



HALEY & ALDRICH, INC.
6500 Rockside Road
Suite 200
Cleveland, OH 44131
216.739.0555

MEMORANDUM

17 April 2018
File No. 128064-006

SUBJECT: Post-Closure Plan – Cell 002 West
Associated Electric Cooperative, Inc.
Thomas Hill Energy Center
Clifton Hill, MO

Haley & Aldrich, Inc. has developed this initial Post-Closure Plan (Plan) on behalf of Associated Electric Cooperative, Inc. (AECI) for the inactive coal combustion residuals (CCR) surface impoundment referred to as Cell 002 West at the Thomas Hill Energy Center (THEC), located in Clifton Hill, MO. Based on the USEPA's issued CCR Rule Partial Vacatur in 2016, the inactive Cell 002 West is subject to applicable requirements of the CCR Rule. The inactive status of the impoundment is understood to no longer make the unit exempt from several portions of the CCR Rule. This Plan addresses the requirements of §257.104 *Post-closure care requirements*, specifically section §257.104(d) for written post-closure plans, of the US Environmental Protection Agency's (EPA's) Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities, 40 CFR Part 257 (CCR Rule) effective 19 October 2015. The information required for the Plan for the impoundment is presented in the following sections in accordance with §257.104(d) of the CCR Rule.

At the time of preparation of this document, AECI intends to close the unit through closure by removal of CCRs. This Post-Closure Plan has been prepared in case the impoundment will be closed in-place since the unit is not yet closed. This Post-Closure Plan will not be applicable or necessary per the CCR Rule if the unit is closed through removal of CCRs.

§257.104(d)(1)(i): *A description of the monitoring and maintenance activities required in paragraph (b) of this section for the CCR unit, and the frequency at which these activities will be performed.*

§257.104(b): *Post-closure care maintenance requirements. Following closure of the CCR unit, the owner or operator must conduct post-closure care for the CCR unit, which must consist of at least the following:*

§257.104(b)(1): *Maintaining the integrity and effectiveness of the final cover system, including making repairs to the final cover as necessary to correct the effects of settlement, subsidence, erosion, or other events, and preventing run-on and run-off from eroding or otherwise damaging the final cover;*

§257.104(b)(2): *If the CCR unit is subject to the design criteria under § 257.70, maintaining the integrity and effectiveness of the leachate collection and removal system and operating the leachate collection and removal system in accordance with the requirements of § 257.70; and*

§257.104(b)(3): *Maintaining the groundwater monitoring system and monitoring the groundwater in accordance with the requirements of §§ 257.90 through 257.98.*

In accordance with §257.104(c) of the CCR Rule, AECl will conduct post-closure care activities for 30 years following completion of closure activities of Cell 002 West, assuming the method of closure is a closure-in-place and not a closure by removal. This also assumes that the site is not under groundwater monitoring assessment monitoring per the CCR Rule. In the event that the unit is under assessment monitoring, post-closure care activities continue to be implemented beyond the 30-year timeframe until the groundwater monitoring program returns to detection monitoring in accordance with §257.95.

The final cover system including stormwater controls will be inspected on a yearly basis, at minimum, by appropriate personnel for settlement, seepage, erosion, scarps, sloughs, stormwater ponding on the final cover system, wind erosion, storm water erosion, animal burrows, and overall integrity of the final cover system. In addition, run-on and run-off controls will be inspected for signs of erosion and seepage. As determined necessary to maintain the structural integrity of the final cover system and storm water controls, the final cover system and its components will be repaired for any noted deficiencies.

No leachate collection system exists at the unit; therefore, there are no related post-closure requirements.

At the time of this initial Plan, it is understood that the groundwater monitoring system and overall program is being developed in accordance with §257.90 through §257.98 of the CCR Rule. During the post-closure care period, AECl will maintain the integrity of the monitoring wells, bollards, well surface completion, and sampling equipment in secure and proper working condition for the required sampling intervals. The monitoring wells and sampling equipment will be inspected at each sampling event. Any identified damage or deficiency in the integrity of the monitoring wells or components will be repaired to maintain the integrity of the system. The monitoring wells will then be re-surveyed if surface completions are modified. AECl will be developing the monitoring wells and certifying the system in documents under separate cover as required by the CCR Rule. Those documents will be reviewed for applicability and additional information during the post-closure care period.

§257.104(d)(1)(ii): *The name, address, telephone number, and email address of the person or office to contact about the facility during the post-closure care period.*

Name:	AECl, Corporate Communications
Address:	2814 South Golden Avenue Springfield, MO 65801-0754
Telephone Number:	(417) 881-1204
Email Address:	ccr@aeci.org

§257.104(d)(1)(iii): *A description of the planned uses of the property during the post-closure period. Post-closure use of the property shall not disturb the integrity of the final cover, liner(s), or any other component of the containment system, or the function of the monitoring systems unless necessary to comply with the requirements in this subpart. Any other disturbance is allowed if the owner or operator of the CCR unit demonstrates that disturbance of the final cover, liner, or other component of the containment system, including any removal of CCR, will not increase the potential threat to human health or the environment. The demonstration must be certified by a qualified professional engineer, and notification shall be provided to the State Director that the demonstration has been placed in the operating record and on the owners or operator's publicly accessible Internet site.*

After closure of Cell 002 West, AECl intends to maintain the property as part of the industrialized site with no public access. AECl has no planned uses for the property during the post-closure period at this time but may consider retrofitting the impoundment for non-CCR purposes. AECl will amend this Plan at the appropriate time if planned uses of the property change.

§257.104(d)(2): *Deadline to prepare the initial written post-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 post-closure plan consistent with the requirements specified in paragraph (d)(1) of this section.*
- ii. *New CCR landfills, new CCR surface impoundments, and any lateral expansion of a CCR unit. No later than the date of the initial receipt of CCR in the CCR unit, the owner or operator must prepare an initial written post-closure plan consistent with the requirements specified in paragraph (d)(1) of this section.*

Per EPA 40 CFR Part 257 – “Hazardous and Solid Waste Management System: Disposal of Coal Combustion Residuals From Electric Utilities; Extension of Compliance Deadlines for Certain Inactive Surface Impoundments; Response to Partial Vacatur” the 17 October 2016 deadline is not applicable. See excerpt below from the Partial Vacatur:

257.104(e)(6)(ii): *No later than April 17, 2018, prepare an initial written post-closure care plan as set forth in § 257.104(d).*

This Plan has been prepared within the specified timeframe.

§257.104(d)(3): *Amendment of a written post-closure plan.*

- i. *The owner or operator may amend the initial or any subsequent written post-closure plan developed pursuant to paragraph (d)(1) of this section 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 post-closure plan in effect; or*

- B. After post-closure activities have commenced, unanticipated events necessitate a revision of the written post-closure plan.*
- iii. *The owner or operator must amend the written post-closure plan 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 post-closure plan. If a written post-closure plan is revised after post-closure activities have commenced for a CCR unit, the owner or operator must amend the written post-closure plan no later than 30 days following the triggering event.*

This initial Plan or any subsequent update to the Plan will be assessed and amended whenever there is a change in operation of the CCR impoundment that would substantially affect the Post-Closure Care Plan or when unanticipated events necessitate a revision of the Plan either before or after closure activities have commenced in accordance with 257.104(d)(3).

Any amendments to the Plan will include written certification from a qualified professional engineer that the amendments to the Plan meet the requirements of the CCR Rule.

A record of amendments to the Plan will be tracked below. The latest version of the Post-Closure Plan will be noted on the front cover of the plan.

Version	Date	Description of Changes Made
1	XX April 2018	Initial Issuance

§257.104(d)(4): The owner or operator of the CCR unit must obtain a written certification from a qualified professional engineer that the initial and any amendment of the written post-closure plan meets the requirements of this section.

I certify that this initial Written Post-Closure Plan for AECI's inactive Cell 002 West at the Thomas Hill Energy Center meets the USEPA's CCR Rule requirements of §257.104(d)(1).

Signed: 

Certifying Engineer

Print Name: Steven F. Putrich
Missouri License No.: 2014035813
Title: Project Principal
Company: Haley & Aldrich, Inc.

Professional Engineer's Seal:

