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Wisconsin Power and Light Company
Columbia Energy Center
Hazard Potential Classification Assessment – Revision 2
154.018.028.005
Report issued: May 2, 2026

Hard Hat Services
ph: 630-688-1314
hardhatinc.com
245 Kenilworth Ave
Glen Ellyn, IL 60137

Executive Summary

This Hazard Potential Classification Assessment (Report) is prepared in accordance with the requirements of the United States Environmental Protection Agency (EPA) published Final Rule for Hazardous and Solid Waste Management System – Disposal of Coal Combustion Residual from Electric Utilities (40 CFR Parts 257 and 261, also known as the CCR Rule) published on April 17, 2015 (effective October 19, 2015) and subsequent amendments.

This Report serves as the second periodic review since the initial report dated September 19, 2016, at the Columbia Energy Center (COL) in Pardeeville, Wisconsin and is focused on classifying surface impoundments based on the probable loss of human life, and the impacts on economic, environmental, and lifeline interests in the event of an unintentional release from the COL Secondary Ash Pond. The COL Primary Ash Pond was certified closed in 2025. This Report has been completed in accordance with §257.73(a)(2).

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1. INTRODUCTION

In accordance with the requirements set forth in §257.73(a)(2) of the CCR Rule, an owner or operator of an existing CCR surface impoundment must conduct initial and periodic hazard potential classification assessments of their CCR surface impoundment, except for those existing CCR surface impoundments that are incised. The owner or operator must determine each CCR surface impoundment hazard potential classification through a hazard potential classification assessment. This Report has been prepared in accordance with the requirements of §257.73(a)(2) of the CCR Rule.

1.1 CCR Rule Requirements

The CCR Rule requires a hazard potential classification assessment by a qualified professional engineer (PE) for all CCR surface impoundments including existing, new, lateral expansions, and legacy CCR impoundments.

1.2 Hazard Potential Classification Assessment Applicability

The Wisconsin Power and Light Company (WPL) Columbia Energy Center (COL) in Pardeeville, Wisconsin (Figure 1) has one closed and one inactive CCR surface impoundment, identified as follows:

- Former COL Primary Ash Pond (closed)
- Former COL Secondary Ash Pond (inactive)

The former COL Secondary Ash Pond has not received CCR after October 2015. In 2023, closure earthwork was completed within both impoundments which involved dewatering, removal of CCR, backfilling, restoration and CCR placement into the onsite landfill. The former COL Secondary Ash Pond is subject to the periodic hazard potential classification assessment requirements of §257.73(a)(2) of the CCR Rule.

2. FACILITY DESCRIPTION

COL is located southeast of the City of Portage on the eastern shore of the Wisconsin River in Columbia County at W8375 Murray Road, Pardeeville, Wisconsin (Figure 1). Wisconsin River backwaters are located north of the generating station, while Lake Columbia, south of the generating plant, is a 480-acre non-contact cooling water pond.

COL is a fossil-fueled electric generating station that initiated operations in 1975. COL consists of two steam electric generating units. Sub-bituminous coal is the primary fuel for producing steam. The burning of coal produces a by-product of CCR. The CCR at COL includes bottom ash, fly ash, and spray dryer absorber waste from scrubbers. The fly ash can also be subdivided into two types; economizer fly ash and precipitator fly ash.

General Facility Information:

Date of Initial Facility Operations:	1975
WPDES Permit Number:	WI-0002780-10-0
Latitude / Longitude:	43° 29’ 9.73” N 89° 25’ 8.40” W
Unit Nameplate Ratings:	Unit 1 (1975): 512 MW
	Unit 2 (1978): 511 MW

2.1 Former COL Primary Ash Pond (Closed)

The former COL Primary Ash Pond was located north of the generating plant and west of the former COL Secondary Ash Pond. The COL Primary Ash Pond was the primary receiver of process flows from the generating plant. When the impoundment was active, process flows included CCR sluice water (bottom ash and economizer fly ash), boiler/precipitator wash water, plant floor drains, ash line freeze protection flows, bottom ash area sump water, demineralizer area sump water, and air heater sump water. The former COL Primary Ash Pond area currently receives

storm water runoff from the surrounding area, inclusive of the closed ash landfill, located south of the former CCR surface impoundments.

Prior to closure, the western half of the COL Primary Ash Pond was a CCR handling area. A shallow narrow drainage channel was located along the south, west, and north sides of the CCR handling area. The sluiced CCR was discharged into the southeast corner of the western half of the former COL Primary Ash Pond. The sluiced CCR settled out through the water column as it follows the flow of the narrow channel around the southern, western, and northern sides of the CCR surface impoundment. The water in the channel flowed to the east and discharged through a narrow cut-out of an interior dike into the northwest corner of the large open area in the eastern half of the former COL Primary Ash Pond.

The majority of the CCR that was discharged into the former COL Primary Ash Pond was removed during routine maintenance dredging activities of the shallow narrow channel. The CCR that was dredged was stockpiled in the western half of the COL Primary Ash Pond for dewatering. Once dewatered, the CCR was run through a sieve shaker machine to separate the coarsely graded CCR from the finely graded CCR. The CCR was then transported off-site for beneficial reuse or transported to the on-site active dry ash landfill.

The water in the former COL Primary Ash Pond was recirculated to the generating plant via effluent pumps located in the ash recirculating pump house in the northeast corner of the eastern half of the COL Primary Ash Pond. The recirculating pumps returned water to the generating plant for reuse and/or treatment and disposal per the facility's Wisconsin Pollution Discharge Elimination System (WPDES) permit.

The surface area of the former COL Primary Ash Pond was and is approximately 14.7 acres and has an embankment height of approximately 23 feet from the crest to the toe of the downstream slope. The interior storage depth of the COL Primary Ash Pond was approximately 15 feet. In 2023, the CCR was removed and placed into the on-site dry ash landfill. Closure construction activities have been completed and the impoundment has been certified as closed. Therefore, the former CCR impoundment is not discussed further as part of this Report.

2.2 Former COL Secondary Ash Pond (Inactive)

The former COL Secondary Ash Pond is located north of the generating plant and east of the former COL Primary Ash Pond. The former COL Secondary Ash Pond was previously a downstream receiver of influent flows from the COL Primary Ash Pond. The water within the former COL Secondary Ash Pond, prior to 2004, was pumped to a surface impoundment identified as the polishing pond. The polishing pond was located east of the generating plant. The water pumped to the polishing pond would flow to the south through the facility's WPDES Outfall 002 into "Mint Ditch" and eventually flow into the backwaters of the Wisconsin River. This system is no longer in operations.

Presently, the former COL Secondary Ash Pond acts as a storm water detention impoundment with the only influent sources being precipitation and storm water runoff from the surrounding area. The water within the former COL Secondary Ash Pond either infiltrates or evaporates. The water elevation within the former COL Secondary Ash Pond is typically near the ground water elevation in that area. In 2023, the CCR was removed and placed into the on-site dry ash landfill. Closure construction activities have been completed, although the former CCR impoundment has not been certified as closed.

3. HAZARD POTENTIAL CLASSIFICATION - §257.73(a)(2)

FEMA (FEMA Publication 333, Federal Guidelines for Dam Safety, Hazard Potential Classification System for Dams, April 2004) developed a hazard potential classification to classify surface impoundments based on the probable loss of human life, and the impacts on economic, environmental, and lifeline interests in the event of unintentional release from a surface impoundment. Three hazard potential classification levels are identified as:

1. High Hazard Potential – Assigned to surface impoundments where failure or mis-operation will probably cause loss of human life.
2. Significant Hazard Potential – Assigned to surface impoundments where failure or mis-operation results in no probable loss of human life, but can cause economic loss, environmental damage, or disruption of lifeline facilities or can impact other concerns. Significant hazard potential classification dams are often located in predominantly rural or agricultural areas but could be located in areas with population and significant infrastructure.
3. Low Hazard Potential – Assigned to surface impoundments where failure or mis-operation has no probable loss of human life and low economic and/or environmental losses. Losses are principally limited to the owner's property.

3.1 Applicable Former COL Secondary Ash Pond Siting Information

West and north of the former COL Secondary Ash Pond, the U.S. Fish and Wildlife Service National Wetlands Inventory has identified both "Freshwater Forested/Shrub Wetland" (over 500 acres) and "Freshwater Emergent Wetland" (2.93 acres) with Classification Codes: PSS1Bg, PSS1/EMBg, PFO1Bg, PSS1/UB, PFO1Bg, PFO1/EMBg, and PEMF (Figure 2). The October 30, 2020 Location Restriction Compliance Demonstration identifies that the COL Secondary Ash Pond is not located in wetlands as defined by 40 CFR 232.2.

The surface area of the former COL Secondary Ash Pond is approximately 9.6 acres and has an embankment height of approximately 23 feet from the crest to the toe of the downstream slope. The Wisconsin River is approximately 2,000 feet west of the COL Secondary Ash Pond. The interior storage depth of the former COL Secondary Ash Pond is approximately 12 feet.

3.2 Hazard Potential Classification

Former COL Secondary Ash Pond has been assigned a **Low Hazard Potential** classification. Mis-operation or failure will likely not result in loss of life as there are no occupied buildings or residences located in the immediate vicinity of the CCR surface impoundment. There are no public road or highways located in the immediate vicinity of the CCR surface impoundment. The south and east sides of the CCR impoundment are incised. A release to the north would likely be limited to the wetland areas north of the CCR surface impoundment. A release to the west would be limited to the COL Secondary Ash Pond. In all cases, a release from the CCR surface impoundment would principally be limited to the facility property with low economic losses and environmental damages.

4. QUALIFIED PROFESSIONAL ENGINEER CERTIFICATION

To meet the requirements of 40 CFR 257.73(a)(2)(ii), I Mark W. Loerop hereby certify that I am a licensed Professional Engineer in the State of Wisconsin; and that, to the best of my knowledge, all information contained in this document is correct and the document was prepared in compliance with all applicable requirements in 40 CFR 257.73(a)(2).

By: _____

Name: MARK LOEROP

Date: MAY 2, 2026

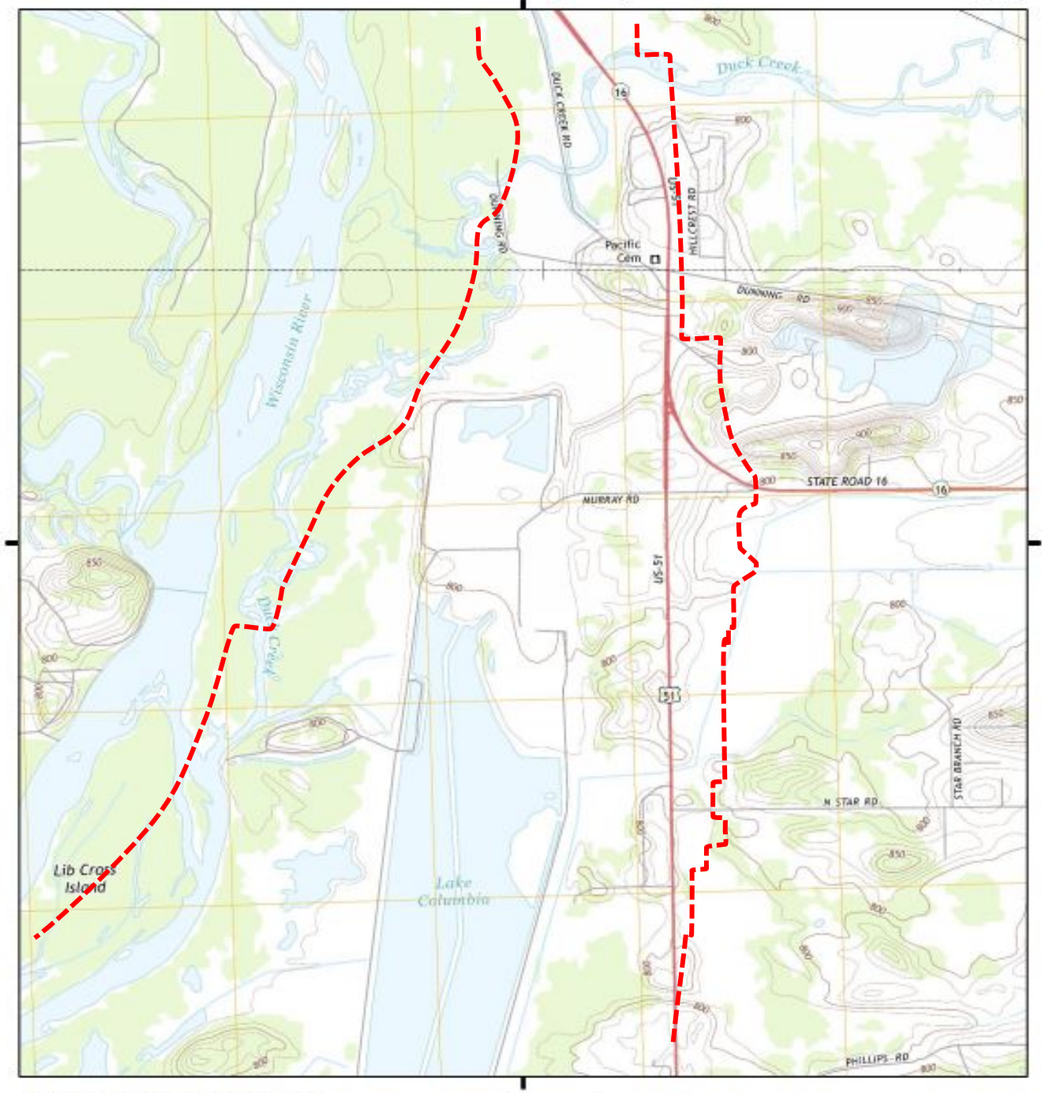
FIGURES

Alliant Energy
Wisconsin Power and Light Company
Columbia Energy Center
Pardeeville, Wisconsin

Hazard Potential Classification Assessment

Historical Topo Map

2013



This report includes information from the following map sheet(s).

Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Poynette, 2013, 7.5-minute

N, Portage, 2013, 7.5-minute

SITE NAME: Columbia Energy Center
ADDRESS: W8375 Murray Road
Pardeeville, WI 53954
CLIENT: Environmental Site Assessors

N

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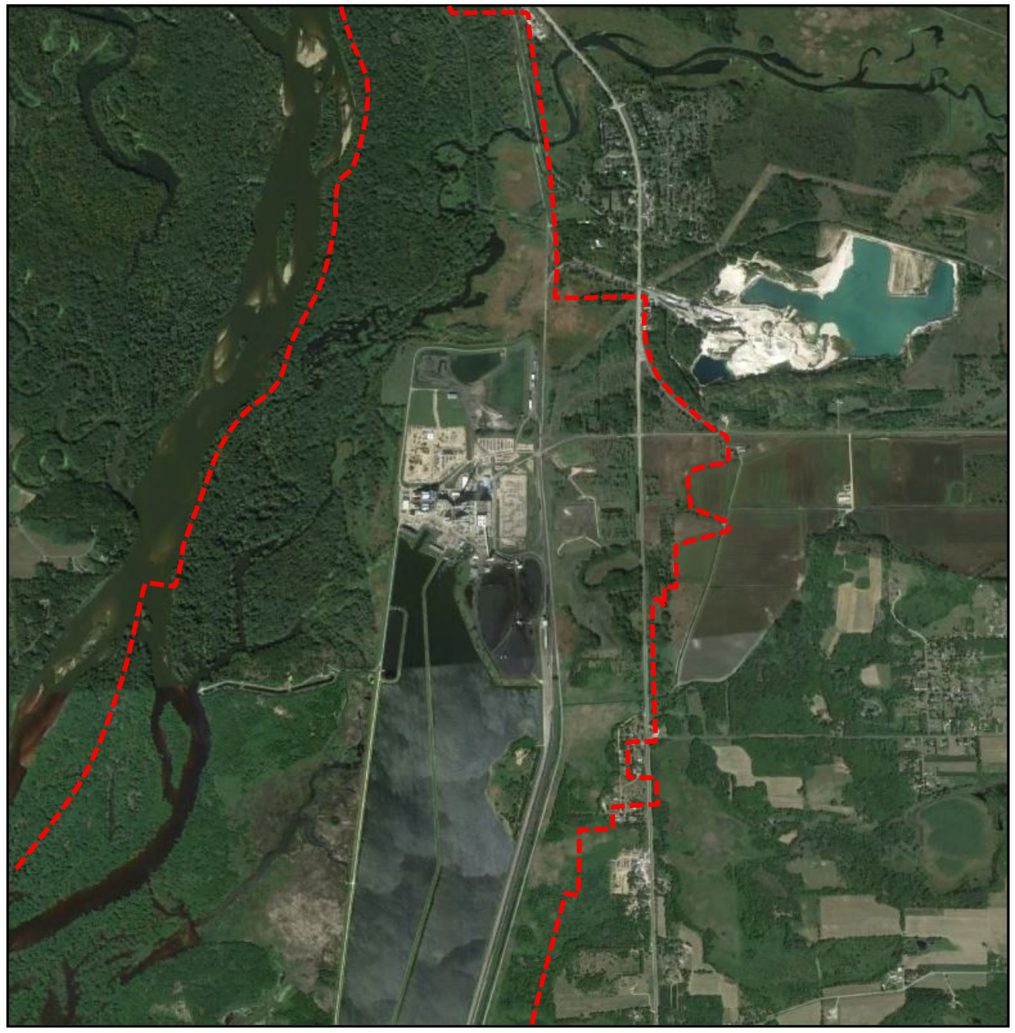
Historical Aerial Photo 6/12/2014



Approximate Property Boundary

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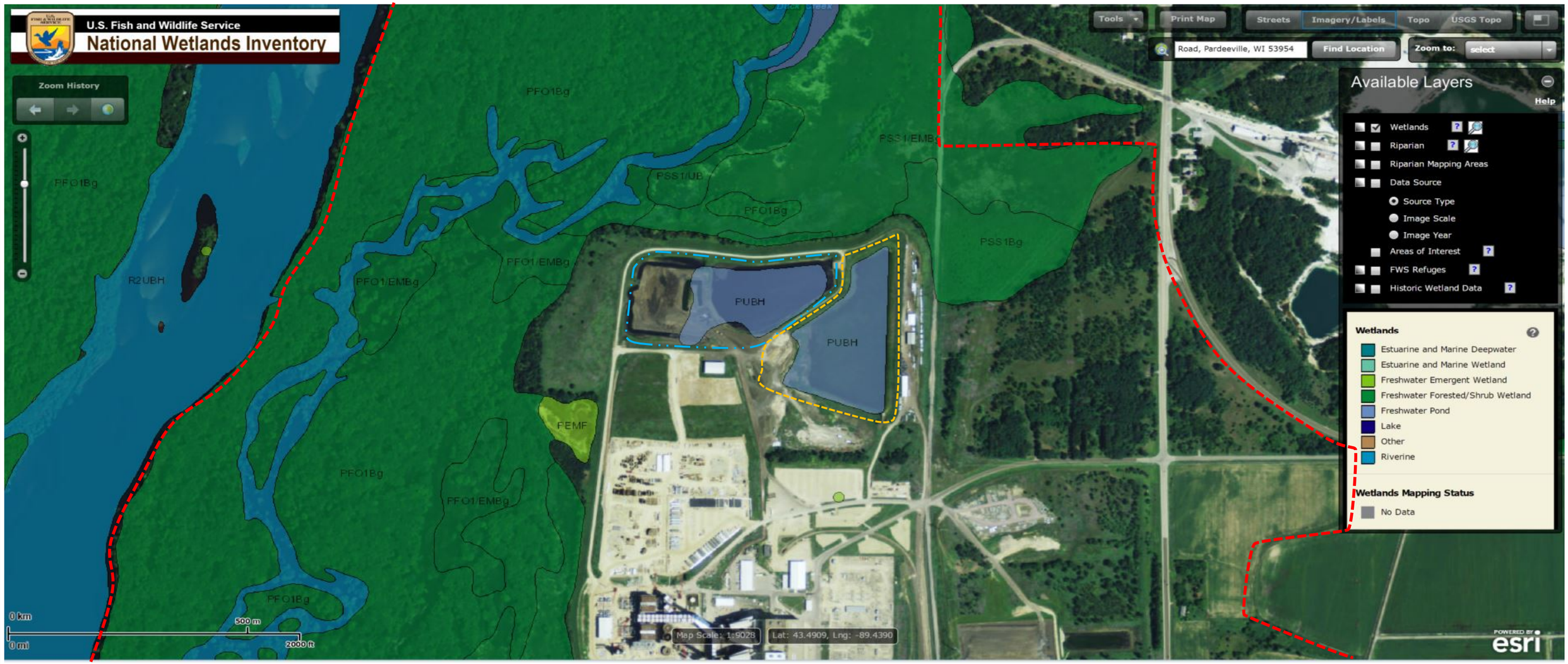
Site Location
Columbia Energy Center
Wisconsin Power and Light Company

Drawing
Figure 1

Date
4/30/2026



Approximate Property Boundary
Former COL Primary Ash Pond (Closed)
Former COL Secondary Ash Pond (Inactive)

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