

MEMORANDUM – Operating Record (40 CFR 257.105(h)(12))

September 14, 2021
File No. 0133274-012

TO: AES Indiana – Petersburg Generating Station

FROM: Haley & Aldrich, Inc.

SUBJECT: Semi-Annual Remedy Selection Progress Report Pursuant to 40 CFR §257.97(a)
Petersburg Generating Station - Ash Pond System and Type I Restricted Waste Landfill

Indianapolis Power & Light Company d/b/a AES Indiana (AES Indiana) initiated corrective measures for the Ash Pond System and Type I Restricted Waste Landfill at the Petersburg Generating Station (PGS) on April 15, 2019, in response to statistically significant levels (SSL) of Appendix IV constituents (lithium and molybdenum) exceeding Groundwater Protection Standards (GWPS). Pursuant to 40 CFR §257.96(a), a demonstration of need for a 60-day extension for the assessment of corrective measures was completed on July 12, 2019. The Corrective Measures Assessment (CMA) Report was completed and placed in the facility operating record on September 13, 2019, and subsequently amended on October 11, 2019.

In accordance with the Federal CCR Rule, following completion of the CMA, AES Indiana must, as soon as feasible, select a remedy that meets the standards listed in 40 CFR §257.97(b). Pursuant to §257.97(a), the owner or operator of a Coal Combustion Residual (CCR) management unit that has completed a CMA for groundwater is required to prepare a semi-annual report describing the progress made in selecting and designing the remedy. This report constitutes the fourth semi-annual remedy selection progress report and is comprised of activities during the period of March 12, 2021, through September 13, 2021. A summary of the progress made in selecting a remedy is provided below.

SUMMARY OF ACTIONS COMPLETED

The following actions have been completed during this reporting period:

- Completed the statistical analysis of the November 2020 sampling results for the presence of Appendix IV constituents to be present at concentrations above GWPS.
- Continued Assessment Monitoring: Evaluated the results of the May 2021 sampling event to ensure the reliability of the results. Final laboratory results were placed in the facility’s CCR operating record. The groundwater monitoring data is being evaluated for statistically significant levels compared to GWPS. Any new parameters that exceed GWPS will be considered in selection of the final remedy.
- Efforts to determine the nature and extent (N&E) of the Appendix IV SSLs continued pursuant to § 257.95(g):
 - Groundwater samples were collected from the existing N&E monitoring wells in May 2021;

- Vertical groundwater profile borings were completed in May and August 2021 at ten (10) locations west of the Ash Pond System and north of Lick Creek. At each location, groundwater grab samples were collected from the shallow, intermediate, and deep intervals to provide additional groundwater data to assess the N&E west of the Ash Pond System along the White River; and
- AES Indiana installed five (5) additional nested N&E monitoring wells (shallow, intermediate, and/or deep) in August and September 2021, to provide supplemental groundwater data to define the horizontal and vertical extent of Appendix IV constituents along the White River.

The analytical results will be used to supplement and enhance the evaluation of the extent of groundwater impacts, assessment of corrective measures, and support selection of remedy. Groundwater characterization of the N&E monitoring wells is ongoing.

- Continued implementation of the approved Indiana Department of Environmental Management (IDEM) Ash Pond System Closure Plan / Post Closure Plan:
 - Closure certification, Notification of Closure Completion and Deed Notation for Ash Pond C were placed in the facility’s CCR operating record, posted to the facility’s CCR website and notifications for each were provided to IDEM;
 - Ongoing dewatering activities of Ponds A and Pond A’ as allowed under the facilities NPDES permit; and
 - Construction activities for Phase 1 of the final cover system (that includes liner installation along the east side of Pond A) began in July 2021. The final cover system installation will reduce infiltration of precipitation to groundwater thereby isolating the source material.
- AES Indiana completed eight (8) stratigraphic borings around the perimeter of Landfill to obtain detailed geologic information. Soil and rock samples were screened in the field using an X-ray fluorescence analyzer and select samples were submitted for laboratory analyses. This information is being used to supplement and enhance the conceptual site model and support the selection of remedy.

PLANNED ACTIVITIES

Anticipated activities which will support CMA and selection of remedy for the upcoming six months include the following (subject to change):

- Complete the statistical analysis of the May 2021 sampling event to evaluate groundwater for the presence of SSLs above GWPS downgradient of the Ash Pond System.
- Continue Assessment Monitoring: Collect groundwater samples in November 2021 from the CCR well network. The groundwater data will be evaluated for statistically significant levels compared to GWPS. Any new constituents that exceed GWPS will be considered in selection of the final remedy.
- Continue efforts to establish N&E along the western property boundary which will support CMA and selection of remedy:
 - Install stream gauges along the White River and obtain water levels from the nearby monitoring wells to establish a potentiometric surface to further evaluate groundwater/surface water interaction;

- Collect at least two (2) rounds of groundwater samples from the five (5) newly installed nested N&E monitoring wells along the western property boundary/White River to define the vertical and lateral extent Appendix IV constituents;
 - Establish horizontal and vertical survey coordinates at the five (5) newly installed well clusters and complete hydraulic conductivity testing to better define aquifer characteristics and groundwater flow patterns; and
 - Evaluate the groundwater analytical data collected during the November 2021 semi-annual assessment monitoring sampling event that will include the N&E monitoring wells.
- Continue the ongoing landfill characterization efforts and install as required supplemental nested monitoring wells and collect groundwater samples to better define the subsurface conditions and groundwater quality within historic subsurface mine works immediately surrounding the landfill as it relates to establishing representative background conditions for the landfill and Ash Pond System, CMA and selection of remedy support.
 - As appropriate, refine CSM and associated groundwater model.
 - Continue to perform an engineering review of the five (5) potential CMA alternatives. For these reviews, emphases will be placed on understanding and reacting to impacts of newly gathered analytical results, identifying and researching applicability of emerging technologies and their impacts on the CMA and selection of remedy process.
 - Continue permit applicability and risk assessment for CMA options.
 - Continue closure activities at Pond A and A' (dewatering activities and final cover system installation) in accordance with the IDEM-approved and federal CCR Ash Pond System Closure Plan / Post Closure Plan.
 - Estimate quantity of Appendix IV material released as required under 40 CFR §257.95(g)(1)(ii) and place in the facility's CCR operating record.
 - Provide a semi-annual progress report that summarizes AES Indiana's progress and status regarding a selection of remedy.