

September 5, 2021

SEMIANNUAL REMEDY SELECTION PROGRESS REPORT MIAMI FORT POND SYSTEM

In accordance with Title 40 Code of Federal Regulations (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 March 6, 2021 and September 5, 2021 at the Miami Fort Pond System located at the Miami Fort Power Plant.

As stated in the March 5, 2020 Semiannual Remedy Selection Progress Report, a Corrective Measures Assessment (CMA) was completed for Basin A of the Miami Fort Pond System on September 5, 2019 to address SSLs for total cobalt and total molybdenum (see related notification dated February 6, 2019), as required by 40 C.F.R. § 257.96. The CMA was revised on November 12, 2020 to reflect the characterization of the Pond System as a single multi-unit, including an Alternate Source Demonstration for SSLs of arsenic (identified for Basin B) and molybdenum. The CMA was revised again on November 30, 2020 to include additional information related to site geology and hydrogeology, apply evaluation criteria to potential corrective measures, and provide an independent evaluation of monitored natural attenuation (MNA).

As stated in the September 5, 2020 Semiannual Remedy Selection Progress Report, selection of the source control measure continues to be in the feasibility study phase and will incorporate groundwater flow and transport modeling that is in development. In addition, existing groundwater and source water data were reviewed, as well as identification and collection of additional groundwater and source water samples to evaluate the feasibility of MNA. These data indicate that site-specific conditions appear favorable for implementation of MNA in combination with the source control measures considered in the CMA.

Additional activities completed during the reporting period associated with the selection of a groundwater remedy include implementation of a field sampling plan which identified additional field data needs to be completed in 2021 to support analysis of natural attenuation mechanisms, rates, and aquifer capacity. Aquifer solids collected from soil borings near MW-4 and MW-19 were used in bench scale testing, including characterization of the materials and batch adsorption tests, to better understand natural attenuation mechanisms, rates, and aquifer capacity. Analysis of natural attenuation mechanisms, rates, and aquifer capacity 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 their potential ability to reduce the aqueous concentrations of total cobalt to below the applicable groundwater protection standard. A numerical groundwater model (MODFLOW) has been constructed with preliminary calibration to groundwater flow. Further model refinement and transport calibration will be completed as results are obtained from ongoing investigations.

As stated in the notification letter dated August 12, 2021, SSLs for total arsenic, total cobalt, and total molybdenum were identified at the Pond System during assessment monitoring completed in accordance with 40 C.F.R. § 257.95, consistent with related observations during previous reporting periods.