MW-20) were installed on the north and northeast corner of the Erickson property (**Figure 3**). Initial analytical results from the 19-series monitoring well cluster suggest that the plume is largely contained south Millett Highway because there are only slight exceedances of boron in glacial well MW-19B, calcium in the glacial wells MW-19A and MW-19B, and a singular exceedance of TDS in bedrock well MW-19D. To date, two background sample events have been completed for the MW-19 well series; therefore, these discrete exceedances have not been established as SSLs above GPS due to lacking enough sample events to be considered statistically significant.

Groundwater Extraction and Treatment Data Collection

The May 2024 pump test and analysis is described in the 2024 Groundwater Monitoring Annual Report for Erickson, published by HDR on January 30, 2025, and the findings are being incorporated into the groundwater flow and transport model and if the GWET remedy is selected, the data will be used for design of the remedy.

To assist in evaluating the feasibility of groundwater extraction and treatment as a viable remedy for site groundwater, a discharge options evaluation is currently underway. This evaluation will provide a high-level assessment of potential discharge pathways for the treated groundwater, including direct discharge to surface water under a National Discharge Elimination System (NPDES) permit, permitted discharge to a publicly owned treatment works (POTW), and discharge back to the subsurface (e.g. through reinjection or infiltration) within the site boundaries.

Monitored Natural Attenuation Evaluation

In 2025, BWL continued to collect additional groundwater data to continue MNA investigation as a potential remedial strategy. An evaluation of the MNA data collected is detailed in a summary memorandum titled “Monitored Natural Attenuation Evaluation: Insights from Initial Data”, which is expected to be finalized in July 2025. This memo includes a Tier I MNA Evaluation for boron, which concluded with a recommendation to advance boron to a Tier II MNA Evaluation and to complete a comprehensive Tier I MNA Evaluation for the remaining site COCs (calcium, lithium, molybdenum, sulfate, and total dissolved solids).

In-Situ Treatability Data Collection

Between January and June 2025 to evaluate the potential for in-situ treatment of site COCs (boron, lithium, calcium, chloride, lithium, molybdenum, and TDS), BWL has coordinated with multiple vendors to identify potentially feasibly reagents and develop sampling and bench testing protocols.

Next Steps Towards Remedy Selection

BWLs efforts to install monitoring wells offsite have failed as all adjacent landowners have not allowed the installation of monitoring wells offsite of the BWL property. Nevertheless, BWL has continued to install wells along their property boundaries to continue to evaluate the potential extent of contamination. Data collected from wells along the eastern, western, and southern boundaries of the site suggest the plume is contained within the boundaries of wells in these directions and data collected from wells along the northern property, although limited, suggest that the boundaries of the plume has been identified.

Robust activities for remedy selection has commenced with investigations into the GWET, MNA, and In-situ remedial methods.

Following this initial MNA data collection effort detailed above, a comprehensive Tier I MNA Evaluation was initiated for all site COCs. The results of this evaluation will be presented in a Tier I MNA Evaluation Report, anticipated to be completed within the third quarter of 2025. To support the Tier II MNA Evaluation, which will include geochemical modeling, additional soil, groundwater, and well sediment sampling is required. This sampling is anticipated to occur in the third quarter of 2025, with completion of the Tier II MNA Evaluation expected in the fourth quarter of 2025.

To evaluate the potential for in-situ treatment of the site COCs will be collected in the third quarter of 2025. These samples will be used to conduct bench-scale treatability tests with a variety of reagents, in order to determine their effectiveness in treating groundwater in situ. If the initial bench test results indicate the selected reagents are not viable, additional bench testing using alternative reagents may be pursued. If results are promising, however, a field-scale pilot test will be developed to further assess the viability of in-situ treatment at the site.

Additionally, BWL will continue implementing CCR groundwater compliance schedule in conformance with §257.90 - §257.98, which includes semiannual assessment monitoring in accordance with §257.95 to monitor groundwater conditions and inform the remedy selection. The final remedy will be formally selected per §257.97 once the selected option is reviewed and

commented on by EGLE and a public meeting is conducted at least 30-days prior to the final selection as required under §257.96(e).

The following activities are proposed to be performed or initiated in the next 6-month period:

- Continue semiannual groundwater assessment monitoring;
- Continue 5-week frequency monitoring for wells undergoing background monitoring;
- Complete tiered MNA evaluations to assess viability of MNA as a remedial option; and
- Updates to the groundwater flow and transport model and predicted modeling and simulations of groundwater remediation alternatives; and
- Continued analysis of results obtained from the new multi-level well series MW-19.

References

HDR, 2020. Groundwater Protection Standards and Determination of SSLs per §257.95g [Memorandum]. November 23, 2020.

HDR, 2021. Conceptual Site Model and Assessment of Corrective Measures. November 5, 2021.

Figure 1. Vicinity Map for Erickson Power Station

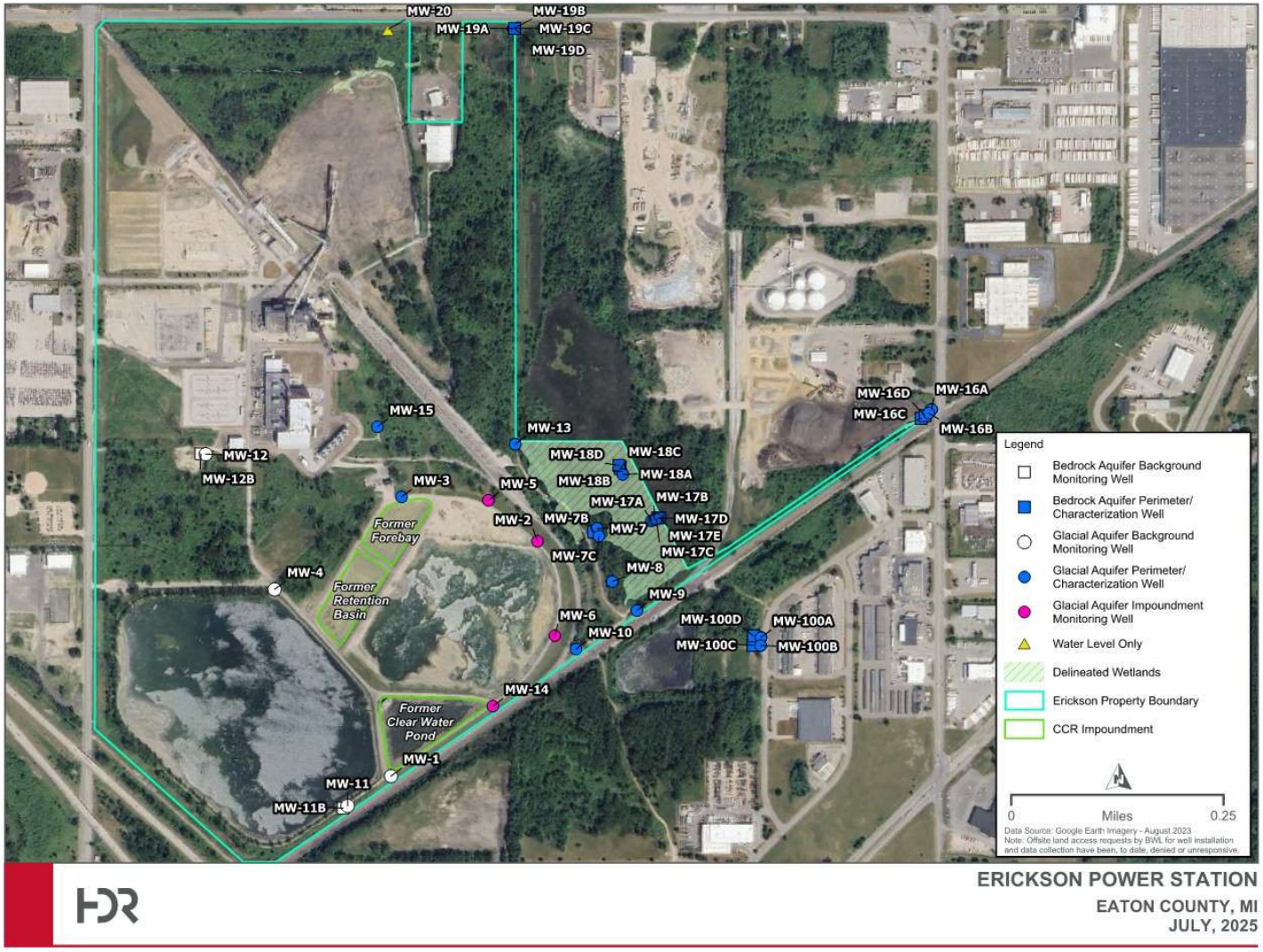

Figure 2. CCR Units and Monitoring Wells