

Semi-Annual Progress Report-02 Selection and Design of Corrective Remedy Clinch River Ash Pond 1

**Clinch River Plant
Appalachian Power Company
Carbo, Virginia**

January 2021

Prepared for: Appalachian Power Company

Prepared by: American Electric Power Service Corporation

1 Riverside Plaza
Columbus, OH 43215



Document ID: GERS-21-001

Table of Contents

1.0 Background	3
2.0 Purpose.....	3
3.0 Progress	3
4.0 Planned Work	4

1.0 BACKGROUND

The Ash Pond 1 site at the Clinch River Plant is subject to the federal CCR rule (40 CFR Part 257). The pond is considered an inactive impoundment (out of service, but still containing standing water when the rule took effect on 19 October 2015), and is currently subject to 40 CFR Part 257, as amended in October 2016 to include Extension of Compliance Deadlines for Certain Inactive Impoundments.

Sampling and analyses of groundwater from the monitoring network installed pursuant to 40 CFR §257.95 identified the following Appendix IV constituents at statistically significant levels above the respective groundwater protection standards (GWPS): barium, cobalt, lithium, and molybdenum.

AEP identified two technically feasible alternatives for remediating the groundwater, which are listed. Alternative 2A is currently being evaluated.

Alternative #1: Source Removal with Monitored Natural Attenuation

Alternative #2: Groundwater Extraction, Treatment and Surface Water Discharge

Alternative #2A: Groundwater Extraction and Treatment at the Downgradient Edge of the Unit

Alternative #2B: Groundwater Extraction and Treatment at the Downgradient Edge of the Unit with Upgradient Barrier

Alternative #2C: Groundwater Extraction and Treatment at the Upgradient Unit Boundary.

The Assessment of Corrective Measures report was prepared and posted to the Operating Record on January 20, 2020. A public meeting was conducted on December 19, 2019 in the town of Lebanon, Virginia to discuss the remediation technologies that are technically feasible for the specific site conditions at pond 1. A 30-day public comment period occurred from December 19, 2019 to January 20, 2020. One public comments was 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: July 21, 2020 -January 20, 2021.

3.0 PROGRESS

During the last six months, AEP through its consultant Wood Environment & Infrastructure Solutions, Inc. (Wood) made progress in evaluating the selected corrective measure alternative.

Field work was completed during this period to inform the technical evaluation of corrective measure under consideration. This work included drilling, developing, and hydraulic testing four test extraction wells.

The data collection efforts included reading static water levels during a step test and 72-hour pumping test, and analyzing the water quality of collected water samples. Based on the data collected, an initial hydrogeologic model was completed. In addition, a water balance of around Pond 1 site which characterizes the potential surface-based influent streams was completed, treatment options of the

extracted groundwater were evaluated, and the preliminary layout of the full-scale extraction system was completed.

AEP also conducted the semi-annual groundwater sampling and testing during this report period. The results will be summarized in the report, “Annual Groundwater Monitoring and Corrective Action Report” to be posted to the operating record on 01/31/2021.

4.0 PLANNED WORK

AEP plans to continue to evaluate and advance the design of the groundwater extraction and treatment system including:

- Finalize Conceptual Design and Preliminary Flow Diagram

- Design Extraction System

- Develop Selection of Remedy Report.

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

AEP will submit another progress report by July 20, 2021.