

Memo

Date: Monday, March 23, 2020

To: Lori Myott, BWL

From: Lara Syrocki, HDR, Inc.

Subject: Erickson Power Station CCR Unit

Location Restrictions Supplemental 40 CFR §257.60

The U.S. Environmental Protection Agency's (EPA) final Coal Combustion Residuals (CCR) Rule 40 CFR §257 establishes a comprehensive set of requirements for the management and disposal of CCR (or coal ash) in surface impoundments by electric utilities. Erickson Power Station (Erickson or Site) is an electrical power generation facility located at 3725 South Canal Road in Delta Township, Eaton County, Michigan owned and operated by Lansing Board of Water & Light (BWL). The Erickson Power Station contains a single coal-fired generator capable of producing 165 megawatts of electricity. CCR generated at Erickson is stored in dewatering tanks (hydro-bins) and three active CCR impoundments: the Forebay, Retention Basin, and Clear Water Pond (CWP).

The BWL completed a Location Restrictions Report to address the required elements in 40 CFR §257.60-64 (Mayotte, 2018). However, new data has been acquired in 2019 and 2020 as a result of installation of monitoring wells around the Erickson Power Station impoundments that requires modifications to the Location Restrictions Report. Specifically, the section of the existing report pertaining to the distance to the uppermost aquifer pursuant to 40 CFR §257.60 has been updated as a result of groundwater elevation data collected from newly installed monitoring wells (HDR, 2020). In accordance with 40 CFR §257.60, a CCR surface impoundment is to be constructed with a base that is located no less than 5 feet above the upper limit of the uppermost aquifer.¹

The BWL installed a monitoring well system in the uppermost aquifer in October 2019 thru January 2020. Water level monitoring was conducted every month since installation by BWL. HDR developed groundwater potentiometric surface maps (Figure 1 provides the groundwater contours for January 2020). The base grade elevations of each of the CCR impoundments was provided in the original Location Restrictions Report (Mayotte 2018). The base grade elevation of both the Forebay and Retention Basin is 871.5 feet above geodetic datum (agd). The base grades of the CWP range from 871 to 874 feet agd.

¹ Alternatively, 40 CFR §257.60 does allow for a demonstration that there will not be an intermittent, recurring, or sustained hydraulic connection between any portion of the base of the CCR unit and the uppermost aquifer due to normal fluctuations in groundwater elevations (including the seasonal high water table).

Five feet of separation between the Forebay and Retention Basin base elevations would be 866.5 feet agd. The groundwater elevation under the Forebay and Retention basin was between 874 and 871 feet agd (as measured between October 2019-February 2020). Therefore, the base of the Forebay and Retention Basin impoundments is not 5 feet above the upper limit of the uppermost aquifer.

Five feet of separation between the CWP base elevations would be 866-869 feet agd. The groundwater elevation under the CWP was between 874.78 and 872 feet agd (as measured between October 2019-February 2020). Therefore, the base of the CWP impoundment is not 5 feet above the upper limit of the uppermost aquifer.

References

Mayotte Design & Engineering, P.C, 2018. Compliance with 40 CFR257-Locations Restrictions. Lansing Board of Water & Light Erickson Station. October 10, 2018.

HDR, 2019. Hydrogeologic Characterization Report. October 4, 2019.

HDR, 2020. Well Installation Report for Erickson Power Station, Lansing Board of Water & Light. February 28, 2020.

Qualified Professional Engineer Certification

I hereby certify, as Professional Engineer in the State of Michigan, that the information in this document was assembled under my direct supervisory control. This document is not intended or represented to be suitable for reuse by Lansing Board of Water and Light or others without specific verification or adaptation by the Engineer.

I hereby certify, as a Professional Engineer in the State of Michigan, that the information contained in this document has been prepared in accordance with the requirements of 40 CFR §257. I further certify that a satisfactory demonstration of the requirements of 40 CFR §257.64 have been made.

SIGNATURE:



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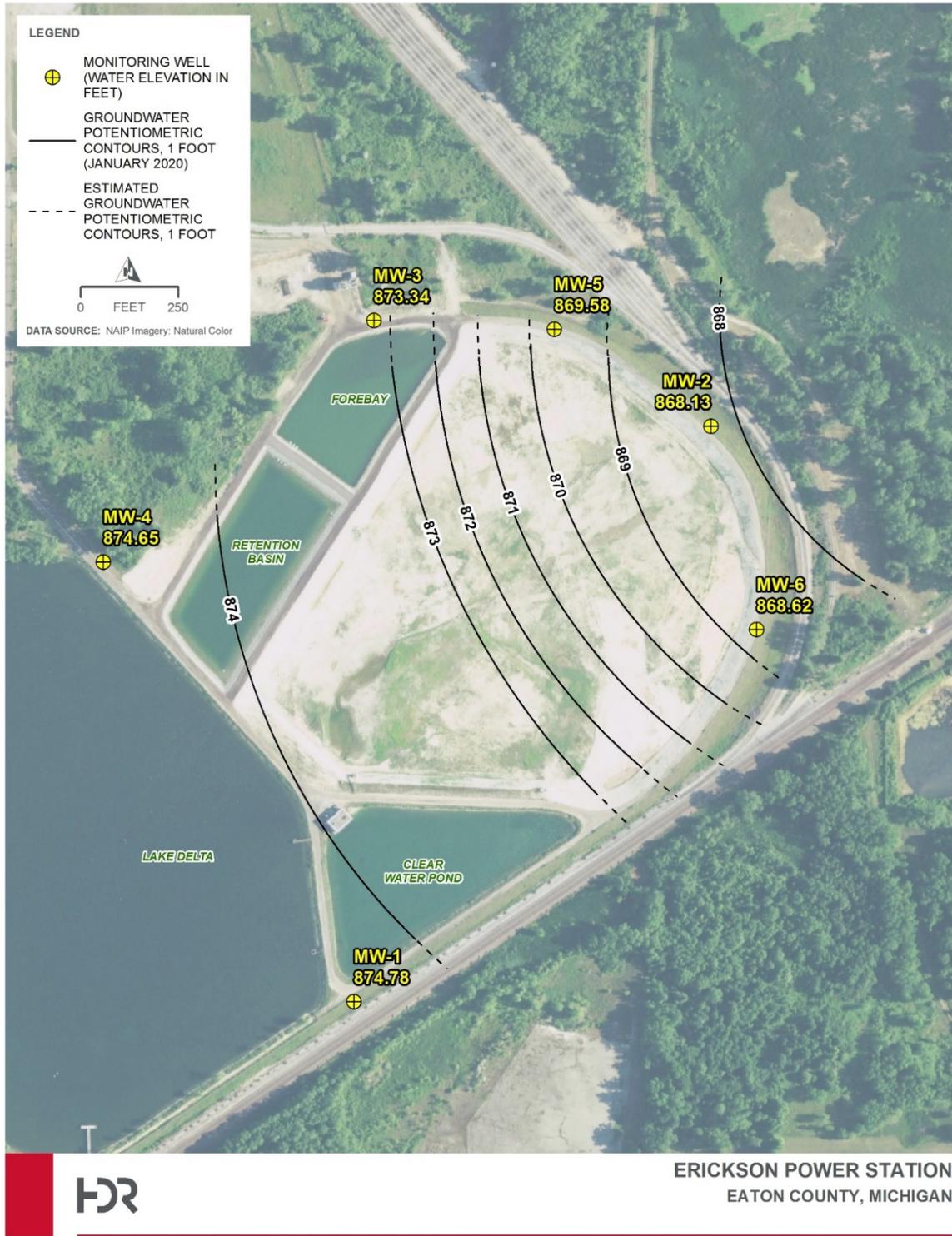


Figure 1. Groundwater potentiometric map for January 2020.