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March 1, 2022

Kirsten Hillyer
Environmental Engineer
U.S. Environmental Protection Agency
Office of Resource Conservation and Recovery (ORCR)
Materials Recovery & Waste Management Division (MRWMD)

RE: FB Culley Generating Station - CCR Part A Demonstration, Request for Additional Information

Dear Ms. Hillyer,

We are providing the information contained in this letter in response to U.S. EPA's (EPA's) e-mail dated February 14, 2022, in which EPA requested additional information in order to complete its review of the Part A demonstration SIGECO submitted for the F.B. Culley Generating Station pursuant to the *Development of Alternative Capacity is Technically Infeasible* requirements of 40 C.F.R. § 257.103(f)(1). Specifically, EPA requested a narrative explaining the progress made and current activities and phase/step at the facility to achieve alternative capacity. EPA further requested additional information if the original date requested to cease receipt of waste is delayed.

SIGECO submitted the Part A demonstration in accordance with the requirements §257.103(f)(1) on November 24, 2020 and requested an extension of the "cease receipt of waste" deadline to March 1, 2023 for the East Ash Pond. Following submission of the Part A demonstration, SIGECO has continued to actively pursue alternative capacity and has made significant progress towards achieving this alternative capacity for the CCR and non-CCR flows currently managed in the East Ash Pond. Given the progress made to date, SIGECO is currently on schedule to meet the March 1, 2023 deadline requested in its Part A demonstration. Accordingly, an extension of the cease flow deadline beyond what was originally requested in the Part A Demonstration is not being requested at this time.

Summary of Alternative Capacity Project:

The identified "fastest technically feasible alternative" (Alternative 2 in the Part A Demonstration) includes the design and construction of a new lined CCR Pond (compliant with the CCR Rule) to be located immediately north of the existing lined Contact Stormwater Pond. In this proposed area, the CCR materials from the former West Ash Pond footprint have been completely removed and visually verified, and an approximately 20-foot depth of structural fill has been placed over the excavation grades. As described in the Part A Demonstration, the new CCR Pond was intended to manage FGD-related wastewater flows from Units 2 and 3 and bottom ash discharge flows from Unit 2. The Part A Demonstration also evaluated the use of the Plant's future wastewater spray dryer evaporator (SDE) to manage the FGD wastewater (Alternative 8); however, the estimated construction duration of the SDE made it such that it was not identified to be the fastest technically feasible alternative. Since the date the Part A Demonstration was submitted, SIGECO has made significant progress in the design and planning of the SDE project. SIGECO now expects to procure the SDE equipment earlier than originally projected and anticipates, barring any unforeseen supply chain delays, the SDE system will be operational prior to the March 1, 2023 cease flow deadline previously requested in the Part A Demonstration. Because of this, the FGD-related wastewater flows will be managed via the SDE (and eliminated from the East Ash Pond), leaving only the Unit 2 bottom ash to be managed by alternative capacity following the cease flow deadline.

In addition, an enhancement to the project has been identified which will streamline the implementation of alternative capacity for the Unit 2 bottom ash flows. SIGECO is now proposing to manage the bottom ash flows using geotextile tubes (GTs) to capture and isolate the CCR solids, requiring only filtrate (effluent liquid) to be managed within a new lined pond. The bottom ash solids would be retained within the GTs (and concrete containment area described further below) and allowed to dewater and consolidate. Treatability testing will be

performed to confirm effective capture of bottom ash solids within the GT. Following dewatering, the bottom ash would then be excavated from the GTs and hauled off-site for disposal and/or beneficial use. The GTs would be located within an area providing containment measures “to control exposure to human health and the environment”, as discussed in the Preamble (pg. 21356) to the 2015 CCR Rule. This GT containment area would be constructed with a concrete base and perimeter walls and be located up-gradient of a new lined pond. The containment area would be provided with a berm or wall around its perimeter and will have controlled drainage to the adjacent down-gradient new lined pond. The filtrate effluent from the geotubes would flow via gravity from the containment area to the new lined pond. The effluent from the containment area would not contain CCRs thus the new lined pond would not be regulated under the CCR Rule based on the CCR Rule’s definition of a “CCR Surface Impoundment”. The lined pond would also receive and manage contact stormwater during the closure of the East Ash Pond. The discharge from the proposed lined pond would flow to the existing Contact Stormwater Pond with ultimate discharge through a permitted NPDES outfall. The above modification is believed to provide equivalent or better environmental protection as compared to the new CCR pond described in the Part A Demonstration, while streamlining its permitting timeline and improving the efficiency of future operations.

SIGECO anticipates that the SDE system, the GT containment area and the new lined pond will be constructed and operational by the originally requested March 1, 2023 cease flow date. Following construction completion on or before the cease flow date, the East Ash Pond will initiate closure in accordance with the requirements of §257.102.

Changes in Approach from Part A Demonstration:

The following changes from the selected alternative in the Part A Demonstration are proposed:

- Construction of SDE to manage FGD wastewater in lieu of managing FGD wastewater in new CCR Pond.
- Construction of GT containment area and use of GTs to capture the CCR solids in lieu of sluicing CCR to a new CCR Pond.
- Construction of new lined pond to manage filtrate from GTs and contact stormwater in lieu of permitting and constructing a new CCR Pond.

Progress Made and Current Activities:

The following activities have occurred or are underway towards achieving alternative capacity for the CCR and non-CCR flows currently managed in the East Ash Pond:

- Unit 3 boiler bottom ash handling system (submerged chain conveyor) construction completed to eliminate Unit 3 bottom ash flow from East Ash Pond. This project was completed prior to December 31, 2020, achieving the milestone date included in Part A Demonstration.
- Construction activities completed to re-route non-CCR contact stormwater flows from the East Ash Pond to the Contact Stormwater Pond. These activities were completed prior to July 1, 2021 achieving the milestone date included in Part A Demonstration.
- Hired engineering consultant to assist with remaining planning, developing design and permitting documents as well as manage construction activities associated alternative capacity project.
- Held multiple meetings with IDEM to discuss East Ash Pond closure and proposed concept involving use of GTs, GT containment area, and lined pond, in lieu of pursuing permitting of a CCR Rule-compliant pond. Based on these discussions, IDEM will address the subject project as a modification to the West Ash Pond’s approved closure plan.
- Performed laboratory testing to evaluate composition and particle size distribution for solids in the proposed flows to support design of the new lined pond.
- Completed conceptual-level design of lined pond, GT containment area and infrastructure necessary to reroute Unit 2 bottom ash to GT containment area. Detailed design of these same aspects has begun.
- Installed piezometers in the proposed area of the new lined pond to gauge groundwater levels.
- In progress of preparing modification to IDEM-approved West Ash Pond closure plan to allow for new lined pond and GT containment area to be constructed in former footprint of West Ash Pond (now closed).
- Detailed design activities associated with the SDE are underway. Construction activities have recently begun, and procurement of significant equipment is in progress.

This information will be posted to the CCR compliance website pursuant to 40 C.F.R. §257.103(f)(1)(ix)(A), 105(i)(14) and 107(i)(14), as requested in the EPA's email.

Please reach out to the undersigned below for any questions or concerns.

Sincerely,



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cc: Frank Behan (EPA)
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