

HDR



Inactive Impoundment 2023 Annual Inspection Report Neal North Energy Center



MidAmerican Energy Company
Neal North Energy Center

Near Salix, Iowa
January 5, 2024

MidAmerican Energy Company Neal North Energy Center Inactive Impoundment 2023 Annual Inspection Report

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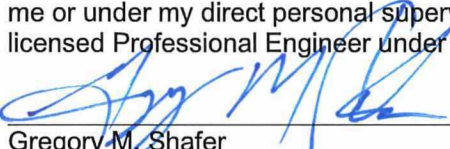
Appendices

Appendix A: Facility Site Map

MidAmerican Energy Company Neal North Energy Center Inactive Impoundment 2023 Annual Inspection Report

Professional Engineer Certification

"I hereby certify that the Inactive Impoundment at the Neal North Energy Center, owned and operated by the MidAmerican Energy Company, has been inspected and this report prepared in accordance with the Coal Combustion Residual Rule 40 CFR 257.83(b). I am a duly licensed Professional Engineer under the laws of the State of Iowa."

	<p>I hereby certify that these engineering documents were prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.</p> <p></p> <p>Gregory M. Shafer Iowa License No. P26072 My license renewal date is December 31, 2025.</p> <p>Pages or sheets covered by this seal: <u>All.</u></p> <p><u>1/5/2024</u> Date</p>
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1 Introduction

On April 17, 2015, the U.S. Environmental Protection Agency (EPA) published the final rule for the regulation and management of coal combustion residuals (CCR) under Subtitle D of the Resource Conservation and Recovery Act [RCRA, 42 United States Code (U.S.C.) §6901 et seq.]. The CCR Rule defines a set of requirements for the disposal and handling of CCR within CCR units (defined as either landfills or surface impoundments). MidAmerican Energy Company (MEC) is subject to the CCR Rule and therefore must have a qualified Professional Engineer conduct an annual inspection on all CCR surface impoundments in accordance with 40 CFR Section 257.83. HDR conducted the 2023 annual inspection of the Neal North Energy Center (NNEC) Inactive Impoundment (previously identified as Impoundments 1, 2, 3A, and 3B) on September 21, 2023, on behalf of MEC. This report contains the results and observations of the inspection, as well as any recommended actions.

1.1 Purpose

The CCR Rule requires subsequent inspections of CCR units and reports to be completed and filed on an annual basis. The completion date of the initial inspection report (i.e., placed in the facility operating record) established the deadline to complete the subsequent inspections and reports. The requirements of the annual inspection for CCR surface impoundments include:

- A review of available information regarding the status and condition of the CCR unit, weekly inspections, structural stability assessments, and previous annual inspections - §257.83 (b)(1)(i)
- A visual inspection of the CCR unit and appurtenant structures to identify signs of distress or malfunction - §257.83 (b)(1)(ii)
- A visual inspection of any hydraulic structures underlying the base or passing through the dike of the CCR unit for structural integrity and continued safe and reliable operation - §257.83 (b)(1)(iii)
- An inspection report that includes the following:
 - Changes in geometry since the last inspection - §257.83 (b)(2)(i)
 - Location and type of existing instrumentation and maximum recorded readings - §257.83 (b)(2)(ii)
 - Approximate minimum, maximum and present depth and elevation of impounded water and CCR - §257.83 (b)(2)(iii)
 - Storage capacity of the impounding structure at time of inspection - §257.83 (b)(2)(iv)
 - Approximate volume of impounded water and CCR in unit at time of inspection - §257.83 (b)(2)(v)
 - Appearance of actual or potential structural weakness of the CCR unit - §257.83 (b)(2)(vi)

- Any other changes which may have affected the stability or operation of the CCR unit since the last inspection - §257.83 (b)(2)(vii)

MEC, as owner and operator of the (NNEC) Inactive Impoundment, must notify the Iowa Department of Natural Resources (IDNR) Director within 30 days of placing the CCR Surface Impoundment Annual Inspection Report in the operating record and date of posting to the CCR web site (40 CFR §257.106 and §257.107).

1.2 Background

NNEC is a coal-fired generating plant located approximately four miles south of Sergeant Bluff, Iowa, along the east shore of the Missouri River. NNEC includes an existing CCR landfill and the Inactive Impoundment.

During the summer of 2020, a project was started to consolidate the materials from 1, 2, and 3A into 3B. The consolidation project was combined with a final cover system installed over the CCR in the area of Impoundment 3B. That project was completed in late 2022 and has been posted with a Notification of Closure dated December 16, 2022 on the Neal North Energy Center website. This annual inspection report covers the single combined CCR unit formerly identified as Impoundments 1 2 3A 3B, now referred to as the Inactive Impoundment.

The Inactive Impoundment is located southeast of the NNEC, east of the coal pile and south of the railroad tracks. The Inactive North Impoundment encompasses approximately 35 acres. A facility site map is included in Appendix A.

2 Review of Available Information

Section 257.83(b)(1)(i) of the CCR Rule requires that available information regarding the status and condition of the CCR surface impoundment, such as the previous annual inspections, are to be reviewed. Several documents pertaining to the operation and structural integrity of the North Impoundments were reviewed before, during and after the site inspection, including:

- Annual inspection report for NNEC Impoundments 1 2 3A 3B prepared by HDR Engineering, Inc. dated January 7, 2023.
- The North Impoundment weekly inspection reports from January 4, 2023 through May 24, 2023, and a quarterly report from July 26, 2023.
- Closure Plan for 1 2 3A 3B, April 17, 2020, Revision Number 1, Foth Infrastructure & Environment.

Review of the above documents did not uncover any unresolved issues that indicated operational, safety or structural concerns of the Inactive Impoundments.

3 Visual Site Inspection

Section 257.83(b)(1)(ii) and (iii) of the CCR Rule requires a visual inspection of the CCR surface impoundment be performed. A site inspection of the Inactive Impoundment was performed on September 21, 2023, by Greg Shafer, PE of HDR Engineering, Inc. Reviews of available information were also conducted by Greg Shafer.

The weather during the site visit was overcast and raining with temperatures ranging from 60 to 61 degrees Fahrenheit. The wind speeds were approximately 2 to 6 mph and it was raining.

3.1 Extent of Inspection

The visual inspection included observing the entire perimeter of the impoundment and the interior. As the CCR Rule only requires the inspection of the existing CCR surface impoundments and appurtenant structures, this report does not address the condition of the groundwater monitoring system, access roads beyond the surface impoundment perimeter, or structures, grades or drainage channels that are not an operational component of Inactive Impoundment.

The field visit included visual inspection of the following:

- Perimeter embankments/berms condition (surface cracking, erosion, slides/sloughs, inadequate slope protection, poor vegetation, animal burrows, settlement, seepage)
- Visual stability of Inactive Impoundment
- Erosion within the Inactive Impoundment
- Ground cover and erosion in areas surrounding the Inactive Impoundment
- Inlets within the Inactive Impoundment and at the outlets (outfalls)

3.2 Inspection Findings

Based on the observations made at the time of the visual inspection, the following are the findings of the Inactive Impoundment inspection:

- At the time of the inspection, closure construction activities were completed.
- In general, vegetation was well established throughout the interior and exterior of the capped areas.

There were no signs of distress, malfunction or significant deficiencies observed during the inspection of Inactive Impoundments.

4 Changes in Geometry

Section 257.83(b)(2)(i) of the CCR rule requires that any changes in geometry be noted since the previous annual inspection.

Currently the geometry of the Inactive Impoundment is consistent with the Closure Plan posted on the NNEC CCR website.

5 Instrumentation

Section 257.83(b)(2)(ii) of the CCR rule requires location and type of existing instrumentation and maximum recorded readings of each instrument since the previous annual inspection.

There are no instruments at the Inactive Impoundment.

6 Approximate Volume of CCR

Section 257.83(b)(2)(iii) requires that the approximate minimum, maximum and present depth and elevation of the impounded water and CCR since the previous annual inspection be identified.

Based on the Closure Plan for 1 2 3A 3B, April 17, 2020, Revision Number 1, Foth Infrastructure & Environment, the total CCR volume consolidated within the Inactive Impoundment (formerly named 3B) is approximately 1,794,500 cubic yards.

7 Storage Capacity

Section 257.83(b)(2)(iv) requires the storage capacity of the impounding structure at the time of inspection to be identified. The Inactive Impoundment is inactive and closed. Thus, there is no storage capacity.

8 Approximate Volume - Impounded Water and CCR

Section 257.83(b)(2)(v) requires the approximate volume of CCR and water in the CCR surface impoundment to be estimated as part of the annual report. There was no water impounded within the Inactive Impoundment.

9 Appearance of Structural Weakness

Section 257.83(b)(2)(vi) of the CCR Rule requires any appearances of actual or potential structural weakness or conditions that could disrupt or potentially disrupt operation and safety of the CCR surface impoundment and appurtenant structures be noted in the inspection report.

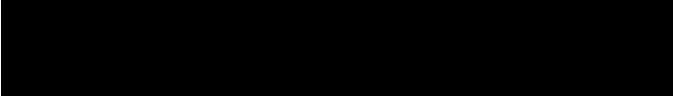
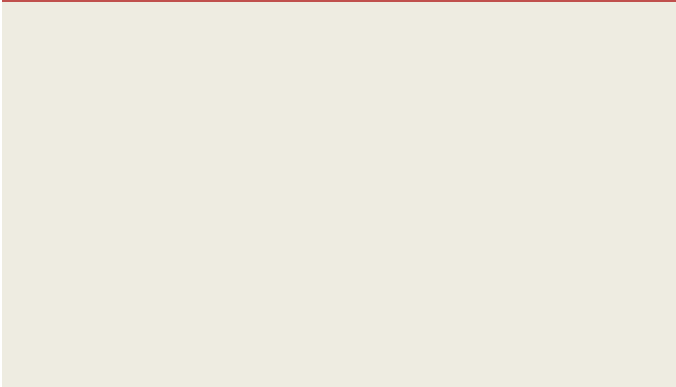
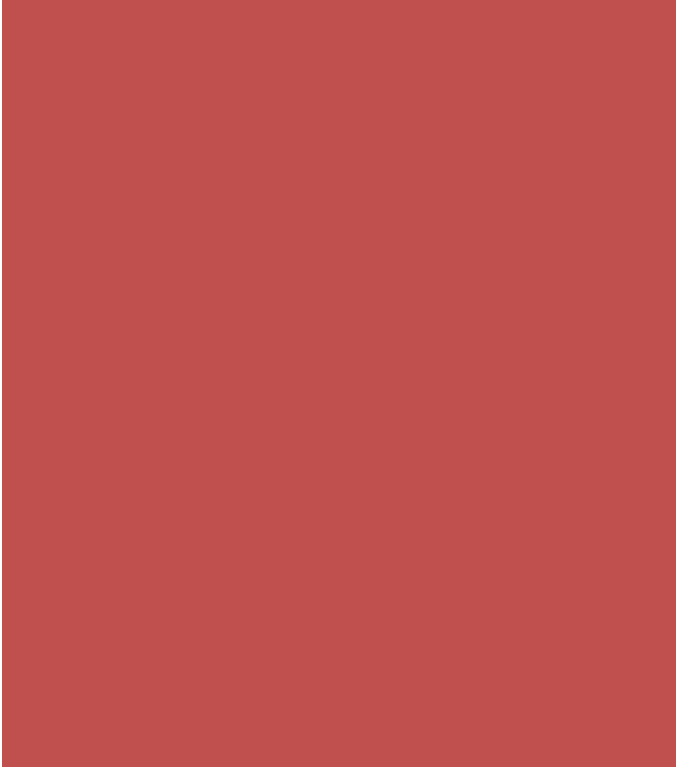
Based on the visual inspection findings reported above in Section 3, no apparent or potential structural weaknesses were observed.

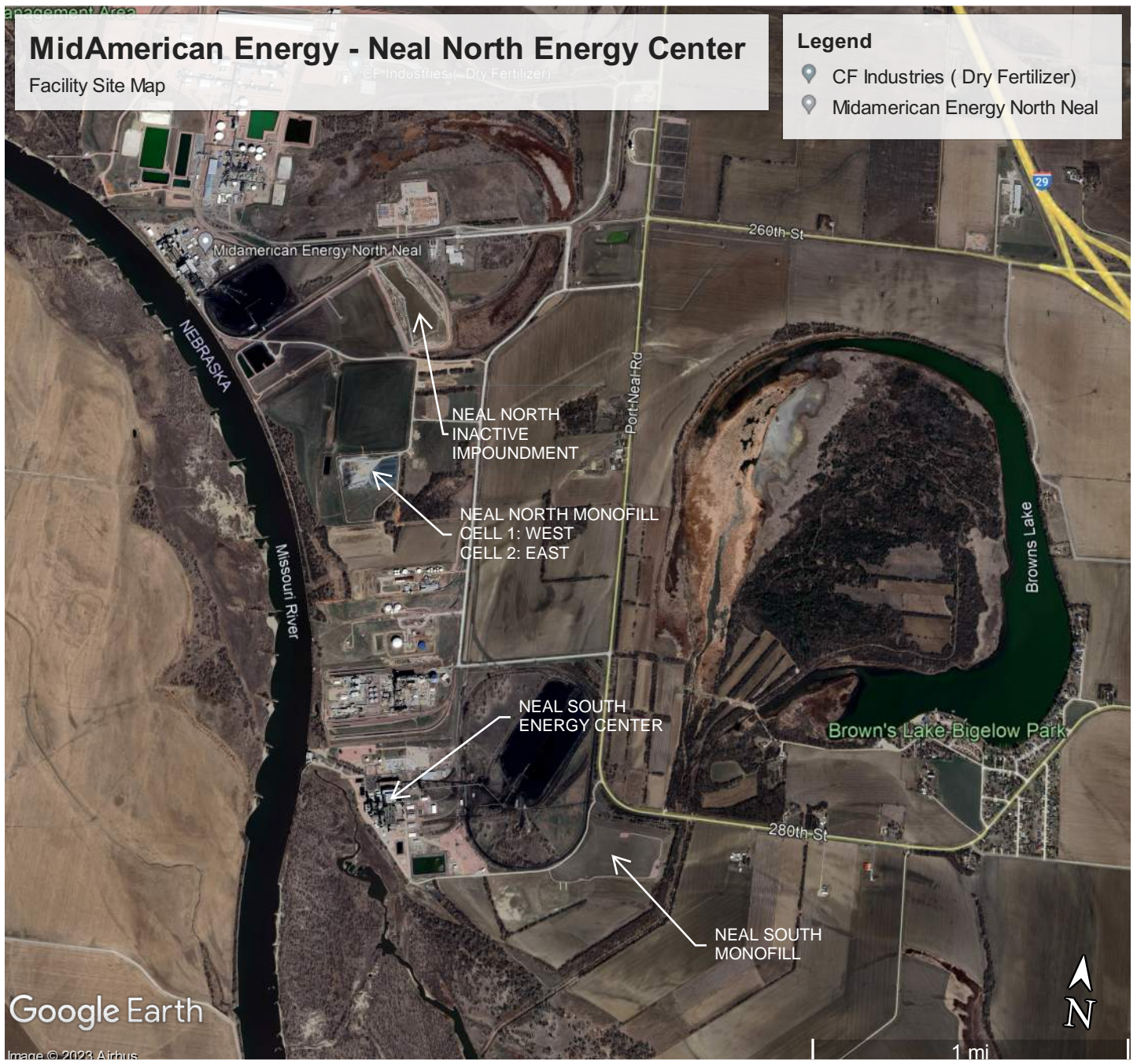
10 Changes Affecting Stability or Operation

Section 257.83(b)(2)(vii) of the CCR Rule requires that changes that affect stability or operation of the impounding structure be identified since the last annual inspection. Based on review of documentation and visual annual inspection, there were no reported, observed, or suspected changes that have weakened the site stability or negatively impacted the operation.



Appendix A
Facility Site Map





2023 ANNUAL INSPECTION REPORT
NEAL NORTH AND NEAL SOUTH ENERGY CENTER
NEAL NORTH MONOFILL | NEAL NORTH IMPOUNDMENTS
| NEAL SOUTH MONOFILL
FACILITY SITE MAP

APPENDIX A

DATE
JANUARY 2024