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File No. 128064-003

Associated Electric Cooperative, Inc.
Thomas Hill Energy Center
5693 Highway F
Clifton Hill, Missouri 65244

Attention: Ms. Kim Dickerson
Senior Environmental Analyst

Subject: Initial Hazard Potential Classification Assessment
Pond 001 - Cell 004
Thomas Hill Energy Center
Clifton Hill, Missouri

Ms. Dickerson:

This letter presents the results of our Initial Hazard Potential Classification Assessment for the Associated Electric Cooperative, Inc. (AECI) Pond 001 - Cell 004 CCR Surface Impoundment located at the Thomas Hill Energy Center (THEC) in Clifton Hill, Missouri.

Haley & Aldrich, Inc. (Haley & Aldrich) was contracted by AECI to perform this Initial Hazard Potential Classification Assessment for the Cell 004 impoundment. 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 from Electric Utilities, 40 CFR Part 257, specifically §257.73(a)(2).

1.1 DESCRIPTION OF CELL 004 IMPOUNDMENT

Cell 004 is a coal combustion residuals (CCR) surface impoundment located to the south of the Thomas Hill power plant. Cell 004 was originally designed by Burns & McDonnell in 1978-1979 and was constructed shortly thereafter. It is understood that Cell 004 was modified in 1984. Cell 004 has a surface area of approximately 11.0 acres in size.

Cell 004 provides final settling and polishing for Pond 001 prior to discharging to the Middle Fork of the Little Chariton River. Cell 004 receives decant water and a limited quantity of CCR material from Cell 003. The impoundment is surrounded by earthen berms on all sides. Maximum embankment height is approximately 15 ft. Exterior slopes generally range from approximately 4H:1V to 5H:1V. Interior slopes are typically 3H:1V. Crest width varies from approximately 14 to 16 ft.

The embankments are constructed from clay fill obtained from an on-site borrow source. The embankments are underlain by naturally deposited soft to stiff clay with trace sand and/or gravel, which in turn is underlain by weathered limestone, siltstone or shale.

The outlet structure from Cell 004 consists of a rectangular concrete drop inlet tower equipped with concrete stop logs. Decant water enters the structure and flows through a steel pipe that penetrates the Cell 004 south embankment and discharges from the NPDES-permitted Outfall #001 into a concrete open channel before flowing to the Middle Fork of the Little Chariton River.

The Cell 004 emergency spillway consists of a riprap-lined channel which is approximately 2 ft in depth located across the crest of the south embankment.

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 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.

1.2.2 Hazard Potential Classification

Based on observations during our 29 August 2016 site visit and our review of available information, Haley & Aldrich has judged the Cell 004 impoundment as having **Low** Hazard Potential Classification in accordance with 40 CFR Part 257. The **Low** Hazard Potential Classification is due to no probable loss of life in the event of a failure, low economic and environmental impacts, and losses limited to the impoundment owner's property which extends approximately 5 miles south (downstream) of Cell 004.

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*

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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 Cell 004 CCR surface impoundment at the AECl Thomas Hill Energy Center was conducted in accordance with §257.73(a)(2) of the CCR Rule.



Signed: _____
Certifying Engineer

Print Name: Steven F. Putrich
Missouri License No.: 2014035813
Title: Project Principal
Company: Haley & Aldrich, Inc.

Professional Engineer's Seal:

