

Technical Memorandum

Date: Monday, January 04, 2021

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 (ACM) 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 regulations, including semiannual groundwater sampling and statistical analysis. OPPD has made progress towards "selection of remedy" by obtaining additional site information and completing a *Hydrogeologic and Geochemical Conceptual Site Model* (dated May 5, 2020) and conducted a groundwater steady-state flow model to better understand the hydrogeologic

system at the NOS Landfill. The *Groundwater Flow Model and Corrective Measures Evaluation Report* (dated June 12, 2020) further evaluated the feasibility of potential remedial measures identified in the July 2019 ACM Report.

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

- OPPD received and responded to NDEE's comments on the draft *Nature and Extent Report*, which was submitted to NDEE on December 18, 2019.
- NDEE approved the draft *Nature and Extent Report* on November 13, 2020, and proposed long-term groundwater monitoring and post-closure landfill capping for the final remedy. NDEE will provide public notice in accordance with NDEE Title 132 regulations for the proposed remedial action measures.

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

- Prepare a three-dimensional groundwater fate and transport model (GWFTM). The GWFTM will be used to evaluate CCR constituent movement from the existing NOS landfill and to evaluate groundwater remedial alternatives further evaluated in the June 2020 groundwater flow model. The existing groundwater flow model will be expanded to include transient modeling and constituent fate and transport to develop the GWFTM.
- 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).
- Initiate corrective measures (within 90 days of selecting remedy).