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

March 14, 2023
File No. 0133274-013

TO: AES Indiana – Eagle Valley Generating Station

FROM: Haley & Aldrich, Inc.

SUBJECT: Semi-Annual Remedy Selection Progress Report Pursuant to 40 CFR §257.97(a)
Eagle Valley Generating Station - Ash Pond System

Indianapolis Power & Light Company d/b/a AES Indiana (AESI) initiated corrective measures for the Ash Pond System at the Eagle Valley Generating Station (EVGS) on April 15, 2019, in response to statistically significant levels (SSL) of Appendix IV constituents (arsenic, 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 documents activities conducted in support of selecting and designing a remedy during the period from September 13, 2022, through March 13, 2023. A summary of the progress in selecting a remedy is provided below.

SUMMARY OF ACTIONS COMPLETED

The following activities have been completed during this reporting period:

- Completed the statistical analysis of the May 2022 sampling results for the presence of Appendix IV constituents to be present at concentrations above GWPS.
- Continued Assessment Monitoring: Collected groundwater samples and evaluated the results of the November 2022 sampling event to ensure the reliability of the results. The groundwater monitoring data for the November 2022 sampling event is being evaluated for statistically significant levels compared to GWPS. Any new constituents that exceed GWPS will be considered in selection of the final remedy.
- AESI completed installation of six (6) additional monitoring wells (MW-3D, MW-12I, MW-12D, MW-26S, MW-26I and MW-26D) to supplement and enhance the CCR groundwater monitoring system. The monitoring wells were completed between January and February 2023.

- Completed in-situ hydraulic testing of the shale bedrock at monitoring well locations MW-3D, MW-12D and MW-26D in February 2023.
- 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 three (3) on-site N&E nested monitoring wells (MW-14, MW-15, MW-16) in November 2022;
  - Submitted a Letter of Authorization request to the Indiana Department of Natural Resources for the installation of supplemental N&E nested monitoring wells;
  - AESI completed installation of two (2) supplemental N&E nested monitoring wells to further delineate the extent of groundwater concentrations above applicable GWPS. The nested wells (MW-24 and MW-25) consisted of six (6) monitoring wells that were completed between January and February 2023. The location of nested well MW-25 was moved to AESI's southerly property boundary to minimize the distance to off-site N&E well cluster MW-17 since access for an additional off-site N&E well was denied (as noted below);
  - Groundwater samples were collected from seven (7) off-site nested monitoring wells (MW-17 through MW-23) between November and December 2022 to define the lateral extent of Appendix IV constituents;
  - Completed hydraulic conductivity testing on nested monitoring wells (MW-20 through MW-23) in September 2022 to provide data to better understand aquifer characteristics and groundwater flow patterns; and
  - Continued negotiations with adjacent property owners to gain access for the installation of two (2) additional N&E nested monitoring wells.
    - Access for the installation of additional N&E monitoring wells was denied by adjacent property owners, as notified to AESI in January 2023.
  - The N&E groundwater analytical results will be used to supplement and enhance the evaluation of the extent of groundwater impacts, assessment of corrective measures, and selection of remedy. Groundwater characterization of the N&E monitoring wells is ongoing, as the results of each sampling event inform what additional steps, if any, are necessary to fully delineate the nature & extent of Appendix IV constituents.
- Collected soil samples from the screen intervals of the six (6) new CCR monitoring wells and six (6) new N&E monitoring wells. The analytical results will be used to evaluate geochemical conditions that can impact attenuation or mobility of Appendix IV constituents in groundwater.
- AESI submitted a revised Closure & Post Closure (C&PC) Plan for Ponds A, B, and C to the Indiana Department of Environmental Management (IDEM) in October 2022. The revised CPC Plan provided updates to the Groundwater Sampling and Analysis Plan, and additional information in response to inquiries submitted by IDEM and includes updated evaluation of ash in contact with groundwater and associated removal volume for regulated CCR units (Ponds A-C).
- IDEM continued to review the revised C&PC Plan that AESI submitted in October 2022.

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 November 2022 sampling event to evaluate groundwater for the presence of SSLs above GWPS downgradient of the Ash Pond System.
- Continue Assessment Monitoring by collecting groundwater samples in May 2023 from the existing CCR well network and the six (6) additional monitoring wells (MW-3D, MW-12I, MW-12D, MW-26S, MW-26I and MW-26D) that will be incorporated into the CCR well network. The groundwater data will be evaluated for statistically significant levels compared to GWPS. Any new constituent that exceeds GWPS will be considered in selection of the final remedy.
- Continue efforts to further establish N&E on-site along the western property boundary which will support CMA and selection of remedy:
  - Collect groundwater samples from the two (2) supplemental N&E nested monitoring wells (MW-24 and MW-25), to provide analytical data to define the horizontal and vertical extent of Appendix IV constituents detected above GWPS;
  - Complete hydraulic conductivity testing on new nested monitoring wells to provide data to better understand aquifer characteristics and groundwater flow patterns.
- Evaluate the groundwater analytical data collected during the May 2023 semi-annual assessment monitoring sampling event that will include all new N&E monitoring wells.
- Incorporate the supplemental groundwater data into the groundwater flow and solute transport model and provide additional data to support the groundwater CSM.
- Continue to perform an engineering review of the three (3) potential CMA remedial alternatives. For these reviews, emphasis will be placed on understanding and reacting to impacts of newly gathered analytical results, identifying and evaluating applicability of emerging technologies and their impacts on the CMA and selection of remedy process.
- Following the delineation of groundwater impacts, 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.
- Continue to work with IDEM to gain approval of C&PC Plan for Ponds A, B and C. Implementation of the Closure Plan (cap system installation) would reduce infiltration of precipitation to groundwater thereby isolating the source material.
- Begin preparation and possibly schedule and hold Public Meeting to discuss the results of the CMA in accordance with §257.96(e); and
- Provide a semi-annual progress report that summarizes AESI's progress and status regarding a selection of remedy.