

# 2016 CCR Fugitive Dust Control Report - J.M. Stuart 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 19, 2016



## Introduction

J.M. Stuart Station (Stuart) is located in a rural area between U.S. Route 52 and the Ohio River in Adams County, Ohio. Stuart has a capacity of approximately 2,300 megawatts and has been in operation since 1970. There are four coal-fired boilers that are equipped with flue gas desulfurization (FGD) systems to control sulfur dioxide emissions, selective catalytic reduction (SCR) systems to control nitrogen oxides emissions, and electrostatic precipitator systems to control particulate emissions.

Coal ash and gypsum are the coal combustion residuals (CCR) managed at the site. The plant currently has five CCR ponds and two active landfill disposal areas for CCR.

Stuart mixes the fly ash (ash that is removed from the air stream by the electrostatic precipitator), with water and wet sluices it to one of three fly ash ponds: Pond 3A; Pond 7; or Pond 10. The fly ash ponds are rotated such that during normal operations, one pond is filling with sluiced fly ash, while another pond is dewatering and the third pond is excavated. Ash that has been dewatered and excavated is moved by truck a short distance to one of two on-site landfills, Landfill 9 or 11.

The wastewater from the fly ash ponds and other wastewater flows through Pond 6 prior to ultimate discharge into the Ohio River.

Stuart also wet sluices the bottom ash (ash from the bottom of the boiler which contains boiler slag and other non-combustible material) to Pond 5, and the wastewater is ultimately discharged to the Ohio River. The bottom ash is dewatered and excavated for use on-site or disposal.

In the FGD systems, 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 vessels also generate wastewater that contains residual gypsum which is discharged into an area of Pond 5 that is segregated from the ash. This gypsum material is excavated and landfilled.

Stuart also markets cenospheres which are harvested from the water surface of Pond 6. This material is typically trucked off-site as it is harvested and processed.

Carter Hollow Landfill, which began construction in 2012, is permitted for gypsum and ash disposal. It is anticipated that DP&L will begin using Carter Hollow Landfill in early 2017.

The fugitive dust control measures that are currently being used were primarily selected in accordance to the measures contained in the Stuart Title V Permit, air permits-to-install (PTI), and the Carter Hollow Landfill solid waste permit.

## **Description of the Actions Taken to Control CCR Fugitive Dust**

Stuart personnel use an inspection form to document daily inspections required by the Fugitive Dust Control Plan. Areas included in the inspection are: (1) FGD limestone and gypsum storage piles, (2) material handling systems, (3) plant roadways and parking areas, (4) landfills, and (5) ash impoundments. Review of these forms demonstrate that the inspections are being performed. Control measures such as watering, housekeeping, reduced speed limits, and covered trucks have been used throughout the year to control fugitive dust.

## **Record of Citizen Complaints**

There have been no citizen complaints since the Fugitive Dust Control Plan was placed in the Operating Record on October 19, 2015.

## **Summary of Any Corrective Measures Taken**

Since there have been no citizen complaints during the time period of this report, there have not been any corrective measures required to be taken.