# FUGITIVE DUST CONTROL PLAN

## Clover Power Station – Coal Combustion Residual Management

**Submitted To:** Clover Power Station
S.R. 92
Clover, VA 24534

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**113-96277**

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## Appendices

# 1.0 PURPOSE

This Fugitive Dust Control Plan (Plan) was developed for the Clover Power Station ash landfill operations in accordance with the Virginia Solid Waste Management Regulations (VSWMR) and the Federal Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals (CCR) from Electric Utilities; Final Rule (40 CFR 257; the CCR rule).

## Facility Information

The Clover Power Station (Station) is located on State Route 92 in Halifax County, Virginia. The Station operates a CCR landfill under the regulatory authority of Solid Waste Permit #556, issued by the Virginia Department of Environmental Quality (DEQ), and two, 1.7-acre sludge ponds for the short-term storage of flue-gas desulfurization (FGD) sludge.

## CCR Units

The landfill permit covers two CCR disposal units at Clover: the Stage 1&2 and the Stage 3 Landfills. The Stage 1&2 Landfill completed final closure construction in 2003 and no longer receives material for disposal. The active Stage 3 landfill facility has an overall footprint of approximately 80 acres. Approximately 24 acres of the Stage 3 Landfill have been capped with final cover. As of September 2015, approximately 35 acres were covered with intermediate cover soil and vegetation. The remaining acres are available for active disposal. The Stage 3 landfill is anticipated to remain in service until the year 2019.

The Station operates two emergency sludge ponds that are utilized to receive wastewaters and sludge from a variety of Station operating and treatment processes, including flue gas desulfurization (FGD) scrubber blowdown, during out of service events. The ponds operate singularly where one pond is aligned to receive materials and the other pond is in a stand-by or maintenance mode. The ponds are typically taken out of service on alternate years for cleaning. The sludge material removed during a maintenance clean is transported to the Stage 3 landfill for disposal.

## Plan Implementation

This Plan was developed for the operational activities associated with the hauling, management, and disposal of CCR into the landfill and the emergency sludge ponds. This Plan will be in effect throughout the active service life of these units, and may be adopted into the post-closure activities as required. This Plan may be amended as necessary to reflect changing site conditions or other considerations.

## 2.0 DUST CONTROL MEASURES

Dust is caused by the mechanical disturbance of particulates – when dust occurs in the atmosphere from open sources, it is referred to as "fugitive" dust. Fugitive dust generation is dependent on the particle size and the disturbance that causes the particles to become airborne. Common sources include unpaved roadways and heavy construction operations.

The U.S. Environmental Protection Agency (EPA) notes that the potential drift distance of particles is "governed by the initial injection height of the particle, the terminal settling velocity of the particle, and the degree of atmospheric turbulence" (EPA, 2009, AP-42, *Compilation of Air Pollutant Emission Factors, Volume I: Stationary Point and Area Sources*, Section 13.2). The control methods described in this Plan are designed to limit the occurrence of fugitive dust by controlling the disturbances and travel distance of the particles.

Fugitive dust generation during CCR hauling, management and disposal activities is expected to occur primarily from haul truck loading and unloading, vehicular traffic, and the temporary exposure of CCR areas at the Station, the landfill, and emergency sludge ponds. The control measures identified in this plan are designed to limit the creation of airborne dust.

### Station and Haul Road

Fugitive dust may be generated by conveyor movement of fly ash and FGD at the station, vehicle traffic, and loading / hauling CCR to the Stage 3 landfill. Bottom ash is generated at the Station and deposited moistened in a covered area adjacent to each boiler. The bottom ash is then removed and loaded into haul trucks using a front-end loader. Fly ash mixed with flue gas desulfurization (FGD) material is deposited from a covered conveyor in a moisture-conditioned state onto the paved 'stackout pad' where it is loaded into haul trucks using a front-end loader. Fly ash is hauled by trucks along the approximately 1.25-mile paved haul road to the Stage 3 landfill.

The Station grounds are maintained through periodic sweeping, vacuuming, and other methods to reduce fugitive dust. Spilled or tracked CCR or sediment shall be cleaned up promptly to minimize dust generation.

One of the fugitive dust control measures at the Station includes limiting the speed of haul trucks and other vehicles on the haul road. Vehicles are not allowed to travel faster than the posted speed limit to reduce the likelihood of disturbing dust particles. Haul roads and loading areas are kept moist using a water truck to minimize dust generation as needed. Tarps or other covers may be used on haul trucks to limit the generation of fugitive dust during transportation.

Additional dust control measures include a wheel wash, rumble strips, paved interior roads leading to the landfill exit, sweeping, watering, or a combination of these measures to minimize unintentional vehicular

sediment transportation at Station exit points. If material is deposited onto a paved surface or shoulder of a public road, appropriate clean-up methods, such as sweeping with a stiff bristle broom or street sweeper, shall be implemented to remove the material as soon as possible.

### Rationale for Selected Control Measures

The use and watering of haul roads are industry-accepted methods of controlling fugitive CCR emissions. They are also among the various dust control options listed in the Facility's Operations Manual.

## Emergency Sludge Ponds

The sludge ponds are maintained with water at all times other than during a maintenance clean. During a maintenance clean, the pond and the sludge materials are dewatered using material manipulation and pumps. The sludge material is removed moist and transported immediately upon removal from the pond to the Stage 3 Landfill for disposal.

## Stage 3 Landfill

### Watering

CCR placed in the active portion of the landfill is periodically watered to control dust generation and promote material compaction. Water trucks are used to accomplish watering; however, sprinklers or other methods may be adopted as needed. Soil and CCR should be watered until moist, but should not result in standing water or runoff.

### Vehicle Traffic

Traffic in construction areas is limited to 15 miles per hour or slower to reduce dust generation. Haul trucks and other traffic shall remain on established roads. Water trucks and/or chemical dust suppressants are used when conditions warrant to reduce traffic-generated dust on interior haul roads and other trafficked areas.

### Placement

CCRs are also compacted by heavy equipment, in lifts, in accordance with the landfill Operations Manual and the Virginia Solid Waste Management Regulations.

### Bare CCR and Soil

The area of uncovered CCR should be limited to reduce the probability of wind erosion that can result in fugitive dust and increase the travel distance of airborne particles. Intermediate cover is applied to areas of the landfill that do not receive additional lifts of CCR within 30 days in accordance with the VSWMR and the facility's solid waste permit. If CCR placement operations occur during a prolonged period of low

CCR generation (such as an outage), placement of additional intermediate cover should be considered to reduce the area of bare CCR. Disturbed earthen areas on the perimeter of the landfill that will be inactive for more than 7 days should be seeded and watered to promote vegetation growth to reduce dust generation.

### Weather Conditions

Earth moving and CCR grading should be limited in dry, windy conditions as these conditions provide the highest probability of dust generation and increased drift distance. Additional watering may be required during drier/windier conditions, which may require additional water trucks.

### Rationale for Selected Control Measures

Conditioning CCRs before disposal, compacting CCRs after placement, limiting active landfill surface at any time, applying temporary soil cover to CCRs, and the use of covers are all industry-accepted methods of proper CCR disposal. Several of these methods are also described in detail in the landfill's Operating Plan, which also provides for use of crusting agents or watering the exposed faces within the landfill, should it be deemed beneficial.

## 3.0 EVALUATING EFFECTIVENESS OF THE PLAN

The effectiveness of this Plan will be evident from observations made during placement and construction activities. Dust observed in the air, collecting in and around the Station or along the haul road is evidence of fugitive dust, and may call for additional or more frequent controls. Complaints from neighboring properties may also be evidence of the need to enhance dust control measures.

Fugitive dust control measures may be changed, removed, or additional measures added to help ensure adequate dust controls.

# 4.0 PROCEDURE FOR RESPONDING TO CITIZEN INQUIRIES

Complaints from the public relating to dust are taken seriously and managed with care. Citizen complaints are also an informative tool to assist in dust-related data gathering and evaluation. Citizen inquires will be documented on the Fugitive Dust Inquiry Form (Appendix A) and investigated. The name of the person making the inquiry, contact information, and the nature of the inquiry shall be recorded.

Station personnel will investigate the inquiry to determine and verify the nature of the concern, location, and contributing factors such as location relative to site operations, proximity, and weather conditions. Upon completing the investigation, Station personnel will address concerns as needed.

## Plan Modification

If, during the course of Station operation modifications to this Plan are needed (e.g., to address changes in site conditions, construction methods, hauling routes), the modifications will be documented in the Plan Revision History form provided in Appendix B. Landfill operations personnel will be made aware of the Plan modifications.

# 5.0 REPORTING, RECORDKEEPING AND NOTIFICATION

## Annual CCR Fugitive Dust Control Report

An annual CCR Fugitive Dust Control Report must be prepared that includes a description of the actions taken by the owner or operator to control CCR fugitive dust, a record of all citizen complaints, and a summary of any corrective measures taken. The requirement for completing the annual CCR Fugitive Dust Control Report is satisfied when the plan has been placed in the facility's operating record as required by § 257.105(g)(2) of the CCR rule. The Virginia Department of Environmental Quality (DEQ) shall be notified about the completion of the annual CCR Fugitive Dust Control Report and the final report placed on Dominion's publicly accessible website in accordance with the CCR rule.

## PLAN CERTIFICATION

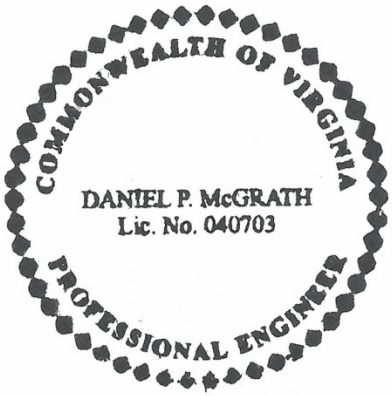
I certify that the information contained within this plan was prepared by me or under my direct supervision and meets the requirements of 40 CFR Section 257.80, *Air Criteria.*

Daniel McGrath
Print Name

Associate and Senior Consultant
Title

Daniel McGrath
Signature

10/13/15
Date



**FUGITIVE DUST INQUIRY FORM**
Clover Power Station

Date: _____ Complaint Response? Y / N

Time: _____ Reference: _____

Surveyor: _____

Weather Conditions: _____

_____

Approximate Location / Distribution of Dust:_____

_____

_____

Dust Description: _____

_____

_____

Suspected Source: _____

_____

Actions Taken: _____

_____

_____

Additional Comments: _____

_____

_____

_____

_____

**FUGITIVE DUST INQUIRY FORM**
Clover Power Station

Date/Time: _____

**Contact Information**

Name: _____ Telephone: _____

Address: _____ email: _____

_____

_____

Maintain this form in the operating record for 1 year from date of survey.

## Plan Revision History

**Federal Requirements**
In accordance with *40 CFR §257.80.(b).6*, the owner or operator must amend the written plan if there is a change in conditions, facility design, construction, operation, or maintenance, which substantially affects the written plan in effect. Non-technical changes (such as to names or telephone numbers) do not have to be certified by a Professional Engineer (P.E.).

## Update and Revision Log

| Date | Summary of Update/Revision | Recertification Required (Y/N) |
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