



September 13, 2021

RD MORROW GENERATING STATION - LANDFILL CCR UNIT SECOND SEMI-ANNUAL 2021 REMEDY SELECTION AND DESIGN PROGRESS REPORT

In accordance with the United States Environmental Protection Agency (US EPA) Coal Combustion Residuals (CCR) Rule 40 Code of Federal Regulations (CFR) 257 Subpart D, Golder Associates Inc. has prepared this Semi-Annual Remedy Selection and Design Progress Report (Progress Report) for Cooperative Energy's RD Morrow Generating Station's CCR Landfill unit in accordance with § 257.97(a). The Progress Report was prepared to document activities conducted between March 1, 2021 and August 31, 2021. As required by the rules, this progress report describes the progress made in selecting and designing a remedy and future planned activities.

Summary of Work Conducted

- Sampled detection monitoring and assessment monitoring wells for additional geochemical characterization.
- Site assessment and detection monitoring wells were sampled for Appendix III and the detected Appendix IV constituents, as part of the first semi-annual assessment monitoring conducted in April 2021.
- Continued geochemical assessment of groundwater characteristics.
- Further development of the Groundwater Conceptual Site Model (CSM) – The additional data collected since the issuance of the Assessment of Corrective Measures (ACM), together with new data evaluation tools and interpretations allow the development of a more refined CSM. Routine monitoring has confirmed the potentiometric surface.
- Collected additional porewater from the landfill sumps and extraction wells in July 2021 to aid in groundwater model calibrations and evaluations of current site conditions.
- Commenced analysis of the feasibility of monitored natural attenuation (MNA) combined with source control for the statistically significant levels exceedances of molybdenum and lithium at MW-05. For this analysis, Golder is preparing a Tier 1 (Demonstrate Active Contaminant Removal from Groundwater), Tier II (Determine mechanism and rate of attenuation of the aquifer) and Tier III (Determine aquifer system capacity and stability of attenuation) evaluation.
- Landfill Closure and Capping: Landfill closure and capping construction activities were ongoing during the reporting period and are substantially complete for landfill as part of the source control efforts. Certification of closure is anticipated in the third quarter of 2021.

Planned Activities and Anticipated Schedule

Cooperative Energy will continue its data collection efforts in support of efforts to refine the CSM and to further evaluate the feasibility of each corrective measure proposed in the ACM report. Further analysis is necessary to determine the impact once source control measures are in place. Preliminary trends show that the landfill closure

project has begun to cause a reduction in constituents of concern. Cooperative Energy will continue monitoring trends and re-evaluate key site groundwater metrics such as the groundwater flow rate and constituent concentration. Once sufficient data becomes available to arrive at a focused number of corrective measures or a combination of corrective measures that would provide an effective groundwater remedy, necessary steps will be taken to implement a remedy for the site in accordance with 40 CFR § 257.98. The following activities are planned for the upcoming semi-annual period:

- Continue to sample site monitoring wells for Appendix III and other Appendix IV constituents detected during assessment monitoring.
- Continue geochemical assessment of groundwater characteristics.
- Further development of the CSM with additional data after landfill closure is essential to the analysis of the appropriate remedy. These data will support the ongoing evaluation of potential groundwater remedies for the site.
- Evaluate the number of years to achieve the groundwater protection standards for select remedial alternatives.
- Complete MNA analysis of the feasibility and efficacy of other remedial measures.

This Cooperative Energy, RD Morrow Generating Station Progress Report, has been prepared in compliance with applicable requirements of the CCR Final Rule. References to the appropriate 40 CFR § 257.96 rules are incorporated throughout this document.

Golder Associates Inc.



Dawn L. Prell
Senior Hydrogeologist



Jeff R. Piaskowski, PE
Senior Engineer