

KARN FACILITY

COAL HANDLING AND MATERIAL HANDLING

FUGITIVE DUST CONTROL PROGRAM

SRN: B2840

April 2019

Revision 2

I. Introduction

A. Scope

This fugitive dust control program (FDCP) covers the coal handling operations and the material handling equipment and operations installed as part of the site's air quality control systems (AQCS), specifically the Spray Dryer Absorbers (SDA) and Activated Carbon Injection (ACI). This plan does not address point source emissions from these sources, nor does it address fugitive dust control for coal combustion residuals (CCRs) as required by 40 CFR Part 257.

B. Purpose and Regulatory Analysis

Pursuant to Karn's Renewable Operating Permit (ROP) No. MI-ROP-B2840-2014c (or as amended or renewed), this document fulfills condition EU-COALHAND, IX.1, which states in part,

The permittee shall fully comply with the terms and conditions of the most current approvable version of the Fugitive Dust Control Program (FDCP)... ..and shall address all sources of fugitive dust (particulate matter) emissions from the coal handling operation.

This document also fulfills conditions EU-LIMEPREP, EU-BPRECYCLE, EU-BPDISPOSAL, and EU-SORBENT, III.1, which all state in part,

...the permittee shall submit to the AQD District Supervisor a revised program for continuous fugitive dust control for all material handling operations...

Subsequently it shall be updated as necessary, and kept at the facility.

If at any time the fugitive dust control program fails to address or inadequately addresses an event...the FDCP shall be amended within 45 days. The FDCP shall also be amended within 90 days if new equipment is installed or upon agency request.

The permittee shall implement corrective procedures or operational changes to achieve compliance with all applicable emission limits.

Furthermore, pursuant to Rule 901 the Plant cannot emit an air contaminant in quantities that cause either:

- *injurious effects to human health or safety...or property, OR*
- *unreasonable interference with the comfortable enjoyment of life and property.*

II. Source Description

Coal handling operations include the activities associated with the handling of coal at the Karn Facility. Pollution control equipment includes dust collectors, a water sprinkling system, a radial stacker with telescopic chute, and dust suppression chemicals.

The material handling operations are identified in EU-LIMEPREP, EU-BPRECYCLE, EU-BPDISPOSAL, and EU-SORBENT.

EU-LIMEPREP identifies the lime preparation operations including the lime storage silos for truck unloading, lime detention slakers, and lime slurry transfer and product tanks. Pollution control equipment includes bin vent filters and spray scrubbers.

EU-BPRECYCLE identifies the byproduct (ash, spent lime, and sorbent) recycle system, including byproduct recycle storage bins, byproduct vacuum transport blowers, and byproduct recycle slurry mix tanks. Pollution control equipment includes Karn 1 & 2 pulse jet fabric filters (PJFFs), bin vent filters, and spray scrubbers.

EU-BPDISPOSAL identifies the byproduct (ash, spent lime, and sorbent) disposal system, including byproduct disposal storage bins and byproduct vacuum transport blowers to silos. Pollution control equipment includes filter separators and bin vent filters.

EU-SORBENT identifies the two sorbent storage silos. Pollution control equipment consists of bin vent filters.

III. Fugitive Dust Control Program per Operational Activity

A. Open Storage Pile Management

The only open bulk material stored on site is coal. Water cannons (seasonal) are used when necessary to keep the surface of the pile wet to minimize fugitive dust generation. Fugitive dust is controlled by regular compacting and leveling of the coal pile to minimize the area exposed to wind. Heavy equipment operations, such as using slower speeds and smaller cuts into the pile, are conducted in a manner to minimize the generation of fugitive emissions when the potential exists for dust to reach the site boundaries. Coal pile operations will be suspended if fugitive dust is observed leaving the site until conditions improve or corrective actions are taken.

B. Transportation and Loading or Unloading of Bulk Material

1. Rail Delivery of Coal

Coal delivered by rail is unloaded in an enclosed dumper building. A chemical dust suppressant and water is applied directly to all western coal train cars and eastern coal train cars when necessary. This application provides immediate dust control during the dumping operation as well as residual dust control on the storage piles. During coal transfer operations from the dumper building to the coal pile the telescopic chute is used to minimize fugitive dust. The maximum drop distance from the open end of the chute to the top of the coal pile shall be no greater than six feet. Rail unloading operations will be suspended if fugitive dust is observed leaving the site until conditions improve or corrective actions are taken.

2. Vessel Delivery of Coal

Coal delivered by vessel is unloaded directly to the pile. A chemical dust suppressant and water is applied to the western coal stream during the entire duration of the unloading operation and is utilized during unloading of eastern coal when deemed necessary. This application provides immediate dust control during the unloading operation as well as residual dust control on the storage pile. Vessel unloading operations will be suspended if fugitive dust is observed leaving the site until conditions improve or corrective actions are taken.

3. Handling of Spray Dry Absorber and Sorbent Bulk Material

Lime and sorbent will be delivered to the plant via enclosed truck and pneumatically conveyed to storage silos prior to further processing. Transfer hoses and connections shall be maintained to not allow leakage of dust during the pneumatic delivery process. If dust is generated due to a compromise in a hose or connection, the delivery process shall halt until the problem is fixed.

Spray dry absorber byproduct, consisting of wetted fly ash, spent lime and spent sorbent materials, is loaded into trucks and transported via open haul trucks to on-site disposal areas. Utilizing wet disposal methods minimizes fugitive dust generation.

C. Spilled Material Management

Spilled bulk materials with the potential to generate fugitive dust will be cleaned up as soon as possible.

D. Site Haul Road Management

Fugitive dust emissions may be generated from trucks traveling on the site haul roads. To control fugitive dust, road sweeping and wetting will be implemented as necessary to minimize fugitive emissions from truck travel on site haul roads.

IV. Monitoring and Record Keeping

As part of the site's routine, non-certified visible emissions monitoring, the status of fugitive dust generated from the coal pile is observed. Operators document when fugitive dust from the coal pile or material handling operations is observed leaving the site boundaries. Additionally, climatic conditions and any corrective actions taken are recorded.

The following records will be retained for a period of at least five years.

- Logs of fugitive dust leaving site boundaries.
- Fugitive dust complaints.
- Chemical dust suppressant application records.
- Corrective actions.