



REPORT

2024 Annual Coal Combustion Residuals Fugitive Dust Control Report

Sheldon Station

Submitted to:

Nebraska Public Power District

Sheldon Station
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Submitted by:

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1.0 INTRODUCTION

WSP USA Inc. (WSP) prepared this Annual Coal Combustion Residuals (CCR) Fugitive Dust Control Report on behalf of Nebraska Public Power District (NPPD) for Sheldon Station. This report was developed in accordance with recognized and generally accepted best management practices and as required under Title 40 of the Code of Federal Regulations (CFR) (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 Sections 3.0 and 4.0, respectively. There have not been any citizen complaints at Sheldon Station for the 2024 reporting period (October 15, 2023, to October 15, 2024).

1.1 Facility Description

Sheldon Station is a 225-megawatt 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 Sheldon Station 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 the Nebraska Department of Environment and Energy (NDEE). The dust control measures for management, handling, transport, and placement of CCRs are described in this report.

1.2 Regulatory Requirements

At Sheldon Station, CCR fugitive dust is regulated by NDEE 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. Fugitive dust generated by CCR-related activities at Sheldon Station is also 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 posted to Sheldon Station's publicly accessible website for at least five years.

2.0 ACTIONS TAKEN TO CONTROL FUGITIVE DUST

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

- collection and loading
 - precipitator to wet mixer
 - 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
 - Ash Landfill #4

Actions taken at Sheldon Station 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 (Golder 2015). The Dust Control Plan will be amended as needed, maintained in the operating record, certified by a Professional Engineer (PE) 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 were 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 remained visible in the ambient air beyond the premises where it originated.
- Conditioned CCR was assessed periodically to ensure that it was placed in a manner that limits 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 Sheldon Station. 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 reuse 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 in 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 reentrainment 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, 2023, and October 15, 2024. 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, 2023, to October 15, 2024.

5.0 RECORD KEEPING AND NOTIFICATION

The NDEE 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, NPPD will post the report to a publicly accessible website. Each annual report will be retained and posted to the website for at least five years.

6.0 REFERENCES

Golder (Golder Associates Inc.). 2015. Dust Control Plan.

Signature Page

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https://wsponlinenam.sharepoint.com/:w:/r/sites/US-US00399015260NPPD/Shared%20Documents/6%20-%20Deliverables/001-RPT-SS_2024_Annual_CCR_FDC_Rpt/Rev0/US0039901.5260-001-RPT-0-Sheldon_Station_2024_Annual_CCR_Fugitive_Dust_Control_Report_09DEC24.docx

Figures

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

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