



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

March 26, 2021  
File: rpt\_001\_let\_175666001  
Revision 0

Tennessee Valley Authority  
1101 Market Street  
Chattanooga, Tennessee 37402

**RE: Initial CCR Fugitive Dust Control Plan  
New CCR Landfill  
TVA Shawnee Fossil Plant  
Paducah, McCracken County, Kentucky**

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## **1.0 PURPOSE**

As described in 40 CFR § 257.80, an owner or operator of a new CCR landfill is required to demonstrate that certain measures will be adopted to effectively minimize CCR from becoming airborne at the facility. This letter documents Stantec's certification that the Initial CCR Fugitive Dust Control Plan for the TVA Shawnee Fossil Plant's (SHF) New CCR Landfill complies with requirements in the EPA Final CCR Rule 40 CFR § 257.80.

## **2.0 SUMMARY OF FINDINGS**

The attached plan documents the CCR fugitive dust control measures for the New CCR Landfill that meet the requirements specified in 40 CFR § 257.80.

## **3.0 QUALIFIED PROFESSIONAL ENGINEER CERTIFICATION**

I, Michael J. Steele, being a Professional Engineer in good standing in the Commonwealth of Kentucky, 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 CCR Fugitive Dust Control Plan for the TVA SHF New CCR Landfill meets the requirements specified in 40 CFR § 257.80.



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**RE: Initial CCR Fugitive Dust Control Plan  
New CCR Landfill  
TVA Shawnee Fossil Plant  
Paducah, McCracken County, Kentucky**

SIGNATURE  \_\_\_\_\_

DATE 3/26/2021

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

TELEPHONE: (859) 422-3000

ATTACHMENTS: Initial CCR Fugitive Dust Control Plan



**Initial CCR Fugitive Dust  
Control Plan  
TVA Shawnee New CCR  
Landfill**

New CCR Landfill  
TVA Shawnee Fossil Plant  
Paducah, McCracken County,  
Kentucky



Prepared for:  
Tennessee Valley Authority  
Chattanooga Tennessee

Prepared by:  
Stantec Consulting Services Inc.  
Lexington, Kentucky

March 26, 2021  
Revision 0

**INITIAL CCR FUGITIVE DUST CONTROL PLAN  
TVA SHAWNEE NEW CCR LANDFILL**

March 26, 2021

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# INITIAL CCR FUGITIVE DUST CONTROL PLAN TVA SHAWNEE NEW CCR LANDFILL

March 26, 2021

## 1.0 INTRODUCTION

On April 17, 2015, the Environmental Protection Agency (EPA) published the "Disposal of Coal Combustion Residuals (CCR) from Electric Utilities" final rule (EPA Final CCR Rule) in the Federal Register. The Tennessee Valley Authority (TVA) contracted with Stantec Consulting Services Inc. (Stantec) to provide an initial fugitive dust control plan for the Shawnee Fossil Plant's (SHF) New CCR Landfill that meets requirements of the EPA Final CCR Rule.

### 1.1 OBJECTIVE

As required by § 257.80 of the EPA Final CCR Rule, an owner or operator of a new CCR landfill is required to demonstrate that certain measures will be adopted that will effectively minimize CCR from becoming airborne at the facility. The objective of this plan is to document these measures.

### 1.2 UNIT DESCRIPTION

SHF is a coal-fired, electric-generating plant. The plant is located in McCracken County, Kentucky, along the south shore of the Ohio River near river mile 946, just east of the confluence of Little Bayou Creek with the Ohio River.

The New CCR Landfill will be located on the Shawnee East Site, which consists of about 205 acres that TVA acquired in 2016 next to the eastern boundary of the SHF reservation. The landfill will be constructed in three stages over a total footprint of 88 acres. The embankment will be about 115 feet tall with maximum 4H:1V slopes and will accommodate about 8 million cubic yards of CCR material (fly ash, bottom ash, and gypsum) across an estimated 25-year operational life.

## 2.0 CRITERIA

The EPA Final CCR Rule § 257.80 requirements for air criteria are:

**40 CFR § 257.80(a).** *The owner or operator of a CCR landfill, CCR surface impoundment, or any lateral expansion of a CCR unit must adopt measures that will effectively minimize CCR from becoming airborne at the facility, including CCR fugitive dust originating from CCR units, roads, and other CCR management and material handling activities.*

To meet this requirement, paragraph § 257.80(b) requires that the owner or operator of the CCR unit prepare and operate in accordance with a fugitive dust control plan, as specified in paragraphs (b)(1) through (7) of the section.

# INITIAL CCR FUGITIVE DUST CONTROL PLAN TVA SHAWNEE NEW CCR LANDFILL

March 26, 2021

## 3.0 INITIAL CCR FUGITIVE DUST CONTROL PLAN

This plan describes how the New CCR Landfill will meet air criteria requirements of § 257.80 of the EPA Final CCR Rule. The measures outlined herein are intended to reduce the potential for CCR becoming airborne, which effectively mitigates fugitive dusting potential attributed to routine operations of the landfill.

### 3.1 FUGITIVE DUST CONTROL MEASURES

CCR will be placed in controlled lifts at the landfill, and will be wetted to a moisture content that will facilitate compaction and reduce the potential for dusting. Exposed surfaces will be routinely monitored and additional water applied as necessary to control fugitive dusting potential.

Dust suppression on other landfill facilities (access roads and active borrow areas) will also be routinely monitored for dusting potential and water will be applied as necessary.

Consistent with paragraph § 257.80(b)(1), additional dust control methods may also be used in combination with watering to control fugitive dusting potential. These methods may include constructing berms as wind breaks, placement of interim soil cover, chemical dust suppressants, sweeping of the haul routes, reducing or halting operations during high wind events, etc. Actual methods will largely depend on operational status (active or inactive), prevailing conditions, etc.

Designated speed limits and traffic patterns will be established to concentrate traffic to common routes, leaving exposed CCR surfaces (outside of active work areas) relatively undisturbed.

### 3.2 CONDITIONING OF CCR

As stated above, fugitive dust will be controlled using a variety of methods, the primary being the moisture conditioning of CCR during landfill construction. Moisture conditioning will be performed prior to loading, transport, and placement of CCR. Following placement, appropriate moisture will be maintained across exposed CCR surfaces to mitigate dusting potential. This method has proven effective at various CCR facilities.

# **INITIAL CCR FUGITIVE DUST CONTROL PLAN TVA SHAWNEE NEW CCR LANDFILL**

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## **3.3 CITIZEN INPUT**

To log citizen input, complaints, or concerns, TVA has established a hotline relative to fugitive dust. Citizens can call 1-844-TVA-DUST (882-3678) to provide input and submit complaints and concerns regarding fugitive dust. The comments are logged and reviewed for appropriate response.

## **3.4 ASSESSMENT OF CCR FUGITIVE DUST CONTROL PLAN**

Consistent with § 257.80(b)(4), this plan will be assessed periodically to determine the effectiveness of the measures outlined herein. The assessment will occur annually in conjunction with the Annual CCR Fugitive Dust Control Report.

Assessment of this plan's effectiveness will include review of observation reports, records of fugitive dust events or deficiencies logged by site personnel, and reported public complaints and concerns.

## **3.5 INITIAL CCR FUGITIVE DUST CONTROL PLAN**

This document constitutes the Initial CCR Fugitive Dust Control Plan as required by § 257.80(b)(5).

## **3.6 AMENDMENTS TO PLAN**

If there is a change in conditions that would substantially affect the current version of the Initial CCR Fugitive Dust Control Plan, then the plan will be amended and placed in the operating record as required by § 257.105(g)(1).

## **3.7 ANNUAL CCR FUGITIVE DUST CONTROL REPORT**

Consistent with § 257.80(c), a CCR fugitive dust control report will be prepared annually for placement in the operating record. This report will provide a summary of actions taken to control visible CCR fugitive dust, plus a record of all citizen complaints and concerns, and a summary of any corrective measures.

## **4.0 CONCLUSION**

The Initial CCR Fugitive Dust Control Plan for the TVA SHF New CCR Landfill meets the requirements of § 257.80 of the EPA Final CCR Rule.