Fugitive Dust Control Plan for Coal Combustion Residuals (CCR)

Erickson Station

June 2018

REVISION NUMBER: 2

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1.0 Introduction

The purpose of this Fugitive Dust Control Plan is to provide details for the handling systems in place at Erickson Station for Coal Combustion Residuals (CCR), and the actions taken to control dust from entering the surrounding air. The plan gives an overview of the active CCR impoundment, commonly referred to as the Pond System, and all operations concerning CCR. The plan was developed in accordance to the CCR regulations stated in 40 CFR Part 257.80(b) and is available in the facilities operation records, as well as to the public through the Lansing Board of Water & Light (BWL) website. Erickson Station is a 165 megawatt (MW) coal-fired electrical generation station. It consists of one pulverized coal (PC) cyclone-fired boiler, equipped with selective non-catalytic reduction (SNCR) to reduce nitrogen oxide emissions, carbon injection to reduce mercury emissions, and electrostatic precipitators to capture fly ash. The two forms of CCR, dry fly ash and wet bottom ash, have separate control systems. Dry fly ash is collected and sold for beneficial reuse and any off-specification ash is disposed of in an offsite landfill. Wet bottom ash is dewatered and sent to an offsite landfill, and bottom ash transport water is maintained in the temporary pond impoundments. There is no permanent ash storage on site.

Fugitive emissions are defined as emissions that are not emitted through a stack, chimney, vent, or other functionally equivalent opening. "Fugitive dust" is defined as particulate matter which is generated from indoor processes, activities, or operations and which is emitted into the outer air through building openings and general exhaust ventilation, except stacks. The term also includes particulate matter which is emitted into the outer air from outdoor processes, activities, or operations due to the forces of the wind or human activity.

2.0 CCR Handling Operations § 257.80(b)(1)

The following subsections outline BWL's fly ash and bottom ash handling systems.

2.1 Dry Fly Ash Handling System

Fly ash, which is created in the boiler and light enough to become airborne, is pneumatically conveyed from the electrostatic precipitator hoppers to East and West ash silos for storage prior to reuse. Each storage silo is a transfer point and has an associated dust collector, or baghouse, that collects dust that becomes airborne during transfers. The dust collectors mitigate fugitive dust emissions and are maintained through scheduled cleanings, pressure monitors and visual inspections. Pneumatic tankers load the fly ash through a dustless loadout that evacuates the tanker as the ash is loaded into the truck. Any fly ash that is deemed not reusable is stored in a separate silo and wetted with water/surfactant mix when necessary to minimize dusting, before being loaded into a truck for landfill disposal.

Excess fly ash can be temporarily stored on site inside a mass storage building until trucks are available for loading. Plastic sheeting is placed in front of the bay door to minimize dust emissions. A dust collector is also present to control airborne dust as the fly ash is transferred.

2.2 Wet Bottom Ash Handling System

Bottom ash, which is formed inside the boiler and too dense to become airborne, is mixed with water to remove it from the boiler. The mixture of bottom ash and water is then transported to a pair of hydro bins that separate the ash and divert the remaining water to the pond system. The system consists of a Forebay pond and Retention basin. The water flows into the Forebay, where any residual CCR settles and then cascades into the Retention basin. The CCR present in the ash pond itself are always submersed in water, eliminating any fugitive dust emissions to the surrounding vicinity. Each impoundment is constructed of clay-rich engineered fill, lined with geosynthetic clay (GLC) and over-laid with a 40 mil-thick flexible polyvinylchloride membrane (FML). The pond system is visually inspected daily. The dewatered bottom ash is loaded from the hydro bins onto open trucks and transported for off-site landfill disposal, and the moisture of the bottom ash controls any fugitive dust. Upsets from the hydro bin system are deposited in a concrete bunker to dewater. Once the proper moisture content is established, the ash is loaded into an open truck with a front-end loader and removed from the site.

2.3 Roads

The Erickson Station has one plant entrance/exit that is controlled through gated access. Unpaved access roads are used to reach various systems and outbuildings. The plant entrance and main route for trucking traffic is paved to minimize fugitive emissions. All other plant roadways are infrequently used by plant personnel for routine monitoring (e.g., pneumatic ash lines, ponds, etc.). The posted property maximum speed limit is 15 mph to minimize the chances of airborne dust. Additionally, roads are swept and/or watered as needed to reduce the dust loading on the roadways.

3.0 Complaints § 257.80(b)(3)

It is the responsibility of the BWL Environmental Services Department (or their delegate) to respond to all air quality complaints, concerns, and/or inquiries. All citizen complaints will be retained for up to five (5) years.

All air quality complaints, concerns, and/or inquiries, as well as any resultant action, shall be recorded in the Fugitive Dust Log.

4.0 Plant Responsibilities- Monitoring/Record Keeping § 257.80(d)

All employees have the responsibility to report abnormal conditions (e.g., visible emissions, equipment malfunctions, etc.) to the Station Shift Supervisor or the Operations Supervisor. Coal Handling and Plant personnel are responsible for ensuring proper operation of the coal and ash handling equipment and will perform the following duties to mitigate the impacts of fugitive dust:

1. Plant personnel shall implement preventative actions through daily inspections that include, visual inspections of pneumatic ash lines and pressure readings.
2. If fugitive dust mitigation measures fail and fugitive dust is observed that has the potential to reach the plant boundary, the event shall be recorded in the Fugitive Dust Log (as found in the Appendix). This log will include the date, time, duration, wind speed, description, and corrective action(s) planned and taken.

The supervisor will determine the appropriate course of action which may include continuing operation while initiating repair, applying local water sprays, or discontinuing the process. Records of fugitive dust and actions taken to mitigate the event will be retained for five (5) years.

Fugitive Dust Management Plan training will be given to the appropriate plant personnel annually.

5.0 Plan Assessment §257.80(b)(4)

The Fugitive Dust Control Plan will be assessed annually by the appropriate plant personnel as well as the Environmental Services Department. An annual CCR fugitive dust control report will also be completed measuring the effectiveness of fugitive dust control operations.

6.0 Amendments § 257.80(b)(6)

The Fugitive Dust Control Plan will be amended whenever there is a change in CCR handling operations that would substantially affect the written plan. Any revised plan will be made available in the facility's operating record.

7.0 Reporting § 257.80(c)

An annual CCR fugitive dust control report will be submitted with a description of actions taken to control CCR fugitive dust, record of any citizen complaints, and a summary of any corrective measures taken by the plant.

8.0 Certifications § 257.80(b)(7)

I certify, based on review, that this plan and any amendments to this plan meet the requirements under 40 CFR 257.80(b). By certifying this plan, I attest that proper implementation of the plan will be sufficient to comply with requirements under this Part.

Professional Engineer Signature

6201064363
License No.

Trista Gregorski
Professional Engineer Printed Name

Michigan
State

9.0 Revisions

Plan	Date of Revision	Revision Summary
Version 1.0	July 2014	Original
Version 1.2	June 2018	Provided additional required details to the Plan and formatting

Appendix

Hometown People. Hometown Power.

Erickson Station Fugitive Dust Log

Date	Time	Duration	Wind Speed & Direction	Weather Conditions	Fugitive Dust Event/ Complaint Description	Corrective Action	Supervisor's Initials

Records in the Fugitive Dust Log shall be maintained for a period of at least 5 years.