



# **CCR FUGITIVE DUST CONTROL PLAN**

**JEFFREY ENERGY CENTER  
25905 JEFFREY ROAD, ST. MARYS, KANSAS**

**April 16, 2021**

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## Revision History

Revision Number	Revision Date	Section Revised	Summary of Revisions
0	10/15/2015	N/A	Initial Issuance
1	4/17/2017	1, 2	Revisions to include BAP & operational alterations
2	4/4/2018	1, 2	Revisions to include all permitted CCR management areas
3	4/16/2021	All	Updated format, company name, control measures & added new Fly Ash Landfill Area 2 & contact information.



## 1.0 Background

The purpose of this CCR Fugitive Dust Control Plan (Plan) is to identify and describe the Coal Combustion Residuals (CCR) fugitive dust control measures used to effectively minimize the potential for CCR to become airborne at the Jeffrey Energy Center (JEC). The following sections provide background information on the facility, CCR, and related regulatory requirements.

### 1.1 Facility Information

Name of Facility:	Jeffrey Energy Center (JEC)
Name of Operator:	Evergy Kansas Central, Inc (Evergy)
Operator Mailing Address:	25905 Jeffrey Road, St. Mary's, Kansas 66536
Location:	4.5 miles north of Belvue, Kansas and approximately 4.3 miles west of Highway 63.
Facility Description:	The Jeffrey Energy Center is a coal-fired electric generating station that contains one or more coal-fired units. Evergy, Inc owns and operates industrial landfills and a surface impoundment at the Jeffrey Energy Center (JEC) in Pottawatomie County, Kansas. Coal Combustion Residuals (CCR) associated with burning coal include bottom ash, fly ash, economizer ash, and flue gas desulfurization materials (FGD). CCRs are currently placed in on-site active CCR landfills located on JEC property. Operating CCR units in 2021 include two fly ash landfills, a bottom ash landfill, and an FGD landfill. Closed units or units in closure include the Bottom Ash Settling Area and Bottom Ash Pond. The CCR units are permitted under Kansas Department of Health and Environment (KDHE), Bureau of Waste Management (BWM), Permit No. 359.

## 1.2 Coal Combustion Residuals

CCR materials are produced at coal-fired power plants when coal is burned to produce electricity. CCR materials are managed by coal-fired power plant sites, including on-site storage, processing (such as dewatering), and final disposal, typically in CCR landfills. CCRs generated at the facility include fly ash, bottom ash, and flue gas desulfurization (FGD) materials. General characteristics of these CCR materials are described below.

- **Fly Ash** – Fly ash is captured from exhaust (flue) gases by emissions control equipment such as baghouses. Fly ash is characterized by clay-sized and silt-sized fine grain materials, consisting of silica, calcium, alumina, iron and trace heavy metals. Due to the small particle size and consistency, fly ash can often be mobilized by windy conditions when it is dry. Typically, the facility burns coal which generates fly ash with self-cementing properties in the presence of water. For this reason, a crust generally forms on its surfaces, reducing the potential for dust issues from fly ash storage areas.
- **FGD Materials** – FGD materials such as gypsum are produced by FGD emissions control systems, which are designed and operated to remove sulfur dioxide (SO<sub>2</sub>) from exhaust (flue) gases. FGD materials are generally produced as a wet sludge, which is then dewatered and managed as a dry material. Under certain conditions, FGD materials can form a crust on surfaces, reducing potential for dust issues from FGD storage areas.
- **Bottom Ash** – Bottom ash is characterized by sand-sized and gravel-sized materials, which settle by gravity to the bottom of a coal-fired furnace. Due to the heavier, larger-grained material, it is less prone to being mobilized under windy conditions when dry.

## 1.3 Regulatory Requirements

This plan has been developed for the Jeffrey Energy Center in accordance with 40 CFR 257.80(b). The CCR Rule requires preparation of a CCR Fugitive Dust Control Plan for facilities including CCR Landfills, CCR Surface Impoundments, and any lateral expansion of a CCR unit. Selected definitions from the CCR Rule are provided below.

- **CCR (coal combustion residuals)** means fly ash, bottom ash, boiler slag, and flue gas desulfurization materials generated from burning coal for the purpose of generating electricity by electric utilities and independent power producers.
- **CCR fugitive dust** means solid airborne particulate matter that contains or is derived from CCR, emitted from any source other than a stack or chimney.
- **CCR landfill** means an area of land or an excavation that receives CCR and which is not a surface impoundment, an underground injection well, a salt dome formation, a salt bed formation, an underground or surface coal mine, or a cave. For purposes of this subpart, a CCR landfill also includes sand and gravel pits and quarries that receive CCR, CCR piles, and any practice that does not meet the definition of a beneficial use of CCR.
- **CCR surface impoundment** means a natural topographic depression, manmade excavation, or

diked area, which is designed to hold an accumulation of CCR and liquids, and the unit treats, stores, or disposes of CCR.

- **CCR unit** means any CCR landfill, CCR surface impoundment, or lateral expansion of a CCR unit, or a combination of more than one of these units, based on the context of the paragraph(s) in which it is used. This term includes both new and existing units, unless otherwise specified.
- **Qualified professional engineer** means an individual who is licensed by a state as a Professional Engineer to practice one or more disciplines of engineering and who is qualified by education, technical knowledge and experience to make the specific technical certifications required under this subpart. Professional engineers making these certifications must be currently licensed in the state where the CCR unit(s) is located.

The CCR Rule requires owners or operators of these CCR facilities to adopt and document “measures that will 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). Owners/Operators of existing, active CCR units were required to prepare a CCR Fugitive Dust Control Plan “no later than October 19, 2015, or by initial receipt of CCR in any CCR unit at the facility if the owner or operator becomes subject to this subpart after October 19, 2015” (40 CFR 257.80 (b)(5)). Owners of inactive CCR surface impoundments must prepare a CCR Fugitive Dust Control Plan no later than April 18, 2017 (40 CFR 257.100 (e)(4)(i)). This plan was developed to meet these requirements and is in addition to any other Occupational Safety and Health Act (OHS) standards applicable to this facility.

## 2.0 CCR Fugitive Dust Source & Control Measures

Potential CCR fugitive dust sources at the site generally include, loading, unloading, transportation in trucks or on conveyors, stockpiles, vehicle traffic, and landfill placement. These general sources are categorized for JEC for the purposes of CCR fugitive dust management as follows:

- (1) Temporary Storage Areas
- (2) CCR Impoundments
- (3) CCR Landfill Units
- (4) Facility Roads
- (5) General Housekeeping

The Jeffrey Energy Center has implemented these dust control measures, which are applicable and appropriate for site conditions in accordance with 40 CFR 257.80(b)(1).

### 2.1 CCR Temporary Storage Areas

The following CCR dust control measures are typically implemented at CCR temporary storage areas including stack-out areas, silos and load-out areas:

- Fly ash, FGD gypsum, and economizer ash are initially collected in enclosed structures at the plant.
- Fly ash is pneumatically conveyed into above-ground silos and then loaded into enclosed trucks for disposal in an on-site landfill. Economizer ash is initially managed and stored in a similar manner.
- Trucks enter under the silos on a concrete pad for loading. A chute is lowered on top of the truck and the CCR is then loaded into the enclosed truck. The trucks are equipped with lids that are closed mechanically or manually once loading of the fly ash is complete and the chute is removed.
- Fugitive dust potential is minimized by minimal exposure of CCR to the atmosphere through the temporary storage and loading process.
- In the event that de minimis amounts of CCRs are observed on the loading pad, the CCRs are collected and properly disposed in a permitted landfill unit.
- FGD gypsum that is initially handled at the plant is stacked in one containerized area which has controls in place to act as barriers against wind. These areas rely on front end loaders to load haul trucks for on-site disposal in a permitted landfill unit. Haul trucks utilize canopies to protect the CCR material to minimize dust generation.

### 2.2 CCR Impoundments

Energys has one active CCR surface impoundment at JEC, the Bottom Ash Settling Area. The Bottom Ash Settling Area closure process will be initiated in 2021. The Bottom Ash Pond has been closed. The following CCR dust control measures are typically implemented at the CCR Impoundment.

- The Bottom Ash Settling Area impoundment is managed by intermittent excavation of settled bottom ash and dewatering of the material within the impoundment footprint.

- Dewatered material is loaded into trucks with mechanically closed canopies which minimizes potential dust generation and placed in the permitted landfill.
- Stacked material retains a level of moisture that prevents dust generation.
- CCR being excavated/relocated/regraded may be conditioned using water spray, sprinklers, or fogging systems. Alternatively, appropriate chemical dust suppression agents may be applied, as needed
- If stacked material needing additional measures to limit dust generation is identified, water or a dust suppressant is applied.

### **2.3 CCR Landfills**

The Bottom Ash Landfill, the Fly Ash Landfill, Fly Ash Landfill Area 2, and the FGD Landfill are all utilized for the disposal of CCRs generated on-site. The following CCR dust control measures are typically implemented at the CCR Landfill Units.

- CCR is placed into the CCR units from haul trucks using minimal drop heights.
- The CCR material is conditioned via water truck as the material is placed or, at a minimum, on the same day as placement to develop a surficial crust to minimize fugitive dust mobilization.
- Haul trucks limit travel speeds to 10 mph on active areas.
- Drivers avoid driving on active areas of the landfill and drive in Everygy-directed travel paths to avoid area agitation.
- Water is used as the primary means of suppressing dust. Dust suppressants are utilized to minimize fugitive dust when determined appropriate. A log is maintained to record water usage.
- CCR being excavated/relocated/regraded may be conditioned using water spray, sprinklers, or fogging systems. Alternatively, appropriate chemical dust suppression agents may be applied, as needed.
- Any areas that reached final grade receive appropriate cover materials in accordance with applicable state permit requirements.

### **2.4 Facility Roads**

The following dust control measures are typically implemented for roads in active use for CCR management activities at the facility. Both paved and unpaved roads are used to transport CCRs either off-site or to the on-site landfills.

- Paved roads at the facility are cleaned and maintained, as needed.
- Hauler equipment is serviced to minimize leaking and maintain normal operations.
- Posted speed limits are enforced during transport to limit mobilization.

## 2.5 General Housekeeping

In addition to the location specific measures, spilled and/or deposited CCR material is collected and cleaned in a timely manner upon identification.

## 3.0 Citizen Complaint Log

A specific requirement of the CCR Fugitive Dust Control regulations (40 CFR 257.80(b)(3)) requires owners and operators of all CCR units to develop and implement formal procedures within the Plan for logging citizen complaints involving CCR fugitive dust events.

Complaints received by JEC or Evergy will be recorded by/forwarded to the designated point(s) of contact for logging and recordkeeping. JEC will maintain records of concerns about CCR fugitive dust from the facility in accordance with 40 CFR 257.80(b)(3) using the CCR Fugitive Dust Complaint Record provided in Appendix A.

Contact Information: Environmental Services Department

Address: Evergy  
818 South Kansas Avenue  
Topeka, Kansas 66601

Alternate:  
PO Box 418679  
Kansas City, MO 64141-9679

E-mail Address: [EvergyCCR@evergy.com](mailto:EvergyCCR@evergy.com)

Phone Number: 888-471-5275  
Alternate:

#### 4.0 CCR Fugitive Dust Control Plan Assessment and Amendment

Evergy assesses the effectiveness of CCR Fugitive Dust Control Plans, annually, in accordance with 40 CFR 257.80(b). If practical and more effective prevention and control technology has been field-proven at the time of the review and will significantly improve dust controls, this CCR Fugitive Dust Control Plan will be amended to reflect the changes. Amended plans are certified by a qualified Professional Engineer as required by 40 CFR 257.80(b)(7). All plan changes are documented using the Revision History which prefaces this Plan.

Based on the assessment, Evergy may choose to amend this Plan if measures are deemed ineffective or if changes have been made to the areas being managed, the dust control measures, and/or other operating practices are required to continue compliance with the regulatory standards. Amendments to the current Plan will be completed in accordance with §257.80(b)(6) of the Final CCR Rule.

The state of Kansas will be notified in accordance with 40 CFR 257.106(g) when this Plan has been amended and placed in the facility operating record and on the Evergy CCR internet site.

## 5.0 ENGINEERING CERTIFICATION

Pursuant to 40 CFR 257.80 and by means of this certification, I attest that:

- (i) I am familiar with the requirements of the CCR Rule (40 CFR 257);
- (ii) I, or my agent, have visited and examined the Jeffrey Energy Center;
- (iii) the CCR Fugitive Dust Control Plan has been prepared in accordance with good engineering practice, including consideration of applicable industry standards, and with the requirements of the CCR Rule; and
- (iv) the CCR Fugitive Dust Control Plan meets the requirements of 40 CFR 257.80(b).



Walter J. Martin, P.E.

Printed Name of Qualified Professional Engineer

# Appendix A

## CCR FUGITIVE DUST COMPLAINT RECORD

Site Name

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Time & Date of  
Correspondence

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Name of Citizen

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Phone Number

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Mailing address

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Email Address

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Topic of  
Correspondence

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Describe Observed  
Event (include  
date/time; wind &  
conditions, other  
info)

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Required Corrective  
Actions or Follow-  
Up, If Applicable

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