

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

March 20, 2023
File No. 0133274-014

TO: AES Indiana – Harding Street Generating Station

FROM: Haley & Aldrich, Inc.

SUBJECT: Semi-Annual Remedy Selection Progress Report Pursuant to 40 CFR §257.97(a)
Harding Street 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 Harding Street Generating Station (HSGS) on April 15, 2019, in response to statistically significant levels (SSL) of Appendix IV constituents (antimony, 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 completed in support of selecting and designing a remedy during the period from September 21, 2022, through March 20, 2023. A summary of the progress made 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 from the November 2022 sampling event in support of ongoing groundwater monitoring compliance and nature and extent (N&E) evaluations. Final laboratory results were placed in the facility’s CCR operating record. 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 fifteen (15) additional monitoring wells (MW-2IL, MW-2D1, MW-4SR, MW-4I, MW-4D, MW-5D, MW-6I, MW-6D, MW-7D1, MW-8D, MW-9SR, MW-12D1, MW-14I, MW-14IL, MW-14D1) to supplement and enhance the CCR groundwater monitoring system. The monitoring wells were completed between November 2022 and January 2023.

- Completed in-situ hydraulic testing of the shale bedrock at monitoring well locations MW-3D, MW-12D and MW-26D in January 2023.
- AESI continued to further establish N&E on-site along the western property boundary continued pursuant to § 257.95(g):
 - Completed installation of two (2) supplemental N&E nested monitoring wells. The nested wells (MW-16 and MW-17) consisted of six (6) monitoring wells that were completed in December 2022;
 - Groundwater samples were collected in February 2023 from the two (2) newly installed N&E nested wells along the western property boundary.
- Efforts to determine the off-site N&E of the Appendix IV SSLs continued pursuant to § 257.95(g):
 - Groundwater samples were collected in November 2022 from the nine (9) N&E nested monitoring wells that were installed off-site at the Hanson Aggregates facility (Hanson) to define the lateral extent of Appendix IV constituents;
 - 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-109 and MW-110) consisted of six (6) monitoring wells that were completed in November 2022;
 - Groundwater samples were collected in February 2023 from the two (2) newly installed N&E nested wells at Hanson.

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 are used to inform what additional steps, if any, are necessary to fully delineate N&E of Appendix IV constituents.

- Collected soil samples from the screen intervals of the new nested N&E and supplemental monitoring wells. The analytical results will be used to evaluate geochemical conditions that can impact attenuation or mobility of Appendix IV constituents in groundwater;
- Completed hydraulic conductivity testing on all the newly installed monitoring wells in February 2023 to provide data to better understand aquifer characteristics and groundwater flow patterns.
- Evaluated groundwater analytical results to supplement and enhance the site conceptual model and groundwater characterization, refine the groundwater flow and solute transport model, and assess potential corrective measures.
- Continued preliminary closure design evaluations for hybrid close in place and closure by removal alternatives including various staging, water management and beneficial use considerations.
- Conducted a virtual follow up meeting with the Indiana Department of Environmental Management (IDEM) on 11/01/2022 to review closure alternatives presented in the CMA and to seek input and guidance on key conceptual design elements.

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 fifteen (15) additional monitoring wells that will be incorporated into 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 further establish N&E off-site on the Hanson property which will support CMA and selection of remedy:
 - Continue to collect groundwater samples from the eleven (11) N&E nested monitoring wells installed off-site at Hanson to further define the lateral extent of Appendix IV constituents, refine the groundwater flow and solute transport model, and assess potential corrective measures.
- Continue efforts to further establish N&E on-site along the western property boundary which will support CMA and selection of remedy:
 - Install and collect groundwater samples from a supplemental N&E tri-nested monitoring well (MW-18) (shallow, intermediate, deep), to collect groundwater data to further 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.
- Continue sampling of N&E wells which will support CMA and selection of remedy: Evaluate the groundwater analytical data collected during the May 2023 semi-annual assessment monitoring sampling event.
- As appropriate, refine the CSM and associated groundwater flow and solute transport model.
- Continue to perform an engineering review of the potential CMA remedial alternatives. For these reviews, emphases will be placed on understanding and reacting to impacts of newly gathered analytical results, and on 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.
- Provide a semi-annual progress report that summarizes AESI's progress and status regarding a selection of remedy.