



Hazard Potential Classification Assessment Report

For Compliance with the EPA Coal
Combustion Residuals (CCR) Rule
40 CFR 257.83(a)(2)

Former Erickson Power Station –

Former Forebay, Former Retention Basin, &
Former Clear Water Pond

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Prepared for:
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Erickson Power Station
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1 Introduction and Purpose

On April 17, 2015, the United States Environmental Protection Agency (EPA) issued the final rule (Ref. [1]) for disposal of Coal Combustion Residuals (CCR) under Subtitle D of the Resource Conservation and Recovery Act (RCRA). CCR Rule 40 CFR §257.73(a)(2) requires that owners or operators document the hazard potential classification of each CCR unit as either a high hazard potential CCR surface impoundment, a significant hazard potential CCR surface impoundment, or a low hazard potential CCR surface impoundment. Additionally, CCR Rule 40 CFR §257.73(a)(2) requires that the owner or operator must also document the basis for each hazard potential classification.

This report presents the required five-year update to the Hazard Potential Classification Assessment Report for an impoundment system which consists of three (3) regulated former CCR surface impoundments (Former Forebay, Former Retention Basin, and Former Clear Water Pond) and one (1) former inactive surface impoundment (Former Impoundment) at the Former Erickson Power Station (Former Station), following the requirements of 40 CFR §257.73(f)(3). An initial Hazard Potential Classification Assessment Report dated June 19, 2020 (Ref. [3]) was previously completed for the regulated former impoundments at the Former Station. A Revised Hazard Potential Classification Assessment Report dated May 16, 2022 (Ref. [5]) was subsequently completed to supplement the initial report for the Former Clear Water Pond. This Hazard Potential Classification Assessment Report provides updated information on the three (3) regulated former impoundments and provides a re-assessment of their hazard classifications, per the requirements of 40 CFR §257.73(f)(3).

Since the previous reports, coal-fired operations at the Former Station have been permanently discontinued, and the impoundment system has ceased receiving CCR waste. Additionally, the three regulated former CCR surface impoundments have been physically closed via excavation of CCR materials and confirmed through analytical testing. The Former Forebay and Former Retention Basin have been filled with clean material and all former impoundments have been regraded to promote positive drainage towards the Former Impoundment, which acts as containment for the system.

The Hazard Potential Classification Assessment Report presented herein addresses the specific requirements of 40 CFR §257.73(a)(2). This Hazard Potential Classification Assessment Report was prepared by Mr. Bryce Burkett, P.E., a registered Professional Engineer in the State of Michigan.

1.1 Site Location

The Former Erickson Power Station was an electrical power generation facility located at 3725 South Canal Road, Lansing, Michigan which is owned and operated by Lansing Board of Water & Light (BWL). The latitude and longitude of the Former Erickson Power Station are approximately 42.692422 N and 84.657764 W. The site is located southwest of Lansing Michigan, near the intersection of Interstates 69 and 96, as shown in the site vicinity map, Figure 1.

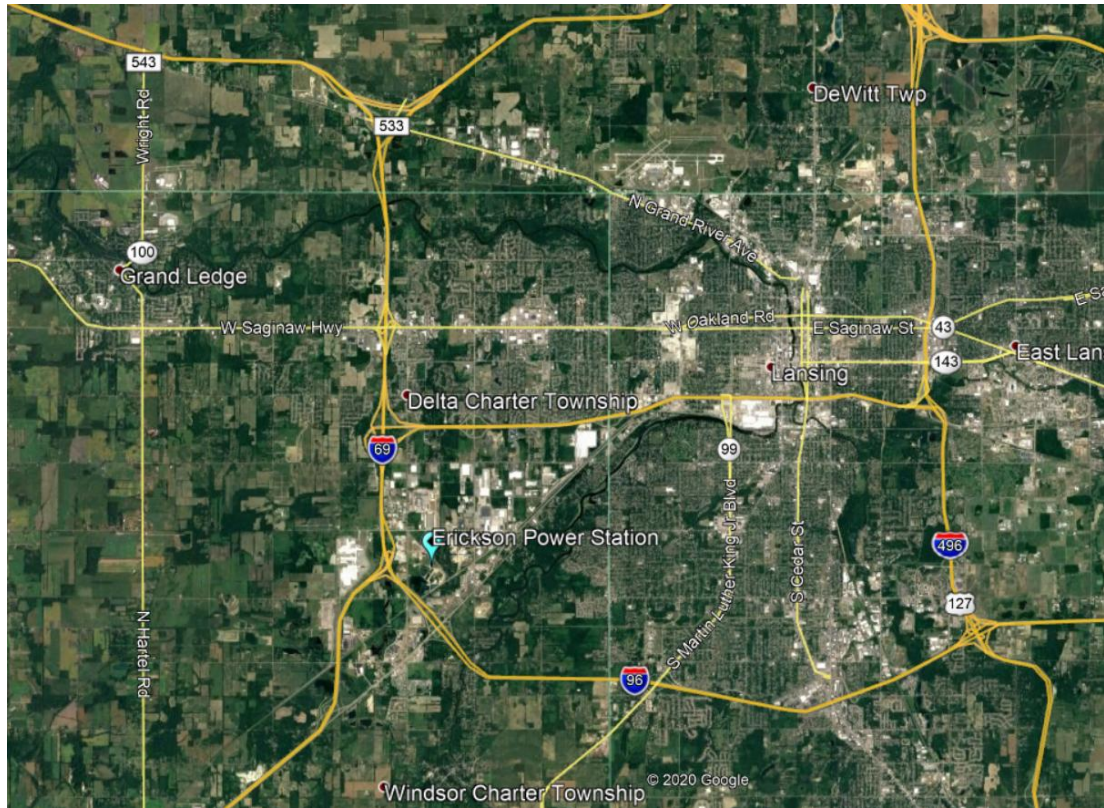


Figure 1. Site Vicinity Map

1.2 Site Description

The Former Erickson Power Station was constructed starting in 1970 and completed in 1973. The Former Station contained a single coal-fired steam turbine/generator capable of producing 165 megawatts of electricity, while it was still in operation. Coal-fired operations at the Former Station ceased in 2022 as part of the BWL's move to cleaner energy sources. Closure of the three (3) former regulated CCR surface impoundments began in February 2023. Since then, the former regulated CCR units have been physically closed, and all CCR materials have been removed and appropriately managed. The Former Forebay and Former Retention Basin were then filled with clean fill material and all former impoundments were graded to direct stormwater runoff to the Former Impoundment area. Verification of CCR removal from the regulated former CCR units was completed and documented in the CCR Removal Report, dated November 4, 2024 (Ref. [2]).

Following the decommissioning of the three (3) regulated CCR surface impoundments, the entire impoundment system (including the Former Impoundment) now collectively functions as a limited stormwater collection basin. These former impoundments form a roughly contiguous drainage system and are no longer connected to any process water discharges. Their only inflow is stormwater from direct rainfall onto the impoundment system.

Figure 2 displays the Former Erickson Power Station site configuration, including the former impoundment system.



Figure 2. Erickson Power Station Site Configuration

1.3 Hazard Potential Classification

The EPA defines the hazard potential classifications as follows:

- High hazard potential CCR surface impoundment means a diked surface impoundment where failure or mis-operation will probably cause loss of human life.
- Significant hazard potential CCR surface impoundment means a diked surface impoundment where failure or mis-operation results in no probable loss of human life, but can cause economic loss, environmental damage, disruption of lifeline facilities, or impact other concerns.
- Low hazard potential CCR surface impoundment means a diked surface impoundment where failure or mis-operation results in no probable loss of life and low economic and/or environmental losses. Losses are principally limited to the surface impoundment's owner's property.

1.3.1 Former Forebay

The Former Forebay was a CCR surface impoundment at the Former Station which was constructed from 2014 to 2015 as part of the decommissioning of the former impoundment

system (Ref. [6]). The Former Forebay was an irregularly shaped quadrangle approximately 475 feet long by 260 feet wide that provided a storage capacity of approximately 932,837 cubic feet. The basin consisted of a clay-rich engineered fill, lined with a geosynthetic clay liner (GCL), overlain with a 40-mil thick polyvinylchloride (PVC) flexible membrane liner (FML). The Former Forebay was designated to capture the heaviest suspended particles allowing them to settle to the bottom of the impoundment. Plant water flowed via gravity from the Former Forebay to the Former Retention Basin through three (3) 24-inch diameter corrugated plastic pipes (CPP).

The Former Forebay has been decommissioned and the CCR has been excavated. CCR removal was verified and the Former Forebay was then filled with clean fill material. The three inlet pipes previously used to convey water to the Former Forebay were cut back and abandoned in place. These three inlet pipes no longer connect to the Former Forebay. The three CPPs connecting the Former Forebay to the Former Retention Basin have also been removed. Due to fill grading, runoff from the Former Forebay flows towards the Former Impoundment.

All CCR in the Former Forebay was removed during decommissioning, as documented in the CCR Removal Report (Ref. [2]). As such, if the perimeter embankment of the Former Forebay failed, no CCR would be released. Additionally, runoff from the Former Forebay would still be directed to the Former Impoundment, due to fill grading. If the perimeter embankment of the Former Impoundment failed, ponded water from impoundment system runoff would discharge into the swale adjacent to the impoundment system embankments.

No probable loss of human life, low economic/environmental damage, and no disruption of lifeline facilities would be expected during this scenario. Losses from this scenario would be principally limited to BWL property. Therefore, the Former Forebay is determined to have a low hazard potential classification.

1.3.2 Former Retention Basin

The Former Retention Basin was a CCR surface impoundment at the Former Erickson Power Station which was constructed from 2014 to 2015 as part of the decommissioning of the former impoundment system. The Former Retention Basin was relatively rectangular in shape approximately 560 feet long by 260 feet wide and provided a storage capacity of 1,298,407 cubic feet. Like the Former Forebay, the Former Retention Basin was constructed with a clay-rich engineered fill, lined with a GCL, overlain with a 40-mil thick PVC FML. The Former Retention Basin was designated to provide a longer retention time to allow for the settlement of smaller suspended particles.

The Former Retention Basin discharged to the Former Clear Water Pond through a 72-inch diameter pre-cast concrete overflow riser pipe structure at the Former Retention Basin's southern corner. At the bottom of the riser pipe structure lay a 36-inch diameter CPP that directed flow to the Former Clear Water Pond, which has also been decommissioned. The secondary outlet from the Former Retention Basin was a 24-inch emergency outfall CPP connecting to the Former Impoundment. This outfall has also been removed.

Like the Former Forebay, the Former Retention Basin has been physically closed and filled with clean fill material following CCR source removal. Due to fill grading, runoff from the Former Retention Basin flows towards the Former Impoundment.

All CCR in the Former Retention Basin was removed during decommissioning, and so if the perimeter embankment of the Former Retention Basin failed, no CCR would be released. Additionally, runoff from the Former Retention Basin would still be directed to the Former Impoundment, due to fill grading. If the perimeter embankment of the Former Impoundment failed, ponded water from impoundment system runoff would discharge into the swale adjacent to the impoundment system embankments.

No probable loss of human life, low economic/environmental damage, and no disruption of lifeline facilities would be expected during this scenario. Losses from this scenario would be principally limited to BWL property. Therefore, the Former Retention Basin is determined to have a low hazard potential classification.

1.3.3 Former Clear Water Pond

The Former Clear Water Pond was an existing CCR surface impoundment at the Former Erickson Power Station which was originally constructed starting in 1970 and was completed in 1973 as part of the original construction of the Former Erickson Power Station (prior to the Former Forebay and Former Retention Basin). The Former Clear Water Pond was triangular in shape with sides approximately 425 feet, 730 feet, and 640 feet in length and with an area of 189,200 square feet. The Former Clear Water Pond was constructed with a compacted clay liner to limit infiltration. When the Former Station was in operation, water from the Former Clear Water Pond was continuously recycled back to the Former Station at a rate of 3.8 million gallons per day (MGD) where it was recycled for ash quenching, fluming, and cooling water before being re-routed back to the Former Forebay for treatment.

The primary discharge from the Former Clear Water Pond was the Pump House. There was also an emergency outfall structure at the northeast corner of the Former Clear Water Pond. This emergency outfall structure consisted of a horizontal pipe and a vertical riser pipe. The top of the vertical riser pipe was situated at an elevation just below the crest of the embankment. If the emergency outfall structure had ever been utilized, water would have theoretically flowed down through the vertical riser and then the horizontal pipe, discharging into a swale on the outside of the embankment. The swale flows north and east and eventually directs flow to Carrier Creek and then to the Grand River. However, this emergency outfall structure was never used.

Like the Former Forebay and Former Retention Basin, the Former Clear Water Pond has been physically closed, however not filled with fill material following CCR source removal. The embankment separating the Former Clear Water Pond from the Former Impoundment has been removed and the footprint of the Former Clear Water Pond was graded to drain to the Former Impoundment. It no longer serves a treatment role but directs stormwater runoff towards the Former Impoundment. During decommissioning of the Former Clear Water Pond, the emergency overflow vertical riser pipe was removed and only the horizontal pipe remains in place. However, the results of hydrologic and hydraulic modeling show that this horizontal pipe outfall would not spill over in a 100-year flood event (Ref. [4]) to discharge to the swale.

All CCR in the Former Clear Water Pond was removed during decommissioning, and so if the perimeter embankment of the Former Clear Water Pond failed, no CCR would be released. Additionally, runoff from the Former Clear Water Pond would still be directed to

the Former Impoundment, due to grading. If the perimeter embankment of the Former Impoundment failed, ponded water from impoundment system runoff would discharge into the swale adjacent to the impoundment system embankments.

No probable loss of human life, low economic/environmental damage, and no disruption of lifeline facilities would be expected during this scenario. Losses from this scenario would be principally limited to BWL property. Therefore, the Former Clear Water Pond is determined to have a low hazard potential classification.

2 Professional Engineer Certification

Based on the information provided to HDR by BWL, information available on BWL's CCR website, and HDR's visual observations and analyses, this Hazard Potential Classification Assessment 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 Hazard Potential Classification Assessment meets the requirements of CCR Rule §257.73(a)(2) in accordance with professional standards of care for similar work. HDR appreciates the opportunity to assist BWL with this project. Please contact us if you have any questions or comments.



Bryce Burkett, P.E.

Senior Geotechnical Project Manager



3 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]* HDR Michigan, Inc. CCR Removal Report, Forebay, Retention Basin, & Clear Water Pond, Lansing Board of Water & Light, Lansing, Michigan, November 4, 2024.
- Ref. [3]* HDR Michigan, Inc. Hazard Potential Classification Assessment Report, Erickson Power Station – Forebay, Retention Basin, & Clear Water Pond, Lansing Board of Water & Light, Lansing, Michigan, June 19, 2020.
- Ref. [4]* HDR Michigan, Inc. Inflow Design Flood Control System Plan, Erickson Power Station – Former CCR Surface Impoundments, Lansing Board of Water & Light, Lansing, Michigan, June 6, 2025.
- Ref. [5]* HDR Michigan, Inc. Revised Hazard Potential Classification Assessment Report, Erickson Power Station – Clear Water Pond, Lansing Board of Water & Light, Lansing, Michigan, May 16, 2022.
- Ref. [6]* Mayotte Design & Engineering, P.C. Construction Documentation Report Ash Impoundment System Reconfiguration, Lansing Board of Water & Light Erickson Power Station, Lansing, Michigan, May 2015.