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Evergy Kansas Central, Inc.
Jeffrey Energy Center
25903 Jeffrey Rd.
Saint Marys, Kansas 66536

Attention: Mr. Jay Martin

Subject: Periodic Hazard Potential Classification Assessment
Bottom Ash Settling Area
Jeffrey Energy Center
St. Marys, Kansas

Mr. Martin:

This document presents the results of our Periodic Hazard Potential Classification Assessment for the Evergy Kansas Central, Inc. (Evergy) Bottom Ash Settling Area coal combustion residuals (CCR) surface impoundment located at the Jeffrey Energy Center (JEC) in St. Marys, Kansas.

We completed an inspection on 22 July 2021 and have completed this assessment as a follow up activity. This work was completed by Haley & Aldrich, Inc. (Haley & Aldrich) on behalf of Evergy in accordance with the US Environmental Protection Agency's (EPA's) CCR Rule effective 19 October 2015 including subsequent revisions, specifically Code of Federal Regulations Title 40 (40 CFR) §257.73(a)(2).

The Initial Hazard Potential Classification Assessment was certified on 30 September 2016 by Haley & Aldrich and placed into the facility operating record on 3 October 2016. This document serves as the 5-year periodic update as required by the CCR Rule.

1.1 DESCRIPTION OF BOTTOM ASH SETTLING AREA

The Bottom Ash Settling Area is located at the JEC, approximately 7 miles northwest of the commercial and residential center of St. Marys, Kansas.

The BASA has a design total capacity of more than 20 acre-feet and a height of more than five feet. On the south and east sides of the Bottom Ash Settling Area, the topography slopes upward from the edge of the impoundment, thus there are no berms on these sides of the impoundment. Berms exist along the west and north sides of the impoundment with a maximum height of approximately 42 ft. According to records, the berms were constructed using a mixture of fly ash and bottom ash. We understand the

impoundment was a non-engineered structure and Evergy has minimal information related to the original design and construction.

Documentation on a vertical expansion of the impoundment in 2012 is limited, however, we understand that approximately 1,500 LF of the 40-ft wide berm was raised by 4 ft (from El. 1239 to typically 1243) using a mixture of fly ash and bottom ash placed and compacted in 8-in. lifts. The 24-in. diameter vertical riser pipe was raised vertically during that construction.

In the past, bottom ash and boiler slag from the plant were mixed with water and the slurry was sluiced from the plant to the Bottom Ash Settling Area. The slurry discharged into the impoundment via pipes located at the northeastern end of the impoundment. Present day, the Bottom Ash Settling Area is being unwatered as part of the process to prepare for its future closure. As a result, no flows are being discharged into the impoundment. Currently, the only inflow to the unit is a result of direct precipitation falling into the impoundment.

Currently, any accumulation of water (from recent direct precipitation) can drain from the impoundment via a 24-in. diameter CMP vertical riser pipe. No water was present in the unit at the time of the inspection. In the event of precipitation, water within the unit (i.e. the normal pool elevation) is maintained by the fixed level of the riser pipe opening. Flow from the riser pipe is directed to a horizontal outlet pipe that penetrates the west berm and discharges at the downstream toe of the berm. The end of the outlet pipe is visible and appears to consist of a 36-in. diameter steel pipe. Water from the outlet pipe flows via an open channel to a channel that bypasses the closed Bottom Ash Pond which then discharges to Tower Hill Lake.

1.2 HAZARD POTENTIAL CLASSIFICATION ASSESSMENT

1.2.1 General

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

EPA's Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities, §257.73(a)(2) 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.


1.2.2 Hazard Potential Classification

Based on observations during our site visit and our review of available information, Haley & Aldrich has judged the Bottom Ash Settling Area as having **Low** Hazard Potential Classification in accordance with §257.73(a)(2). The **Low** Hazard Potential Classification is due to no probable loss of life in the event of a failure, and minimized on-site environmental impacts, disruption of lifeline facilities, and economic impacts that would result from a failure of the impoundment. In addition, potential impacts due a failure would be limited to the owner's property. These findings from the Periodic Hazard Potential Classification Assessment are consistent and unchanged from the Initial Hard Potential Classification Assessment completed on 30 September 2016 by Haley & Aldrich.

1.3 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 periodic hazard potential classification for the Bottom Ash Settling Area CCR surface impoundment at Evergy's Jeffrey Energy Center was conducted in accordance with §257.73(a)(2) of the CCR Rule.

Signed: 
Certifying Engineer

Print Name: Steven F. Putrich
Kansas License No.: PE24363
Title: Principal Consultant
Company: Haley & Aldrich, Inc.

Professional Engineer's Seal:

