CCR Rule Semi-Annual Remedy Selection Progress Report

Wateree Generating Station Ash Pond
Eastover, South Carolina
May 21, 2020

In accordance with 40 CFR Part 257.97(a) of the EPA Coal Combustion Residuals (CCR) Rule, this report presents an update on the progress of selecting a remedy to address arsenic and lithium in groundwater in the vicinity of the Ash Pond at the Dominion Energy South Carolina (DESC) Wateree Generating Station in Wateree, Richland County, South Carolina. This report is the second semi-annual remedy selection progress report for the Wateree Generating Station Ash Pond. The Ash Pond is a coal combustion residuals (CCR) handling facility as defined by the US Environmental Protection Agency (EPA) CCR Rule (40 CFR Part 257.93). A *Release Characterization and Assessment of Corrective Measures* (ACM) report for the Ash Pond completed in June 2019 presents evaluations of the following alternatives for addressing arsenic and lithium in groundwater in the area of the Ash Pond:

1) Institutional Controls
2) Monitored Natural Attenuation (MNA)
3) Pump and Treat (Groundwater Extraction and Above-Ground Treatment)
4) In-Situ Chemical Reduction (ISCR)

Site studies indicate that the arsenic and lithium plumes in groundwater are in a state of dynamic equilibrium or decreasing in extent. Based on the evaluations of potential remedies presented in the ACM report, MNA appears to be potentially well suited as a remedy to reduce the concentrations of arsenic and lithium in groundwater to below the respective groundwater protection standards (GPSs). However, additional field and laboratory evaluations are necessary to confirm that MNA processes in the surficial aquifer are adequate to serve as a remedy for groundwater impact at the site.

Summary of Actions Completed to Date

A Closure Plan for the Ash Pond was submitted to the South Carolina Department of Health and Environmental Control (DHEC) in January 2013 and approved in February 2013. The Closure Plan included provisions for removing the coal ash and the underlying 2 feet of soil via excavation and subsequently backfilling the pond with clean fill. Coal ash and soil removal operations were completed on September 11, 2019. From the period of 2012 through June 2016, coal ash was removed from the Ash Pond for recycling, and from July 2016 to September 11, 2019 coal ash removal was conducted as part of pond closure operations and was placed in the on-site Class 3, lined landfill for disposal. Approximately 2,150,000 cubic yards of coal ash was excavated and removed from the pond as of completion of the pond closure construction activities on September 11, 2019, along with approximately 412,000 cubic yards of underlying soil (which were also disposed in the on-site landfill).

Planned Activities

Removal of the coal ash and underlying 2 feet of soil (source material) via excavation, coupled with the apparent relative stability or attenuation of the arsenic and lithium plumes indicates that natural

attenuation processes are likely sufficiently robust to effectively reduce the concentrations of arsenic and lithium in groundwater to below the respective groundwater protection standards (GPSs). Consequently, DESC currently considers MNA coupled with source removal (completed) to be the preferred remedial alternative to address arsenic and lithium in groundwater at the site. MNA to address inorganic contaminants (including metals and metalloids) in groundwater is a remedial option approved by the EPA if site conditions are amenable based on criteria published in applicable guidance documents.

At present, there is insufficient site data available to meet all of the criteria for MNA as presented in the EPA guidance documents. Consequently, additional field and laboratory work are necessary to fill the data gaps. As such, DESC has been developing a work plan to conduct the additional field and laboratory work and studies necessary to satisfy the EPA guidance criteria to demonstrate the effectiveness of MNA as a remedy to address elevated arsenic and lithium concentrations in groundwater at the Ash Pond. However, due to the novel coronavirus pandemic which began in early 2020 in the United States, field work to support the MNA assessment has been postponed until such time that the pandemic is brought under control and risks of exposure to field personnel from travel and site work are deemed acceptable.

The scope of the additional work to support the MNA assessment may broadly include some or all of the following:

- Installation of additional groundwater monitoring wells.
- Soil Sampling and Laboratory Analysis
    - Bulk elemental analysis
    - Grain size distribution
    - Arsenic adsorption/desorption testing
    - Sequential Chemical Extraction
    - X-Ray Diffraction
    - Scanning Electron Microscopy
- Groundwater Sampling and Analysis

At the conclusion of the field and laboratory work and studies, a report detailing the results of the MNA assessment will be prepared that presents the results of the supporting work and studies, as well as conclusions as to whether MNA meets the EPA guidance criteria for application as a remedy to address elevated concentrations of arsenic and lithium in groundwater. However, the postponement of supporting field work due to the novel coronavirus pandemic will significantly affect when the work plan can be initiated. A final remedy will be selected after completion of the MNA assessment.