

July 30, 2025

TRANSMITTAL VIA EMAIL 07/30/2025

Ms. Lori Babcock
Michigan Department of Environment, Great Lakes, and Energy
Materials Management Division
Bay City District Office
401 Ketchum St, Suite B
Bay City, Michigan 48708

SUBJECT: Semiannual Progress Report – Selection of Final Remedy pursuant to §257.97(a)
JC Weadock Landfill Coal Combustion Residuals (CCR) Unit

Dear Ms. Babcock:

This Semiannual Progress Report, prepared as a requirement of §257.97(a) of the Federal Coal Combustion Residual (CCR) Rule, describes progress towards selecting and implementing an additional remedy for the Weadock Landfill after the completion of the Assessment of Corrective Measures, JC Weadock Bottom Ash Pond and Landfill Coal Combustion Residual Unit¹, dated September 11, 2019. Groundwater management alternatives considered to be technically feasible at the Weadock Landfill upon completing source containment through the construction of the soil-bentonite slurry wall and construction of an impermeable final cover system that could potentially address the residual arsenic under known groundwater conditions were identified in the report as: 1) Post-remedy monitoring, 2) Groundwater capture/control, 3) Impermeable barrier, 4) Active geochemical sequestration, and 5) Passive geochemical sequestration.

Weadock Landfill Closure Activities

In 2008, Consumers Energy completed construction of a soil-bentonite slurry wall (Weadock Slurry Wall) that enclosed the landfill except for a 1,600 ft venting feature². Later in 2018, construction of the Weadock Slurry Wall was extended to include the previous vent as an interim measure to address groundwater quality³. EGLE approved the construction certification reports on June 24, 2009, and December 19, 2018, respectively. This engineered barrier is monitored in accordance with the *Landfill Hydrogeological Monitoring Plan*⁴, prepared by TRC, dated February 2021 approved and incorporated by reference into the renewed Solid Waste Operating License No.

¹ TRC. 2019. Assessment of Corrective Measures – JC Weadock Bottom Ash Pond and Landfill Coal Combustion Residual Units. Prepared for Consumers Energy Company. September.

² NTH Consultants, Ltd. 2009. Construction Certification, Soil-Bentonite Cutoff Wall April 24.

³ Golder Associates, Inc. 2018. J.C. Weadock Generating Facility, Slurry Wall Vent Closure Construction Documentation Report. October 30.

⁴ TRC. 2021. Landfill Hydrogeological Monitoring Plan – JC Weadock Power Plant, Essexville, Michigan. Prepared for Consumers Energy Company. February.

9640 dated March 11, 2021.

Additionally, Consumers Energy submitted draft revisions of the closure plan (2016 Closure Plan) for the Weadock Landfill to EGLE for review and concurrence pursuant to the requirements of the solid waste operating license. Changes in the closure plan were required due to the forecasted early retirement of coal-fired units at the generating complex in May 2023. Final grades were proposed to be reduced, but other improvements to the final cover system and stormwater drainage were incorporated into the plan with state-specific variances requested. EGLE approved the variances and provisional design elements in the renewed solid waste operating license on March 11, 2021. The final closure plan was approved by EGLE on April 17, 2022. Consumers Energy will update the final closure plan pursuant to 257.102(d) once the detail engineering is completed. The first phase of partial closure focused on construction approximately 22.5 acres of final cover commenced in May 2023. Consumers Energy will continue monitoring conditions during the execution of the final closure construction including performance of the soil-bentonite slurry wall.

Weadock Landfill Groundwater Sampling Results: March and May 2025 Events

Statistical analysis from the quarterly groundwater monitoring events performed in March and May 2025 at the Weadock Landfill verified that there were no Appendix IV constituents present at statistically significant levels above the established Groundwater Protection Standard (GWPS) within Weadock Landfill groundwater monitoring system. Results are presented in the quarterly groundwater monitoring reports that are submitted to the EGLE. Additionally, monitoring performed under the Weadock Groundwater Surface-Water Interface (GSI) Compliance Plan (included in the *Landfill Hydrogeological Monitoring Plan*) demonstrates protection of human health and the environment with criteria determined to be protective at the point of exposure.

Significant observations from the event summary are as follows:

- No Appendix IV constituents have been observed at statistically significant levels above GWPS for the Weadock Landfill groundwater monitoring system;
- Arsenic was determined to be present at statistically significant levels above the GWPS at one of the three downgradient monitoring wells at the time of the initial semiannual monitoring event (April and May 2018); however, based on the revised groundwater monitoring system (12 perimeter wells, post soil-bentonite slurry wall construction), arsenic is not present at statistically significant levels above the GWPS;
- Arsenic concentrations at monitoring well MW-55 have been reviewed through an Alternate Source Demonstration provided in Appendix G of the *2025 Semiannual Groundwater Monitoring Report and Second Quarter 2025 Hydrogeological Monitoring Report; JC Weadock Solid Waste Disposal Area* indicating elevated levels of constituents at that location are not related to materials management within the Weadock Landfill.

- The nature and extent of contamination (e.g. arsenic) in groundwater relative to GWPSs has been defined per the RCRA CCR Rule requirements based on the site-specific hydrogeology and there are currently no adverse effects on human health or the environment from either surface water or groundwater due to the CCR management at the Weadock Landfill.

Conclusions

The first phase of partial closure focused on construction approximately 22.5 acres of final cover commenced in May 2023. The certification for the partial closure was accepted by EGLE on July 17, 2024. Consumers Energy will continue monitoring conditions during the execution of the final closure construction including performance of the soil-bentonite slurry wall. The drinking water and GSI pathways are protected by quarterly monitoring performed under the Michigan-approved hydrogeological monitoring plan that includes a GSI Compliance Monitoring Program.

The final remedy for the Weadock Landfill will be formally selected per §257.97 and Michigan Solid Waste requirements 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 next semiannual progress report will be submitted in six months, by January 31, 2026. Please feel free to contact me with any questions or clarifications.

Sincerely,



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