Prepared by

HDR

Renew Harbor Island

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2024 Annual Inspection Report Unit 3A/B Impoundments

For Compliance with the EPA Coal Combustion Residuals (CCR) Rule 40 CFR §257.83(b)

Former J.B. Sims Generating Station

August 15, 2024

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Table of Abbreviations and Acronyms

Abbreviation	Definition
CCR	coal combustion residuals
CF	cubic feet
EGLE	Michigan Department of Environment, Great Lakes and Energy
EPA	Environmental Protection Agency
GHBLP	Grand Haven Board of Light & Power

Introduction and Purpose

HDR MICHIGAN, Inc. (HDR) has prepared this 2024 Annual Inspection Report for the former (removed, but not closed) Unit 3A/B Impoundments at the decommissioned J.B. Sims Generating Station in compliance with the requirements of the Federal Coal Combustion Residuals (CCR) Rule.

On April 17, 2015, the United States Environmental Protection Agency (EPA) issued the final rule (Ref. [1]) for disposal of CCR under Subtitle D of the Resource Conservation and Recovery Act (RCRA). CCR Rule 40 CFR §257.83(b) states that the impoundments must be inspected on a periodic basis by a qualified professional engineer to ensure that the design, construction, operation, and maintenance of the CCR unit is consistent with recognized and generally accepted good engineering standards. This report presents the 2024 annual inspection for the Unit 3A/B Impoundments (Impoundments). The ash was removed from the Impoundments in December 2020; however, Michigan Department of Environment, Great Lakes, and Energy (EGLE) has not approved the ash removal. It should also be noted that an additional impoundment exists at the site, the Units 1/2 Impoundment; however, that unit is incised and therefore not subject to CCR Rule 40 CFR §257.83(b) but work at Units 1/2 Impoundment is being coordinated with EGLE.

The Annual Inspection Report presented herein addresses the specific requirements of 40 CFR §257.83(b). The visual inspection site visit was conducted on July 1, 2024, by Bryce Burkett, P.E. of HDR and this Annual Inspection Report was prepared by Mr. Burkett. Mr. Burkett is a registered Professional Engineer in the State of Michigan.

Site Location

The former J.B. Sims Generating Station (facility or Site) was a coal-fired power generation facility operated by Grand Haven Board of Light & Power (GHBLP) that ceased operations in February 2020. The facility is located at 1231 North 3rd Street, on Harbor Island, in Grand Haven, Michigan. The latitude and longitude of the Site are approximately 43.071179 N and 86.234551 W. The Site is located north of downtown Grand Haven, adjacent to the Grand River, as shown in the vicinity map, Figure 1.

Figure 1. Site Vicinity Map

Site Description

The Site is a former coal-fired power generation facility which ceased operations in February 2020. CCR generated at the former generating station were stored in inactive Units 1/2 Impoundment and the excavated Unit 3A/B Impoundments. The inactive Units 1/2 Impoundment are situated in the northeast of the facility and the inactive Unit 3A/B Impoundments are located at the northwest end of the plant property as shown on Figure 2.

The former Unit 3A/B Impoundments originally consisted of two adjacent impoundments, consisting of engineered, clay-lined, above-ground ponds which were built over historically deposited ash from Boiler Units 1 & 2. The former impoundments were separated from each other by a 10-foot-wide earthen dike and had dimensions of 175 to 190 feet long by 71 to 80 feet wide with an approximate surface area of 0.2 and 0.3 acres for the east and west ponds, respectively. Although the former coal-fired power generation facility ceased operations in February 2020, the Site continued to use the impoundments to clean out the hoppers, vessels, etc. prior to demolition of the buildings. In July 2020, following the clean out procedures, the Site ceased CCR waste disposal in the Unit 3A/B Impoundments. CCR materials were removed in December 2020, with the center embankment separating the ponds being removed, and thus a single inactive impoundment remains. The berm surrounding the pond remains intact except for the south side of the berm, which was removed as part of the excavation. The berms surrounding the east and west sides of the former impoundment range in elevation from 590.8 feet to 593.3 feet and 591.4 feet to 592.5 feet, respectively. The north berm ranges in elevation from 593.0 feet to 594.9 feet. The south remaining berm ranges in elevation from 585.5 feet to 592.2 feet.

Figure 2. Site Configuration

Previous Assessments and Inspections

In 2016, Soils & Structures performed the initial annual inspection for the Unit 3A/B Impoundments. Golder performed annual inspections for the Unit 3A/B Impoundments from 2017 to 2021. Due to the change in the project team and the addition of HDR to the project, as well as the need for HDR to get familiar with the project and to work with EGLE to develop a strategy to achieve compliance with the CCR regulations, the 2022 inspection was not conducted. Notwithstanding that the inspection was not conducted in 2022, HDR staff were present at the property many times in 2022, during which times they informally inspected the site and did not identify any structural issues.

The previous annual reports have been reviewed as part of this study. Table 1-1 lists the previous reports which provide details of the annual inspections along with the date of the visual inspection.

Table 1-1. List of Previous Assessments and Inspections

Document Name	Date of Inspection	Reference
Grand Haven BLP – Ash Impoundment Evaluation	April 29, 2016	Ref. [8]
CCR Surface Impoundments Annual Visual Inspection – Units 3 East and West Ash Pond Surface Impoundments	June 5, 2017	Ref. [2]
Surface Impoundments Annual Visual Inspection	August 8, 2018	Ref. [3]
Surface Impoundments Annual Visual Inspection	July 16, 2019	Ref. [4]
Surface Impoundments Annual Visual Inspection	July 7, 2020	Ref. [5]
2021 Annual Surface Impoundment Inspection per 40 CFR Part 257.83	July 22, 2021	Ref. [6]
2023 Annual Inspection Report – Unit 3A/B Impoundments	July 3, 2023	Ref. [7]

Prior annual inspections did not identify any structural instability of the embankments.

Visual Inspection - 40 CFR §257.83(b)

The requirements to be documented in the Inspection Report for existing CCR surface impoundments are detailed in 40 CFR §257.83(b): *Annual inspections by a qualified professional engineer.* CCR Rule 40 CFR §257.83(b)(2) states that the inspection report must address the following items:

§257.83 (b)(2)(i): Any changes in geometry of the impounding structure since the previous annual inspection.

§257.83 (b)(2)(ii): The location and type of existing instrumentation and the maximum recorded readings of each instrument since the previous annual inspection.

§257.83 (b)(2)(iii): The approximate minimum, maximum, and present depth and elevation of the impounded water and CCR since the previous annual inspection.

§257.83 (b)(2)(iv): The storage capacity of the impounding structure at the time of the inspection.

§257.83 (b)(2)(v): The approximate volume of the impounded water and CCR at the time of the inspection.

§257.83 (b)(2)(vi): Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit and appurtenant structures.

§257.83 (b)(2)(vii): Any other change(s) which may have affected the stability or operation of the impounding structure since the previous annual inspection.

The visual inspection site visit was conducted on June 28, 2024, by Bryce Burkett, P.E. of HDR. The weather on June 28th was clear with temperatures between 65 and 75 degrees. Rainfall had not occurred within the 24 hours prior to the inspection. The inspection documented the following:

- Changes in geometry of the impounding structure since the previous annual inspection.
  - No, the condition of the structure appears the same since the 2023 annual inspection performed by HDR.
- The location and type of existing instrumentation and the maximum recorded readings of each instrument since the previous annual inspection.
  - There is no instrumentation in place at the Unit 3A/B Impoundments as the CCR have been removed and the impoundment only captures minimal rainwater runoff.
- The approximate minimum, maximum, and present depth and elevation of the impounded water and CCR since the previous annual inspection.
  - The CCR in the impoundment was removed. There was about 1-foot of ponded rainwater (estimated El. 584.4 feet) present during the inspection.
- The storage capacity of the impounding structure at the time of the inspection.

- There is no storage capacity in the Unit 3A/B Impoundments. The CCR has been removed.

- The approximate volume of the impounded water and CCR at the time of the inspection.
  - The CCR has been removed from Unit 3A/B Impoundments. Approximately 20,000 CF of ponded rainwater is present.

- Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit and appurtenant structures.
  - No potential structural weaknesses were observed.

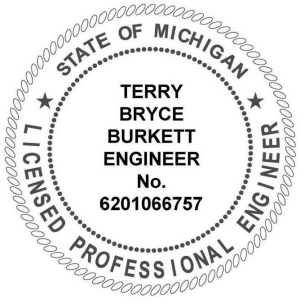
- §257.83 (b)(2)(vii): Any other change(s) which may have affected the stability or operation of the impounding structure since the previous annual inspection.
  - No other changes were observed since the previous annual inspection.

Based on the 2024 Annual Inspection documented herein, the condition of the former Unit 3A/B Impoundments is considered acceptable. There were no structural weakness or safety hazards observed visually during the site visit. Minor erosion was observed on the slopes of the embankments, however, considering the status of the Unit 3A/B Impoundments (CCR removed) and the silt fencing installed adjacent to the active substation, the erosion is contained within the Unit 3A/B Impoundments area.

Closure

Based on the information provided to HDR, information available on GHBLP's CCR website, and HDR's visual observations, this 2024 Annual Inspection was conducted in accordance with the requirements of the USEPA 40 CFR Parts §257 and §261 Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule, April 17, 2015 (CCR Final Rule). Based on the information currently available, I certify to the best of my knowledge, information, and belief that this Annual Inspection of the Unit 3A/B Impoundments meets the requirements of CCR Rule §257.83(b) in accordance with professional standards of care for similar work.

Bryce Burkett, P.E.
Senior Geotechnical Project Manager



15 Aug 2024

References

Ref. [1] Environmental Protection Agency, 40 CFR Parts 257 and 261; Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule, Washington D.C., April 2015.

Ref. [2] Golder Associates. CCR Surface Impoundments Annual Visual Inspection – Units 3 East and West Ash Pond Surface Impoundments, Project No. 1775416. June 28, 2017.

Ref. [3] Golder Associates. Surface Impoundments Annual Visual Inspection, Project No. 18106992. August 16, 2018.

Ref. [4] Golder Associates. Surface Impoundments Annual Visual Inspection, Project No. 19118926. August 9, 2019.

Ref. [5] Golder Associates. Surface Impoundments Annual Visual Inspection, Project No. 20148037. August 6, 2020.

Ref. [6] Golder Associates. Surface Impoundments Annual Visual Inspection, Project No. 21480644. August 6, 2021.

Ref. [7] HDR Michigan, Inc. 2023 Annual Inspection Report – Unit 3A/B Impoundments. August 16, 2023.

Ref. [8] Soils & Structures. Grand Haven BLP – Ash Impoundment Evaluation, Project No. 2016.0329. July 1, 2016.

Appendix A

Inspection Checklist

Coal Combustion Dam Inspection Checklist Form

US Environmental Protection Agency

Site Name: J.B. Sims Generating Station	Date: June 28, 2024
Unit Name: Unit 3A/B	Operator's Name: Former J.B. Sims Generating Station
Unit I.D.: N/A	Hazard Potential Classification: **High** **Significant** (**Low**)
Inspector's Name: Bryce Burkett, P.E.	

Check the appropriate box below. Provide comments when appropriate. If not applicable or not available, record "N/A". Any unusual conditions or construction practices that should be noted in the comments section. For large diked embankments, separate checklists may be used for different embankment areas. If separate forms are used, identify approximate area that the form applies to in comments.

	Yes	No		Yes	No
1. Frequency of Company's Dam Inspections?	N/A		18. Sloughing or bulging on slopes?		X
2. Pool elevation (operator records)?	584.4 ft		19. Major erosion or slope deterioration?	X	
3. Decant inlet elevation (operator records)?	N/A		20. Decant Pipes:		
4. Open channel spillway elevation (operator records)?	N/A		Is water entering inlet, but not exiting outlet?	N/A	
5. Lowest dam crest elevation (operator records)?	585.5 ft		Is water exiting outlet, but not entering inlet?	N/A	
6. If instrumentation is present, are readings recorded (operator records)?	N/A		Is water exiting outlet flowing clear?	N/A	
7. Is the embankment currently under construction?		X	21. Seepage (specify location, if seepage carries fines, and approximate seepage rate below):		
8. Foundation preparation (remove vegetation, stumps, topsoil in area where embankment fill will be placed)?	N/A		From underdrain?		X
9. Trees growing on embankment? (If so, indicate largest diameter below)		X	At isolated points on embankment slopes?		X
10. Cracks or scarps on crest?		X	At natural hillside in the embankment area?		X
11. Is there significant settlement along the crest?		X	Over widespread areas?		X
12. Are decant trash racks clear and in place?	N/A		From downstream foundation area?		X
13. Depressions or sinkholes in tailings surface or whirlpool in the pool area?	N/A		"Boils" beneath stream or ponded water?		X
14. Clogged spillways, groin or diversion ditches?	N/A		Around the outside of the decant pipe?		X
15. Are spillway or ditch linings deteriorated?	N/A		22. Surface movements in valley bottom or on hillside?		X
16. Are outlets of decant or underdrains blocked?	N/A		23. Water against downstream toe?		X
17. Cracks or scarps on slopes?		X	24. Were Photos taken during the dam inspection?	X	

Major adverse changes in these items could cause instability and should be reported for further evaluation. Adverse conditions noted in these items should normally be described (extent, location, volume, etc.) in the space below and on the back of this sheet.

Inspection Issue # Comments

1. Weekly inspections are no longer performed as the CCR in the impoundment has been removed and all that exists are clay embankments.

2. Pool elevation is approximate, only ponded rainwater is present.

18. Rills are present slopes.