

October 11, 2021

Tennessee Valley Authority  
1101 Market Street  
Chattanooga  
Tennessee, 37402-2801

**Subject: Engineer's Certification of 2021 Periodic Hazard Potential Classification Assessment  
Middle Pond A  
Tennessee Valley Authority Gallatin Fossil Plant  
Gallatin, Tennessee**

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## 1.0 PURPOSE

The purpose of this document is to provide the periodic hazard potential classification assessment and associated certification for the Tennessee Valley Authority (TVA) Gallatin Fossil Plant (GAF) Middle Pond A in compliance with 40 CFR § 257.73(a)(2) of the United States Environmental Protection Agency (USEPA) Coal Combustion Residuals Rule (CCR Rule). According to 40 CFR § 257.73(f), a hazard potential classification assessment is required every five years from the posting of the initial hazard potential classification assessment in the facility's Operating Record. An initial hazard potential classification assessment was completed and was placed in the facility's operating record on October 12, 2016.

## 2.0 BACKGROUND

Per 40 CFR § 257.73(a)(2) and (f)(1), owners and operators of CCR surface impoundments were required to complete an initial hazard potential classification assessment for each existing CCR surface impoundment by October 17, 2016, documenting the hazard potential classification of each CCR unit as either high hazard potential, significant hazard potential, or low hazard potential. The owners or operators of the CCR surface impoundment were required to obtain a certification from a qualified professional engineer stating that the initial hazard potential classification was conducted in accordance with the requirements of 40 C.F.R. § 257.73. An initial hazard potential classification assessment was completed and certified for Middle Pond A (Stantec, 2016). Based on the initial assessment, Middle Pond A was assigned a *low* hazard potential classification rating. The primary basis for the rating was a volumetric estimate as well as consideration of potential failure scenarios for Middle Pond A.

## 3.0 SUMMARY OF FINDINGS

This periodic hazard potential classification assessment was based on AECOM's review of the initial hazard potential classification assessment (Stantec, 2016), available inspection reports, best available topographic contours developed from TVA surveying (TVA, 2019), aerial imagery provided on the Sumner County Property Search Application (2021), and AECOM's understanding of current conditions. Annual inspections of CCR facilities at the plant including Middle Pond A have been completed since 2016 with the most recent on July 29, 2021. Potential failure scenarios considered as part of the initial hazard potential classification assessment (Stantec 2016) included failure to the northeast into Ash Pond A and to the west or northwest into Ash Pond E. Based on the comparison of pond volumes, it was determined during the initial assessment that a breach of Middle Pond A into either Ash Ponds A or E would likely be contained. As part of this periodic assessment, AECOM estimated available storage volumes in these ponds using the best available topographic contours in order to re-examine the findings and conclusions of the initial assessment. It should be noted that that CCR and non-CCR waste streams to the Ash Pond Complex have been ceased, and therefore Middle Pond A no longer contains a normal pool.

The storage volumes were estimated to be approximately 11 acre-feet for Middle Pond A, 440 acre-feet for Ash Pond A, and 1,200 acre-feet for Ash Pond E. (The initial hazard potential classification assessment reported an available pool storage in the Middle Pond A of approximately 14 acre-feet.) Based on a comparison of these volumes, AECOM concurs with the initial assessment that a breach of the embankment associated with Middle Pond A would likely be contained by either Ash Ponds A or Ash Pond E. Furthermore, based on review of available inspection reports and recent topographic information and aerial imagery, other conditions associated with Middle Pond A have not changed substantially since the initial hazard potential classification assessment (Stantec 2016), with the exception of the cessation of CCR and non-CCR waste streams.

Based on AECOM's review of the available information and comparison to existing conditions, failure of the dam associated with Middle Pond A should result in no probable loss of human life and low economic and/or environmental losses. Also, losses

will principally be limited to TVA property. As a result, it is recommended that Middle Pond A continue to be classified as a *low* hazard potential CCR surface impoundment.

#### 4.0 CERTIFICATION

I, David Skeggs, being a Professional Engineer in good standing in the State of Tennessee, do hereby certify, to the best of my knowledge, information, and belief that the information contained in this certification has been prepared in accordance with the accepted practice of engineering; that the information contained herein is accurate as of the date of my signature below; and that this periodic hazard potential classification assessment was conducted in accordance with the requirements of 40 C.F.R. § 257.73(a)(2).

**SIGNATURE:**   
David Skeggs, PE

**DATE:** October 11, 2021

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**REFERENCES:** Stantec (2016), *Initial Hazard Potential Classification Assessment, Middle Pond Pond A, EPA Final Coal Combustion Residuals (CCR) Rule, TVA Gallatin Fossil Plant, Gallatin, Tennessee*, October 6, 2016.

Sumner County, Tennessee (2021), *Sumner County, Tennessee, Property Search Application*.  
<https://sumnertn.geopowered.com/propertysearch/>. Accessed August 12, 2021.

TVA (2019), Topographic contours developed from TVA surveying, May 30, 2019.

