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12 October 2016
File No. 40373-445

Dayton Power & Light Company
P.O. Box 468
Aberdeen, Ohio 45101

Attention: Mr. Craig Spangler
Commodities Manager

Subject: Initial Hazard Potential Classification Assessment
Ash Pond
Killen Station
Manchester, Ohio

Mr. Spangler:

This letter presents the results of our Initial Hazard Potential Classification Assessment for the Ash Pond located at Dayton Power & Light Company (DP&L) Killen Station near Manchester, Ohio. This work was completed in accordance with the US Environmental Protection Agency's (EPA's) Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals (CCR) from Electric Utilities, 40 CFR Part 257, specifically §257.73(a)(2).

Description of ASH Pond

The Killen Ash Pond is comprised of the Bottom Ash Pond and Fly Ash Pond which together are referred to as the "Ash Pond." The Ohio Department of Natural Resources (ODNR) considers the Bottom Ash Pond and Fly Ash Pond to be a single unit. The impoundment was originally designed by Ebasco Services, with construction completed in 1982. The function of the Ash Pond is to settle and store bottom ash and fly ash sluiced from the Killen Station generating unit, and to receive coal pile runoff and other waste waters from the plant.

The Ash Pond is surrounded on all sides by above-grade earthen embankments with impervious fill cores. Maximum embankment height is 58 feet for the bottom ash portion of the pond and 77 feet for the fly ash portion of the pond. Crest length of the Ash Pond is approximately 14,000 feet. The Ash Pond is approximately 230 acres in area with storage volume of approximately 12,900 acre-ft¹ to the crest.

After initial settling of bottom ash, flow from the bottom ash portion of the pond is conveyed to the fly ash portion through a concrete channel equipped with removable steel channel stop logs. In addition, a second outlet conveys flow from the bottom ash portion back to the plant for use as recycled make-up water for plant processes. This water enters a 58-foot high concrete pump station intake tower at an

¹ Ohio Department of Natural Resources, "Dam Safety Inspection Report – Killen Electric Generating Station Ash Pond," dated July 30, 2008.

intake elevation of El. 569.5. Water entering the intake tower is conveyed back to the plant by gravity through a 36-inch diameter ductile iron pipe (DIP) which is installed inside of a 72-inch corrugated metal pipe (CMP) with open annulus. A 36-inch stainless steel sluice gate is provided in the pump station tower to shut off flow from the impoundment to the plant as needed.

The fly ash portion of the Ash Pond has a single discharge point. A decant structure consisting of a 17-foot by 18-foot rectangular concrete overflow structure exists near the southwest corner of the impoundment. Water enters the overflow structure through a 24-inch sluice gate. After entering the structure, water is conveyed through a 42-inch reinforced concrete pipe (RCP) to a 4-foot square vertical concrete standpipe. Water is conveyed from the standpipe by a 36-inch DIP which is installed through a 72-inch RCP with open annulus. The 36-inch DIP outlets into a concrete energy dissipator structure and Parshall Flume. Flow from the flume enters a drainage ditch that discharges to the Ohio River.

The Ash Pond is bordered on the north by U.S. Route 52, on the south by the Ohio River, on the east by agricultural land, and on the west by the plant cooling tower, switchyard, and coal storage area.

Hazard Potential Classification Assessment

GENERAL

The Hazard Potential Classification of a CCR surface impoundment is based on the potential for loss of human life, economic losses, environmental damage, and/or disruption to lifelines caused by failure or mis-operation of the surface impoundment.

EPA's Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities, 40 CFR Part 257 requires the owner or operator of a CCR surface impoundment to determine which of the following three hazard potential classifications characterizes their CCR unit:

- High Hazard Potential Classification – A diked surface impoundment where failure or mis-operation will probably cause loss of human life.
- Significant Hazard Potential Classification – A diked surface impoundment where failure or mis-operation results in no probable loss of human life, but can cause economic loss, environmental damage, disruption of lifeline facilities, or impact other concerns.
- Low Hazard Potential Classification – A diked surface impoundment where failure or mis-operation results in no probable loss of life, and low economic and/or environmental losses. Losses are principally limited to the surface impoundment's owner's property.

HAZARD POTENTIAL CLASSIFICATION

Based on observations during our 16 March 2016 site visit and our review of available information, the Killen Ash Pond is judged to have a **High** Hazard Potential Classification in accordance with 40 CFR Part 257. The **High** Hazard Potential Classification is due primarily to possible loss of human life in the

event of failure (Killen Station), as well as disruption of lifeline facilities (U.S. Route 52 and Killen Station), adverse impacts to the environment (Ohio River), and economic loss (Killen Station, off-site properties and Route 52).

Professional Engineer Certification

§257.73(a)(2)(ii): The owner or operator of the CCR unit must obtain a certification from a qualified professional engineer stating that the initial hazard potential classification and each subsequent periodic classification specified in paragraph (a)(2)(i) of this section was conducted in accordance with the requirements of this section.

I certify that this initial hazard potential classification for the Ash Pond surface impoundment at Killen Electric Generating Station was conducted in accordance with §257.73(a)(2) of the CCR Rule.

Signed:



Consulting Engineer

Print Name: Steven F. Putrich

Ohio License No.: 67329

Title: Vice President

Company: Haley & Aldrich, Inc.

Professional Engineer's Seal and date:

