

REPORT
2019012439

**SIOUX ENERGY CENTER
GYPSUM STACK CCR SURFACE IMPOUNDMENT SCPC
REQUEST FOR ALTERNATIVE CLOSURE REQUIREMENT
SEMI-ANNUAL PROGRESS REPORT**

Prepared for



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November 24, 2021

**Ameren Missouri
Sioux Energy Center
Gypsum Stack CCR Surface Impoundment SCPC
Request for Alternative Closure Requirement
Semi-Annual Progress Report**

1. INTRODUCTION

On August 28, 2020, the U.S. Environmental Protection Agency (EPA) issued revisions to the CCR Rule that require all unlined surface impoundments to cease receipt of CCR and non-CCR waste and initiate closure by April 11, 2021, unless an alternative deadline is requested and approved. 40 C.F.R. § 257.101(a)(1). Specifically, the CCR Rule authorizes the continued use of a CCR Surface Impoundment provided the owner or operator demonstrates that the wastestream(s) must continue to be managed in that surface impoundment because it is technically infeasible to complete the measures necessary to provide alternative disposal capacity on or off-site of the facility by April 11, 2021. 40 C.F.R. § 257.103(f)(1).

On November 27, 2020, Ameren Missouri (Ameren) submitted a request to the EPA, pursuant to 40 C.F.R. § 257.103(f)(1), for approval of a site-specific alternative deadline for closure of CCR Surface Impoundment SCPC (Cell 1) at Ameren's Sioux Energy Center (Sioux or SEC), in St. Charles County, Missouri. To date, the EPA has not approved this request.

40 C.F.R. § 257.103(f)(1)(x) requires that the owner or operator of a CCR Surface Impoundment prepare semi-annual progress reports containing the following:

- (A) Discussion of progress made to date in obtaining alternative capacity including:
 - (1) Discussion of the current stage of obtaining the capacity in reference to the timeline required under 40 C.F.R. § 257.103(f)(1)(iv)(A);
 - (2) Discussion of whether the owner or operator is on schedule for obtaining alternative capacity;
 - (3) If owner or operator is not on or ahead of schedule for obtaining alternative capacity, the following must be included:
 - (i) Discussion of any problems encountered, and a description of the actions taken or planned to resolve problems and get back on schedule; and
 - (ii) Discussion of the goals for the next six months and major milestones to be achieved for obtaining alternative capacity; and
- (B) Discussion of any planned operational changes at the facility

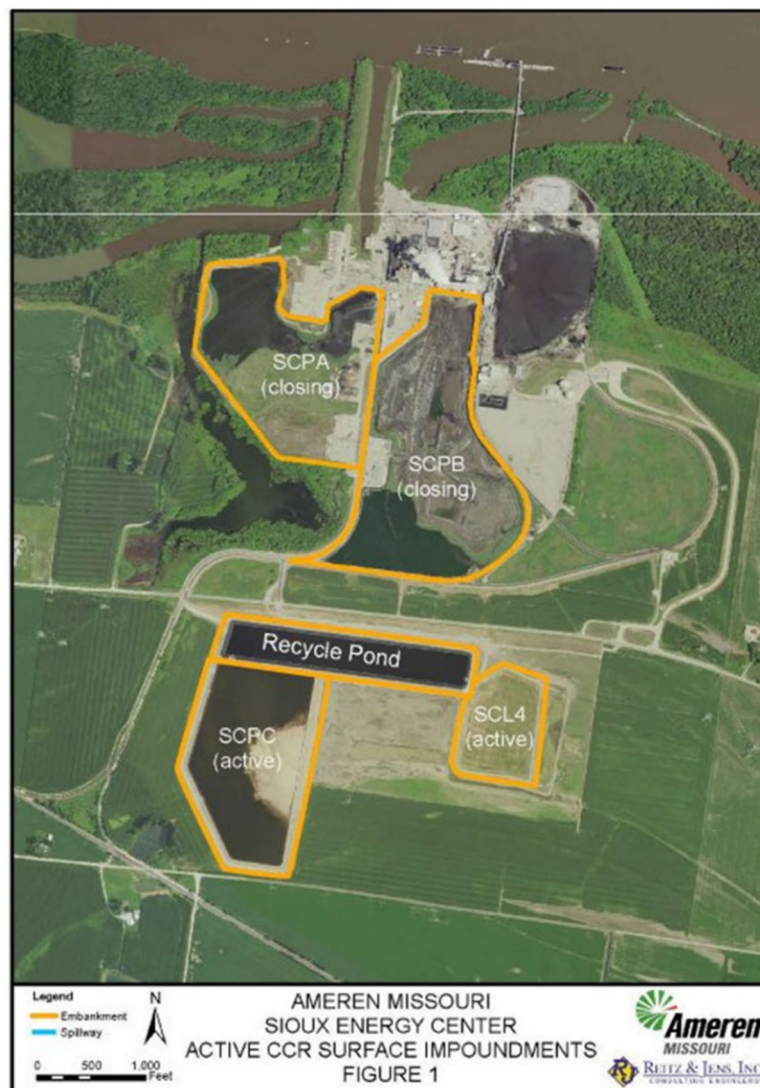
40 C.F.R. § 257.103(f)(1)(xi)(B) requires the first semi-annual progress report to be prepared by April 30 or October 31, whichever date is soonest after receiving approval from the EPA. While Ameren has not received EPA's approval pursuant to 40 C.F.R. § 257.101(a)(1), they have nonetheless prepared the following Semi-Annual Progress Report to document the continued lack of alternative capacity and the progress towards the closure of SCPC to meet the intent of 40 C.F.R. § 257.103(f)(1)(x). Furthermore, Ameren will place a copy of this Semi-Annual Progress Report in the facility's operating record in accordance with 40 C.F.R. § 257.105(i)(17).

2. SEMI ANNUAL PROGRESS REPORT

On November 27, 2020, Ameren requested, pursuant to 40 C.F.R. § 257.103(f)(1), that SCPC at the SEC be allowed to continue to receive CCR waste streams after April 11, 2021, provided this surface impoundment ceases receiving waste and initiates closure by October 15, 2023.

SCPC is a lined surface impoundment that was developed to manage gypsum from the SEC's flue gas desulfurization system (FGD) in a closed system. The SCPC footprint is over 40 acres as measured from the base of the berms and has a lined internal area of 37.5 acres. Gypsum is sluiced via closed pipe from the FGD system at the plant to SCPC where the wet material is decanted. The sluice water is routed back to the plant via a Recycle Pond for reuse. SCPC was permitted by the Missouri Department of Natural Resources (MDNR) pursuant to its Utility Waste Landfill (UWL) regulations and is surrounded by a groundwater monitoring well network that has been sampled twice per year since 2008. SCPC was built with a composite bottom liner consisting of 60-mil HDPE over 2 feet of clay with a maximum permeability of 1×10^{-7} cm/sec. SCPC meets all requirements of the Coal Combustion Residual (CCR) Rule, 40 C.F.R. Part 257 Subpart D¹, except for the location restriction in 40 CFR §257.60(a) (Placement Above the Uppermost Aquifer). The general layout of the SEC in relation to its active and closing CCR Surface Impoundments is shown in Figure 1.

FIGURE 1 – ACTIVE CCR SURFACE IMPOUNDMENTS



¹ As part of the permitting process in 2011, MDNR approved an engineering demonstration (Attachment 9) that verified the integrity of the liner system notwithstanding the occasional intermittent contact with groundwater that can occur in this location.

2.1 Discussion of the current stage of obtaining capacity in reference to the timeline under (f)(1)(iv)(A) - 40 C.F.R. § 257.103(f)(1)(x)(A)(1)

Ameren’s Request for Alternative Closure Requirement for SCPC demonstrated that there was no alternative capacity available on or off-site for CCR Surface Impoundment SCPC in November 2020, and discussed the need for replacing SCPC with a new CCR Surface Impoundment at the SEC. Their November 2020 request provided a detailed schedule for the project, including a narrative description of the schedule and an update on the progress already made toward obtaining the alternative capacity. In addition, the narrative included an analysis of the site-specific conditions that led to the decision to build a new CCR Surface Impoundment (Cell 2) and an analysis of the adverse impact to plant operations if an extension was not granted. The results of the previous narrative have not changed.

The schedule included in Ameren’s November 2020 Request for Alternative Closure required by 40 CFR § 257.103(f)(1)(iv)(A) is reproduced in Table 1.

TABLE 1 – SCPC REPLACEMENT PROJECT MILESTONE (November 27, 2020)

Project Step	Estimated Duration	Cumulative Duration	Start (estimated)	Finish (estimated)
New CCR Unit Alternatives Analysis and Preliminary Design	12 months	12 months	October 2018	September 2019
Utility Waste Landfill Permitting (State of Missouri and St. Charles County)	10 months	22 months	October 2019	July 2020
Develop Plans & Specifications	3 months	3 months	October 2020	(December 2020)
Bidding & Contract Award	4 months	7 months	(January 2020)	(April 2021)
New CCR Surface Impoundment Construction	12 months	19 months	(May 2021)	(April 2022)
New CCR Surface Impoundment Operating Permit (State of Missouri and St. Charles County)	3 months	22 months	(May 2022)	(July 2022)
SCPC Closure Plans & Specifications	2 months	24 months	(August 2022)	(September 2022)
SCPC Closure Bidding & Contract Award	4 months	28 months	(October 2022)	(January 2023)
SCPC Closure Construction	9 months	37 months	(February 2023)	(October 2023)

2.2 Discussion of whether the owner operator is on schedule for obtaining alternative capacity - 40 C.F.R. § 257.103(f)(1)(x)(A)(2)

Ameren and its consultants have been working on various design alternatives and concepts for the new disposal cell. This work included additional analysis and redesign of the SCPC replacement surface impoundment to add flexibility in managing the additional CCRs that will be produced by the plant. This work has delayed several of the intermediate milestones shown in the November 27, 2020,

Demonstration, but will not impact the October 15, 2023, date for ceasing disposal of CCR waste streams and beginning closure of CCR Surface Impoundment SCPC.

2.3 Discussion of problems encountered, action plans to resolve problems and get back on schedule, and goals and milestones for the next 6 months - 40 C.F.R. § 257.103(f)(1)(x)(A)(3)

Recent alternatives analyses and design concept work has allowed Ameren to better define the scope, durations, and schedule for design, permitting, and construction of Cell 2. The updated durations and schedule for completing Cell 2 and initiating closure of SCPC are shown in Table 2. This updated schedule will still allow Ameren to cease disposal of CCR waste streams and begin closure of SCPC by October 15, 2023.

TABLE 2 – SCPC REPLACEMENT PROJECT MILESTONE (Updated November 24, 2021)

Project Step	Estimated Duration	Cumulative Duration	Start (estimated)	Finish (estimated)
New CCR Unit Alternatives Analysis and Preliminary Design	n/a	n/a	Complete	Complete
Develop Plans & Specifications	3 months	3 months	September 2021	(December 2021)
Utility Waste Landfill Permitting (State of Missouri and St. Charles County)	4 months	7 months	(December 2021)	(March 2022)
Bidding & Contract Award	5 months	8 months	(December 2021)	(April 2022)
New CCR Surface Impoundment (Cell 2) Construction	13 months	21 months	(May 2022)	(June 2023)
New CCR Surface Impoundment (Cell 2) Operating Permit (State of Missouri and St. Charles County)	3 months	24 months	(June 2023)	(September 2023)
SCPC Closure Plans & Specifications	2 months	24 months	(August 2023)	(September 2023)
SCPC Closure Bidding & Contract Award	4 months	28 months	(October 2023)	(January 2024)
SCPC Closure Construction	9 months	37 months	(February 2024)	(October 2024)

To maintain this schedule, the following milestones are planned within the next 6 months:

- 1) Plans & Specifications for replacement Cell 2 issued for bid in December 2021.
- 2) Bids received, and a construction contract for Cell 2 awarded in April 2022.
- 3) Construction permits for Cell 2 are planned to be received from the State of Missouri and St. Charles County in March 2022.
- 4) Construction of Cell 2 is planned to begin May 2022.

Ameren is on schedule to achieve these milestones within the next 6 months.

**2.4 Discussion of any planned operational changes at the facility - 40 C.F.R. §
257.103(f)(1)(x)(A)(1)**

No operational changes are planned at the SEC that would delay Ameren from ceasing disposal of CCR waste streams and beginning closure of SCPC by October 15, 2023.

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