REPORT

ESCALANTE GENERATING STATION

Coal Combustion Residual Fugitive Dust Control Plan

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Distribution: Tri-State (4 copies)
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October 2015 **1533418**

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1.0 INTRODUCTION

This Coal Combustion Residuals (CCR) Fugitive Dust Control Plan (Plan) has been prepared for Tri-State Generation and Transmission Association's (Tri-State's) Prewitt Escalante Generating Station (PEGS). This Plan has been developed in accordance with recognized and generally accepted good engineering practice and the CCR Rule, Criteria for Classification of Solid Waste Disposal Facilities and Practices, Subpart D – Standards for the Disposal of CCRs in Landfills and Surface Impoundments, which was published in the Code of Federal Regulations Title 40 Part 257 (40 CFR 257) on April 17, 2015. This Plan addresses measures to "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" (40 CFR 257.80).

This Plan includes identification of the CCR-related fugitive dust sources at PEGS, measures to control the fugitive dust, reasons for selecting the dust control measures, procedures to evaluate the effectiveness of the Plan, procedures for documenting citizen complaints, and requirements for recordkeeping and notification. This Plan may be amended from time to time. The most recent Plan will be maintained in the Operating Record.

1.1 Facility Description

PEGS is a 273-megawatt coal-fired electric facility located near Prewitt, New Mexico. Coal combustion residuals generated at PEGS include fly ash, bottom ash, and flue gas desulfurization (FGD) material, which are disposed in an on-site CCR Facility (i.e. landfill) that is owned and operated by Tri-State. This Plan includes fugitive dust control measures for management and/or handling of CCRs at the generation facility, transport to the CCR Facility, and placement at the CCR Facility.

1.2 Regulatory Requirements

At PEGS, fugitive dust (both CCR-related and otherwise) is regulated by the New Mexico Environment Department (NMED) in accordance with a Title V Operating Permit and New Mexico Administrative Code (NMAC) Environmental Protection – Air Quality, Title 20 Chapter 2. Fugitive dust generated by CCR-related activities at PEGS will also be managed in accordance with the CCR Rule, 40 CFR 257. This Plan is limited to addressing the requirements of the CCR Rule. Specific requirements of the Title V Operating Permit are not duplicated in this Plan. The requirements of the CCR Rule pertaining to fugitive dust control are:

- Identify and describe the CCR fugitive dust control measures used at PEGS, and explain the reasons for selection of these measures, in the Plan.
- Moisture condition CCRs prior to, during, and/or after placement.

- Provide procedures in the Plan to log citizen complaints regarding CCR fugitive dust at PEGS.
- Describe procedures to evaluate the effectiveness of the Plan.
- Prepare the initial Plan, which must be certified by a professional engineer, and place it in the Operating Record by October 19, 2015.
- Prepare an annual report of CCR fugitive dust control activities.
- Maintain the most recent Plan and annual reports for the previous five years in the Operating Record.
- Notify NMED when the initial Plan, an amended Plan, or an annual report is placed in the Operating Record.
- Post the current version of the Plan and annual reports for the previous five years on a publically accessible website.

2.0 FUGITIVE DUST CONTROL MEASURES

Fugitive dust may be generated at PEGS by CCR loading, transport, and placement operations. The specific locations of these potential CCR fugitive dust sources are as follows:

- Collection, Handling, and Loading
  - Fly Ash
    - Baghouse to Fly Ash Silo
    - Fly Ash Silo to Trucks or Rail Cars
    - Fly Ash Silo to CCR Handling Area
  - Bottom Ash
    - Hopper to CCR Handling Area
    - CCR Handling Area to Haul Trucks
  - FGD Material
    - Scrubber Building to CCR Handling Area
    - CCR Handling Area to Trucks
- Transport
  - Haul Trucks
  - Haul Roads
- Placement and Storage
  - CCR Facility

2.1 Collection, Handling, and Loading

Fly ash generated at PEGS is collected in a baghouse using fabric dust collector filter bags. It is pneumatically conveyed to the Fly Ash Silo for temporary storage. Most of the fly ash is sold for beneficial reuse and loaded dry into trucks or rail cars in an enclosed loading area. Unsold fly ash is moisture conditioned in a pug mill and transported on a partially enclosed belt conveyor to the CCR Handling Area. The CCR Handling Area is a concrete pad with a sump. It is used for stacking CCRs (including unsold fly ash) until CCRs are loaded into trucks using a front-end loader.

Bottom ash is collected and quenched in a water-filled hopper beneath the boiler. It is transferred to the CCR Handling Area using a mechanical drag chain conveyor, which also dewaters the bottom ash by gravity to a moisture content generally ranging from 15 to 20 percent by weight, followed by a series of belt conveyors. It is temporarily stored in the CCR Handling Area until it is loaded into trucks using a front-end loader. As an alternative loading method, bottom ash can also be loaded directly into haul trucks from a concrete pad in lieu of transport on the belt conveyors to the CCR Handling Area.

Flue gas desulfurization material is collected in the scrubber and dewatered using a vacuum belt filter to a moisture content generally ranging from 17 to 20 percent. It is conveyed to the CCR Handling Area on a partially enclosed conveyor. It is temporarily stored in the CCR Handling Area until it is loaded into trucks using a front-end loader. As an alternative loading method, FGD material can also be loaded directly into haul trucks from a concrete pad in lieu of transport on the partially enclosed belt conveyor to the CCR Handling Area.

Fugitive dust during CCR collection, handling, and loading may be created by wind, front-end loader operations, and/or truck loading operations. For CCR collection, handling, and loading, fugitive dust emissions may be controlled by:

- Operating the baghouse in accordance with the Title V Operating Permit.
- Using pneumatic conveyance for dry CCRs.
- Using a filtered vent for air displaced from the Fly Ash Silo.
- Using a telescopic chute for loading from the Fly Ash Silo into trucks and rail cars.
- Loading fly ash sold for off-site beneficial reuse into enclosed trucks or rail cars.
- Loading CCRs when they have sufficient moisture content to limit fugitive dust generation.
- Limiting the handling of unconditioned fly ash to the extent possible.
- Using a partially enclosed conveyor to transport unsold fly ash, bottom ash, and FGD material to the CCR Handling Area.
- Limiting the fall distance from the front-end loader bucket to haul trucks.
- Reducing or halting operations during high winds.

2.2 Transport

The haul road to the CCR Facility is maintained with gravel. Control measures that may be used to limit fugitive dust emissions from CCR transport are as follows:

- Posting speed limit signs indicating speed restrictions on the plant site to 15 miles per hour (mph).
- Maintaining haul road surfaces.
- Watering the haul road (water or dust suppressants) as needed to limit fugitive dust generation.

2.3 Placement and Storage

Unsold fly ash, bottom ash, and FGD material are placed and stored at the CCR Facility. Fugitive dust at the CCR Facility may be created by vehicle traffic, truck unloading operations, CCR Facility maintenance operations, and/or wind. Fugitive dust emissions from these operations may be controlled by:

- Commingling unsold fly ash, bottom ash, and FGD material during placement.
- Placing CCRs with sufficient moisture content to help reduce fugitive dust generation.
- Limiting the fall distance from haul trucks.
- Adding moisture to the CCRs with a water truck after placement to prevent off-property transport of visible emissions.
- Compacting CCRs after placement. Compaction may be achieved by making a pass over spread materials with a haul truck or other heavy equipment.
- Reducing or halting operations during high winds.
- Applying a dust suppressant (chemical stabilization substance) if moisture conditioning and compaction are not sufficient to appropriately limit fugitive dust generation.
- Limiting the active placement area and applying cover soil and vegetation to inactive areas that will no longer receive CCRs.
- Watering access roads (water or dust suppressants) as needed to limit fugitive dust generation.

2.4 Control Measures Selection

This section provides the explanation and reasoning behind the selection of CCR fugitive dust control measures for PEGS:

- Operating the Baghouse in Accordance with the Title V Operating Permit – The baghouse at PEGS is designed to collect fine particulates. Operation of the baghouse in accordance with the Title V Operating Permit helps assure that recognized and generally accepted good engineering practice is followed for collection of fly ash.
- Using Pneumatic Conveyance for Dry CCRs – Dry CCRs are enclosed during pneumatic conveyance, limiting the potential for fugitive dust generation.
- Using Filtered Vents – Filtered vents are designed to control fugitive dust emissions when air is displaced during filling of a silo, like those used for fly ash storage at PEGS.
- Using Telescopic Chutes – Telescopic chutes decrease the fall distance, which reduces the energy and radius of dispersal.
- Using Enclosed Trucks and Rail Cars for Off-Site Transport of Fly Ash – Using enclosed haul trucks or rail cars for off-site transport limits the potential for CCRs to become airborne during transport.
- Loading CCRs in a Moist Condition – Loading CCRs when they contain residual moisture from mixing (fly ash), quenching (bottom ash), and filtering (FGD material) processes is an effective strategy for controlling fugitive dust generation. Particles joined by moisture have increased mass and require more energy to become airborne.
- Limiting the Handling of Dry CCRs – Avoiding disturbance of dry CCRs to the extent possible limits the potential for fugitive dust emissions as a result of such disturbance.
- Using Partially Enclosed Conveyors – Use of partially enclosed conveyors limits the exposure of CCRs to wind.
- Reducing or Halting Operations in High Winds – Reducing or halting operations during periods of high wind reduces the potential for CCRs to become airborne. Sustained winds over 25 miles per hour (mph) or wind gusts over 40 mph are considered to be high winds.

- Establishing Speed Limits – Limiting haul truck speeds during CCR transport results in reduced wind dispersal.
- Using Gravel Surfacing – Gravel surfacing limits fugitive dust generation due to the relatively large particle size and is also effective for track-out control.
- Watering Roads – Watering is an effective method for limiting fugitive dust emissions from roadways, particularly haul roads and access roads. For paved roads, the use of watering, flushing, or sweeping is effective in removing potential fugitive dust, thereby minimizing mechanical interaction between tires or blowing wind and dust on roads.
- Commingling Fly Ash and FGD Material with Bottom Ash – Commingling fly ash and FGD material with bottom ash results in binding of the materials, with enhanced suppression of the finer particles in fly ash and FGD material.
- Limiting Fall Distance – Limiting the fall distance at the drop point helps to contain the flow of material into a confined area, reducing the energy and radius of dispersal.
- Adding Moisture to CCRs After Placement – Adding moisture to CCRs with water or other permitted liquid to achieve a moisture content that will limit wind dispersal, but will not result in free liquids (40 CFR 257.80(b)(2)), is an effective strategy for controlling fugitive dust. In addition to providing dust suppression, moisture conditioning takes advantage of the pozzolanic (i.e. cementing) properties of fly ash by binding particles together and creating a crust at the ground surface.
- Compacting CCRs After Placement - Compaction helps establish a crust at the ground surface, which can be effective for limiting the generation of fugitive dust.
- Using a Dust Suppressant – Dust suppressants bind with CCRs to form a layer at the ground surface that is resistant to wind dispersal.
- Applying Soil Cover and Vegetation – Limiting the lateral extent of active CCR placement reduces the exposed area that can contribute to fugitive dust generation. Applying soil cover and establishing vegetation prevents CCRs from becoming airborne.

3.0 EVALUATION OF PLAN EFFECTIVENESS

As specified in the preamble to the CCR Rule, performance standards will be employed to evaluate the effectiveness of the Plan instead of quantitative standards, because quantitative standards are "potentially redundant [to the States' Implementation Plans (SIPs) or the Title V Operating Permits] and challenging-to-implement" for fugitive dust (40 CFR 257 page 21387). Environmental and site staff trained in making visual emission observations will perform routine functions and observations to assure that CCR fugitive dust at PEGS is adequately controlled. Descriptions of these activities follow:

- Routine observations will be conducted to determine whether dust is becoming airborne in such quantities and concentrations that it remains visible in the ambient air beyond the premises where it originates or visible plumes cross the property boundary. Corrective action will be taken if visible emissions approach the property boundary.
- The fabric dust collectors are monitored continuously during operations using PEGS's distributed control system (DCS) under the Title V Operating Permit.
- Weather conditions are monitored each day of operation. If high winds exist or are predicted to occur in the area, operations staff will be notified and extra measures will be taken to mitigate CCR fugitive dust emission potential. Extra measures may include further restricting speeds on the haul road and/or providing additional road wetting and applying additional moisture during CCR placement. If CCR fugitive dust emissions cannot be controlled due to high winds, then CCR loading, hauling, and/or placement operations will cease until wind speeds have reduced such that CCR fugitive dust emissions can again be controlled.

The observations and routine functions listed above are standard practice at PEGS. Visual emissions are observed daily during operations to assure that fugitive dust at the site is controlled. Personnel involved in CCR handling and placement are instructed on an annual basis in specific procedures to ensure compliance with the permits, facility plans, and appropriate regulations. When conditions are not in line with the site standards for fugitive dust emissions, designated facility environmental personnel or Tri-State's environmental services department are notified and corrective action is taken as needed.

4.0 CITIZEN COMPLAINTS LOG

Documenting citizen complaints and implementing corrective action will be in accordance with Tri-State's environmental services procedure: *Documenting Fugitive Dust Event Citizen Complaints per CCR Rule*. In summary, this procedure requires that the cause of the complaint will be investigated, and corrective action will be taken if warranted. The complaint will be incorporated into the annual report, along with a summary of the corrective measure(s) taken to address the complaint.

5.0 REPORTING

The recordkeeping, notification, and posting of information to a publicly accessible website required for this Plan are described in the following sections.

5.1 Fugitive Dust Control Plan

The initial Plan will be placed in the Operating Record on or before October 19, 2015. The NMED will be notified before the close of business on the day the Plan is placed in the Operating Record. Within 30 days of placement in the Operating Record, the initial Plan will be posted to a publicly accessible website. Certification by a professional engineer registered in New Mexico is provided in Section 6.0.

The Plan may be amended from time to time, and the most recent Plan will be maintained in the Operating Record. Notification will be provided before the close of business on the day an amended Plan is placed in the Operating Record. Within 30 days of placement in the Operating Record, the most recent Plan will be posted to a publicly accessible website. The amended Plan will be certified by a professional engineer registered in New Mexico.

5.2 Annual Report

The following items will be addressed in each annual report:

- Descriptions of actions taken to control CCR fugitive dust at PEGS during the previous year.
- A record of citizen complaints received during the previous year.
- A summary of corrective measures taken during the previous year to address citizen complaints.

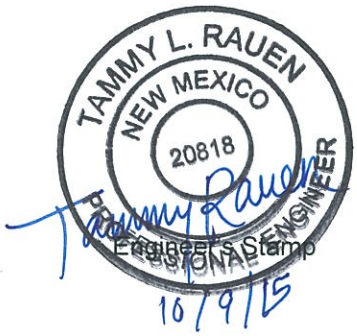
The first annual report will be placed in the Operating Record within 14 months of placement of the Plan in the Operating Record. Subsequent reports will be placed in the Operating Record within one year of placement of the previous annual report in the Operating Record.

The NMED will be notified before the close of business on the day an annual report is placed in the Operating Record. Within 30 days of placement in the Operating Record, the annual report will be posted to a publicly accessible website. At least the five most recent annual reports will be retained in the Operating Record and posted to the website.

6.0 CERTIFICATION

The fugitive dust control measures selected for controlling CCR fugitive dust at PEGS, as described in this Plan, represent recognized and generally accepted good engineering practice, are applicable and appropriate for site conditions, and are expected to effectively limit the amount of CCR that becomes airborne at PEGS. Inquiries may be directed to:

Tri-State Generation and Transmission Association, Inc.
Prewitt Escalante Generating Station
297 County Road 19
Prewitt, NM 87045



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