CCR FUGITIVE DUST CONTROL PLAN

Montrose Generating Station

400 Southwest Hwy P
Clinton, Missouri

October 19, 2015

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MONTROSE GENERATING STATION

CCR FUGITIVE DUST CONTROL PLAN

REVISION HISTORY

Revision Number	Revision Date	Revision Type[1]	Section Revised	Summary of Revisions

Note 1: S Substantial (P.E. certification required)
N non-substantial
P periodic (include if substantial/non-substantial revision)

SECTION 1

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 becoming airborne at the Montrose Generating Station (Montrose). The following sections provide background information on the facility, CCR, and related regulatory requirements.

1.1 Facility Information

Name of Facility:	Montrose Generating Station
Name of Operator:	Kansas City Power & Light Company (KCP&L)
Operator Mailing Address:	400 Southwest Hwy. P, Clinton, MO 64735
Location:	Approximately ten miles southwest of Clinton, Missouri.
Facility Description	The Montrose Generating Station has three coal-fired units that produce fly ash, economizer ash, and bottom ash. CCRs are managed in three CCR units, including the North Ash Impoundment, the South Ash Impoundment, and one CCR Landfill. Fly ash is collected and pneumatically conveyed to silos where it is off-loaded for beneficial use or transported via tanker truck to the landfill. Economizer ash is sluiced to the impoundments and later trucked to the landfill. Bottom ash sluiced to dewatering bins where it is loaded into trucks for beneficial use or transported to the landfill for storage or disposal.

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 economizer ash. General characteristics of these CCR materials are described below.

- **Fly Ash** – Fly ash is captured from exhaust (flue) gases by emissions control equipment such electrostatic precipitators. 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.
- **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.
- **Economizer Ash** – The majority of the economizer ash is plus 200 mesh and is generally referred to as having a popcorn consistency. This material is a type of fly ash but is generated and handled separately from fly ash. For the purposes of dust management, this material has characteristics similar to bottom ash.

1.3 Regulatory Requirements

This Plan has been developed for the Montrose Generating Station 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). The owner or operator of an existing CCR unit must 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)).

SECTION 2

CCR FUGITIVE DUST SOURCE AND CONTROL MEASURES

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

(1) CCR short-term storage and management areas;
(2) CCR surface impoundment units;
(3) CCR landfill units; and
(4) Facility roads.

The Montrose Generating Station 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 Short-Term Storage and Management Areas

The following CCR dust control measures are typically implemented for CCR short-term storage and management areas including silos and load-out areas.

- CCR dust from fly ash is minimized by use of an enclosed pneumatic transport system and silos for staging. The silos are equipped with bin vent filters to minimize dust generation.
- Fly ash designated for landfilling is loaded from the silo into enclosed tanker using a telescoping chute to reduce the potential for mobilization of CCR dust. The loading chute has over-suction to prevent fugitive dust emissions during unloading.
- During high wind conditions, loading and management operations may be modified, reduced or halted.
- Bottom ash is managed wet by sluicing to dewatering bins, then is loaded into trucks for hauling to the landfill or beneficial use.
- CCR dust from economizer ash is managed wet by sluicing to the North and South Impoundments.

- Spilled CCR is wetted as necessary and removed using loaders and vacuum systems to prevent dusting.
- Water spray is applied as necessary to CCR prior to and/or during staging.

2.2 CCR Surface Impoundment Units

In CCR surface impoundments, CCR is stored as a slurry mixture with high water content and would not be expected to cause dusting. If dredged/excavated CCR from a surface impoundments unit becomes dry, additional dust control measures such as adding water could be applied as necessary during loading and subsequent transportation for disposal or beneficial reuse.

2.3 CCR Landfill

CCR is conditioned before being placed into the landfill. Water will be added as needed to the CCR materials to reduce wind dispersal and improve compaction during CCR placement in landfill units.

The following additional dust control measures may also be implemented at the landfill.

- The pneumatic tanker trucks deliver the fly ash to the landfill where it is conditioned during unloading using a pneumatic ash/water mixing process that forms a slurry as fly ash is distributed to the landfill.
- Water spray is applied to the exposed CCR, including on the working face, as needed.
- During high wind conditions, unloading operations at the working face may be reduced or halted.

After final elevations are achieved, the final cap and cover, including vegetation, will be installed and maintained to reduce the potential for CCR becoming exposed to the atmosphere and dried.

2.4 Facility Roads

The following dust control measures are typically implemented for roads in active use for CCR management activities at the facility.

- Reduced vehicle speed limits are enforced to reduce dust mobilization. During high wind conditions, operations and related traffic may be reduced or halted.
- Prior to transportation, if needed, CCR may be covered using tarps to reduce the potential for CCR becoming airborne during truck transport. If tarps are not practical or dusting is observed, water may be added to CCR prior to transportation.
- During non-freezing weather, roads at the Facility are sprayed multiple times per day using water trucks.

SECTION 3

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 Montrose or KCP&L will be recorded by/forwarded to the designated point(s) of contact for logging and recordkeeping. Montrose will maintain records of 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.

SECTION 4

CCR FUGITIVE DUST CONTROL PLAN ASSESSMENT AND AMENDMENT

KCP&L periodically assesses the effectiveness of this CCR Fugitive Dust Control Plan in accordance with 40 CFR 257.80(b)(4). The CCR Fugitive Dust Control Plan is reviewed at least once every five years from the date of the last review for adherence to the requirements of 40 CFR 257(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. The amended plan will be implemented within **six months** of its completion. Five-year reviews will be documented and a statement signed documenting whether the CCR Fugitive Dust Control Plan is amended, and recording the results in Appendix B. Substantial changes made to this plan will be certified by a qualified Professional Engineer as required by 40 CFR 257.80(b)(7). All Plan changes will be documented using the Revision History which prefaces this Plan.

KCP&L will also amend this CCR Fugitive Dust Control Plan in accordance with 40 CFR 257.80(b) whenever there is a change in conditions that would substantially affect the written plan in effect, such as the construction and operation of a new CCR unit. The amended Plan will be implemented before or concurrently with the initial receipt of CCR into any new CCR unit.

The state of Missouri 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 KCP&L CCR internet site.

SECTION 5

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 Montrose Generating Station;

(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)

(v) the pages certified herein include Pages i, ii, 1 through 9, Appendix A (1 page), and Appendix B (1 page); altogether a total of 16 pages in a protected Adobe™ document.

Walter J Martin

Printed Name of Qualified Professional Engineer

APPENDIX A

CCR Fugitive Dust Complaint Record

CCR FUGITIVE DUST COMPLAINT RECORD

Site name **Montrose Generating Station**

Time and date of correspondence

Name of citizen

Phone number

Mailing address / email Address

Topic of correspondence (e.g., document question, concern, or observation)

Describe observed event, if applicable (include date/time, wind and weather conditions, and any other information provided)

Required Corrective Actions or Follow-up, if applicable

Note: Attach additional sheets or correspondence, as applicable.

APPENDIX B

CCR Fugitive Dust Control Plan Review Documentation

APPENDIX B

CCR FUGITIVE DUST CONTROL PLAN REVIEW DOCUMENTATION

Site Name: Montrose Generating Station

This CCR Fugitive Dust Control Plan has been reviewed in accordance with 40 CFR 257.80(b) and Section 4 of this CCR Fugitive Dust Control Plan to assess the effectiveness of the plan to effectively minimize CCR from becoming airborne at the facility. By means of this certification, I attest that I have completed a review and evaluation of this CCR Fugitive Dust Control Plan for the Facility and as a result:

_____ Will

_____ Will Not

amend the Dust Control Plan. All Plan changes will be documented using the Revision History which prefaces this Plan. Substantial changes to the CCR Fugitive Dust Control Plan will be certified by a Qualified Professional Engineer.

_____ _____

Signature, Authorized Facility Representative Date

_____

Name (Printed)

_____

Title