Semi-Annual Progress Report-01
Selection and Design of Corrective Remedy
Mountaineer Bottom Ash Pond

Mountaineer Plant

Appalachian Power Company.

New Haven, WV

March 2020

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1.0 BACKGROUND

The Bottom Ash Pond (BAP) at the Mountaineer Plant is regulated by the Federal CCR Rule, 40 CFR Part 257. Sampling and analyses of groundwater from the monitoring network installed pursuant to 40 CFR §257.95 identified the following Appendix IV constituent at statistically significant levels above the respective groundwater protection standards (GWPS): lithium.

AEP determined that there are three technically feasible alternatives for remediating the groundwater at the BAP. Each alternative includes some form of source control. The current plan for source control would be to close the bottom ash pond by removing the ash.

Alternative #1: Source Control with Monitored Natural Attenuation

Alternative #2: Source Control with Groundwater Plume Containment by Hydraulic Containment System

Alternative #3: Source Control and In-Situ Treatment by Permeable Reactive Barrier

The Assessment of Corrective Measures report was prepared and posted to the Operating Record on June 24, 2019. A public meeting was conducted on August 22, 2019 in the town of New Haven, West Virginia to discuss the remediation technologies that are technically feasible for the specific site conditions at the bottom ash pond. A 30-day public comment period started on August 22 and ended on September 21, 2019. No public comments were received during the 30-day period.

2.0 PURPOSE

This semiannual report is required by 40 CCR §257.97 and describes AEP's progress in selecting and designing the corrective measure(s) discussed in the ACM Report.

This report covers the period from: September 21, 2019 – March 20, 2020.

3.0 PROGRESS

During the period covered by Report-01, AEP made progress in evaluating each of the three corrective measure alternatives.

With respect to source control, which applies to all three alternatives, AEP hired an engineering firm to develop a preliminary design of the closure by removal project and other ancillary modifications to the BAP. The engineering work started in December 2019.

In regards to Alternatives 2 and 3, AEP continued laboratory testing of potential media to remove the constituents of concern. This initially involved bench scale treatability testing by mixing potential media with quartz sand as a base soil matrix. Site-specific groundwater was added to the base soil matrix. The test solutions were analyzed to evaluate metals removal rates and efficiency. The bench scale test results were then used to design a series of laboratory testing called column tests. The column tests mixed media with site-specific aquifer soils to create the soil matrix. Site- specific groundwater was pumped through the soil column and allowed to infiltrate through the soil matrix.

AEP conducted the semi-annual groundwater sampling and testing during this report period. The results are summarized in the report, "Annual Groundwater Monitoring and Corrective Action Report."

4.0 PLANNED WORK

In terms of planned work, AEP will continue to evaluate each of the three corrective measure alternatives.

AEP will continue to work on the design and plan of a closure by removal project as means of source control for each alternative.

AEP will continue the next phase of media testing and evaluation. This work is being conducted under a contract with the Electric Power Research Institute (EPRI).

AEP will sample and test all of the monitoring wells as part of the semi-annual requirement.

AEP also plans to retain the services of a consultant to further evaluate the technologies identified in the ACM as per the criteria set forth in 40 CCR §257.97

AEP will submit another progress report by September 20, 2020.