

**VIA EMAIL**

September 20, 2016

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

**Re: Liner Design Criteria for Existing CCR Surface Impoundments - §257.71(a)
Wisconsin Power and Light Company
Nelson Dewey Generating Station
Cassville, Wisconsin**

Dear Mr. Maxted;

Hard Hat Services (HHS) assessed the liner design criteria for the existing CCR surface impoundment located at the Nelson Dewey Generating Station in Cassville Wisconsin.

Background Information

In accordance with the requirements set forth in §257.71(a) of the CCR Rule (40 CFR 257.50-107), an owner or operator of an existing CCR surface impoundment must document whether or not the CCR unit was constructed with a liner that meets, at a minimum, one of the following three categories:

- i. A liner consisting of a minimum of two feet of compacted soil with a hydraulic conductivity of no more than 1×10^{-7} cm/sec,
- ii. A composite liner that meets the requirements of §257.70(b) - A composite liner must consist of two components; the upper component consisting of, at a minimum, a 30-mil geomembrane liner, and the lower component consisting of at least a two-foot layer of compacted soil with a hydraulic conductivity of no more than 1×10^{-7} cm/sec. Geomembrane liner components consisting of high density polyethylene must be at least 60-mil thick. The geomembrane liner or upper liner component must be installed in direct and uniform contact with the compacted soil or lower liner component. The composite liner must meet the requirements specified in §257.70 (b)(1) through (4).
- iii. An alternative composite liner that meets the requirements of §257.70(c). An alternative composite liner shall meet the following requirements:
 - An alternative composite liner must consist of two components; the upper component consisting of, at a minimum, a 30-mil geomembrane liner, and a

lower component, that is not a geomembrane, with a liquid flow rate no greater than the liquid flow rate of two feet of compacted soil with a hydraulic conductivity of no more than 1×10^{-7} cm/sec. Geomembrane liner components consisting of high density polyethylene must be at least 60-mil thick. If the lower component of the alternative liner is compacted soil, the geomembrane liner must be installed in direct and uniform contact with the compacted soil.

- The owner or operator must obtain certification from a qualified professional engineer that the liquid flow rate through the lower component of the alternative composite liner is no greater than the liquid flow rate through two feet of compacted soil with a hydraulic conductivity of 1×10^{-7} cm/sec. The hydraulic conductivity for the two feet of compacted soil used in the comparison shall be no greater than 1×10^{-7} cm/sec. The hydraulic conductivity of any alternative to the two feet of compacted soil must be determined using recognized and generally accepted methods.
- The alternative composite liner must meet the requirements specified in §257.70 (b)(1) through (4).

Facility Specific Information

NED is located north of the Village of Cassville, Wisconsin on the eastern shore of the Mississippi River in Grant County, at 11999 County Highway VV, Cassville, Wisconsin. Figure 1 provides both a topographic map and an aerial of the NED facility location, with the approximate property boundary of the facility identified. Figure 2 identifies each CCR Unit and illustrates the storm water and process water route. 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.

Liner Determination

After review of the reasonably and readily available documentation, the NED Slag Pond does not meet the requirements of §257.71(a)(1)(i), (ii), or (iii):


All existing unlined CCR surface impoundments are subject to the closure or retrofit requirements of §257.101(a).

Qualified Professional Engineer Certification

The owner or operator of the CCR unit must obtain a certification from a qualified professional engineer attesting that the documentation as to whether a CCR unit meets the requirements 40 CFR 257.71(a) is accurate.

To meet the requirements of 40 CFR 257.71(b), 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 257.71(a).



By: 
Name: MARK LOEROP
Date: SEP 20, 2016

cc: Tony Morse, Alliant Energy

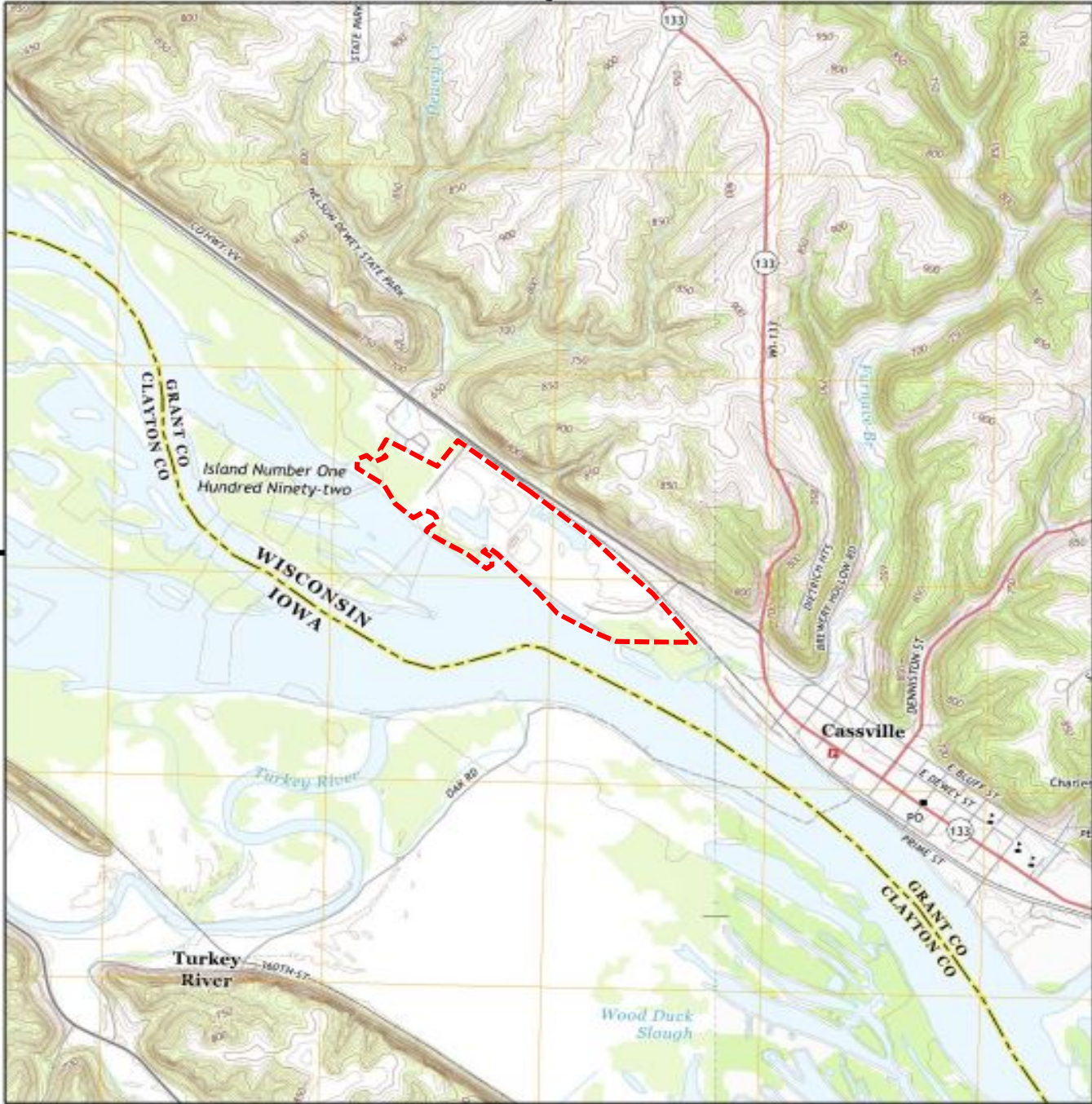
att: Figure 1 – Site Location
Figure 2 – Storm Water Routing

MWL/tjh/CTS

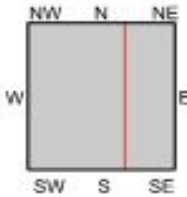
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Historical Topo Map

2013



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



TP, Turkey River, 2013, 7.5-minute
SE, Cassville, 2013, 7.5-minute

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

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Historical Aerial Photo 5/30/2015



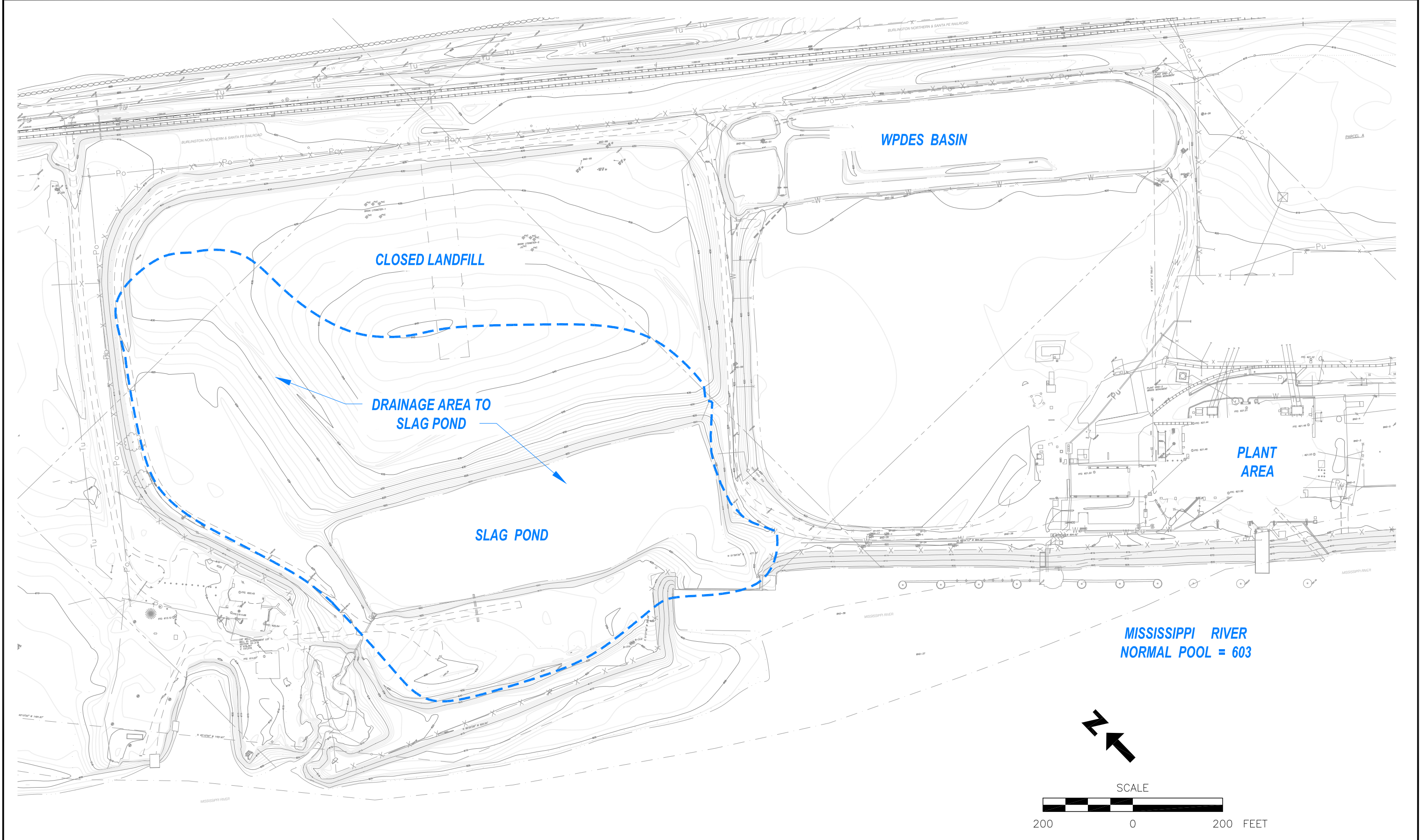
----- Approximate Property Boundary






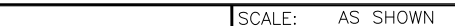


HARD HAT SERVICES
Engineering, Construction and Management Solutions

Site Location
Nelson Dewey Generating Station
Wisconsin Power and Light Company

Drawing
Figure 1
Date
7/13/2016



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	REV	DATE	BY	DESCRIPTION
				
SCALE: AS SHOWN		CLIENT / LOCATION		
DATE: 8-22-16		WISCONSIN POWER AND LIGHT NELSON DEWEY GENERATING STATION CASSVILLE, WISCONSIN		
DRAWN BY: JFD				
CHKD BY: TJH				
APRVD BY: MWL				
DRAWING DESCRIPTION				
Liner Design Criteria				
SITE PLAN				
JOB 154.018.012.007				
SHT. 2				
DWG. 154018012-IFC				