Associated Electric Cooperative, Inc.

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MEMORANDUM

1 March 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

SUBJECT: Additional Information Requested for CCR Rule Part A Demonstration,
Site Specific Alternate to Initiation of Closure Deadline for Pond 003
New Madrid Power Plant
Marston, 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 Pond 003, New Madrid Power Plant, Marston, Missouri" dated September 2020 (Report) and associated Addendum dated 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 14 February 2022, AECI submits the information in Attachment 1 to this letter to provide status updates and clarification of AECI's pursuit of alternative capacity for the subject CCR surface impoundment. EPA requested that AECI submit the following:

1) A narrative explaining the progress made and current activities and phase/step at the facility to achieve alternative capacity.
2) A discussion of the issues that led to the delay (if a delay has occurred) to the requested date to cease receipt of waste.
3) An updated requested date to cease receipt of waste (if the original date requested has changed).

4) An updated narrative justifying the new date to cease receipt of waste (if the original date requested has changed).

AECI previously justified the need for an extended time to pursue alternative capacity to allow for Pond 003 to cease receipt of CCR and non-CCR wastestreams. The additional time requested – until 31 May 2023 – 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 and is on track to obtain alternate capacity for CCR and non-CCR wastestreams within the requested time. That progress includes:

- conversion to dry light fly ash handling (Units 1 & 2) which completely eliminated a CCR wastestream;
- conversion to dry boiler slag handling (Unit 1) which completely eliminated CCR wastestreams;
- upgrades to the coal yard perimeter ditch;
- reconfiguration of the Coal Pile Runoff (CPRO) Pond;
- construction and operation of the Secondary Settling Basin (SSB) and appurtenances to manage coal pile runoff;
- closure and reconfiguration of Pond 004; and,
- construction and operation of boiler slag conveyor systems and associated staging areas for management of dry CCRs.

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 including the required 5-year updates, and the groundwater monitoring program, as applicable. 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*) as reference for the EPA and to update the additional information requested by EPA in the formal request received 14 February 2022 via email correspondence from EPA.

We appreciate EPA's consideration of this updated information for the subject facility and CCR surface impoundment.

Sincerely,

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

Attachment 1: Additional Information for Progress Toward Alternative Capacity

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

AECI selected multiple technologies to obtain alternative capacity for Pond 003. For direct sluice water conveyed to Pond 003, AECI selected conversion to dry handling to manage light ash and boiler slag. Since submitting the initial Report and Addendum in fall 2020, AECI has completed all activities required to obtain alternative capacity for the CCR wastestreams associated with generating Units 1 & 2 light ash by December 2020 and generating Unit 1 boiler slag (i.e., by conversion to dry handling) by March 2021. These activities have allowed AECI to reduce the wastestreams conveyed to Pond 003 by more than half. Unit 2 boiler slag conversion activities continue to progress and are on target to meet the original May 2023 date. Continued progress on Unit 2 dry conversion includes supplemental engineering, bidding and procurement of mechanical components, and development of site infrastructure in preparation of the receipt of equipment and associated outage for installation.

AECI determined that alternative capacity for non-CCR wastestreams at the coal yard discharging to Pond 003 would be best achieved by reconfiguring the existing coal pile runoff (CPRO) Pond and constructing a new non-CCR pond (i.e., the secondary settling basin (SSB)). This reconfigured and new infrastructure to manage the coal pile runoff and other non-CCR wastestreams allows for the redirection of flows to a reconfigured Pond 004. Geographically, the coal yard, CPRO Pond, and SSB are sited northwest of the plant; Pond 004 is located east of the plant. To improve solids settling and facilitate more regular cleanout activities, AECI reconfigured and enhanced the coal yard perimeter ditch and CPRO Pond, constructed the SSB, and closed/reconfigured Pond 004 to receive flows from the SSB and discharge to the Mississippi River via a renumbered NPDES Outfall #009. In addition, the chemical precipitation coagulant injection system is under operational startup and optimization to enhance settling of solids to meet NDPES permit requirements. These multiple components of the alternate technology were designed and constructed to receive and treat non-CCR wastestreams from the plant instead of being pumped directly to Pond 003, which currently discharges to the Mississippi River via NPDES Outfall #003---further reducing the wastestreams conveyed to Pond 003.

AECI determined that alternative capacity for non-CCR wastestream from the Utility Waste Landfill sedimentation basins would include the relocation of the discharge location. AECI has been actively reducing the amount of water being conveyed to Pond 003 by improved water balance at the landfill. This wastestream has historically been conveyed to Pond 003 as intermittent flows over a few days, up to 5 times a year on average. In 2021, AECI reduced the number of discharge events and continues to work with the Missouri Department of Natural Resources (MDNR) to alter the discharge location and completely eliminate these intermittent flows from the current Pond 003 discharge location.

A 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.

Technology	Wastestream Type, (% of Flow Reduction to Pond 003)	Current Status
Conversion to Dry Light Ash Handling (Units 1 & 2)	**CCR (~17%)**	**✓ COMPLETED**
Conversion to Dry Boiler Slag Handling (Unit 1)	**CCR (~40%)**	**✓ COMPLETED**
Construction of Coal Pile Runoff/ Process Water Infrastructure	**Non-CCR (~2%)**	**CONSTRUCTED; final treatment additives operational startup and commissioning remain**
New Discharge for Landfill Sedimentation Ponds	**Non-CCR (<1%, Intermittent)**	**ONGOING, final permitting and operational considerations remain**
Conversion to Dry Boiler Slag Handling (Unit 2)	**CCR (~40%)**	**ON SCHEDULE, currently bid letting and contractor selection, manufacturing, and outage planning**
	TOTAL = ~57% Reduction	

Conversion to Dry Light Ash Handling (Units 1 & 2):

All activities required to obtain alternative capacity for the conversion of dry light ash handling technologies that have allowed for the cessation of associated CCR wastestreams into Pond 003 have been completed and include:

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

Conversion to Dry Boiler Slag Handling (Unit 1):

All activities required to obtain alternative capacity for the conversion of dry boiler slag handling technologies for Unit 1 that have allowed for the cessation of associated CCR wastestreams into Pond 003 have been completed and include:

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

Reconfiguration and Construction of Coal Pile Runoff/ Process Water Infrastructure:

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

- Planning / Alternatives Analyses,
- Engineering Design and Data Collection,
- NPDES Construction Permit (Permit to Construct),
- NPDES Operating Permit Modifications,
- Bidding and Contractor Selection,
- Procurement,
- Construction Activities including:
  - Coal yard and perimeter ditch improvements,
  - Coal Pile Runoff Pond reconfiguration,
  - Development of the Secondary Settling Basin,
  - Pond 004 reconfiguration, and
  - Development of the Beneficial Use Staging Pad (adjacent to Pond 004).

The following activities have been actively worked on by AECI but are still required to be completed prior to cessation of these non-CCR wastestreams in Pond 003:

- Startup and Operational Transition (nominally 95% complete).
  - AECI is in the process of finalizing commissioning activities associated with coagulant/ flocculant treatment adjustments to meet NPDES limitations, pending MDNR approval for NPDES Operating Permit Modifications.

New Discharge for Landfill Sedimentation Ponds:

The activities required to obtain alternative capacity through the reconfiguration of the existing Sedimentation Ponds or development of a new discharge location that would allow for the cessation of associated non-CCR wastestreams into Pond 003 that have been completed include:

- Planning / Alternatives Analyses including:
  - Evaluation for improved water balance management to reduce need for discharge to other locations. Plant Operations has reduced discharges to Pond 003 throughout the second half of 2021, effectively operating as a no discharge scenario unless heightened water levels dictate the need for discharge.
- Engineering Design and Data Collection including:
  - Representative sampling to determine treatment options.

The following activities have been actively worked on by AECI but are still required to be completed prior to cessation of these non-CCR wastestreams in Pond 003:

- NPDES Construction Permit (Permit to Construct),
- Bidding and Contractor Selection,
- Procurement,
- Construction Activities
- NPDES Operating Permit Modifications, and
- Startup and Operational Transition.

Conversion to Dry Boiler Slag Handling (Unit 2):

The activities required to obtain alternative capacity the conversion of dry boiler slag handling technologies for Unit 2 that would allow for the cessation of associated CCR wastestreams into Pond 003 have been completed and include:

- Planning / Alternatives Analyses (completed as planned),
- Engineering Design and Data Collection (completed as planned),
- Bidding and Contractor Selection (i.e., Contractor is selected and contract for construction will be complete by June 2022),
- Procurement of Components (i.e., all required parts are under contract and being fabricated),
  - *Boiler components, boiler floor, submerged flight conveyor (SFC) internal components, dry flight conveyor (DFC), and boiler floor to SFC section area all in fabrication*
- Delivery of Major Components (on schedule):
  - Submerged Flight Conveyor (SFC) Structural Shell
- Pre-Outage/ Installation Construction Activities, including:
  - SFC transfer tower and offloading conveyor
  - Pipe rerouting
  - Switch gear
  - Fire suppression equipment
  - Ductwork demolition
  - On-site Temporary Storage Facilities

The following activities have been actively worked on by AECI but are still required to be completed prior to cessation of this CCR wastestream in Pond 003:

- Fabrication and Delivery of Remaining Components, and
- Outage/ Final Conversion Construction Activities.

These activities are still on track to be completed by requested date to cease receipt of waste.

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

At this time, AECI is still on track to achieve overall alternative capacity of CCR and non-CCR wastestreams conveyed to Pond 003 in May 2023 matching the original date in AECI's Part A submittal. AECI has actively pursued alternative capacity in response to the EPA Part A rulemaking. In those efforts as described above, the Units 1 & 2 Dry Light Ash Handling Conversion and Unit 1 Dry Boiler Slag Handling Conversion projects were constructed and are now operational, and the non-CCR impoundments and infrastructure were designed, constructed, and have initiated startup and commissioning activities. Commissioning and operational transitioning of these non-CCR wastestreams (i.e., coal pile runoff and non-CCR process waters managed through the reconfigured Coal Pile Runoff Pond, to the Secondary Settling Basin, and ultimately to the reconfigured Pond 004 to NPDES Outfall #004) are anticipated to be completed in 2022, at which point Pond 003 will cease receipt of these non-CCR wastestreams.

AECI has also actively pursued alternative capacity for non-CCR discharge from the UWL Sedimentation Ponds. Additional data collection and surface water analysis has been required to determine the most appropriate alternative capacity technology or NPDES discharge location. In the meantime, AECI has avoided discharging this intermittent non-CCR wastestream to Pond 003 since mid-2021 through improved water management activities. Additionally, AECI is preparing to

partially close Cell 1 of the UWL in 2022, which will reduce the generation of landfill runoff discharging to the Sedimentation Ponds.

These minor delays in achieving alternative capacity for lesser non-CCR wastestreams have not and will not impact the original requested date to cease receipt of waste for Pond 003.

3) Updated Requested Date to Cease Receipt of Waste for Pond 003

The original requested date to cease receipt of waste has not changed and remains as May 2023. An updated requested date to cease receipt of waste for Pond 003 is not required.

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:

- Coal Pile Runoff/ Process Water Infrastructure Startup and Operational Transition –AECI is currently undergoing commissioning of coagulant injection location(s) and associated dosage rates for the coal pile runoff/ process water (non-CCR) wastestream. Once the coagulant system is optimized and meets discharge requirements, flows will be conveyed to the reconfigured Pond 004 (renumbered NPDES Outfall #009) and discharged to the Mississippi River. Once this action occurs, Pond 003 will cease receipt of these non-CCR wastestreams.

- Landfill Sedimentation Ponds – AECI is continuing to analyze and determine appropriate alternative capacity for the management of non-CCR wastestreams discharged from the Landfill Sedimentation Ponds while continuing to negotiate NPDES operating permit modifications with MDNR. 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 any required reconfiguration design, construction, and startup and operational transition activities to be completed shortly following the approval of NPDES operating permit modifications.

- Conversion to Dry Boiler Slag Handling (Unit 2):

  - Fabrication and Delivery of Remaining Components: AECI is on track to receive all remaining components for completion of the Unit 2 Dry Boiler Slag Handling Conversion in time for the Planned Outage scheduled to start in March 2023. Temporary warehouse space has been available for the storage of components as they are fabricated and delivered to the Plant form several different manufacturers/ suppliers, both domestic and international – anticipated to arrive between October 2022 and January 2023. Milestone payments have been made on the components throughout fabrication.

  - Outage/ Final Conversion Construction Activities: The Unit 2 outage is scheduled to start in March 2023, at which time system flushing and purging activities will need to be completed before discharge pipelines to Pond 003 can be disconnected and the receipt of this remaining CCR wastestream can be ceased.

AECI has made clear that significant efforts have been made to evaluate, design, and construct alternative capacity to replace Pond 003. 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.