

Plan

Post Closure Plan - Coal Combustion Residuals Surface Impoundments 1, 2, 3A, & 3B

Neal North Energy Center

IDNR Permit Number 97-SDP-22-16C

Project I.D.: 18M014

MidAmerican Energy Company

Revision 1

April 17, 2020



Post Closure Plan - Coal Combustion Residuals Surface Impoundments 1, 2, 3A, & 3B

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Project ID: 18M014.00

Prepared for
MidAmerican Energy Company

Neal North Energy Center
Sergeant Bluff, Iowa

Prepared by
Foth Infrastructure & Environment, LLC

Revision 1
April 17, 2020

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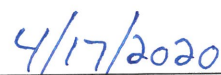
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Post Closure Plan - Coal Combustion Residuals Surface Impoundments 1, 2, 3A, & 3B

Certification

	I hereby certify that this engineering document was prepared by me or under by direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.	
		
	(Signature)	(Date)
	Iowa P.E. No. <u>23233</u>	
	My license renewal date is: <u>December 31, 2021</u>	
Pages or sheets covered by this seal: <u>Post Closure Plan – CCR Surface Impoundments 1, 2, 3A, & 3B (Revision 1), MidAmerican Energy Company</u> <u>Neal North Energy Center</u>		

List of Abbreviations, Acronyms, and Symbols

CCR	Coal Combustion Residuals
CFR	Code of Federal Regulations
Foth	Foth Infrastructure & Environment, LLC
IDNR	Iowa Department of Natural Resources
MEC	MidAmerican Energy Company
NNEC	Neal North Energy Center

1 Introduction

This Post Closure Plan was developed for MidAmerican Energy Company (MEC) Neal North Energy Center (NNEC) coal combustion residuals (CCR) Surface Impoundments 1, 2, 3A, & 3B in accordance with the CCR Rule (40 Code of Federal Regulations [CFR] Part 257).

The requirements included in 40 CFR 257.104(d)(i) to (iii) outline what a post closure plan is required to contain:

- ♦ A description of the monitoring and maintenance activities required in 40 CFR 257.104(b) for the CCR unit and the frequency the activities are performed, including the following:
 - Maintaining the integrity and effectiveness of the final cover system (if capped in place), 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.
 - Maintaining the groundwater monitoring system and monitoring the groundwater in accordance with the requirements of 40 CFR 257.90 through 40 CFR 257.98.
- ♦ The name, address, telephone number and email address of the person or office to contact about the facility during the post closure care period; and
- ♦ A description of the planned uses of the property during the post closure period. Post closure use of the property will not disturb the integrity of the final cover, liner(s), or any other component of the containment system, or the function of the monitoring system unless necessary to comply with 40 CFR 257.104 or if the owner or operator of the CCR unit demonstrates that the disturbance (including any removal of CCR) will not increase the potential threat to human health or the environment.

The seal on this document certifies that the revised post-closure plan meets the requirements of 40 CFR 257.104(d).

2 Details of Post Closure

NNEC is located on the east bank of the Missouri River and is approximately five miles south of Sergeant Bluff, Iowa. NNEC has four inactive CCR surface impoundments (Impoundments 1, 2, 3A, and 3B) located to the south of the NNEC plant site.

Impoundment 1 (north) was previously closed by removal of CCR (Iowa Department of Natural Resources [IDNR] - Doc #86660). Impoundments 1 (south), 2, and 3A are being closed by removal of CCR, pursuant to 40 CFR 257.102(c) after having previously been closed with a final cover system over CCR in accordance with 40 CFR 257.102(d). The modification to the previous closure of Impoundments 1 (south), 2, and 3A is being performed in combination with closure of Impoundment 3B. CCR material from Impoundments 1 (south), 2, 3A and 3B will be consolidated in the Impoundment 3B footprint. The consolidated CCR in the footprint of Impoundment 3B will be capped with an alternative cover system in accordance with the CCR Rule (40 CFR 257.102(d)(3)(ii)).

In accordance with the CCR Rule (40 CFR 257.102(b)(1)), details of closure are provided in the Closure Plan - Coal Combustion Residuals Surface Impoundments 1, 2, 3A and 3B. The Closure Plan is available on MEC's CCR website.

2.1 Post Closure Compliance

Post closure maintenance will be as described in 40 CFR 257.104(b) of the CCR Rule. The requirements consist of the following:

- ♦ 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.
- ♦ Maintaining the groundwater monitoring system and monitoring the groundwater in accordance with the requirements of 40 CFR 257.90 through 40 CFR 257.98.

2.1.1 Site Inspections

Site inspections will be performed, at a minimum, on an annual basis, by a professional engineer in the State of Iowa, during the post closure care period to fulfill the requirements of the CCR Rule (40 CFR 257.104 (b)(1) and 40 CFR 257.104 (b)(3)).

Final cover system inspection and maintenance at Impoundment 3B will be conducted for a minimum period of 30 years from completion of the closure of Impoundments 3B. Impoundment 1, 2, and 3A are closed through removal of CCR material, thus final cover system inspections will not be required. Maintenance of the final cover will include making repairs to the final cover system 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.

In addition to the annual inspection, groundwater monitoring wells will be inspected during routine post closure groundwater monitoring activities, to confirm that they are structurally intact and appear to be in good working condition.

2.1.2 Groundwater Monitoring

Groundwater monitoring for Impoundment 3B will be conducted semi-annually in accordance with the CCR Rule (40 CFR 257.90 through 40 CFR 257.98), for the entire post closure care period. Sampling for compliance with the CCR Rule will be performed according to a Sampling and Analysis Plan (SAP) for groundwater monitoring. If Impoundment 3B is in an Assessment Monitoring Program (40 CFR 257.95) at the end of the 30-year post closure care period, in accordance with the CCR Rule (40 CFR 257.104(c)(2)), groundwater must continue to be monitored until Impoundment 3B is able to return to the Detection Monitoring Program (40 CFR 257.94).

Groundwater monitoring for Impoundments 1, 2, and 3A is being performed in accordance with the CCR Rule (40 CFR 257.90 through 40 CFR 257.98). Groundwater monitoring will continue until concentrations are equal to or less than the groundwater protection standards.

2.2 Post Closure Facility Contact

40 CFR §257.104(d)(ii) requires the name, address, telephone number and email address of the person or office to contact during the post closure care period. Table 2-1 shows the currently designated contact person for post closure care at Impoundments 1, 2, 3A and 3B:

**Table 2-1
Post Closure Contact Person**

Name	Josh Love
Affiliation	MidAmerican Energy Company
Address	Josh Love c/o MidAmerican Energy Company PO Box 778 Sioux City, IA 51102
Phone Number	712-277-6367
Email	jdlove@midamerican.com

2.3 Property Use during Post Closure Care Period

The property is located within a secured power plant facility, and will only be accessed during inspection and groundwater monitoring activities. The final cover system over Impoundment 3B will be maintained as grassland during the post closure care period. Impoundments 1, 2, and 3A, will be closed via removal of CCR material and therefore are not subject to post closure care requirements.

2.4 Completion of Post Closure Care

No later than 60 days following the completion of the post closure care period, MEC will prepare a notification verifying that post closure care has been completed and will place the notification

in the facility's CCR Operating Record. The notification must include certification by a qualified professional engineer in the State of Iowa, that post closure care has been completed in accordance with this Post Closure Plan, as well as in accordance with the requirements of 40 CFR 257.104.

3 Plan Revisions and Amendments

This revised Post Closure Plan for MEC NNEC CCR Surface Impoundments 1, 2, 3A & 3B will be placed in the CCR Operating Record by prior to construction start.

This Post Closure Plan must be amended whenever there is a change in the operation of the CCR unit that would substantially change this written plan. The post closure plan must be amended 60 days prior to a planned change in operation, or within 60 days following an unplanned change in operation. If a written post closure plan is revised after post closure activities have commenced, it must be amended no later than 30 days following the triggering event. The initial post closure plan and any amendments must be certified by a qualified professional engineer in the State of Iowa for meeting the requirements of the CCR Rule (40 CFR 257.104). All amendments and revisions must be placed on the CCR public website within a reasonable amount of time following placement in the facility's CCR Operating Record. A record of revisions made to this document is included in Section 4.0 of this document.

4 Record of Revisions and Updates

Revision Number	Date	Revision Made	By Whom
0	10/17/2016	Initial Closure Plan for CCR Surface Impoundment 3B	Burns & McDonnell
0	04/11/2018	Initial Closure Plan for CCR Surface Impoundments 1, 2, and 3A	Burns & McDonnell
1	04/17/2020	Consolidation of Post Closure Plans into one document to reflect significant closure design changes	Foth Infrastructure & Environment, LLC

5 References

United States Environmental Protection Agency, 2015. *Hazardous and Solid Waste Management System: Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule* (40 CFR Parts 257 and 261; Federal Register Vol. 80 No. 74). 17 April 2015.

Foth Infrastructure & Environment, LLC, 2020. *Closure Plan – Coal Combustion Residuals Surface Impoundments 1, 2, 3A and 3B*. 17 April 2020.