



NTH Consultants, Ltd.

Infrastructure Engineering
and Environmental Services

41780 Six Mile Road
Northville, MI 48168
Phone: 248-553-6300
Fax: 248-324-5179

Ms. Judy Visscher
Environmental Regulatory Specialist
Holland Board of Public Works
625 Hastings Ave.
Holland, Michigan 49423-5427

October 14, 2016
NTH Project No. 73-160017-01

**RE: Liner Design Criteria Documentation
Coal Combustion Residual Surface Impoundments
James DeYoung Plant
Holland, Michigan**

Dear Ms. Visscher:

The purpose of this letter is to present our observations and conclusions regarding review of historical records and field investigative activities completed to document whether the Coal Combustion Residual (CCR) surface impoundments (Ash Ponds 1-3) at the James DeYoung Plant were constructed in accordance with liner specifications established in 40 CFR 257.71(a).

INTRODUCTION

The Holland Board of Public Works (BPW) owns and operates the James DeYoung (JDY) plant located in Holland, Michigan, on the eastern end of Lake Macatawa. JDY was initially built in 1939 with a generating capacity of 15 MW; between 1953 and 1968, three new boilers were added. Since the late 1970's, the plant has consisted of three coal-fired boilers capable of producing up to 62.5 MW (Unit 3 is 11.5 MW; Unit 4 is 22 MW; and Unit 5 is 29 MW). BPW has discontinued the use of Unit 3, and coal is no longer utilized in Units 4 and 5 as of May 20, 2016. Units 4 and 5 are now operating only on natural gas. Throughout operations of the plant when Units 3-5 were operating on coal, bottom ash from these boiler units was historically sluiced with water to three surface impoundments located to the south of the plant, as shown on Figure 1.

These surface impoundments are considered CCR units and regulated under the recently promulgated rules regulating ash disposal from coal-fired power plants (40 CFR 257). In June 2016, BPW initiated removal of CCR material from the CCR units and closure of the CCR units will be completed in accordance with 40 CFR 257.101.



FIELD INVESTIGATION

Representatives from NTH Consultants, Ltd. (NTH) and Engineering and Environmental (E&E) Solutions, LLC, completed an on-site historical review of available site documentation on May 18, 2016. This historical records review did not identify written or graphical information regarding construction of the CCR units; and communication with BPW personnel indicate that the CCR units may not have been constructed with a liner system. On June 23-24, 2016, NTH and E&E conducted a field investigation to estimate the horizontal and vertical extent of CCR managed as part of the ash pond system, and as an attempt to determine the presence or absence of a liner system that meets the requirements of 40 CFR 257.71(a). The field investigation consisted of both a topographical survey and collection of soil borings for visual observation. Field data collected during this investigation provided a better understanding of current conditions in and around the CCR units. Additionally, evidence of a synthetic, compacted clay, or compacted soil liner was not found in the geoprobe borings conducted around the edges of the CCR units.

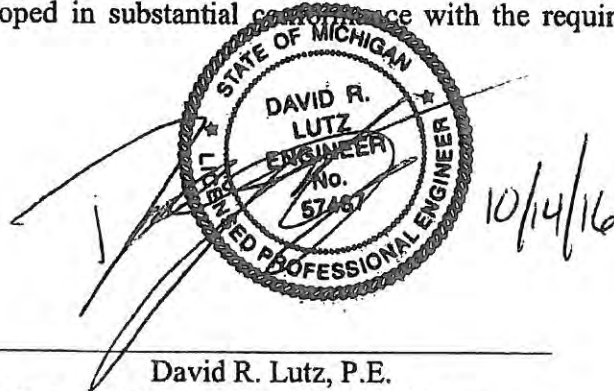
LINER DOCUMENTATION

In accordance with 40 CFR 257.71, the owner or operator of an existing CCR surface impoundment must document whether or not CCR units were constructed with a liner that meets the specification prescribed. At a minimum, the liner must consist of two feet of compacted soil with a hydraulic conductivity of no more than 1×10^{-7} cm/sec; or a composite liner that meets the requirements of 40 CFR 257.70(b); or an alternative composite liner that meets the requirements of 40 CFR 257.70(c). Additionally, the hydraulic conductivity of the compacted soil must be determined using recognized and generally accepted methods.

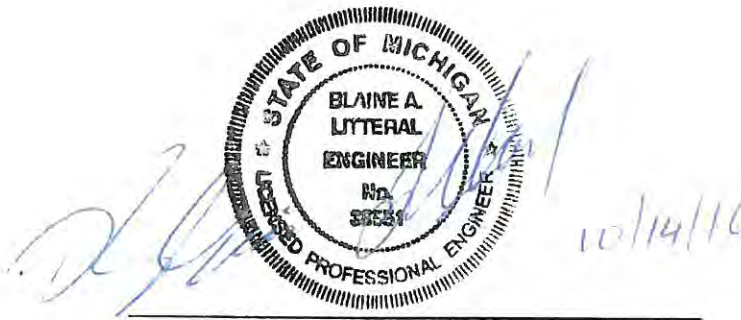
Based on the results of field investigations, NTH and E&E have determined that the CCR surface impoundments were likely constructed without a liner that complies with 40 CFR 257.71. Therefore, the CCR surface impoundments at the facility are considered unlined CCR surface impoundments and subject to the requirements of 40 CFR 257.101. Pursuant to requirements contained in 40 CFR Part 257, BPW has ceased placement of CCR these units and is preparing for closure of the impoundments.

QUALIFIED PROFESSIONAL ENGINEER CERTIFICATION

I, David R. Lutz and Blaine A. Litteral, Professional Engineers registered in the State of Michigan, certify¹ that, NTH Consultants and E&E Solutions have reviewed the historical information and conducted the limited field investigation for the Holland Board of Public Works James DeYoung Power Plant in Holland, Michigan CCR surface impoundments, as presented above. To the best of my knowledge and belief, the liner documentation presented in this report for the CCR surface impoundments at the aforementioned facility is accurate and has been developed in substantial compliance with the requirements stipulated in 40 CFR 257.71.




David R. Lutz, P.E.
State of Michigan Professional Engineer
Registration No. 57487



Blaine A. Litteral, P.E.
State of Michigan Professional Engineer
Registration No. 36551

(1) I am rendering my professional opinion based on the information available to me at the time of this report writing. This certification does not comprise a guarantee or warranty that certain conditions exist, nor does it relieve any other party of their requirements to abide by all applicable local, state, and federal regulations, and to honor all express or customary guarantees and warranties associated with their work.



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| NTH PROJECT No.: 62-160017 DESIGNED BY: SLG DRAWN BY: SLG CHECKED BY: DRL | CAD FILE NAME: 160017-JDY PLOT DATE: 10/4/2016 DRAWING SCALE: 1" = 200' INCEPTION DATE: 9/7/2016 |  NTH Consultants, Ltd. Infrastructure Engineering and Environmental Services | <div> SITE LOCATION PLAN JAMES DEYOUNG POWER PLANT HOLLAND, MI </div> | FIGURE: <div>1</div> |
|--|---|--|---|------------------------------------|