Associated Electric Cooperative, Inc.

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MEMORANDUM

DATE: Jan. 24, 2022

TO: United States Environmental Protection Agency
Richard Huggins, Jr. – Chief
Energy Recovery and Waste Disposal Branch
Office of Resource Conservation and Recovery

C: United States Environmental Protection Agency
Kirsten Hillyer, Frank Behan, Laurel Celeste

FROM: Associated Electric Cooperative, Inc.
Kenneth S. Wilmot
Senior Vice President/Chief Operating Officer

RE: Additional Information Requested for CCR Rule Part A Demonstration,
Site Specific Alternate to Initiation of Closure Deadline for Ash Pond 1
(Cell 001, Cell 003, and Cell 004)
Thomas Hill Energy Center
Clifton Hill, Missouri

Mr. Huggins:

Associated Electric Cooperative, Inc. (AECI) is submitting the attached additional information to the previously submitted "Report on Site Specific Alternate to Initiation of Closure Deadline for Ash Pond 1 (Cell 001, Cell 003, and Cell 004), Thomas Hill Energy Center, Clifton Hill, Missouri" dated 29 September 2020 (Report) and associated Addendum dated 20 November 2020 submitted in accordance with 40 C.F.R. § 257 Hazardous and Solid Waste Management System: Disposal of Coal Combustion Residuals from Electric Utilities; A Holistic Approach to Closure Part A: Deadline to Initiate Closure (CCR Rule Part A). In accordance with the United States Environmental Protection Agency (EPA) email request for additional information received 10 January 2022, AECI submits the information in this attachment to provide status updates and clarification of AECI's pursuit of alternative capacity for the subject CCR surface impoundments. EPA requested that AECI submit the following:

1) A narrative explaining the progress made and current activities and phase/step at Thomas Hill to achieve alternative capacity.
2) A discussion of the issues that led to the delay to the requested date to cease receipt of waste.
3) An updated requested date to cease receipt of waste.
4) An updated narrative justifying the new date to cease receipt of waste.

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Originally, AECI justified the need for an extended time to pursue alternative capacity to allow for Cells 001, 003, and 004 to cease receipt of CCR and non-CCR wastestreams. The additional time requested is associated with the fastest technically feasible approach to complete development of alternative disposal capacity (in accordance with 40 C.F.R. § 257.103(f)(1)(iv)(A)). AECI has made significant progress toward obtaining alternate capacity for CCR and non-CCR wastestreams. That progress (upwards of a nominal 90% overall completion) includes:

- construction and operation of the concrete dewatering tank (CDT), and ceasing receipt of CCR and non-CCR wastestreams in Cell 001; and
- construction of the reconfigured non-CCR Cell 002 West and 002 East which will allow for the future cease of receipt of CCR and non-CCR wastestreams in Cells 003 and 004.

In moving from the current estimated 90% to 100% overall completion, additional time is required to accommodate the Missouri Department of Natural Resources (MDNR) National Pollutant Discharge Elimination System (NPDES) permitting and construction permit processes. Once the NPDES and approval of construction permits are received, AECI will be allowed to complete the construction activities associated with future cease receipt of CCR and non-CCR wastestreams in Cells 003 and 004.

AECI reiterates that the facility has been and remains in compliance with all requirements of 40 C.F.R. § 257, as attested in the Report and Addendum submitted in the fall of 2020. AECI has completed necessary documentation for compliance requirements including, but not limited to, location restrictions, structural integrity and safety factor assessments, and the groundwater monitoring program. Required documentation has been placed in the facility Operating Record in accordance with 40 C.F.R. § 257.105, notifications made in accordance with 40 C.F.R. § 257.106, and required documentation has been placed on the facility's public website in accordance with 40 C.F.R. § 257.107.

We are providing Attachment 1 (*Attachment 1: Additional Information for Progress Toward Alternative Capacity and Updated Requested Date to Cease Receipt of Waste*) as reference for the EPA in consideration of this closure extension request and specifically as a follow up to support comments and additional information requested by EPA preliminarily on our 15 October 2020 conference call and the formal request received 10 January 2022 via email correspondence from EPA.

We appreciate EPA's consideration of this updated information and the associated closure extension request for the subject facility and CCR surface impoundments.

Sincerely,

Kenneth S. Wilmot
Senior Vice President / Chief Operating Officer
Associated Electric Cooperative, Inc.

Attachment 1: Additional Information for Progress Toward Alternative Capacity and Updated Requested Date to Cease Receipt of Waste

1) Update on Progress Made and Current Status of Alternative Capacity Pursuit

AECI selected multiple technologies to obtain alternative capacity for Cells 001, 003, and 004. For direct sluice water conveyed to Cell 001, AECI selected a wastewater treatment facility consisting of a concrete dewatering tank (CDT) to manage boiler slag by using available land adjacent to already existing sluice pipes that convey this boiler slag and associated sluice water. As the second technology, it was determined that alternative capacity for Cells 003 and 004 would be best achieved by reconfiguring existing non-CCR ponds to manage the coal pile runoff and associated flows, and any blowdown from the CDT. Geographically, these two reconfigured ponds (Cells 002 West and 002 East) are sited between Cell 001 and Cell 003. AECI's plan was to reconfigure Cell 002 West with forebays and a liner system (a composite liner consisting of clay and geomembrane with protective cover materials, which exceeds Missouri state law requirements) to receive these flows instead of Cell 003, discharging then into Cell 002 East (which will have a clay seal in accordance with Missouri state law requirements), which then discharges into an existing ditch along the east side of Cells 003 and 004. In addition, the chemical precipitation coagulants and flocculants at the CDT will also be used to feed the same treatment chemicals to the coal pile runoff flows to enhance settling of solids to meet NDPES permit requirements. The summary of the status of the pursuit of these technologies is summarized in the table below, followed by the description of activities completed and those still remaining.

CCR Unit	Impoundment Purpose	Original Extension Requested?	Current Status
Cell 001	**Primary**	**Yes**	**CDT Constructed, Cell 001 Ceased Receipt of CCR and Non-CCR Wastestreams and Initiated Closure**
Cell 003	**Secondary**	**Yes**	**Awaiting NPDES Permit/Final Construction of Alternative Capacity to Cease Receipt**
Cell 004	**Tertiary**	**Yes**	**Awaiting NPDES Permit/Final Construction of Alternative Capacity to Cease Receipt**

<u>Wastewater Treatment Facility – Concrete Dewatering Tank:</u>

The activities required to obtain alternative capacity for a wastewater treatment facility that would allow for the cessation of wastestreams into Cell 001 have been completed and included:

- Planning / Alternatives Analyses,
- Engineering Design and Data Collection,
- Air Permitting / NPDES Permit Modification,
- Bidding and Contractor Selection,
- Procurement,
- Construction Activities, and
- Startup and Operational.

Based on the construction of the CDT and its operational startup, Cell 001 ceased receipt of CCR or non-CCR wastestreams in September 2021 and is actively in closure.

Reconfiguration of Existing Non-CCR Surface Impoundments – Cell 002 West, Cell 002 East, Outfall 001A, and East Ditch:

The activities required to obtain alternative capacity through the reconfiguration of the non-CCR surface impoundments that would allow for the cessation of wastestreams into Cells 003 and 004 that have been completed include:

- Planning / Alternatives Analyses,
- Engineering Design and Data Collection,
- NPDES Construction Permit (Permit to Construct),
- Bidding and Contractor Selection,
- Procurement,
- Construction Activities including:

– Cells 002 West (except the Tie-in from the West Ditch),
– Cell 002 East, and
– East Ditch lining.

The following activities have been actively worked on by AECI but are still required to be completed prior to cessation in Cells 003 and 004:

- NPDES Operating Permit Modifications,
- NPDES Construction Permit – Construction Completion Approval,
- Construction Activities – Cell 002 West Tie-in from the West Ditch, and
- Startup and Operational Transition.

The summary of the current status of these key activities to achieve the cessation are summarized in the table below:

Key Alternate Capacity Pursuit Activity	Purpose	Approx. Percent Complete	Key Actions Completed	Key Actions Remaining
Concrete Dewatering Tank (CDT)	Alternate management of direct sluice to remove Cell 001	100%	Tank constructed, plumbing and wastewater treatment system installed, receiving direct sluice flows	N/A
Cell 002 West	Non-CCR treatment to remove Cells 003 and 004	90%	Earthworks, liner, surface course, piping, and dewatering pad constructed	Awaiting NDPES permit to allow for inflow tie-in construction
Cell 002 East	Non-CCR treatment to remove Cells 003 and 004	100%	Reconfigured cell fully constructed	Awaiting NPDES permit
East Ditch	New NPDES outfall and conveyance from Cell 002 East to Receiving stream	100%	Fully constructed and channel lining installed	Awaiting NPDES permit

Key Alternate Capacity Pursuit Activity	Purpose	Approx. Percent Complete	Key Actions Completed	Key Actions Remaining
NPDES Permitting	Add Outfall 001A to permit discharge from Cell 002 East	75%	Draft permit received/ commented on by AECI	NPDES permit negotiations and public comment

2) Discussion of Issues Leading to Delay in Achieving Alternative Capacity

AECI actively pursued alternative capacity in response to the EPA Part A rulemaking. In those efforts as described above, the CDT was constructed, and the non-CCR impoundments were designed and constructed. The remaining element that allows for system operation is the MDNR-issued NPDES permit. AECI's MDNR issued Missouri State Operating Permit for the Thomas Hill Energy Center (THEC) expired on 30 June 2021. AECI began timely discussions with MDNR regarding the process to renew the NDPES permit in early 2020, in particular related to the addition of the new Outfall 001A that would be needed to discharge flows from the reconfigured Cell 002 West and 002 East impoundments. MDNR decided that it would manage the addition of this outfall along with the overall THEC permit renewal instead of a single permit modification. As such, AECI received the initial draft permit in June 2021 and began a comment response period that remains ongoing as of the date of this letter. In lieu of a permit approval, AECI is not currently permitted to discharge from the non-CCR surface impoundments that were constructed as alternative capacity.

Due to this delay in AECI's ability to discharge through the new Outfall 001A, AECI has not been able to direct the non-CCR wastewaters that currently flow into Cell 003 into Cells 002 West and 002 East. Once AECI receives a permit to allow for the discharge of flows through Outfall 001A, several construction activities will be needed to modify the flow path from the west ditch into Cell 002 West. These activities, and associated estimated timeframes, are described below in further detail.

3) Updated Requested Date to Cease Receipt of Waste for Cells 003 and 004

Based on the current remaining activities (discussion previously and further described below), and the efforts required to complete those, AECI has determined that it will require until **31 August 2022** to cease receipt of CCR and non-CCR wastestreams in Cells 003 and 004. Considering that multiple elements are not controlled by AECI (e.g., MDNR's final NPDES permitting timeline, contractor availability and scheduling, weather, supply chain delays), AECI reserves the right to seek additional extension beyond the time granted in the approval pursuant to 40 C.F.R. § 257.103(f)(1)(vii).

4) Remaining Activities and Narrative Discussion on Path to Completion

We are providing the following details regarding the remaining steps to inform US EPA of the progress on the activities to date and to provide an understanding of what remains and how AECI is working to complete these activities:

- NPDES Operating Permit Modifications – AECI and MDNR are actively negotiating the overall THEC NPDES operating permit which includes the addition of the new Outfall 001A. Outfall 001A has been constructed in the southeast corner of Cell 002 East as

part of the reconfiguration efforts and will discharge into the constructed East Ditch. Once an agreed-to draft final permit is finished, this will also involve a public comment period, and final issuance and signing of the permit. We anticipate that this process may take until May 2022 to be resolved.

- Construction Activities – Cell 002 West Tie-in – AECI has constructed the reconfigured Cell 002 West non-CCR surface impoundment, including subgrade, liner system, protective cover, surface course materials, dewatering pad, piping and conduits, and appurtenant structures. The remaining construction steps include re-mobilization by the Construction Contractor and initially the installation of temporary bypass of process waters within the West Ditch to allow for the tie-in of the West Ditch to Cell 002 West. The bypass will still convey flows to Cell 003. Once the bypass is operational, construction activities will include clearing and grubbing, subgrade grading, installation of channel lining materials, installation of rock slope protection and permanent plug in the West Ditch, seeding, and confirmation surveying. These steps cannot be made until AECI has obtained the NPDES operating permit since the tie-in will then convey the upstream coal pile runoff, CDT discharge, and miscellaneous non-CCR flows into Cell 002 West, Cell 002 East, and discharge through Outfall 001A. We anticipate that these efforts will take 6 to 8 weeks to complete.

  One other contributing factor to the timing of these construction activities is weather. The THEC is located in north central Missouri, and winter and wet spring conditions will prohibit the earthworks construction activities from being completed until weather conditions are appropriate for the adequate construction of the tie-in. As observed in past years, this typically will not be able to commence until around June 1. Assuming that a NPDES permit is issued in a timely manner in 2022, AECI will make efforts to commence this work as soon as feasible, realizing that the site conditions and suitability for the type of work activities needed for the tie-in can reasonably be completed.

- NPDES Construction Permit (Construction Completion Approval) – Following construction activities, AECI must submit a notice to MDNR that construction activities have been completed in accordance with the permit. This action cannot be completed until construction activities are complete, which includes reporting efforts documenting the construction work. We anticipate that MDNR will take between 2 to 4 weeks to issue this approval.

- Startup and Operational Transition – Once the construction permit is complete, AECI will then confirm that the coagulant addition from the CDT treatment system to the coal pile runoff wastestream is active and functional, at which point the temporary bypass in the West Ditch will be removed, and flows will be conveyed to Cell 002 West. Once this action occurs, Cells 003 and 004 will cease receipt of CCR and non-CCR wastestreams. We anticipate that these efforts will take 1 to 2 weeks to complete.

AECI has made clear that significant efforts have been made to evaluate, design, and construct alternate capacity to replace Cells 001, 003, and 004. AECI has also made significant progress toward obtaining alternative capacity for the CCR and non-CCR flows and intends to continue the efforts until completion.