

Technical Memorandum

Date: Monday, July 06, 2020

Project: Omaha Public Power District, North Omaha Station, North Omaha Ash Landfill

To: OPPD

From: HDR Engineering, Inc.

Subject: Semiannual Update for Selection of Remedy

The Omaha Public Power District (OPPD) operates the North Omaha Station (NOS) Landfill in accordance with the United States Environmental Protection Agency's (USEPA) Disposal of Coal Combustion Residuals (CCR) as specified in 40 CFR 257. In accordance with 40 CFR 257.95(g), OPPD published notification on February 14, 2019 that concentrations of Appendix IV constituents (arsenic, selenium, cobalt, lithium, and molybdenum) detected in groundwater monitoring wells at the NOS Landfill resulted in statistically significant levels (SSLs) above the Groundwater Protection Standards (GWPS). The purpose of this technical memorandum is to provide an update describing the progress in selecting and designing a remedy for corrective action at the NOS Landfill and therefore, satisfies the requirements specified in 40 CFR 257.97(a).

In correspondence dated May 30, 2019, OPPD notified Nebraska Department of Environment and Energy (NDEE) of their intent to initiate corrective measures at the NOS Landfill. After NDEE was notified, HDR Engineering, Inc. (HDR) performed a desktop analysis of potentially applicable corrective measures for the remediation of constituents of interest (COIs) identified in groundwater at the NOS Landfill at SSLs above their respective GWPS. The results of this work were submitted to OPPD in a July 5, 2019 report, entitled Assessment of Corrective Measures for Groundwater at Omaha Public Power District (OPPD) North Omaha Station. While preparing the report, HDR identified data gaps that needed to be addressed to develop a conceptual site model (CSM) and select an appropriate remedy. Additional hydrogeologic data was required to select a remedy considered most likely to be successful that also meets the standards listed in 40 CFR 257.97.

Additionally, OPPD received correspondence from the NDEE as part of their Title 132 comprehensive permit inspection requiring submittal of a Nature & Extent Investigation Report in accordance with Title 132, Chapter 7, 005.07B and Title 118, Appendix A, Step 7. In response to the NDEE request, HDR conducted additional field investigations at the NOS Ash Landfill and submitted results to OPPD in a December 18, 2019 report, entitled Title 132: Nature and Extent Investigation Report NOS CCR Landfill.

OPPD has continued to comply with both NDEE solid waste regulations and the Federal CCR regulation, including semiannual groundwater sampling and statistical analysis. OPPD has made progress towards "selection of remedy" by obtaining additional site information and conducting a groundwater flow model to better understand the hydrogeologic system at the NOS Landfill.

Since OPPD's last semiannual selection of remedy update in January 2020, the following activities have been conducted:

- A CSM was prepared using the additional groundwater and soil data obtained through field investigations. The CSM describes the site-specific geologic and hydrogeologic regimes that influence the extent and potential migration pathways of CCR and Title 132 constituents. The Hydrogeologic and Geochemical Conceptual Site Model Report was submitted to OPPD on May 5, 2020.
- A 3-dimensional (3-D) computer-based groundwater flow and transport model was developed to create a digital representation of the groundwater flow system to predict groundwater movement and constituent fate and transport. The Groundwater Flow Model and Corrective Measures Evaluation Report was submitted to OPPD on June 12, 2020.
- As part of the CSM and 3-D flow model, four piezometers with transducers were installed within the NOS Ash Landfill footprint to monitor groundwater elevations. Transducers were also installed in seven monitoring wells throughout the site. Elevations in these piezometers and monitoring wells were compared to elevations within the Missouri River. This information was presented in the CSM report and was used to refine the 3-D flow model for the site.
- Remedial Alternatives presented in the July 5, 2019 report, entitled Assessment of Corrective Measures for Groundwater at Omaha Public Power District (OPPD) North Omaha Station were reevaluated with site-specific information obtained during the CSM and the groundwater flow model. The evaluation of remedial alternatives was refined and simulated in the groundwater flow model. Results of the evaluation were submitted to OPPD on June 12, 2020; within the Groundwater Flow Model and Corrective Measures Evaluation Report.

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

- Conduct a public meeting to discuss the results of the corrective measures assessment and the proposed selected remedy, in accordance with 40 CFR 257.96(e).
- Formal selection of remedy and preparation of final report in accordance with 40 CFR 257.97(a).