Coal Combustion Residuals Fugitive Dust Control Plan

FOR

ELMER SMITH STATION
OWENSBORO MUNICIPAL UTILITIES

4301 State Route 144
Owensboro, KY 42303

10/13/15

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INTRODUCTION

Purpose of the Plan (40 CFR 257.80(a))

This Coal Combustion Residual (CCR) Fugitive Dust Control Plan (plan) has been prepared to meet the requirements of Owensboro Municipal Utilities and Title 40, Code of Federal Regulations, Part 257, subpart 80 (40 CFR part 257.80). This plan is designed to employ measures to effectively minimize air releases of CCRs from Owensboro Municipal Utilities' Elmer Smith Station (ESS). The purpose of this Plan is to outline procedures implemented by Elmer Smith Station to prevent fugitive CCR emissions from occurring and to provide the tools necessary to correct conditions that lead to CCR fugitive emissions in safe and timely manner.

This plan also details how citizen complaints, recordkeeping, plan amendments, reporting, and publication of records components will be administered in order to minimize fugitive emissions of CCR and maintain compliance with aforementioned regulatory requirements.

Part 1: Plan Administration

1.1 Owensboro Municipal Utilities is committed to the prevention of CCR fugitive dust emissions and to the regular review, update, and implementation of this Coal Combustion Residuals Fugitive Dust Control Plan for the Elmer Smith Station.

The Director of Production is the Designated Person accountable for fugitive dust control at the facility and has the authority to commit the necessary resources to implement this plan.

Authorized Facility Representative: Kevin Frizzell

Title: Director of Production

Signature: _____

Date: 10/15/15

1.2 Professional Engineer Certification (40 CFR 257.80(b)(7))

I hereby certify that I have examined the facility, and being familiar with the provisions of 40 CFR part 257, I attest that this CCR Fugitive Dust Control Plan has been prepared in accordance with good engineering practices.

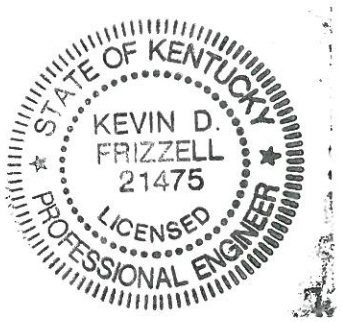
Engineer: Kevin Frizzell

Signature: [signature]

Registration Number: 21475

State: KY

Date: 10/19/2015



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1.3 Accessibility of the CCR Fugitive Dust Control Plan (40 CFR 257.80(d))

1.3.1 Placement in Operating Records

In accordance with 40 CFR 257.80(d), a complete copy of this CCR Dust Control Plan, any subsequent plan amendments, annual CCR fugitive dust control reports, citizen complaints and all associated records are maintained at the facility in the library located on the third floor of the office building. The front office is attended Monday through Friday 8 AM to 4:30 PM.

1.3.2 Notification Requirements

In accordance with CFR 257.80(d), OMU will notify the State Director when the CCR Fugitive Dust Control Plan, subsequent amendments, and CCR Annual Fugitive Dust Control Reports are placed in the operating record and posted Owensboro Municipal Utilities website.

1.3.3 Publicly Accessible Internet Site Requirements

In accordance with CFR 257.80(d), OMU will post to the publicly accessible internet site the CCR Fugitive Dust Control Plan, subsequent amendments, and CCR Annual Fugitive Dust Control Reports within 30 days of being placed in the operating record.

1.4 CCR Fugitive Dust Plan Assessment (40 CFR 257.80(b)(4))

1.4.1 Assessment Due to Changes in Facility

In accordance with 40 CFR 257.80(b)(4), OMU periodically reviews and evaluates this CCR Fugitive Dust Plan. In addition to scheduled reviews, OMU will also conduct a review of the CCR Fugitive Dust Control Plan if there is any change in the facility design, construction, operation, or maintenance that affects the facility's potential for CCR fugitive dust discharges, including, but not limited to:

- Changes in CCR handling operations
- Significant changes in the amounts of CCR that are temporarily stored
- Decrease in performance of fugitive dust control strategies that are in place

If the assessment determines that changes in operations and changes to the CCR Fugitive Dust Plan, OMU must then make the needed revisions to the CCR Fugitive Dust Plan as soon as possible, but no later than six months after the change occurs. The Plant Environmental Analyst, or other OMU staff member as designated by the Director of Production, is responsible for making revisions to the CCR Fugitive Dust Plan.

1.4.2 CCR Fugitive Dust Control Plan Annual Assessment

In accordance with 40 CFR 257.80(b)(4), an assessment of this CCR Fugitive Dust Control Plan will be conducted at least once annually. Any technical amendment to the CCR Fugitive Dust Control Plan shall be certified by a registered Professional Engineer in accordance with 40 CFR 257.80(b)(7)

1.4.3 Record of Plan Assessments

Scheduled assessment and plan evaluations are recorded in Table 1-1. This table must be updated every time there is a scheduled review, even if no amendments are made. Amendments to this Plan are recorded in Table 1-2.

Table 1-1: Planned Assessments of CCR Dust Control Plan

Review Date	Plan Amendment		Name and signature
	Will Amend	Will Not Amend	

Table 1-2: Plan Amendments

Review Date	Description of Amendment	P.E. Certification

1.5 Citizen Complaints (40 CFR 257.80(b)(3))

In accordance with 40 CFR 257.80(b)(3), citizen complaints received in regard to CCR fugitive dust issues will be logged on the CCR Fugitive Dust Complaint Form (Appendix A) and filed in the operating record. Complaints will be investigated in order to determine the scope of any potential CCR fugitive dust problem, and corrective actions will be administered as needed. These corrective actions will be noted on the CCR Fugitive Dust Complaint Form. Complaints may be made by calling 270.691.4322 and leaving your contact information so that someone can record and investigate your complaint.

1.6 Annual CCR Fugitive Dust Control Report (40 CFR 257.80(c))

In accordance with 40 CFR 257.80(c), OMU will prepare an annual CCR Fugitive Dust Control Report that includes a description of the actions taken to control CCR fugitive dust, a record of all citizen complaints, and a summary of any corrective measures taken.

The initial annual report is to be completed no later than 14 months after placing the initial CCR Dust Control Plan in the operating record. Subsequent reports will be completed no later than one year following the completion of the previous report.

Part 2: General Facility Information

Facility Owner:	Owensboro Municipal Utilities
Facility Name:	Elmer Smith Station
Address:	4301 State Route 144 Owensboro KY, 42303 (270) 926-3200
Type:	Coal-fired electric generating plant
Facility Contacts:	Kevin Frizzell, Director of Production Work: (270) 926-3200 ext.4298 Russ Evans, Technical Services Manager Work: (270) 926-3200 ext.4114

2.1 Facility Description

Description of CCR material generation at Owensboro Municipal Utilities – Elmer Smith Station

Owensboro Municipal Utilities operates two coal-fired electric generating units. These units utilize an array of emission controls including but not limited to electrostatic precipitators and wet flue gas desulfurization units (WFGD). The operation of the plant produces bottom ash, fly ash, and synthetic gypsum; collectively known as coal combustion residuals.

The boilers utilized at the Elmer Smith Station burn coal to generate steam, which is used to turn steam turbines to create electricity. During the combustion process, ash is produced. The ash that falls beneath the combustion zone is called "bottom ash" and is collected in a wet collection system and is sluiced (evacuated) into a series of ash settling basins where the ash laden water settles, and ash is then dredged into dewatering piles within the boundaries of the ash settling basin to dewater. The dewatered material is then removed from the ponds and transported offsite for a variety of beneficial reuses, or shipment to an approved offsite landfill.

Ash that does not fall out to the bottom of the boiler and instead becomes entrained in the flue gas stream is called "fly ash" and is collected and sent to ash silos for storage until ash is loaded and sent off site for beneficial reuse or landfilling. In addition to storage in

the ash silos located at ESS, the ash can be conveyed in a wet system to the ash settling ponds, where the fly ash is then removed with bottom ash.

Limestone slurry, is a suspension of calcium carbonate in water, and is used in the WFGD to reduce sulfur dioxide, particulate matter and other pollutants in the flue gas stream. The result of the reaction between the limestone slurry and sulfur dioxide is gypsum. Synthetic gypsum is conveyed in a covered belt conveyor to a covered building, where it is stored until it can be shipped offsite for beneficial use in the wallboard industry, or landfilled.

The Site Plan and Facility Diagram included in Appendix B shows the location and physical layout of the facility. The facility diagram marks the location and contents of each CCR storage area, settling basin, and transfer locations.

Elmer Smith Station is located on the Ohio River just east of Owensboro, Kentucky on State Route 144.

Part 3: CCR Dust Control Measures

3.1 CCR Fugitive Dust Control Measures (40 CFR 257.80(b)(1))

Paved Roads, Lots, and Parking Areas- Plant roadways that are subject to regular vehicle traffic, parking areas, and much of the areas surrounding the plant are paved. In order to further reduce potential sources of CCR and non-CCR fugitive emissions these paved surfaces are swept as needed with a truck mounted street sweeper. Paved roads that have dust on them are treated with street flusher water sprays from a water truck as needed to reduce fugitive dust. Additionally, roads at the plant have a posted vehicle speed limits of 15 and 5 miles per hour. This speed limit is observed and enforced by plant security personnel.

Street sweeping was selected to clean roadways, lots, paved because it removes dust and debris from the paved areas therefore removing dust that could become fugitive. Water spray is used to wet sections of paved roads that are near areas of unpaved roads that receive dust from the adjacent unpaved areas. These areas also receive cleaning with the street sweeper and receive water sprays as they are next to the unpaved areas that receive the majority of water spraying and the water spraying covers a larger area in a quicker manner to alleviate traffic emission of fugitive dusts allowing the street sweeping to concentrate on certain affected areas. The vehicular speed limit was implemented not only as a way to reduce fugitive dust creation, but for safety as well.

Unpaved Roads and Areas- Roadways that are not paved receive limited traffic. These roads are watered with water spray from a water truck as needed in order to reduce emissions of fugitive dust.

This method was selected because it has proven to be the most effective at preventing fugitive dust. Chemical dust suppressants have been used in the past but have been problematic when they are spread by vehicular traffic onto paved area. This makes the paved areas harder to clean. Oils, tree sap, or other treatment chemicals could also be washed into the runoff or settling ponds which could introduce unwanted pollutants to our water discharge.

Bottom Ash Handling- Bottom ash is removed from the boilers via a wet system that is fully enclosed and sluiced with water. This eliminates the likelihood of fugitive emissions in transport to the ash settling basins.

Fugitive dust control was incorporated into the engineering of this system; because of this no additional operational controls are necessary.

Fly Ash Handling- Fly ash is collected in electrostatic precipitators and conveyed via a fully enclosed system to silos for dry storage, or if silos are full or unavailable for service,

ash is sluiced with water to the ash pond #2 through a basaltic lined ash pipe. Fugitive dust emissions are controlled by utilizing fully enclosed conveying systems for wet and dry collection.

Fugitive dust control was incorporated into the engineering of this system; because of this no additional operational controls are necessary

Ash Settling Basins and Dewatering Activities- Ash sluiced to the ash pond is removed from the ash pond by a dragline or long reach excavator and deposited into a small holding cell for some dewatering, the ash is removed from this initial holding cell by an excavator and deposited into the front edge of our dewatering pile, and then this material is picked up by an excavator again and restacked/deposited on the north face of the pile., Dewatered material is loaded in tarped dump trucks for transport off site. Due to the nature of the process, materials that have lost the most moisture are suitable to be shipped offsite for disposal and are promptly removed, this process keeps ash pile wet, therefore minimizing the likelihood of fugitive emissions. Because this is largely a wet process there have not been any fugitive dust issues with this process. The only operational controls that have been employed are the tarping of the trucks that haul dewatered ash off-site.

Synthetic Gypsum Handling- Synthetic gypsum is collected and dewatered mechanically in the FGD building. This is a wet process located inside of an enclosed building, eliminating the chances of fugitive emissions. The dewatered synthetic gypsum is then conveyed in an enclosed conveyor system to a partially enclosed storage building, and minimum fall distances from conveyor belts is maintained. Synthetic gypsum is loaded out of this building via tarped trucks. The synthetic gypsum can then be transported from this storage building in trucks to the barge load-out located on the river at the northeast edge of the property. The barge load out utilizes a covered conveyor to load synthetic gypsum into barges, using a minimal material drop through a lowering chute to the barge level. The use of enclosed dewatering, covered conveyors, partially enclosed storage building and minimized material fall distances, are designed to reduce fugitive emissions.

List of all CCR Dust Controls

1. Street sweeping truck
2. Water truck with water sprays
3. (2) Fly ash silos with 99.9%+ dust collectors
4. Synthetic gypsum storage building
5. CCR Transport truck tarps
6. Enclosed gypsum dewatering process
7. Reduced vehicle speed limits
8. Wet bottom ash collection system

APPENDIX A
Citizen Complaint Log Form

Coal Combustion Residuals Citizen Complaint Log
OMU Elmer Smith Station

Complaint Date	Name	Phone/Email	Description of CCR complaint	Corrective Action	Date of Corrective Action	Action Closed Y/N

APPENDIX B
Site Map