



REPORT

# 2017 ANNUAL CCR FUGITIVE DUST CONTROL REPORT

Sheldon Station

Nebraska Public Power District



**Nebraska Public Power District**

*"Always there when you need us"*

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Figure 1 Facilities included in Dust Control Plan and Haul Routes



## 1.0 INTRODUCTION

Golder Associates Inc. (Golder) has prepared this Annual Coal Combustion Residual (CCR) Fugitive Dust Control Report on behalf of Nebraska Public Power District's (NPPD's) Sheldon Station (SS). This report has been developed in accordance with recognized and generally accepted best management practices and as required under 40 CFR 257.80(c). Provided in this report is a description of the actions taken to control CCR fugitive dust. Citizen complaints and corrective measures regarding fugitive dust are addressed in Section 3.0 and 4.0, respectively; there have not been any citizen complaints at SS for the 2017 reporting period (October 15, 2016 to October 15, 2017).

### 1.1 Facility Description

SS is a 225 mega-watt coal-fired electric facility located in Hallam, Nebraska. The plant and associated facilities pertaining to the handling of CCRs are shown in Figure 1.

The CCRs generated at SS include fly ash and bottom ash. These CCRs are managed in a dry ash landfill that is owned and operated by NPPD and regulated by Nebraska Department of Environmental Quality (NDEQ). The dust control measures for management and handling, transport and placement of CCRs are described in this report.

### 1.2 Regulatory Requirements

At SS, CCR fugitive dust is regulated by the NDEQ and the Lincoln Lancaster County Air Pollution Control Program Regulations and Standards in accordance with the Air Pollution Control Title V Permit to Operate and Title 129 of the Nebraska Air Quality Regulations (NDEQ 2015). Fugitive dust generated by CCR-related activities at SS will also be managed in accordance with the CCR Rule, 40 CFR 257. This Report is limited to addressing the annual requirements for the CCR Rule. Specific requirements of the Title V Operating Permit are not duplicated in this report. This report will be maintained within the operating record and SS's publically accessible website for at least five years.



## 2.0 ACTIONS TAKEN TO CONTROL FUGITIVE DUST

Fugitive dust may be generated at SS by loading, transport and placement operations. The specific locations of potential CCR fugitive dust sources are as follows:

- Collection and Loading
  - Baghouse to fly ash silo
  - Fly ash silo to trucks
  - Bottom ash hopper to bottom ash dewatering bins
  - Bottom ash dewatering bins to trucks
- Transport
  - Haul trucks
  - Haul roads
- Placement and Storage
  - Ash Landfill #4

Actions taken at SS to control fugitive dust have not changed from the collection, handling, loading, transport, placement and control measures presented in the initial Dust Control Plan dated October 15, 2015. The Dust Control Plan will be amended as needed, maintained in the operating record, certified by a professional engineer registered in Nebraska and posted to the publicly accessible website.

NPPD staff performed the following tasks to evaluate the effectiveness of the current CCR fugitive dust measures and ensure that the procedures described in the Dust Control Plan adequately controlled CCR fugitive dust.

- Weather conditions were monitored daily for wind and precipitation events. If high winds are expected, additional measures were taken to minimize CCRs from becoming airborne. A water truck was operated as needed based on expected precipitation or freezing events.
- Routine observations were conducted to determine whether dust was becoming airborne in such quantities and concentrations that it remains visible in the ambient air beyond the premises where it originates.
- Conditioned CCR was assessed periodically to ensure that it was placed in such a manner to prevent the formation of fugitive dust.
- The baghouses were monitored continuously per the Title V permit to determine whether the fabric dust collector filter bags were functioning properly.

The observations and routine functions listed above are standard practice at SS. Visual emissions were observed daily during operations to assure that fugitive dust at the site was controlled. Personnel involved in CCR handling and placement are instructed to ensure compliance with the permits, facility plans and appropriate regulations. Additional fugitive dust control activities completed by NPPD are described in the following sections.



## 2.1 Collection and Loading

Fly ash was collected in flue gas baghouses and pneumatically conveyed to the fly ash storage silo. At the baghouses, dust was controlled within a full enclosure using fabric dust collector filter bags.

Bottom ash was collected in hoppers beneath the boiler and sluiced to the bottom ash dewatering bins. The bottom ash was stored in the dewatering bins until it was transferred to the beneficial re-use facility in haul trucks or hauled to Ash Landfill #4.

For CCR collection and loading, fugitive dust emissions were controlled by:

- Conditioning the fly ash with water or chemical suppressant to an appropriate moisture content prior to loading into haul trucks.
- Using a filtered vent for air displaced from the fly ash silo.
- Minimizing the fall distance at the drop point with an enclosed chute.
- Reducing or halting operations during high winds.

## 2.2 Transport

CCRs were transported in haul trucks on paved roads. The haul routes are shown on Figure 1. Haul roads may be watered if needed. Fugitive dust was controlled by:

- Sweeping and watering roads, as needed.
- Reducing speed limits on haul roads.
- Reducing or halting haul operations during high winds.

## 2.3 Placement

Placement of CCRs occurred at Ash Landfill #4. Fugitive dust at the landfill was controlled by:

- Placing fly ash conditioned with water to achieve minimization of dust without the creation of free liquids.
- Compacting the fly ash after placement. Compaction was achieved by making a pass over spread materials with a haul truck. The fly ash formed a crust that helped to prevent re-entrainment of fly ash from the wind.
- Operating a water truck over recently placed CCRs, except during freezing conditions. During freezing conditions non-erodible materials such as bottom ash were used to control dust.
- Reducing or halting operations during high winds.



### 3.0 RECORD OF CITIZEN COMPLAINTS

Citizen complaints were not received between October 15, 2016 and October 15, 2017. As stated in the Dust Control Plan, complaints that are received will be forwarded to the NPPD Corporate Environmental Department for review and coordination of response and corrective measures. The response and corrective measures to each complaint will be determined on a case by case basis. A copy of each complaint and its resolution, including a summary of corrective action taken, will be included in the operating record and the annual dust control report.



#### **4.0 SUMMARY OF CORRECTIVE MEASURES TAKEN**

CCR fugitive dust was sufficiently managed using the procedures described in the Dust Control Plan. Corrective measures were not needed during the period from October 15, 2016 to October 15, 2017.



## 5.0 RECORD KEEPING AND NOTIFICATIONS

The NDEQ will be notified before the close of business on the day this annual report is placed in the operating record. Within 30 days of placing the annual report in the operating record, the report will be posted to a publicly accessible website. Each annual report will be retained and posted to the website for at least five years.



**FIGURE**



NEBRASKA PUBLIC POWER DISTRICT  
SHELDON STATION  
FUGITIVE DUST LOCATIONS AND HAUL ROUTE  
FIGURE 1

Established in 1960, Golder Associates is a global, employee-owned organization that helps clients find sustainable solutions to the challenges of finite resources, energy and water supply and management, waste management, urbanization, and climate change. We provide a wide range of independent consulting, design, and construction services in our specialist areas of earth, environment, and energy. By building strong relationships and meeting the needs of clients, our people have created one of the most trusted professional services organizations in the world.

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