

January 8, 2022

## **SEMIANNUAL REMEDY SELECTION PROGRESS REPORT COFFEEN ASH POND NO. 2**

In accordance with 40 C.F.R. § 257.97(a), the owner or operator of a coal combustion residuals (CCR) unit must prepare a semiannual report describing the progress in selecting and designing a remedy for statistically significant levels (SSLs) of constituents listed in Appendix IV of 40 C.F.R. Part 257 over the groundwater protection standards established in accordance with 40 C.F.R. § 257.95(h).

This report is for activities occurring between July 9, 2021 and January 8, 2022 at Ash Pond No. 2 (AP2) at Coffeen Power Plant.

As stated in the notification dated August 12, 2021, SSLs for cobalt and lithium were identified at AP2 during assessment monitoring completed in accordance with 40 C.F.R. § 257.95.

As stated in previous Semiannual Remedy Selection Progress Reports, a Corrective Measures Assessment (CMA) was completed for cobalt exceedances at AP2 on July 8, 2019 as required by 40 C.F.R. § 257.96. This CMA was revised on November 30, 2020 to address cobalt and lithium based on 2020 assessment monitoring results, include additional information related to site geology/hydrogeology, and focus on application of the evaluation factors identified in 40 C.F.R. § 257.96(c) to potential groundwater corrective measures.

The CMA indicated the source control measure for AP2 would be closure in place with a geomembrane cover system. Construction of the geomembrane cover system began in July of 2019 and was completed on November 17, 2020 in accordance with the Closure and Post Closure Care Plan approved by the Illinois Environmental Protection Agency on January 30, 2018.

Activities associated with the selection of the groundwater remedy completed since July 8, 2021 include a detailed evaluation of previously collected aquifer solid materials to better understand site lithology and the presence of potentially reactive phases. This evaluation identified an alternative source for cobalt, and an alternative source demonstration (ASD) will be prepared and certified by a qualified professional engineer. The CMA will be updated to include this ASD. Bench-scale testing was also completed to support the analysis of the attenuation mechanism, rate, and aquifer capacity for lithium. This analysis is needed to complete the tiered evaluation referenced in United States Environmental Protection Agency (USEPA) guidance, including development of a geochemical conceptual site model. These activities are necessary to understand the natural attenuation mechanisms occurring at the site and to evaluate the natural attenuation of constituents to meet applicable groundwater protection standards. Interpretation of the bench-scale testing results and identification of the need for further testing is ongoing.