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14 September 2023
File No. 0129420

TO: Southern Indiana Gas and Electric Company

FROM: Haley & Aldrich, Inc.

SUBJECT: Semi-Annual Remedy Selection Progress Report Pursuant to 40 CFR §257.97(a)
A.B. Brown Generating Station – Ash Pond

The Southern Indiana Gas and Electric Company (SIGECO) initiated an evaluation of the nature and extent of contamination and an assessment of corrective measures for the Ash Pond at the A.B. Brown Generating Station on 15 April 2019 in response to a statistically significant level of an Appendix IV constituent exceeding Groundwater Protection Standards. Pursuant to 40 Code of Federal Regulations (CFR) §257.96(a), a demonstration of need for a 60-day extension for the assessment of corrective measures was completed on 12 July 2019. The Corrective Measures Assessment (CMA) Report was completed and placed in the facility operating record on 13 September 2019.

Following completion of the CMA, SIGECO must, as soon as feasible, select a remedy that meets the standards listed in 40 CFR §257.97(b). Pursuant to 40 CFR §257.97(a), the owner or operator of a Coal Combustion Residual management unit that has completed a CMA for groundwater shall 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 16 March 2023 through 14 September 2023. A summary of the progress in selecting a remedy is provided below.

Summary of Actions Completed

The following actions have been completed during this reporting period:

- completed May 2023 semi-annual groundwater sampling consistent with 40 CFR § 257.95(b) and (d)(1); and
- evaluated semi-annual groundwater sampling analytical results to supplement and enhance the site conceptual model and groundwater characterization.

SIGECO has continued work to evaluate potential corrective measures to supplement the favorable CMA alternative. Since March 2023, testing and evaluation to support this work included:

- completed two rounds of confirmatory groundwater sampling (48 samples total) to refine understanding of constituent distribution downgradient of the Ash Pond;
- began bench level treatability studies to evaluate molybdenum partitioning and the potential for enhanced natural attenuation;

- updated the flow and transport model with lithologic detail from 16 groundwater monitoring well borings (including two bedrock wells) installed to support supplemental corrective measure evaluation;
- improved flow model calibration using groundwater levels measured from the supplemental corrective measure evaluation monitoring wells, increasing the dataset by 30 percent to 21 wells total;
- analyzed site specific soil to confirm the molybdenum partition coefficient (K_d) used in the flow and transport model; and
- incorporated the refined constituent distribution into the transport model to support supplemental corrective measures constituent transport simulations.

The updated flow and transport model was used to simulate the potential effectiveness of supplemental corrective measures including passive horizontal in-situ well and groundwater collection trench technologies. Simulations completed to evaluate the potential supplemental corrective measures included:

- Ash Pond operation – simulated molybdenum concentration from beginning of pond operation to present;
- Ash Pond closure by removal – updated model to reflect post-closure land surface elevation;
- Ash Pond closure by removal and passive horizontal in-situ wells – three wells simulated (750 linear feet, total); and
- Ash Pond closure by removal and groundwater collection trench – three trench segments simulated (1,900 linear feet, total).

Groundwater analytical results, bench testing results, and simulations from the flow and transport model are currently being evaluated.

Planned Activities

A conceptual schedule for completion of the Selection of Remedy process is included in Attachment B. Anticipated activities for the upcoming six months include the following:

- collect final round of confirmatory groundwater samples from monitoring wells installed to support evaluation of potential supplemental remedy to the CMA alternative;
- conduct semi-annual groundwater sampling in November 2023 consistent with 40 CFR §257.95(b) and (d)(1); and
- begin evaluation of geochemical data collected during site-specific studies completed in support of remedy selection.

Enclosures:

Attachment A – A.B. Brown Ash Pond Selection of Remedy Schedule

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ATTACHMENT A
A.B. Brown Ash Pond Selection of Remedy Schedule

ATTACHMENT B
A.B. BROWN ASH POND SELECTION OF REMEDY SCHEDULE
A.B. BROWN GENERATING STATION

SEPTEMBER 15, 2023 A.B. BROWN ASH POND - POST CMA, REMEDY SELECTION SUPPORT		2023												2024												2025											
		June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.					
1	Selection of Remedy (257.97)	[Gantt bar spanning from June 2023 to September 2024]																																			
1.1	In-situ horizontal treatment well technology Evaluation	[Gantt bar spanning from June 2023 to August 2023]																																			
1.2	MNA Focused Feasibility Evaluation	[Gantt bar spanning from June 2023 to December 2023]																																			
1.3	Supplemental Corrective Measures Evaluation	[Gantt bar spanning from July 2023 to May 2024]																																			
1.4	Prepare Selection of Remedy Report	[Gantt bar spanning from July 2024 to August 2024]																																			
1.5	Specify a schedule for implementing and completing remedial activities	[Gantt bar spanning from August 2024 to September 2024]																																			
1.6	CenterPoint Selection of Remedy Review	[Gantt bar spanning from September 2024 to October 2024]																																			
1.7	Certify the selected remedy	[Gantt bar spanning from October 2024 to November 2024]																																			
2	Implementation of the Corrective Action Program (257.98)	[Gantt bar spanning from October 2024 to December 2025]																																			
2.1	Establish and implement Corrective Action Groundwater Monitoring Program	[Gantt bar spanning from October 2024 to December 2025]																																			
2.2	Remedy performance monitoring	[Star icon in Oct 2023] [Star icon in May 2024] [Star icon in Nov 2024] [Star icon in May 2025] [Star icon in Nov 2025]																																			
2.3	Evaluate results	[Text: Assessment monitoring event] [Text: Initial performance monitoring event]																																			