CCR Closure Plan - Amendment No. 1
Fly Ash Impoundment

Sibley Generating Station

Evergy Missouri West, Inc.
3320 E Johnson Road
Sibley, Missouri 64088

SCS ENGINEERS

Project No.: 27222162.00
Original: October 14, 2016
Amendment No. 1: February 5, 2025

8575 West 110th Street, Suite 100
Overland Park, KS 66210
913-681-0030

Public

Table of Contents

Section Page

REVISION/AMENDMENT HISTORY [§ 257.102(b)(3)]

Amendment Number	Amendment Date	Revised Sections	Summary of Revisions
0	October 14, 2016	--	Original document
1	February 5, 2025	All	Incorporate new rule amendment at 40 CFR § 257.102(c)(2), effective November 8, 2024, which allows groundwater corrective action during the Post-Closure Care Period.

1.0 INTRODUCTION AND BACKGROUND

On behalf of Evergy Missouri West, Inc. (Evergy), in accordance with Title 40 Code of Federal Regulations (40 CFR) § 257.102 of the U.S. Environmental Protection Agency Federal Coal Combustion Residuals (CCR) Rule (40 CFR §§ 257 and 261), effective October 19, 2015, and subsequent revisions, SCS Engineers has prepared this Amendment No. 1 to the initial '*CCR Closure Plan'* dated October 14, 2016, for the former Fly Ash Impoundment (FAI) at the former Sibley Generating Station.

Closure of the FAI was initiated with the "*Notification of Intent to Close*" prepared by Evergy on January 28, 2020. Removal of the CCR material from the FAI was certified complete on January 14, 2022. However, in accordance with the 2015 CCR Rule 40 CFR § 257.102(c), the FAI could not be certified closed due groundwater monitoring concentrations exceeding the groundwater protection standards (GWPSs) established pursuant to § 257.95(h) for constituents listed in Appendix IV of the CCR Rule. Furthermore, § 257.102(f)(1)(ii) specifies closure of the CCR unit must be completed within five years of commencing closure activities unless per § 257.102(f)(2)(i) the timeframe for completing closure is extended. Therefore, Evergy provided a demonstration to extend the time necessary to close the FAI by two years on November 6, 2024.

The 2024 revisions/amendments to 40 CFR §§ 257 and 261 (known as the CCR Legacy Rule effective November 8, 2024) included revisions to § 257.102(c) to include two procedural options for closure by removal of CCR units:

- Option 1 is § 257.102(c)(1) – *Complete all removal and decontamination activities during the active life of the CCR Unit*

- Option 2 is § 257.102(c)(2) – *Complete removal and decontamination activities during the active life and post-closure care period of the CCR Unit.*

Evergy has selected Option 2 and is in the process of completing closure by removal in accordance with **§ 257.102(c)(2) – *Complete removal and decontamination activities during the active life and post-closure care period of the CCR unit.***

Under § 257.102(c)(2) the FAI can be closed by completing all removal and decontamination activities, except for groundwater corrective action, during the active life of the CCR unit and by completing groundwater corrective measures during the post-closure care period pursuant to the following procedures:

i. *Within the timeframes specified in § 257.102(f), document that CCR has been removed from the unit and any areas affected by releases from the CCR unit have been removed or decontaminated;* (complete)

ii. *Within the timeframes specified in § 257.102(f), begin implementation of the remedy selected in accordance with § 257.97 such that all components of the remedy are constructed, or otherwise in place, and operating as intended;* (in progress)

iii. *Complete groundwater corrective action as a post-closure care requirement as specified in § 257.104(g);* (in progress)

iv. *Amend the written closure plan required by § 257.102(b) and the written post-closure care plan required by § 257.104(d);* (this Closure Plan – Amendment No. 1 and the Post-Closure Plan prepared under separate cover)

v. *Within the timeframes specified in § 257.102(f), obtain the completion of closure certification or approval as required in §257.102(f)(3).* (in progress)

vi. *Within the timeframes specified § 257.102(f), record the notation on the deed to the property required by § 257.102(i).* (in progress)

This Closure Plan – Amendment No. 1 fulfills the requirement of § 257.102(c)(2)(iv) to amend the written closure plan to align with the requirements of § 257.102(c)(2) and follows the requirements outlined in § 257.102(b) – *Written closure plan* as identified in Section 2.0 below.

2.0 REGULATORY REQUIREMENTS FOR CCR CLOSURE PLAN

This CCR Closure Plan – Amendment No. 1 has been prepared for the Sibley Generating Station Fly Ash Impoundment (FAI) in accordance with 40 CFR § 257.102(b). The CCR Rule requires the preparation of a Closure Plan for all existing CCR landfills and surface impoundments in operation as of October 19, 2015, the effective date of the rule. The owner or operator of a CCR unit must prepare a written closure plan that includes, at a minimum, the information specified in § 257.102(b)(1)(i) through (vi). The closure plan requirements are listed below with the section of this Plan responsive to each.

40 CFR § 257.102 (b) Written Closure Plan -

(1) Content of the Plan

(i) *A narrative description of how the CCR unit will be closed in accordance with § 257.102.* (See Section 3.1)

(ii) *If closure of the CCR unit will be accomplished through removal of CCR from the CCR unit, a description of the procedures to remove the CCR and decontaminate the CCR unit in accordance with § 257.102(c).* (See Section 3.1)

(iii) *If closure of the CCR unit will be accomplished by leaving CCR in place, a description of the final cover system, designed in accordance with § 257.102(d), and the methods and procedures to be used to install the final cover. The closure plan must also discuss how the final cover system will achieve the performance standards specified in § 257.102(d).* (Not Applicable)

(iv) *An estimate of the maximum inventory of CCR ever on-site over the active life of the CCR unit.* (See Section 3.2)

(v) *An estimate of the largest area of the CCR unit ever requiring a final cover as required by § 257.102(d).* (Not Applicable)

(vi) *A schedule for completing all activities necessary to satisfy the closure criteria in § 257.102, including an estimate of the year in which all closure activities for the CCR unit will be completed. The schedule should provide sufficient information to describe the sequential steps that will be taken to close the CCR unit, including major milestones and the estimated timeframes to complete each step or phase of CCR unit closure.* (See Section 3.3).

When preparing the written closure plan, if the owner or operator estimates that the time required to complete closure will exceed the timeframes specified in § 257.102(f)(1), the written closure plan must include the site-specific information, factors and considerations that would support any time extension sought under § 257.102(f)(2). (See Appendix A for the Extension of Closure Timeframes demonstration letter.)

(2) *Timeframes for Preparing the Initial Written Closure Plan*

(i) *Existing CCR landfills and existing CCR surface impoundments. No later than October 17, 2016, the owner or operator of the CCR unit must prepare an initial written closure plan consistent with the requirements specified in § 257.102(b)(1).* (See Section 1.0)

(3) *Amendment of a Written Closure Plan*

(i) *The owner or operator may amend the initial or any subsequent written closure plan developed pursuant to § 257.102 (b)(1) at any time.*

(ii) *The owner or operator must amend the written closure plan whenever:*

(A) There is a change in the operation of the CCR unit that would substantially affect the written closure plan in effect; (Not Applicable) or

(B) *Before or after closure activities have commenced, unanticipated events necessitate a revision of the written closure plan.* (See Section 1.0)

(4) ***Certification or Approval.*** *The owner or operator of the CCR unit must obtain a written certification from a qualified professional engineer or approval from the Participating State Director or approval from EPA where EPA is the permitting authority that the initial and any amendment of the written closure plan meets the requirements of § 257.102(b)(1).* (See Section 5.0)

3.0 CCR CLOSURE PLAN – AMENDMENT NO. 1

This CCR Closure Plan – Amendment No. 1 has been prepared in accordance with the requirements of the CCR Rule and includes a written certification in Section 5.0 from a qualified Professional Engineer in the State of Missouri. Closure Plan components required under the CCR Rule described in this section fall into the general categories of Closure Description, Volume Estimates, and Closure Schedule. This Amendment No. 1 updates these categories and incorporates the completed closure activities and the 2024 CCR Rule revisions known as the Legacy Rule.

3.1 Closure Description and Closure Procedures [§ 257.102(b)(1)(i) and (ii)]

The Sibley Fly Ash Impoundment was constructed as an embanked impoundment. The embankment was constructed using two types of earthen materials: clay and native soils from within the footprint of the impoundment. Evergy is in the process of completing closure by removal in accordance with § 257.102 (c)(2) ***– Complete removal and decontamination activities during the active life and post-closure care period***. Closure will be accomplished through the removal of CCR. The CCR material contained in the unit will be dewatered as necessary, removed, and either beneficially used or disposed of in the on-site CCR landfill. CCR will be removed primarily by mechanical excavation using earth-moving equipment. CCR will be allowed to dewater by gravity drainage and evaporation. The impoundment will be decontaminated by removal of the CCR and will be considered complete when CCR materials throughout the CCR unit have been removed.

Evergy retained Kissick Construction to remove ponded CCR waste from the FAI through the method of excavation. Evergy retained Burns and McDonnell (BMcD) to certify that, upon completion of construction, the CCR in the FAI was removed in accordance with the October 14, 2016, *CCR Closure Plan.* Removal of the CCR material from the FAI was certified complete by BMcD on January 14, 2022. Removal of the CCR was completed within five years of initiation of closure.

While the physical closure, removal, and decontamination have been completed and the groundwater monitoring requirements have been performed, additional time is needed to complete groundwater corrective measures. Corrective measures will be complete when groundwater monitoring concentrations are below the applicable GWPSs for three consecutive years as specified in § 257.98(c)(2).

Selection and implementation of groundwater corrective measures to meet the GWPSs is ongoing. The implementation and operation of the selected corrective measures alternative(s) will begin within the timeframes specified in § 257.102(f). Operation of the selected corrective measure will continue into the post-closure period until such time the groundwater monitoring concentrations are below the applicable GWPSs for three consecutive years as specified in § 257.98(c)(2) and a notification verifying completion of the post-closure care period has been prepared in accordance with § 257.104(e). The notification must include the certification by a qualified professional engineer or the approval from the Participating State Director or the approval from EPA where EPA is the permitting authority verifying that post-closure care has been completed in accordance with the closure plan specified in § 257.104(d) – *written post-closure plan* and the other requirements of § 257.104. The owner or operator has completed the notification when it has been placed in the facility's operating record as required by § 257.105(i)(13).

3.2 Volume Estimates [§ 257.102(b)(1)(iv)]

The estimated maximum inventory of CCR and impounded water ever planned on-site over the active life of the CCR unit was approximately 380,000 cubic yards. Through the course of the CCR removal project, a total of approximately 308,700 cubic yards of CCR were removed and disposed of in an on-site CCR landfill. This included 298,700 cubic yards from the FAI and an additional approximate 10,000 cubic yards removed from two perimeter road locations. Following CCR removal, the area received topsoil and seeding.

3.3 Closure Schedule [§ 257.102(b)(1)(vi)]

The size of area and time of year closure construction takes place will vary; therefore, closure construction schedules will vary. The schedule provided in this section is therefore a general estimation.

3.3.1 Commencement of Closure

Commencement of closure has occurred if placement of waste in the surface impoundment has ceased and any of the following actions or activities has been completed [§ 257.102(e)(3)]:

(i) *Taken any steps necessary to implement the written closure plan required by § 257.102(b);*

(ii) *Submittal of a completed application for any required state or agency permit or permit modification; or*

(iii) *Taken any steps necessary to comply with any state or other agency standards that are a prerequisite, or are otherwise applicable, to initiating or completing the closure of a CCR unit.*

3.3.2 Closure Schedule

The milestones and the associated timeframes in this section include dates of completed activities/documents and estimates for future activities/documents. Some of the timeframes may overlap.

Completed and Estimated Closure Schedule	
Written Closure Plan § 257.102(b)	October 14, 2016
Notification of Intent to Close Placed in Operating Record § 257.102(g)	January 28, 2020
Initiation of Closure / Coordinating with and obtaining necessary approvals and permits from other agencies § 257.102(e)	2020 (Year 1)
Mobilization	2020 (Year 1)
Dewater and Remove CCR	2020 -2021 (Years 1 & 2)
Groundwater Sampling for Closure Confirmation § 257.102(c)(1)(ii)	November 15, 2021 (Year 2)
Certification of CCR Removal § 257.102(c)(2)(i)	January 14, 2022 (Year 2)
Initiation of Assessment of Corrective Measures (ACM) Notification § 257.95(g)(3)(i) and 257.96	April 18, 2022 (Year 3)
Completion of ACM § 257.95(g)(3)(i) and 257.96	September 15, 2022 (Year 3)
Demonstration of Need for Two Year Extension for Completion of Closure § 257.102(f)(2)(i)	November 6, 2024 (Year 5)
Evaluating ACM Alternatives for Selection of Remedy § 257.97(a)	2023 – 2025 (Years 4 through 6)
Selection of Remedy § 257.97(b)	2025 (Year 6)
Implementation of Remedy and Certification of Closure by Removal § 257.102(c)(2)(ii) and 257.102(c)(3)	2026 (Year 7)
Notification of Completion of Closure § 257.102(h)	2026 (Year 7)
Notification on the deed to the property § 257.102(i)(1) through (3)	2026 (Year 7)
Initiation of Post-Closure Care § 257.102(c)(2)(ii) and 257.104(a)(1)	2026 (Year 7)
Completion of Groundwater Corrective Action as Part of Post-Closure Care § 257.102(c)(2)(iii)	2026 – TBD (Year 7 through TBD)

TBD – To Be Determined

4.0 AMENDMENT OF WRITTEN CLOSURE PLAN [§ 257.102(b)(3)]

The owner or operator may amend the initial or any subsequent written closure plan developed pursuant to § 257.102(b)(1) at any time. The written closure plan must be amended at least 60 days prior to a planned change in the operation of the facility or CCR unit, or no later than 60 days after an unanticipated event requires the need to revise an existing written closure plan. If a written closure plan is revised after closure activities have commenced for a CCR unit, the current written closure plan must be amended no later than 30 days following the triggering event.

A written certification from a qualified professional engineer that the initial and any amendment of the written closure plan meets the requirements of § 257.102(b) must be obtained. CCR closure plan changes will be documented using the Revision/Amendment History which prefaces this document

5.0 CERTIFICATION OR APPROVAL [§ 257.102(b)(4)]

The owner or operator of the CCR unit must obtain a written certification from a qualified professional engineer or approval from the Participating State Director or approval from EPA where EPA is the permitting authority that the initial and any amendment of the written closure plan meets the requirements of § 257.102.

I, Daniel Aaron Wiens, being a qualified licensed Professional Engineer in the State of Missouri, do hereby certify that this CCR Closure Plan - Amendment No. 1 for the Fly Ash Impoundment at the Sibley Generating Station was prepared by me or under my direct supervision and fulfills the requirements of 40 CFR § 257.102(b)(4).

Daniel Aaron Wiens, P.E.
SCS Engineers

Public

6.0 GENERAL COMMENTS

SCS Engineers does not warrant the work of regulatory agencies or other parties supplying information used in the assimilation of this work product. This work product is prepared in accordance with generally accepted environmental engineering and hydrogeological practices, within the constraints of the client's directives. It is intended for the exclusive use of the client for specific application to this project. No guarantees, express or implied, are intended or made.

APPENDIX A

Extension of Closure Timeframes Demonstration Letter

November 6, 2024

Evergy Missouri West, Inc.
818 South Kansas Avenue
Topeka, Kansas 66612

Attention: Jared Morrison –Director, Water and Waste Programs

RE: Extension of Closure Timeframes
Fly Ash Impoundment
Sibley Generating Station

Dear Mr. Morrison:

On behalf of Evergy Missouri West, Inc. (Evergy), in accordance with Title 40 Code of Federal Regulations (40 CFR) §257.102(f)(2)(i) of the U.S. Environmental Protection Agency Federal Coal Combustion Residuals (CCR) Rule (40 CFR §§257 and 261), effective October 19, 2015 and subsequent revisions, SCS Engineers has prepared this demonstration of the need for a two-year extension for the completion of closure of the Sibley Generating Station Fly Ash Impoundment (FAI) due to factors beyond the facility's control. The CCR Rule allows for this extension based on factors that may include:

A. Complications stemming from the climate and weather, such as unusual amounts of precipitation or a significantly shortened construction season;
B. Time required to dewater a surface impoundment due to the volume of CCR contained in the CCR unit or the characteristics of the CCR in the unit;
C. The geology and terrain surrounding the CCR unit will affect the amount of material needed to close the CCR unit; or
D. Time required or delays caused by the need to coordinate with and obtain necessary approvals and permits from a state or other agency.

Pursuant to 40 CFR. §257.102(f)(2)(i), Evergy is providing this demonstration to extend the time necessary to close the FAI at the Sibley Generating Station in Sibley, Missouri. Closure was initiated with the "*Notification of Intent to Close*" prepared by Evergy on January 28, 2020. Removal of the CCR material from the FAI was certified complete on January 14, 2022. However, in accordance with 40 CFR §257.102(c), the FAI cannot be certified closed if groundwater monitoring concentrations exceed the groundwater protection standards (GWPSs) established pursuant to 40 CFR §257.95(h) for constituents listed in Appendix IV of the CCR Rule.

Progress Toward Closure

Groundwater samples for closure confirmation were collected from the FAI groundwater monitoring network on November 15, 2021, and analyzed for the Appendix IV constituents in accordance with 40 CFR §257.102(c). Groundwater protection standards (GWPS) were determined for each Appendix IV constituent detected in the FAI's monitoring wells pursuant to 40 §CFR 257.95(h). Statistical evaluation of the results identified one Appendix IV constituent (molybdenum) in groundwater monitoring well MW-806R at a statistically significant level (SSL) above its GWPS. This exceedance of the GWPS at MW-806R prevented certification of closure by removal and resulted in the initiation of an Assessment of Corrective Measures (ACM).

The ACM was completed on September 15, 2022, and subsequent Semi-Annual Remedy Selection Progress Reports have been completed in accordance with 40 CFR §257.97(a). The FAI is presently working through the Corrective Measures process required by the CCR Rule.

Because closure is not considered complete under 40 CFR §257.102(c) due to current groundwater monitoring concentrations exceeding the established unit-specific GWPSs, it is not feasible to complete and certify closure of the FAI within the required timeframe due to factors beyond the facility's control. This demonstration documents the need to extend the timeframe for closure of the FAI by two years as allowed under 40 CFR §257.102(f)(2). Evergy is making this demonstration for additional time needed to implement groundwater corrective measures to meet groundwater protection standards.

Ongoing Closure Efforts

Physical removal of the CCR material from the FAI was certified complete on January 14, 2022, within the five-year closure timeframe specified in 40 CFR §257.(f)(1)(ii). While the physical closure, removal, and decontamination have been completed and the groundwater monitoring requirements have been performed, additional time is needed to complete groundwater corrective measures. Corrective measures will be complete when groundwater monitoring concentrations are below the applicable GWPSs for three consecutive years.

Selection and implementation of groundwater corrective measures to meet the GWPSs is ongoing. The implementation and operation of the selected corrective measure will begin within the two-year closer extension. Operation of the selected corrective measure will continue into the post-closure period until such time the groundwater monitoring concentrations are below the applicable GWPSs for three consecutive years and final closure certification can be achieved.

Under the latest CCR Rule amendments (effective November 8, 2024) 40 CFR §257.102(c)(2), the FAI can be closed by completing all removal and decontamination activities, except for groundwater corrective action, during the active life of the CCR unit and by completing groundwater corrective measures during the post-closure care period pursuant to the following procedures:

1. Within the timeframes specified in 40 CFR §257.102(f), document that CCR has been removed from the unit and any areas affected by releases from the CCR unit have been removed or decontaminated, except for groundwater corrective measures;
2. Within the timeframes specified in 40 CFR §257.102(f), begin implementation of the remedy selected such that all components of the remedy are constructed, or otherwise in place, and operating as intended;
3. Complete groundwater corrective measures as a post-closure care requirement;
4. Amend the written closure plan and the written post-closure care plan to reflect this approach to close the CCR unit;
5. Within the timeframes specified in 40 CFR §257.102(f), obtain the completion of closure certification or approval as required in 40CFR §257.102(f)(3); and
6. Within the timeframes specified 40 CFR §257.102(f), record the notation on the deed to the property that the land has been used as a CCR unit.

Conclusion

Evergy has demonstrated the need for a two-year extension for the completion of closure for the Sibley Generating Station Fly Ash Impoundment due to factors beyond the facility's control, groundwater monitoring, and corrective measures requirements for Appendix IV concentrations above the GWPS. The certification statement required under 40 CFR §257.102(f)(2)(iii) has been provided at the end of this letter and is signed by an authorized representative of Evergy as the Owner/Operator.

Sincerely,

John R. Rockhold, P.G.
SCS Engineers

Douglas L. Doerr, P.E.
SCS Engineers

Owner or Operator Certification

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this demonstration and all attached documents, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

By: Jared Morrison
(authorized signature)

By: Jared Morrison
(print or type name)

Company: Evergy

Title: Director, Waste and Water Programs

Date: 11/6/2024