



March 11, 2022

## RD MORROW GENERATING STATION - LANDFILL CCR UNIT FIRST SEMI-ANNUAL 2022 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 September 1, 2021 and February 28, 2022. As required by the rule, 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 second semi-annual assessment monitoring conducted in September 2021.
- Conducted annual assessment monitoring sampling event from the Landfill Unit monitoring well network for Appendix IV constituents in February 2022.
- 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), has been used to generate a 3D groundwater model which has been used to evaluate remedial alternatives. Geochemical modeling has been performed to determine aquifer attenuation and storage capacity. These new data evaluation tools and interpretations allow the development of a more refined CSM. Groundwater monitoring continues to confirm the groundwater flow rates and direction.
- Continued analysis of remedy alternatives, including further evaluation of the effectiveness, feasibility, length of time, and degree of certainty that the remedy will be successful. This analysis continues to include analysis of monitored natural attenuation (MNA) combined with source control and more aggressive alternatives in light of the site-specific conditions and the recent groundwater data since source control was completed. All remedies are targeted at the statistically significant levels of molybdenum and lithium at MW-05.
- Landfill Closure and Capping (Source Control) - Landfill closure and capping construction activities were completed during the reporting period as part of the source control efforts. Closure certification was completed and dated October 12, 2021. Completion of source control is a significant milestone, which has resulted in the improvement of groundwater quality, and is expected to continue.

- Completed preliminary analysis of the feasibility and efficacy of remedial measures, which will be updated as new data becomes available. As part of this analysis, Golder has prepared a Tier I (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.

### Planned Activities and Anticipated Schedule

Cooperative Energy will continue its data collection in support of efforts to refine the CSM and to further evaluate the feasibility of each corrective measure proposed in the ACM report. Completion of source control measures have resulted in positive trends and may impact the results of the remedy analyses. Statistical trends in groundwater show that the landfill closure and capping has reduced the concentrations for 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 determine 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 conceptual site model 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.
- The public meeting to discuss the results of the corrective measures assessment pursuant to 40 CFR § 257.96(e).

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 requirements are incorporated throughout this document.

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