STRUCTURAL STABILITY ASSESSMENT
PERIODIC 5-YR REVIEW

CFR 257.73(d)

East Bottom Ash Pond

Rockport Plant

October, 2021

Prepared for : Indiana Michigan Power Company- Rockport Plant

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ROCKPORT PLANT
EAST BOTTOM ASH POND

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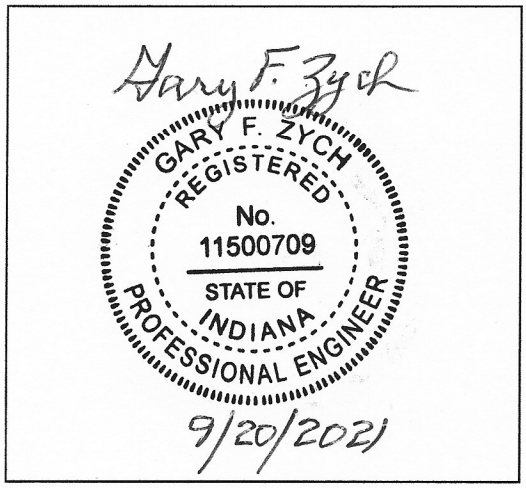

I certify to the best of my knowledge, information and belief that the information contained in this structural stability assessment meets the requirements of 40 CFR 257.73(d)

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1.0 OBJECTIVE 257.73(d)

This report was prepared by AEP- Geotechnical Engineering Services (GES) section to fulfill requirements of CFR 257.73(d) and document whether the design, construction, operations, and maintenance of the CCR unit is consistent with recognized and generally accepted good engineering practices. This is the first periodic 5-year review of the initial assessment as per the Rule.

Note: There has not been any change to the diking structure or discharge structure through the dike system since the initial assessment.

2.0 NAME AND DESCRIPTION OF CCR SURFACE IMPOUNDMENT

The Rockport plant is located near the City of Rockport, Spencer County, Indiana. It is owned by Indiana Michigan Power Co. (I&M), a unit of American Electric Power. The facility operates two surface impoundments for storing CCR within the Bottom Ash Complex. The bottom ash ponds and wastewater ponds were designed in tandem; one bottom ash pond and one wastewater pond are in service at any given time.

There are six main ponds within the bottom ash pond complex as listed below.

List of Main Ponds within the Bottom Ash Complex
West Bottom Ash Pond
East Bottom Ash Pond
West Waste Water Pond
East Waste Water Pond
Reclaim Pond
Clear Water Pond

The East Bottom Ash Pond is incised on the northern and eastern sides of the pond. A north-to-south trending splitter dikes separate the East Bottom Ash Pond from the West Bottom Ash Pond. An east-to-west trending splitter dike separates the East Bottom Ash Pond from the East Wastewater Pond.

The north-to-south trending splitter dike is approximately 2,000 feet long and has a maximum design height of 22 feet. The top of the dike is at elevation 399. The design height is measured from the crest of the dike to the floor of the East Bottom Ash Pond. The dike is constructed out of compacted soil. Both interior and exterior slopes are designed to be 2 Horizontal to 1 Vertical.

The east-to-west trending splitter dike is approximately 650 feet long and has a maximum design height of 24 feet. The top of the dike is at elevation 399. The design height is measured from the crest of the dike to the floor of the East Waste Water Pond. The dike is constructed out of compacted soil. Both interior and exterior slopes are designed to be 2 Horizontal to 1 Vertical.

3.0 STABLE FOUNDATION AND ABUTMENTS 257.73(d)(1)(i)

[Was the facility designed for and constructed on stable foundations and abutments? Describe any foundation improvements required as part of construction.]

Based on 2015 subsurface investigations, the relative density and description of the foundation materials are adequate for this CCR unit.

4.0 SLOPE PROTECTION 257.73(d)(1)(ii)

[Describe the slope protection measures on the upstream and downstream slopes.]

The slopes are protected with rip rap armoring. The current condition of the riprap layer is adequate to provide protection from wave action within the pond.

Any erosion that may occur is repaired within a timely period.

5.0 EMBANKMENT CONSTRUCTION 257.73 (d)(1)(iii)

[Describe the specifications for compaction and/or recent boring to give a relative comparison of density.]

Based on the design report and drawings, the earthen embankment is a compacted soil fill with an interior clay lined layer across the base and interior side slopes of the pond. Borings performed in 2015 through the embankment indicate that the material is stiff and representative of compacted earthen materials.

6.0 VEGETATION CONTROL 257.73 (d)(1)(iv)

[Describe the maintenance plan for vegetative cover.]

The vegetative areas are mowed to facilitate inspections and maintain the growth of the vegetative layer; and prevent the growth of woody vegetation.

7.0 SPILLWAY SYSTEM 257.73(d)(1)(v)

[Describe the spillway system and its capacity to pass the Inflow Design Flood as per its Hazard Classification.]

The spillway system consists of a primary weir box and a 48-inch-diameter slant pipe for normal operations and a low water decant structure (used to drain the pond) that are located along the splitter dike with the waste water pond. The CCR unit has a Low Hazard rating and is designed to safely pass the 100-year storm event which reflects 7.23 inches of precipitation in a 24 hour period.

8.0 BURIED HYDRAULIC STRUCTURES 257.73 (d)(1)(vi)

[Describe the condition of the sections of any hydraulic structure that in buried beneath and/or in the embankment.]

The 48-inch-diameter slant pipe for the primary weir box is buried in the east-to-west trending splitter dike and discharges into the wastewater pond. The pipe material is fiberglass and is generally not subjected to deterioration through corrosion. There are no signs of settlement or sinkholes on the ground surface above the pipe. There are no indications that the pipe is not functioning as intended.

The 30-inch-diameter pipe for the low water decant structure is buried in the east-to-west trending splitter dike and discharges into the wastewater pond. The pipe material is fiberglass and is generally not subjected to deterioration through corrosion. There are no signs of settlement or sinkholes on

the ground surface above the pipe. There are no indications that the pipe is not functioning as intended.

9.0 SUDDEN DRAWDOWN 257.73 (d)(1)(vii)

[If the downstream slope is susceptible to inundation, discuss the stability due to a sudden drawdown.]

The exterior slope of the north-to-south trending dike is susceptible to inundation by operation of the from the adjacent bottom ash pond. Routine operation at the bottom ash pond complex is such that one of the bottom ash ponds is periodically drained to facilitate removal of bottom ash, while the other pond remains in service. This rapid drawdown scenario has been evaluated and an adequate factor of safety exists.

For the east-to-west trending splitter dike, a rapid drawdown scenario simulating routine cleaning of the bottom ash pond was analyzed. An adequate factor of safety exists.