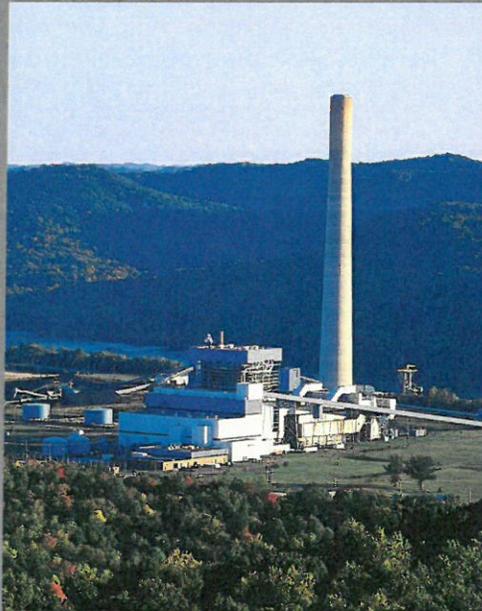


# Fugitive Dust Control Plan Killen Generating Station

The Dayton Power and Light Company

This document has been prepared to meet the requirements of 40 CFR Part 257, Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule April 17, 2015



December 16, 2015  
Rev. 1



## Professional Engineer Certification

I certify that I have personally reviewed the CCR Fugitive Dust Control Plan for the Killen Generating Station, Revision 1 dated 12/16/2015 and according to my knowledge, information and belief, the plan is complete and meets the requirements of 40 CFR 257.80(b).

John C. Hendrix

Printed Name of Registered Professional Engineer

*John C. Hendrix*

Signature

E59943

Ohio

*Dec. 16, 2015*

Registration No.

Registration State

Date

Place Seal Below:



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## Introduction

Killen Generating Station (Killen) is located in a rural area between U.S. Route 52 and the Ohio River in Adams County, Ohio. Killen has a capacity of approximately 600 megawatts and has been in operation since 1981. There is one coal-fired boiler that is equipped with a flue gas desulfurization (FGD) system to control sulfur dioxide and a selective catalytic reduction (SCR) system to control nitrogen oxides.

Coal ash and gypsum are the coal combustion residuals managed at the site. The plant currently has one pond (Killen Pond) that is divided into a section for bottom ash and a section for fly ash, and Collection Basins 1 and 2 used for FGD wastewater that contains residual gypsum and other wastewaters.

Killen mixes the fly ash (ash that is removed from the air stream by the electrostatic precipitator), with water and wet sluices it to the fly ash section of the Killen Pond. The majority of the wastewater from the fly ash section of the pond discharges into the Ohio River, with the exception of a portion that is recirculated for ash sluice water and FGD make-up water.

Killen also wet sluices the bottom ash (ash from the bottom of the boiler which contains boiler slag, pyrites, ash from the economizer and other non-combustible material) to a segregated portion of Killen Pond. The wastewater is ultimately discharged to the Ohio River via the fly ash section of the Killen Pond.

Coal pyrites (rock material in the coal supply) and ash from the boiler economizer is also sluiced to the bottom ash pond.

In the FGD system, the combustion gases containing sulfur dioxide mix with limestone slurry in a reaction vessel. The limestone reacts with the sulfur dioxide creating gypsum (calcium sulfate). The gypsum is dewatered and conveyed to a stack out area. If the gypsum is to be reused, it is then loaded onto a conveyor to be transported to a river barge or it is loaded into trucks. Gypsum that is slated for disposal is loaded into trucks or barges and transported to a landfill. The FGD vessel also generates wastewater that contains residual gypsum which is discharged into one of two ponds, Collection Basins 1 and 2. This gypsum material is excavated and landfilled. The wastewater from the Collection Basins flows into Killen Pond prior to ultimate discharge into the Ohio River.

Killen also markets cenospheres which are harvested from the pond water surface. This material is typically trucked off-site as it is harvested and processed.

The fugitive dust control measures included in this plan were primarily selected in accordance to the measures contained in the Killen Title V Permit.

## On-Site Roadways and Parking Areas

The site shall employ the most appropriate control measures on roadways and parking areas that are sufficient to minimize visible particulate of fugitive dust<sup>1</sup>. On-site roadways are roadways within the fence line of Killen located south of U.S. 52, including the roads for truck movement and material hauling around the impoundments.

### CONTROL MEASURES

The Killen Title V Permit includes measures for the control of fugitive dust from roadways and parking lots generated during operations. These same control measures, included below, are also applicable and appropriate to minimize dust generated during transportation of coal combustion residuals.

Appropriate control measures for paved roads and parking areas include the following best management practices: the use of reduced speed limits, sweeping, watering, chemical stabilization and good housekeeping. The appropriate control measures shall be administered at sufficient frequencies to minimize visible fugitive dust as determined by the site's inspections.

Unpaved roads will be treated using water and the use of chemical stabilization if necessary. The needed frequencies for implementation of the control measures shall be determined by the site's inspections.

If water spray is used to control dust, application rates should be optimized to an amount adequate for controlling the fugitive dust, but not in excessive amounts. A water truck with a spray bar is recommended.

If materials that could generate fugitive dusts are inadvertently deposited onto roadways and/or parking areas from earth moving equipment, erosion, or other means, Killen shall promptly remove such materials.

During transportation, trucks hauling materials that are likely to become airborne shall be wetted or such materials will be covered.

### MONITORING AND RECORDKEEPING REQUIREMENTS

Except as noted below, Killen will inspect each roadway section (paved and unpaved) and parking area weekly during normal operations to determine if control measures are needed. Inspections are not required for a roadway or parking area that is covered in snow and/or ice, or if precipitation is sufficient to prevent visible fugitive dust.

Killen will maintain inspection records that include the following:

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<sup>1</sup> Reference the DP&L Killen Generating Station Title V Permit, P0115061 issued 10/17/2013

- the date and reason any required inspection was not performed, including those that were not performed due to snow and/or ice cover or precipitation,
- the date of each inspection where it was determined that a control measure was necessary,
- the dates that control measures were implemented, and
- on a calendar quarter basis, the number of days a control measure was implemented and the total number of days where snow and/or ice cover or precipitation was the reason an inspection was not conducted.

## Ash Impoundment Fugitive Dust Control Measures

### CONTROL MEASURES

At Killen, fly ash and bottom ash is wet sluiced into an ash pond. There is potential for fugitive dust during periods when the pond water level is lowered and ash is exposed to wind erosion, including desiccation of any exposed ash during periods of freezing. The most appropriate control applicable to impoundments is to direct the ash into areas where it will remain submerged; however, there will be periods when this is not possible due to maintenance or other repairs. There are few options to control fugitive dust from exposed ash in the ash ponds due to the large surface area of the pond and the limited ability to apply water sprays or chemical suppressants from the roads and other areas surrounding the ponds. When practicable, exposed ash will be wetted, or treated chemically or otherwise covered during periods of low pond water level. Additional control measures may be considered if warranted as evidenced by the site's inspections.

The implementation of additional control measures for wind erosion shall be determined by the site's inspections.

### MONITORING AND RECORDKEEPING REQUIREMENTS

For wind erosion, Killen will conduct weekly inspections of the ash impoundments to determine if additional control measures are needed. Inspections are not required if the areas are covered in snow and/or ice, or if precipitation is sufficient to prevent visible fugitive dust.

Killen will maintain inspection records for each impoundment that include the following:

- the date and reason any required inspection was not performed, including those that were not performed due to snow and/or ice or precipitation,
- the date of each inspection where it was determined that a control measure was necessary,
- the dates that control measures were implemented, and
- on a calendar quarter basis, the number of days a control measure was implemented; and the total number of days where snow and/or ice cover or precipitation was the reason an inspection was not conducted.

## Gypsum Material Handling and Storage Piles

The FGD system at Killen produces wallboard-quality gypsum as well as gypsum that is used in other reuse applications. Lower quality gypsum or unneeded gypsum becomes waste and is disposed of in a landfill.

The gypsum material from the FGD is dewatered with vacuum filter belts before being conveyed to the stack-out area. The gypsum is stored in temporary active piles until transported for reuse or disposal. If the gypsum is to be reused, it is then loaded onto a conveyor to be transported to a river barge or loaded into trucks. Gypsum that is slated for disposal is loaded into trucks or barges and transported to a landfill.

### CONTROL MEASURES

The Killen Title V Permit includes precautionary measures to address fugitive dusts generated by the gypsum material handling system and storage piles. Those measures are applicable and appropriate to include in the Killen CCR Fugitive Dust Control Plan.

The gypsum material handling system includes conveyors, a reclaim hopper, shuttle conveyor, and barge loading. Gypsum normally contains enough moisture to minimize dusting; however, there is partial enclosure of the conveyor, and a wind fence in use at the stack-out area. If additional dust control measures are necessary, wetting will be used.

During load-out operations, the following control measures will be used: a telescoping chute will be used at the barge loading point and sufficient material moisture content will be maintained. If additional measures are needed, the material will be wetted.

Normally, there is sufficient moisture content to control wind erosion from the storage piles, however, the wind fence will be maintained and if additional dust control measures are necessary, the pile height will be reduced.

### MONITORING AND RECORDKEEPING REQUIREMENTS

Except as noted below, Killen will conduct weekly inspections of the gypsum handling system and storage piles (load-in and load-out and wind erosion) to determine if control measures are needed. Inspections are not required for wind erosion, or for any storage pile activity if the storage pile is covered in snow and/or ice, or precipitation is sufficient to prevent visible fugitive dust. Inspections of load-in and load-out operations are not necessary if precipitation is sufficient to prevent visible fugitive dust. A required inspection that is not completed due to any of the above mentioned reasons shall be performed as soon as such events have ended.

Killen will maintain inspection records for the gypsum material handling and storage piles that include the following:

- the date and reason any required inspection was not performed, including those that were not performed due to snow and/or ice or precipitation,
- the date of each inspection where it was determined that a control measure was necessary,
- the dates that control measures were implemented, and
- on a calendar quarter basis, the number of days a control measure was implemented; and for wind erosion, the total number of days where snow and/or ice cover or precipitation was the reason an inspection was not conducted.

## Procedure to Log Citizen Complaints

Most citizen complaints are expected to come directly to the station from the citizen. However, a government agency or the media may also make an inquiry to the station on behalf of or as a follow up to a citizen complaint. A complaint may also be made to another office (e.g., Environmental Policy, Corporate Communications, etc.). The following procedure outlines the actions to be taken and the individuals responsible.

1. Complaint received by station personnel:
  - a. The name and contact information of the person or agency making the complaint is to be logged by the environmental air specialist, or other individual as designated by the Plant Manager, along with the date of the complaint, date of the incident that is the source of the complaint and the concern. The Killen Station CCR Citizen Complaint Log, Appendix A, may be used for this purpose.
  - b. The complaint is to be forwarded to the most senior environmental air specialist at the site with copies to the Plant Manager and the Director of Strategic Capital Investment.
  - c. The Director of Strategic Capital Investment, with the assistance of the air specialist for the site, will determine what response is to be taken, who will be responsible for completion of any action items, and who will respond to the citizen who made the complaint.
  - d. If appropriate due to the severity or complexity of the complaint, the Director of Strategic Capital Investment will contact the Environmental Policy team for guidance. Media relations and the legal team shall also be notified if the incident could result in media involvement.
  - e. The response to the incident shall be documented in a report along with the date of completion of any mitigation or corrective/preventative actions, and date that the response was communicated to the complainant. The senior environmental air specialist at the site will maintain this documentation for a minimum of five years.
2. Complaint received by another office:
  - a. The individual receiving the complaint is to forward the name and contact information of the person or agency making the complaint to the Plant Manager's office. The Plant Manager will forward the information to the environmental air specialist, or other individual designated by the Plant Manager, in order to maintain the complaint log including the date of the complaint, date of the incident that is the source of the complaint, and the concern. This information is to be documented on the complaint log along with the name of the individual who received the complaint.
  - b. Continue with 1.b., c., d., and e., above.

## Periodic Assessments of the Control Plan Effectiveness

At least annually, the senior environmental air specialist will meet with plant management to review the inspection records, citizen or agency complaints including any controls implemented in response to those complaints, and determine if additional control measures or inspections are necessary.

The discussion will also include any work or projects planned or anticipated in the upcoming year that could substantially increase fugitive dust emissions and/or the need to implement additional controls or inspections.

## Amendments to the Plan

An amendment of this plan is required 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 amendment must be certified by a professional engineer who certifies that the amendment meets the requirements of §257.80(b).

## Annual CCR Fugitive Dust Control Report

Killen will prepare an annual CCR fugitive dust control report that includes a description of the actions taken by the station to control CCR fugitive dust, a record of all citizen complaints and a summary of any corrective measures taken. Each report will be completed, as defined by §257.80(c) as being placed in the operating record, no later than one year after the date of completing the previous report.<sup>2</sup>

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<sup>2</sup> The first report is to be completed no later than 14 months after placing the initial CCR Fugitive Dust Control Plan in the operating record. The deadline for completing a subsequent report is one year after the date of completing the previous report. The owner or operator has completed the annual CCR fugitive dust control report when it has been placed in the facility's operating record.

**Appendix A**

**Killen Generating Station CCR Citizen Complaint Log**

Date Received	Date of Incident	Name of Person Receiving Complaint	Name of Complainant	Description of Incident, including CCR Unit(s) Involved	Complainant Contact Information	Name Responsibility Assigned*

\*Document response in a separate report. Report to include the following: action items completed; other individuals or agency personnel outside of the company contacted; copy of response to complainant; date(s) response provided to complainant and any other communications to complainant; and any other pertinent information. If a root cause analysis completed, this report could meet this obligation.