



REPORT

Fugitive Dust Control Plan, Revision 1

Great River Energy – Stanton Station

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FIGURES

Figure 1: Great River Energy – Stanton Station Fugitive Dust Control Locations

1.0 INTRODUCTION

This Coal Combustion Residuals (CCR) Fugitive Dust Control Plan (the Plan) has been prepared for Great River Energy's (GRE's) Stanton Station. This Plan has been developed in accordance with recognized and generally accepted best management practices and the CCR Rule (Criteria for Classification of Solid Waste Disposal Facilities and Practices, Subpart D – Standards for the Disposal of CCRs in Landfills and Surface Impoundments, published in the Code of Federal Regulations Title 40 Part 257 (40 CFR §257) April 17, 2015). This Plan addresses measures to “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).

This Plan includes identification of the CCR-related fugitive dust sources at Stanton Station; measures to control the fugitive dust; reasons for selecting the dust control measures; procedures to evaluate the effectiveness of the Plan; procedures for documenting citizen complaints; and requirements for recordkeeping and notification. This Plan may be amended from time to time. The most recent Plan will be maintained in the Operating Record.

1.1 Facility Description

Stanton Station was a coal-fired electric generation facility located in Mercer County, North Dakota, approximately three miles southeast of the city of Stanton along the Missouri River. The Stanton Station site covers an area of approximately 250 acres. The facility began generating power in 1966 and ceased power production in February 2017.

CCRs generated at Stanton Station included fly ash, bottom ash, spray dryer material (e. g., flue gas desulfurization (FGD) material), and economizer ash. CCRs produced at the Hazen and Center Public Schools, GRE's Spiritwood Station, and Basin Electric Power Cooperative's Leland Olds Station may have also been deposited in facilities associated with Stanton Station prior to 2018. Stanton Station has not produced CCRs since 2017; however, it did accept CCRs generated offsite in 2019. Spiritwood Station ash and Coal Creek Station fly ash were used for stabilization of the final top of waste grades in the south cell of the Bottom Ash Impoundment in the fall of 2019 in preparation for closure.

The co-mingled spray dryer/fly ash and fly ash from the other potential sources was managed in a dry landfill off-site, which was closed and covered in 2017. Economizer ash and bottom ash were managed together in the Bottom Ash CCR Surface Impoundment (Bottom Ash Impoundment), which was composed of three cells (north, center, and south), and the Bottom Ash CCR Landfill (Bottom Ash Landfill) as shown in Figure 1. These facilities are owned and operated by GRE and regulated by the North Dakota Department of Environmental Quality (NDDEQ).

1.2 Site Closure and Restoration

Deconstruction and demolition of plant facilities were completed in 2019 and ongoing site restoration activities are expected to be completed in 2020, including closure of the Bottom ash Landfill and Bottom Ash Impoundment. The north and center cells of the Bottom Ash Impoundment were closed in 2019 by removal of CCR in accordance with the requirements of 40 CFR §257.102(c) while the south cell of the Bottom Ash Impoundment and the Bottom Ash Landfill will be closed in 2020 with CCRs in place in accordance with the requirements of 40 CFR §257.102(d). After closure, ongoing maintenance of the site will be performed in accordance with the applicable closure and post-closure care plans per 40 CFR §257.102(b) and 40 CFR §257.104(d).

1.3 Regulatory Requirements

This Plan includes dust control measures for handling, transport, and placement of CCRs during site restoration construction. Fugitive dust generated by CCR-related activities at Stanton Station will be managed in accordance with the CCR Rule, 40 CFR §257. The requirements of the Fugitive Dust Control Plan as listed in 40 CFR §257.80(b) are as follows:

- Identify and describe the CCR fugitive dust control measures used at Stanton Station, and explain the reasons for selection of these measures, in the Plan.
- Moisture condition CCRs prior to, during, and/or after placement.
- Provide procedures in the Plan to log citizen complaints regarding CCR fugitive dust at Stanton Station.
- Describe procedures to evaluate the effectiveness of the Plan.
- Place the initial Plan in the Operating Record by October 19, 2015.
- Amend the Plan as needed and place the amended Plan in the Operating Record.
- Prepare an annual report of CCR fugitive dust control activities.
- Maintain the most recent Plan and annual reports for the previous five years in the Operating Record.
- Notify NDDEQ when the initial Plan, an amended Plan, or an annual report is placed in the Operating Record.
- Post the current version of the Plan and annual reports for the previous five years on a publicly accessible website.

2.0 FUGITIVE DUST CONTROL MEASURES

Fugitive dust may be generated at Stanton Station by loading, transport, and placement operations during site restoration activities. As discussed previously, Stanton Station ceased power production in February 2017 and has not produced or received (for disposal) CCR materials since that time.

As a part of closure of the Bottom Ash Landfill and Bottom Ash Impoundment, economizer ash and bottom ash are required to be transported between these two facilities to achieve top of waste closure grades prior to construction of final cover, planned to be completed in 2020. Therefore, CCR fugitive dust sources may include loading, transport, and placement at both the Bottom Ash Impoundment and Bottom Ash Landfill using standard construction equipment, such as excavators, haul trucks, and bulldozers.

2.1 Handling and Loading

Fugitive dust during CCR loading operations may be created by wind, excavation operations and/or truck loading operations. For CCR loading, fugitive dust emissions are controlled by the following:

- Moisture conditioning bottom ash to limit dust emissions.
- Reducing or halting operations during high winds.

2.2 Transport

Control measures implemented to limit fugitive dust emissions from CCR transport are as follows:

- Restricting speeds on onsite haul routes to 25 miles per hour (mph).
- Maintaining gravel surface on the onsite access routes at Stanton Station during closure, as applicable.
- Wetting onsite access roads with water or chemical dust suppressants as needed to limit fugitive dust generation and when temperatures are above freezing.

2.3 Placement

Fugitive dust may be created by vehicle traffic, truck unloading operations, site restoration and closure construction, and/or wind. Fugitive emissions from these operations are controlled by the following:

- Placing CCRs with sufficient moisture content to help reduce fugitive dust generation.
- Limiting the fall distance from haul trucks.
- Adding moisture to the CCRs with a water truck after placement to prevent off-property transport of visible emissions.
- Compacting CCRs after placement. Compaction may be achieved by making a pass over spread materials with a haul truck or other heavy equipment.
- Reducing or halting operations during high wind events.

2.4 Control Measure Explanation

This section provides the explanation and reasoning behind the CCR fugitive dust control measures for Stanton Station, as follows:

- Moisture conditioning CCRs during loading, transport, and placement – Adding moisture to CCRs with water or other permitted liquid to achieve a moisture content that will limit wind dispersal but will not result in free liquids (40 CFR §257.80(b)(2)), is an effective strategy for controlling fugitive dust.
- Reducing or halting placement in high winds – Reducing or halting operations during periods of high wind reduces the potential for CCRs to become airborne. Sustained winds over 25 miles per hour (mph) or wind gusts over 35 mph are considered to be high winds.
- Speed limits – Limiting haul truck speeds during CCR transport results in reduced wind dispersal. Bottom ash is transported on haul routes between the Bottom Ash Impoundment and Bottom Ash Landfill.
- Gravel surfacing – Gravel surfacing limits fugitive dust generation due to the relatively large particle size and is also effective for track-out control. Haul routes used during closure activities and site restoration activities at Stanton Station may be gravel-surfaced.
- Watering Haul Routes – The haul routes used during site restoration activities at Stanton Station may be gravel-surfaced or soil-surfaced and have the potential for developing fugitive dust. Watering is an effective method for limiting fugitive dust emissions from roadways, particularly unpaved roads.

- Limited Fall Distance – Limiting the fall distance at the drop point helps to contain the flow of material into a confined area, reducing the energy and radius of dispersal.
- Compacting CCRs After Placement – Compaction of moisture conditioned CCRs helps establish a crust at the ground surface, which can be effective for limiting the generation of fugitive dust.

3.0 EVALUATION OF PLAN EFFECTIVENESS

As specified in the preamble to the CCR Rule, performance standards will be employed to evaluate the effectiveness of the Plan. Environmental and site staff trained in making visual emission observations will perform routine functions and observations to assure that CCR fugitive dust at Stanton Station is adequately controlled. Descriptions of these activities follow:

- For fugitive emissions resulting from loading, transport and/or placement, routine visual emission observations will be conducted to determine whether dust is becoming airborne in such quantities and concentrations that it remains visible in the ambient air beyond the premises where it originates or visible plumes cross the property boundary. Corrective action will be taken if fugitive emissions are observed crossing the property boundary.

The observations listed above are standard practice at Stanton Station during closure and site restoration activities. Visual emissions are observed daily during loading, transport, and/or placement activities to assure that fugitive dust at the site is controlled. When conditions are not in line with the site standards for fugitive dust emissions, designated facility personnel are notified, and corrective action is taken as needed.

4.0 CITIZEN COMPLAINTS

Citizen complaints regarding CCR fugitive dust generated at Stanton Station can be submitted on GRE's website. The website address is: www.greatriverenergy.com.

Documenting citizen complaints and implementing corrective action will be in accordance with GRE's Environmental Communication Procedure, Section 4.4.3. In summary, this procedure requires that the complaint will be recorded, the cause of the complaint will be investigated, and corrective action will be taken if warranted. The complaint will be incorporated into the annual report, along with a summary of the corrective measure(s) taken to address the complaint.

5.0 REPORTING

The recordkeeping, notification, and posting of information to a publicly accessible website required for this Plan are described in the following sections.

5.1 Fugitive Dust Control Plan

The initial Plan was placed in the Operating Record before October 19, 2015. The NDDEQ was notified the Plan had been placed in the Operating Record before the close of business on this date. Within 30 days of placement in the Operating Record, the initial Plan was posted to the publicly accessible website. The required certification by a professional engineer registered in North Dakota had been provided to the initial Plan.

This amended Plan will be placed in the Operating Record and the NDDEQ will be notified by the end of business on the day this amended Plan is placed in the Operating Record. Within 30 days of the amended Plan being placed in the Operating Record, the most recent Plan will be posted to the publicly accessible website. Certification by a professional engineer registered in North Dakota is required and provided in Section 7.0

The Plan may be amended at any time with the most recent Plan maintained in the Operating Record. Notification will be provided before the close of business on the day an amended Plan is placed in the Operating Record. Within 30 days of placement in the Operating Record, the most recent Plan will be posted to the publicly accessible website. The amended Plan will be certified by a professional engineer registered in North Dakota.

5.2 Annual Report

The following items will be addressed in each annual report:

- Descriptions of actions taken to control CCR fugitive dust at Stanton Station during the previous year.
- A record of citizen complaints received during the previous year.
- A summary of corrective measures taken during the previous year.

The first annual report was placed in the Operating Record within 14 months of the Plan's placement in the Operating Record. Subsequent reports will be placed in the Operating Record within one year of the previous annual report's placement in the Operating Record.

The NDDEQ will be notified before the close of business on the day an annual report is placed in the Operating Record. Within 30 days of placement in the Operating Record, the annual report will be posted to the publicly accessible website. At least five of the most recent annual reports will be retained in the Operating Record and posted to the website.

6.0 POST-CLOSURE DUST CONTROL

After final closure of the Bottom Ash Impoundment and Bottom Ash Landfill in 2020, the facilities will each have a final cover system that includes at least two feet of soil and a vegetative cover. Therefore, potential sources of dust related to CCRs will no longer be present at Stanton Station and measures to "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" (per 40 CFR §257.80) will not be applicable. It is anticipated that this plan will be in effect for 2020 (until final closure is completed) and that a 2020 annual CCR fugitive dust control report will be completed addressing fugitive dust control measures and reporting requirements described in this plan. However, beginning in 2021, with final covers in place and no CCR activities at the site, the management of fugitive dust from CCR will cease as will annual reporting of CCR fugitive dust control activities. The final covers on the south cell of the Bottom Ash Impoundment and the Bottom Ash Landfill will be monitored during the post-closure care period per the applicable closure and post-closure plans.

7.0 CERTIFICATION

The fugitive dust control measures selected for controlling CCR fugitive dust at Stanton Station, as described in this amended Plan, represent recognized and generally accepted best management practice, are applicable and appropriate for site conditions, and are expected to effectively limit the amount of CCR that becomes airborne at Stanton Station. Inquiries may be directed to:

Great River Energy
Coal Creek Station
Attn: Fugitive Dust Complaint – Stanton Station
2875 Third Street SW
Underwood, North Dakota 58576

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www.greatriverenergy.com

Signature Page

Golder Associates Inc.



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A handwritten signature in blue ink that reads "Todd Stong".

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FIGURE 1

Great River Energy – Stanton Station Fugitive Dust Control Locations



REFERENCE(S)

1. AERIAL IMAGE FROM GREAT RIVER ENERGY PHOTOGRAPH, NOVEMBER 2019.

**GREAT RIVER ENERGY - STANTON STATION
FUGITIVE DUST LOCATIONS**



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