Stantec Consulting Services Inc.
9200 Shelbyville Road, Suite 800, Louisville, Kentucky 40222-5112

April 12, 2023
File: let_006_175578372
Revision 0

Tennessee Valley Authority
1101 Market Street
Chattanooga, Tennessee 37402

RE: Periodic Hazard Potential Classification Assessment
Fly Ash Stilling Pond 2C and Sluice Channel
EPA CCR Rule
TVA Bull Run Fossil Plant
Clinton, Tennessee

1.0 PURPOSE

This letter documents certification that the Fly Ash Stilling Pond 2C and Sluice Channel at the Tennessee Valley Authority (TVA) Bull Run Fossil Plant complies with the hazard potential classification requirements set forth in 40 CFR 257.73(a)(2) of the EPA CCR Rule. The EPA CCR Rule requires periodic hazard classification assessments, certified by a qualified professional engineer, every five years. The initial certification of hazard potential classification was placed in the operating record on April 17, 2018.

2.0 INITIAL HAZARD CLASSIFICATION ASSESSMENT

The initial hazard potential classification assessment is attached. The results of the initial assessment assigned a hazard potential classification rating of "significant" for the Fly Ash Stilling Pond 2C and Sluice Channel because a failure or mis-operation would result in no probable loss of human life, but could cause economic loss, environmental damage, disruption of lifeline facilities, or impact other concerns.

3.0 CURRENT HAZARD CLASSIFICATION ASSESSMENT

Stantec reviewed the result of the initial hazard classification assessment and the changes in site conditions that have occurred in the past five years at the site. The following operational changes and other factors were considered in this periodic assessment:

1. The Fly Ash Stilling Pond 2C is adjacent to the Main Ash Pond within the southwest portion of the BRF Plant property. The unit was closed in June 2020 and was repurposed to serve as a stormwater and non-CCR process water basin. Repurposing operations included, in part, removal of CCR, regrading the interior slopes of the perimeter dikes and installing a crushed stone drainage layer, geosynthetic liner, and riprap.
2. The Sluice Channel was closed and capped with a geomembrane liner system and a vegetative cover in 2017. The Sluice Channel was closed after the lined process water Conveyance Ditch was constructed and put into service.
3. The risers of the historic outlet structure at Outfall 001 have been removed and the connecting 36-inch diameter reinforced concrete pipes were grouted and abandoned. The historic outlet structure was replaced with a 3-bay concrete stop log structure at Outfall 001.

Re: **Periodic Hazard Potential Classification Assessment**
Fly Ash Stilling Pond 2C and Sluice Channel
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TVA Bull Run Fossil Plant
Clinton, Tennessee

Since the Fly Ash Stilling Pond 2C has been closed, a failure or mis-operation would no longer result in off-site release of CCR, and therefore would warrant a hazard potential classification rating of "low" if considered on its own. However, since the Sluice Channel is included as part of the CCR unit, and a failure or mis-operation of the Sluice Chanel could potentially result in off-site release of CCR, the overall unit is given the higher hazard potential classification rating of "significant", and the initial hazard classification assessment result is still valid.

4.0 SUMMARY OF ASSESSMENT

Based on a review of the initial hazard potential classification assessment and the current site conditions, the result of this periodic hazard potential classification assessment is that the Fly Ash Stilling Pond 2C and Sluice Channel at the Bull Run Fossil Plant meets the requirements for classification as a "significant" hazard impoundment (as defined in 40 CFR § 257.53).

5.0 QUALIFIED PROFESSIONAL ENGINEER CERTIFICATION

I, Stephen H. Bickel, being a Professional Engineer in good standing in the State of Tennessee, do hereby certify, to the best of my knowledge, information, and belief:

1. that the information contained in this certification is prepared in accordance with the accepted practice of engineering;

2. that the information contained herein is accurate as of the date of my signature below; and

3. that this periodic hazard potential classification assessment for the TVA Bull Run Fossil Plant's Fly Ash Stilling Pond 2C and Sluice Channel meets the requirements specified in 40 CFR 257.73(a)(2).

SIGNATURE Stephen H Bickel DATE 04/12/2023

ADDRESS: Stantec Consulting Services Inc.
9200 Shelbyville Road, Suite 800
Louisville, Kentucky 40222-5112

TELEPHONE: (502) 212-5075

ATTACHMENTS: Initial Hazard Potential Classification Assessment

INITIAL HAZARD POTENTIAL CLASSIFICATION ASSESSMENT

Stantec Consulting Services Inc.
3052 Beaumont Centre Circle, Lexington KY 40513-1074

June 4, 2018
File: rpt_033_let_175565009
Revision 1

Tennessee Valley Authority
1101 Market Street
Chattanooga, Tennessee 37402

Re: Initial Hazard Potential Classification Assessment
Fly Ash Stilling Pond 2C and Sluice Channel
EPA Final Coal Combustion Residuals (CCR) Rule
TVA Bull Run Fossil Plant
Clinton, Tennessee

1.0 PURPOSE

This letter documents Stantec Consulting Services Inc.'s (Stantec) certification of the initial hazard potential classification assessment for the TVA Bull Run Fossil Plant's Fly Ash Stilling Pond 2C and Sluice Channel. The EPA Final CCR Rule requires owners or operators of CCR surface impoundments to conduct initial and periodic hazard potential classification assessments of the unit, assign one of three potential hazard classification ratings to it, and provide the basis for the rating, as per 40 CFR 257.73(a)(2). Hazard potential classification ratings define the consequences in the event of a failure – *the ratings have nothing to do with the likelihood of failure or the structural stability of the impoundment*. Based on this assessment, the Fly Ash Stilling Pond 2C and Sluice Channel has been assigned a significant hazard potential classification rating.

2.0 BASIS FOR CLASSIFICATION RATING

As described in the attached assessment report, the hazard potential classification rating of "significant" was assigned to the Fly Ash Stilling Pond 2C and Sluice Channel because a failure or mis-operation would result in no probable loss of human life, but could cause economic loss, environmental damage, disruption of lifeline facilities, or impact other concerns. In 2013, Stantec reviewed the hazard potential classification of Fly Ash Stilling Pond 2C and Sluice Channel. It was determined that a breach of the impoundment would not likely result in loss of life. However, a breach would likely result in the release of CCR materials to Bullrun Creek or the Clinch River. Review of the analysis and current conditions at the Fly Ash Stilling Pond 2C and Sluice Channel concluded that the existing hazard classification was applicable.

3.0 SUMMARY OF FINDINGS

The attached report presents the analysis for the initial hazard potential classification assessment. The results demonstrate that the impoundment meets the hazard potential classification of "significant."

Re: Initial Hazard Potential Classification Assessment
Fly Ash Stilling Pond 2C and Sluice Channel
EPA Final Coal Combustion Residuals (CCR) Rule
TVA Bull Run Fossil Plant
Clinton, Tennessee

4.0 QUALIFIED PROFESSIONAL ENGINEER CERTIFICATION

I, John S. Montgomery, being a Professional Engineer in good standing in the State of Tennessee, do hereby certify, to the best of my knowledge, information, and belief:

1. that the information contained in this certification is prepared in accordance with the accepted practice of engineering;

2. that the information contained herein is accurate as of the date of my signature below; and

3. that the initial hazard potential classification assessment for the TVA Bull Run Fossil Plant's Fly Ash Stilling Pond 2C and Sluice Channel meets the requirements specified in 40 CFR 257.73(a)(2).

SIGNATURE John S. Montgomery DATE June 4, 2018

ADDRESS: Stantec Consulting Services Inc.
3052 Beaumont Centre Circle
Lexington, Kentucky 40513-1703

TELEPHONE: (859) 422-3000

ATTACHMENTS: Initial Hazard Potential Classification Assessment

Initial Hazard Potential Classification Assessment

Bull Run Fossil Plant
Fly Ash Stilling Pond 2C and
Sluice Channel
Clinton, Tennessee

Prepared for:
Tennessee Valley Authority
Chattanooga, Tennessee

Prepared by:
Stantec Consulting Services Inc.
Lexington, Kentucky

June 4, 2018

Revision 1

Table of Contents

1.0 RATING

The Fly Ash Stilling Pond 2C and Sluice Channel at the Bull Run Fossil Plant (BRF) is regulated under 40 CFR § 257 Subpart D as an inactive surface impoundment. 40 CFR § 257.100(e)(3)(v) of the EPA Final Coal Combustion Residuals (CCR) Rule requires that a hazard potential classification assessment be prepared and placed in the facility's operating record by April 17, 2018.

Hazard potential classifications are based on the consequences of failure or mis-operation and are not a measure of the condition of the unit. The applicable hazard potential classifications are defined in 40 CFR § 257.53 as follows:

> (1) High hazard potential CCR surface impoundment means a diked surface impoundment where failure or mis-operation will probably cause loss of human life.
>
> (2) Significant hazard potential CCR surface impoundment means 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.
>
> (3) Low hazard potential CCR surface impoundment means a diked surface impoundment where failure or mis-operation results in no probable loss of human life and low economic and/or environmental losses. Losses are principally limited to the surface impoundment owner's property.

Based on these definitions the Fly Ash Stilling Pond 2C and Sluice Channel is classified as a significant hazard potential CCR surface impoundment.

This report contains supporting documentation for the hazard potential classification assessment. The hazard potential classification for this structure was determined by a review of available data.

2.0 BASIS OF RATING

2.1 INTRODUCTION

The Tennessee Valley Authority (TVA) has contracted Stantec Consulting Services Inc. (Stantec) to review and update previous hazard potential classification assessments as needed for selected impoundments at various TVA Plants.

BRF is located in Anderson County, Tennessee at the confluence of Bullrun Creek and the Clinch River, approximately 15 miles west of Knoxville, Tennessee. The Fly Ash Stilling Pond 2C and Sluice Channel is located south of the plant. A figure of the Fly Ash Stilling Pond 2C and Sluice Channel is provided in the appendix. Active ash sluicing operations into the pond ceased in November 2010. A Notification of Intent to Initiate Closure was placed in the facility's operating record on December 15, 2015. As of the date of this report, the Sluice Channel is closed and the Fly Ash Stilling Pond 2C continues to impound water.

2.2 SOURCE DATA

For the BRF Fly Ash Stilling Pond 2C and Sluice Channel, an assessment was previously conducted in 2013. Based on the findings of that study, it was recommended that the hazard classification be listed as a significant hazard.

2.3 POTENTIAL FAILURE SCENARIOS

As part of the 2013 study, a breach on the south side of the site was modeled. Model results indicated that no structures or roads would be impacted; therefore, probable loss of human life due to a breach was not envisioned. It was noted in the 2013 assessment that a breach would likely result in the off-site release of CCRs into the waters of the United States.

As part of this 2018 initial hazard classification assessment, site conditions were reviewed to determine if changes have occurred to the impoundment or to downstream areas that would affect the conclusions of the 2013 study. No significant changes were observed and it is concluded that the hazard classification determination is appropriate.

2.4 HAZARD CLASSIFICATION

Findings of this review and assessment show that a breach of the Fly Ash Stilling Pond 2C and Sluice Channel would result in no probable loss of life, but could cause economic loss or environmental damage. It is Stantec's opinion the impoundment fits the definition for a significant hazard potential CCR surface impoundment as defined in the EPA Final CCR Rule §257.53.

3.0 REFERENCES

1. Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals From Electric Utilities; Final Rule. 80 FR 21301, April 17, 2015.

2. Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals From Electric Utilities; Extension of Compliance Deadlines for Certain Inactive Surface Impoundments; Response to Partial Vacatur. 81 FR 51802, August 5, 2016.

3. Stantec Consulting Services Inc., September 30, 2013. Dam Safety Hazard Classification Projects Summary Report.

APPENDIX
SITE OVERVIEW FIGURE

613516

2516399

2513118

613516

Figure No.
1

Title
Site Overview - BRF - Fly Ash Stilling Pond 2C and Sluice Channel

Client/Project
Tennessee Valley Authority
Bull Run Fossil Plant (BRF)
Hazard Potential Classification Assessment

Project Location:
Clinton, TN

Prepared by mmm on 2018-06-04
Technical Review by awg on 2018-06-04
Independent Review by wrm on 2018-06-04

175565009

0 250 500 Feet

Notes

1. Coordinate System: NAD 1983 StatePlane Tennessee FIPS 4100 Feet
2. TVA Aerial Imagery dated 2017.

Stantec

TVA

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