

Memo

Date: Friday, July 21, 2023

To: Muskegon Environmental Redevelopment Group, LLC

From: HDR Michigan, Inc.

Subject: Former BC Cobb Power Plant CCR Surface Impoundments
Semiannual Update for Selection of Remedy per §257.97(a)

The former BC Cobb Power Plant (BCC or Site) is the site of a former coal-fired power generation facility located in Muskegon, Michigan. During operations, coal combustion residuals (CCR) were deposited in Ponds 0-8 and the Bottom Ash Pond (Ponds). In accordance with the U.S. Environmental Protection Agency's (EPA's) Coal Combustion Residuals (CCR) Rule specified in 40 CFR §257, Consumers Energy Company (CEC) installed a groundwater monitoring network around the CCR surface impoundments in 2015. In January 2019, CEC reported that concentrations of Appendix IV constituents in monitoring wells at the surface impoundments were observed at statistically significant levels (SSLs) above Groundwater Protection Standards (GPS) (CEC, 2019). Subsequently, the Assessment of Corrective Measures (ACM) Report was completed on September 11, 2019 and posted to CEC's public website (TRC, 2019). This Semiannual Progress Report, prepared as a requirement of 40 CFR §257.97(a) of the CCR Rule, describes progress toward selecting a remedy for corrective measures at the former BCC.

The Muskegon Environmental Redevelopment Group, LLC (MERG) acquired the BCC Ponds in 2020 and recently completed removal of CCR from the ponds as part of pond remediation and closure efforts in April 2022. MERG has continued implementation of the federal CCR Rule groundwater monitoring program, as required by §257.90-95, as a continuation of the CEC monitoring program.

Source Control Progress

A Closure Plan and Notification of Intent to Initiate Closure by removal provision in §257.102(c) was placed in CEC's operating record on March 30, 2018 (CEC, 2018). A Closure Work Plan was also submitted by CEC to the Michigan Department of Environment, Great Lakes, and Energy (EGLE), who approved it on October 16, 2018 and clarified the workplan on September 20, 2019 (Golder, 2019). MERG acquired the property on April 16, 2020, and removed CCR material from the impoundments beginning in August 2020 and was completed in April 2022.

As described in the CCR Removal Report Supplement No. 2, in January 2023, MERG recognized sloughing on the interior slope of the North Embankment of the impoundment. MERG promptly began slope reinforcement repairs of the perimeter embankments. In order to repair the slope, the excavation was partially dewatered and MERG performed additional excavation in the areas adjacent to the North Embankment sloughing to remove any potential CCR contamination that could have come from the embankment material (HDR, 2023). Reverification was performed in May 2023 to verify the previously assessed nodes within the excavation footprint adjacent to the North Embankment and will be submitted to EGLE once the as-built survey is secured. Submission to EGLE will occur by the end of July 2023. Approval of the verification is pending with EGLE. Turfing of the slope to finalize the repair was completed in June 2023.

Since the last semiannual selection of remedy update in January 2023, the following activities have been conducted by MERG:

- ✓ CCR removal was completed in April 2022. The CCR Removal Report was submitted to EGLE in September 2022. EGLE concurrence regarding the CCR Removal Report was received April 11, 2023.
- ✓ Semiannual groundwater assessment monitoring was completed in April 2023.
- ✓ The impoundments were partially dewatered again to allow for additional excavation and repairs to the North Embankment.
- ✓ Reverification of the nodes adjacent to the North Embankment was completed in May 2023.

Progress Towards Remedy Selection

An ACM was submitted to EGLE on September 11, 2019, by CEC. MERG is following the CEC developed ACM for the Site, and follow the adaptive management strategy, which includes measures to remove source material, reduce infiltration, and minimize the potential future migration.

As described above, source removal was completed in April 2022 and dewatering ceased in June 2022. Groundwater had infiltrated the excavation to an approximate equilibrium with groundwater levels of surrounding wells. After sloughing was observed on the slope of the North Embankment, dewatering was resumed until partial re-excavation was completed sufficiently to allow reverification of the adjacent nodes. As a result of the dewatering in early 2023, the groundwater levels measured in April 2023 were lower than the previous event when the excavation had filled with water. Since the embankment repairs were completed, the excavation is infilling with groundwater. It is anticipated that groundwater levels will equilibrate as the excavation fills and that groundwater quality conditions will improve in future monitoring events.

As described in the 2022 Annual Groundwater Monitoring and Corrective Action Report and Semi-Annual Remedy Selection and Design Progress Report, there were one-time exceedances of GPS noted in four wells for arsenic, five wells for lithium, two wells for

molybdenum, and one well for Radium 226/228 during the October 2022 semiannual sampling event (HDR, 2023a). Results from the April 2023 semiannual sampling event show an exceedance for lithium only in wells MW-17001R and MW-17002, which is consistent with historical results and supports the conclusion that the exceedances observed in October 2022 were one-time exceedances.

MERG will continue executing the self-implementing 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. An understanding of the stabilized groundwater levels and water quality after ash removal and dewatering were complete and are important to understanding remedial alternatives and potential data gaps. 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 completed or initiated in the next 6-month period:

- continued semiannual groundwater assessment monitoring, and
- evaluation of potential remedies.

References

Consumer Energy Company. March 30, 2018. Notification of Intent to Close Two CCR Units. B.C. Cobb Generating Facility Bottom Ash Pond and Ponds 0-8 Closure Plan, Muskegon, Michigan.

Consumer Energy Company. January 15, 2019. Notification of Appendix IV Constituent Exceeding Groundwater Protection Standard per §257.95(g). B.C. Cobb Generating Facility Bottom Ash Pond and Ponds 0-8, Muskegon, Michigan.

Golder Associates Inc. May 30, 2018 clarified October 16, 2018 and September 20, 2019. BC Cobb Ponds 0-8 and Bottom Ash Closure Work Plan, Muskegon, Michigan. Prepared for Consumers Energy Company.

HDR, Inc. September 19, 2022. CCR Removal Report. Prepared for Muskegon Environmental Redevelopment Group, LLC.

HDR, Inc. March 8, 2023. 2022 Annual Groundwater Monitoring and Corrective Action Report and Semi-Annual Remedy Selection and Design Progress Report. Prepared for Muskegon Environmental Redevelopment Group, LLC.

HDR, Inc. June 9, 2023. CCR Removal Report Supplement No. 2. Prepared for Muskegon Environmental Redevelopment Group, LLC.

TRC Environmental Corporation. September 11, 2019. Assessment of Corrective Measures, Consumers Energy, Former BC Cobb Power Plant, Bottom Ash Pond & Ponds 0-8, Muskegon, Michigan. Prepared for Consumers Energy Company.