



VIA EMAIL

September 20, 2016

Mr. Jeffrey Maxted
Alliant Energy – Sr. Environmental Specialist
4902 North Biltmore Lane
Madison, WI 53718-2148

**Re: Hazard Potential Classification Assessment - §257.73(a)(2)
Alliant Energy – Wisconsin Power and Light Company
WPL – Nelson Dewey Generating Station
Cassville, Wisconsin**

Dear Mr. Maxted;

Hard Hat Services (HHS) completed the hazard potential classification assessment for the existing CCR surface impoundments located at the Wisconsin Power and Light Company (WPL) Nelson Dewey Generating Station in Cassville, Wisconsin.

Background Information

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.

FEMA (FEMA Publication 333, Federal Guidelines for Dam Safety, Hazard Potential Classification System for Dams, April 2004) developed a “hazard potential” classification in order 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 an unintentional release from a surface impoundment. Three hazard potential classification levels are used, as follows:

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.

Facility Specific Information

The WPL – Nelson Dewey Generating Station (NED) is located at 11999 County Highway VV, Cassville, WI 53806-9722 and was retired on December 31, 2015. Figure 1 provides both a topographic map and an aerial of the NED facility location, with the approximate property boundary of the facility identified. NED has one existing CCR surface impoundment, which is identified as follows:

- NED Slag Pond

Wisconsin Power and Light Company also has one inactive CCR surface impoundment, the NED WPDES Pond. The NED WPDES Pond will be handled under a separate transmittal in accordance with the CCR Rule, if needed, and is not discussed further herein.

NED Slag Pond

The NED Slag Pond is located northwest of the generating plant and south of the on-site closed ash landfill. The NED Slag Pond receives storm water runoff from the on-site closed ash landfill, as well as slag handling areas. The NED Slag Pond was the primary receiver of process flows when the plant was generating electricity. Wastewater was also periodically pumped from the NED WPDES Pond to the NED Slag Pond. Process flows, prior to the facility ceasing operations, included sluiced CCR (slag) from the slag tanks located inside the generating plant, as well as flows associated with the seal well sump pumps. Flows from the seal well sump pumps included soot blowers, air compressors, boiler blowdown, Unit 1 and Unit 2 floor sumps, oil and hydrogen coolers and demineralization/reverse osmosis multi-media units.

Prior to the facility ceasing operations, the sluiced slag was discharged into the east end of the NED Slag Pond where the majority of CCR was recovered. A dozer was then utilized to push the CCR towards an excavator for dredging. Prior to October 19, 2015, the dredged CCR was stockpiled adjacent to the NED Slag Pond for dewatering. Once dewatered, the CCR was transported off-site for beneficial use. CCR has not been stockpiled adjacent to the NED Slag Pond on or after October 19, 2015, the effective date of the CCR Rule.

The water used to sluice the CCR from the generating plant to the NED Slag Pond flowed from the east end to the west end of the NED Slag Pond. The southwest corner of the NED Slag Pond consists of the facility’s Wisconsin Pollution Discharge Elimination System (WPDES) Outfall 002. The concrete outfall structure consists of a notched weir that discharges into a 30-inch diameter reinforced concrete pipe. The water flows through the WPDES Outfall 002, under the adjacent access road along the west side of the NED Slag Pond, and discharges into a riprap lined swale that flows to the southwest into the Mississippi River.

Northwest of the NED Slag Pond, the U.S. Fish and Wildlife Service National Wetlands Inventory has identified both “Freshwater Forested/Shrub Wetland” (over 575 acres) with Classification Codes PFO1C and PFO1C. Additionally, a small “Freshwater Emergent Wetland” (0.1 acre) with Classification Code PEM1C is located south of the NED Slag Pond. The Mississippi River is approximately 250 feet southwest of the NED Slag Pond.

The surface area of the NED Slag Pond is approximately 4.8 acres and has an embankment height of approximately 15 feet from the crest to the toe of the downstream slope. The interior storage depth of the NED Slag Pond is approximately 10 feet. The total volume of impounded CCR and water within the NED Slag Pond is approximately 75,000 cubic yards.

Hazard Potential Classification

Each existing CCR surface impoundment has been assigned a hazard potential classification, as identified below.


NED Slag Pond

NED Slag Pond has been assigned a **Low Hazard Potential** classification. Business buildings are located northwest of the impoundment which are likely to be occupied. Given the volume of CCR, water, and elevation within the impoundment, mis-operation or failure will likely not result in loss of life. There are no public roads or highways located in the immediate vicinity of the CCR surface impoundment. The northeast and southeast side of the CCR impoundment is incised. A release from the south corner of the impoundment would be principally contained within the bay used to stage barges. A release southwest would follow the discharge channel where the losses would be contained near the impoundment. 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.

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 Iowa; 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: SEP 20, 2016

cc: Tony Morse, Alliant Energy
Jeff Maxted, Alliant Energy

att: Figure 1 – Facility Location Map

Figure 2 – NED Slag Pond

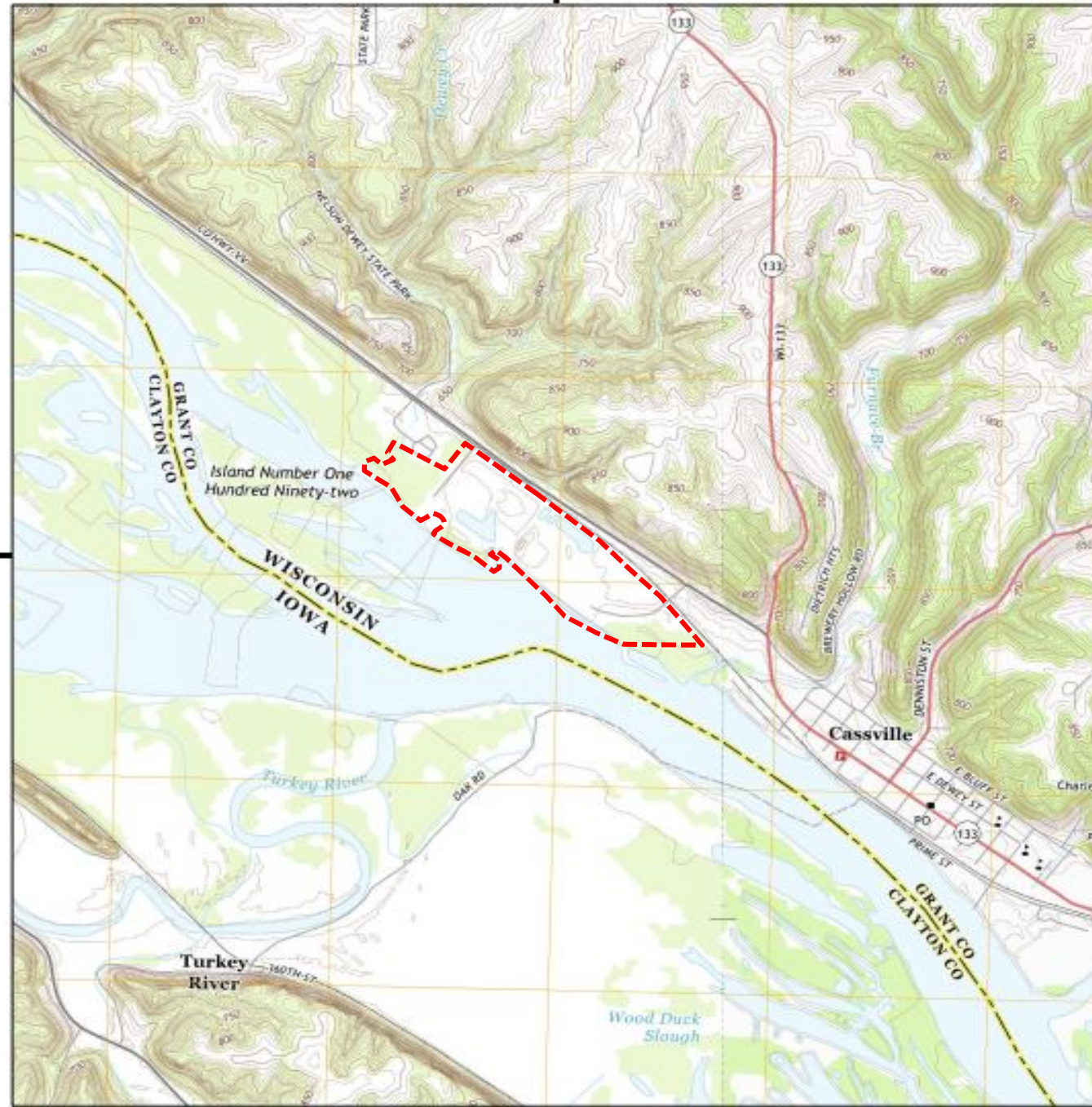
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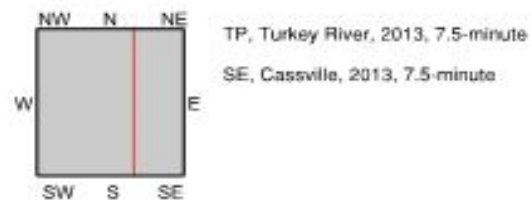
Historical Topo Map

2013

Historical Aerial Photo 5/30/2015



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



SITE NAME: Nelson Dewey Generating Station
 ADDRESS: 11999 County Highway VV
 Cassville, WI 53806
 CLIENT: Environmental Site Assessors



----- Approximate Property Boundary



HARD HAT SERVICESTM
 Engineering, Construction and Management Solutions

Site Location
 Nelson Dewey Generating Station
 Wisconsin Power and Light Company

Drawing
Figure 1
 Date
 7/13/2016



- - - - - Approximate Property Boundary
- · - · - NED Slag Pond