

Appendix C

CCR Fugitive Dust Control Plan

Omaha Public Power District
Nebraska City Generating Station
NC2 Ash Disposal Area

November 2021





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Revision Log

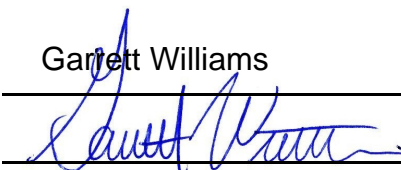
This CCR Fugitive Dust Control Plan may be revised from time to time when control measures or procedures are changed. Because revisions to this document can be made on a periodic basis, document control is necessary. The most recent version of this CCR Fugitive Dust Control Plan is required to be posted on the CCR website. The revision log below must be updated every time when this plan is amended.

Revision No.	Revision Date	Revised Sections	Originator	Notes
0	October 16, 2015	NA	HDR	Per CCR Rule
1	January 2019	NA	HDR	Per 2019 Permit Renewal Application
2	November 2021	NA	HDR	Update for remedy selection

Professional Engineer Certification

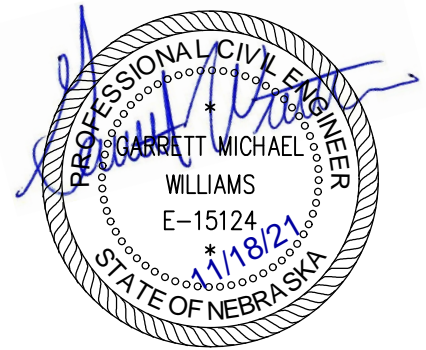
“I hereby certify that this CCR Fugitive Dust Control Plan for the Omaha Public Power District Nebraska City Station meets the requirements of the Coal Combustion Residual Rule 40 CFR 257.80(b). I am a duly licensed independent Professional Engineer under the laws of the State of Nebraska.”

Print Name: Garrett Williams

Signature: 

Date: November 18, 2021

License #: E-15124



My license renewal date is December 31, 2022.

1 Introduction

1.1 Introduction

On April 17, 2015 the U.S. Environmental Protection Agency (EPA) published the final rule for the regulation and management of coal combustion residuals (CCR) under subtitle D of the Resource Conservation and Recovery Act (RCRA). The CCR rule defines a set of requirements for the disposal and handling of CCR in landfills and surface impoundments. One of the operating criteria for air, 40 CFR §257.80(b), specifies that an owner or operator of a CCR landfill, surface impoundment, or lateral expansion of a CCR unit must develop a CCR fugitive dust control plan by October 19, 2015.

1.2 Purpose

The CCR rule requires CCR landfills to develop a CCR fugitive dust control plan and adopt measures that will 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(a)). This plan must include:

- Identification of the CCR handling areas and control measures taken to minimize CCR fugitive dust at the facility
- Explanation of how dust control measures selected are applicable and appropriate for site conditions
- Emplacement of CCR in the landfill as conditioned CCR
- Procedures to log citizen complaints involving CCR fugitive dust events at the facility
- Description of procedures to periodically assess effectiveness of control plan

The initial plan was completed and placed in the facility operating record by October 19, 2015. This plan, or any amended thereof, must be certified by a qualified professional engineer that the CCR fugitive dust control plan meets requirements. This plan must be posted to the Omaha Public Power District's (OPPD's) CCR website for the Nebraska City Station. Within 30 days of placement in the operating record, a notification will be sent to the Director of Nebraska Department of Environmental Quality (NDEQ) of the availability of this CCR Fugitive Dust Control Plan.

The key definitions from the CCR Rule, 40 CFR §257.3, relative to the CCR fugitive dust requirements are:

“Coal combustion residuals (CCR)” means fly ash, bottom ash, boiler slag, and flue gas desulfurization materials generated from burning coal for the purpose of generating electricity by electric utilities and independent power producers.

“CCR fugitive dust” means solid airborne particulate matter that contains or is derived from CCR, emitted from any source other than a stack or chimney.

“Facility” means all contiguous land, and structures, other appurtenances, and improvements on the land, used for treating, storing, disposing, or otherwise conducting

solid waste management of CCR. A facility may consist of several treatment, storage, or disposal operation units (e.g., one or more landfills, surface impoundments, or combinations of them).

“Qualified professional engineer” means an individual who is licensed by a state as a Professional Engineer to practice one or more disciplines of engineering and who is qualified by education, technical knowledge and experience to make the specific technical certifications required under this subpart. Professional engineers making these certifications must be currently licensed in the state where the CCR unit(s) is located.

“Qualified person” means a person or persons trained to recognize specific appearances of structural weakness and other conditions which are disrupting or have the potential to disrupt the operation or safety of the CCR unit by visual observation and, if applicable, to monitor instrumentation.

1.3 Facility Background

OPPD has a two-unit (Nebraska City (NC) Unit 1 and NC Unit 2) fossil fuel-fired generating plant at the Nebraska City Station (Station) located 5.5 miles southeast of Nebraska City, Nebraska, along the west shore of the Missouri River. The Station property covers approximately 1,600 acres in portions of Sections 30 and 31, Township 8 North (T8N), Range 15 East (R15E), and Sections 25 and 36, T8N, R14E. This Station has two existing CCR landfills that are permitted under the current NDEQ Title 132 regulations for fossil fuel combustion ash disposal area (the NC1 Ash Disposal Area and NC2 Ash Disposal Area). The NC1 Ash Disposal Area (NDEQ Permit No. NE0054712, Facility ID 58343) is an unlined CCR landfill of approximately 52 acres that has historically received CCR for disposal and is permitted with the State of Nebraska. The NC2 Ash Disposal Area (NDEQ Permit No. NE0204421, Facility ID 58343) is a CCR landfill with a composite liner and leachate collection system, permitted with the State of Nebraska for a total of 40.7 acres.

2 CCR Fugitive Dust Control Measures

The Station has several on-site structures and areas that are associated with CCR handling. The following sections specifically identify CCR generation areas, CCR handling operations, CCR transfer and emplacement, and the preferred control measures to reduce CCR fugitive dust. Fugitive dust may result from any of these areas. A facility site map in Attachment A illustrates these areas of CCR handling.

2.1 Generation, Storage and Loadout of CCR

The CCR generated at the Station is bottom ash and fly ash (including flue gas emission control derived material) from NC Units 1 and 2.

2.1.1 NC Unit 1

The bottom ash removal system collects, dewateres, and conveys bottom ash and furnace slag from the NC Unit 1 bottom ash hopper via submerged chain conveyor to an open-top dump truck. Loadout occurs within the building on a concrete floor. OPPD personnel haul the moist bottom ash to one of the existing CCR landfills for temporary storage. The CCR contractor maintains the bottom ash stockpiles in the CCR landfills prior to off-site beneficial use. Because the bottom ash is not subject to dusting, the material is considered conditioned when it is piled or landfilled and does not require additional dust control measures as the product is transferred from the generating units and emplaced on the CCR landfill(s).

Fly ash is removed from the NC Unit 1 precipitators through an enclosed pneumatic conveyor system to the NC1 fly ash silo. From the silo the fly ash can be directly loaded into enclosed cement-type trucks or dry bulk trailers, or further conveyed to the ash storage building for subsequent beneficial use. The fly ash silo is equipped with a pneumatic unloader for loading enclosed trucks for off-site sale of the material. The fly ash may also be moisture-conditioned and direct loaded into open-top trucks for transport and disposal in the existing CCR landfill(s). The moisture conditioning does not result in free liquids. The fly ash silo is also equipped with a filter vent discharge for dust control.

Fly ash from the NC Unit 1 economizers is conveyed to the NC1 economizer silo. Dry fly ash from the economizer silo is moisture-conditioned and loaded into open-top truck(s) for transport and emplacement in the existing CCR landfills.

Fly ash is pneumatically conveyed to the ash storage building. The ash storage building provides temporary storage of NC Unit 1 fly ash prior to loading into enclosed dry bulk trailers for subsequent beneficial use. There is a dust collector for the building when ash is being conveyed. The loading of trailers occur within the structure.

2.1.2 NC Unit 2

The bottom ash removal system collects, dewateres, and conveys bottom ash and furnace slag from the NC Unit 2 bottom ash hopper via submerged chain conveyor to an open-top dump truck. Loadout occurs within the building on a concrete floor. OPPD personnel haul the moist bottom ash to one of the existing CCR landfills for temporary storage. The CCR contractor

maintains the bottom ash stockpiles on the CCR landfills prior to off-site beneficial use. Because the bottom ash is not subject to dusting, the material is considered conditioned when it is piled or landfilled and does not require additional dust control measures as the product is transferred from the generating units and emplaced on the CCR landfill(s).

Fly ash (including scrubber ash) is removed from the NC Unit 2 scrubber/baghouses through a pneumatic conveyor system to the NC2 fly ash silo for temporary storage. Fly ash is moisture conditioned and directly loaded into open-top trailers for transport and emplacement in the CCR landfill(s). The trailers are covered after loading. The moisture conditioning does not result in free liquids. The fly ash silo is equipped with a filter vent discharge for dust control. The NC2 fly ash silo is also equipped with a pneumatic unloader for loading enclosed trucks for potential beneficial reuse.

2.2 Transportation of CCR

CCR fugitive dust can occur during transfer from the generation and temporary storage of CCR to the landfills. CCRs are transported in trucks on haul roads on-site from the plant ash storage silos and bottom ash loadout areas to the active areas of the CCR landfills. Fugitive dust may occur from CCR contained in open-top haul trucks or from miscellaneous CCR on the haul roads. Temporary roads within the limits of the CCR landfills are constructed of CCRs placed and compacted as the disposal area develops. Control of CCR fugitive dust during transportation will be accomplished by one or more of the following techniques:

- Moisture conditioning of CCR
 - Fly ash can be moisture-conditioned during loading into open-top trailers or trucks for transfer to the landfills
 - Bottom ash is sufficiently moist from the submerged chain conveyors and does not require any further moisture added
- Paved haul roads from the CCR loadout areas to the perimeter of the CCR landfills
- Watering of haul roads
- Treatment of haul roads using polymer emulsion or modified asphalt emulsion dust suppression product, when needed

Water for fugitive dust control is obtained from an on-site, non-potable water supply well. Water from the leachate retention pond(s) may also be used for dust control within the limits of the CCR landfills.

CCR materials hauled to off-site markets are transported in enclosed trucks. When the supply of fly ash exceeds market demand and the NC1 ash storage building approaches its capacity, fly ash is transported to the CCR landfill. The open-top trailers are covered prior to being transported to the on-site landfills.

2.3 Disposal of CCR (Existing CCR Landfills)

The existing NC1 Ash Disposal Area is located west of the generating units and existing NC2 Ash Disposal Area is located north-northwest of the generating units on the Station property. CCR generated from the Station is offloaded from trucks and emplaced in either CCR landfill in

a moisture-conditioned state which controls CCR fugitive dust during unloading and compaction. Following placement, the CCR will be compacted to a stable condition. Water trucks will be supplied as needed to control CCR dust generated by winds or by mobile equipment traffic on the CCR landfills.

The CCR fugitive dust control measures utilized at each CCR landfill include one or more of the following:

- Receipt of moisture-conditioned fly ash and de-watered bottom ash
- Watering of all areas of active equipment movement, when required
- Good compaction of CCRs in the active work areas
- Placement of clarifier sediment as a thin layer on active disposal areas
- A binding agent or encapsulate can be applied to control dust on the idle areas of the landfill.
- Placement of final cover system and vegetation after closure of areas that have reached final grades
- During periods of high wind, ash hauling and unloading on the CCR landfills is ceased to prevent CCR fugitive dust from leaving the Station site

Water may be obtained from the on-site leachate retention pond(s) or non-potable water supply well and site storm water runoff ponds. Control of watering at the CCR landfills is given to the CCR contractor. Based on current conditions and past experience, the CCR contractor utilizes a water truck for CCR fugitive dust control such that dust does not become airborne in quantities and concentrations to remain visible in the ambient air beyond the Station boundary. Stockpiled and excavated CCR may also be sprayed with water to control dust, as necessary.

As required by the Station's Class I Operating Permit, OPPD personnel conduct monthly surveys for certain emission units, which includes the CCR landfills, to determine if fugitive dust emissions remain visible beyond the boundary of the source. Upon observation of excessive CCR fugitive dust emissions, OPPD will contact the CCR contractor to apply water to the CCR landfill or cease operations.

During very windy conditions, the NC1 Ash Disposal Area and NC2 Ash Disposal Area may be misted with water to control fugitive dust when necessary. Because fly ash may also be temporarily stored in the fly ash silos, disposal operations can be and have been put on hold during very windy conditions.

3 CCR Rule Reporting and Recordkeeping Procedures

The CCR rule requires specific records and reporting for CCR fugitive dust control at facilities with CCR units. The following sections describe the procedures, reports and recordkeeping for CCR fugitive dust.

3.1 Citizen Complaints

OPPD's procedures to receive and log citizen complaints involving CCR fugitive dust events at the facility include the following:

- Citizens can complete an online form for complaints on CCR fugitive dust. The OPPD website (www.oppd.com) contains a link to the CCR Rule Compliance Data and Information website. A link to the online form is made available on the CCR website.
- When citizens submit the form, a designated OPPD person(s) will be notified.
- Appropriate personnel will investigate the complaint.
- Any corrective actions taken will be documented.
- A record of citizen complaints and responses will be maintained in the appropriate files.

3.2 Periodic Assessments of Effectiveness of Control Plan

OPPD's procedures to periodically assess the effectiveness of this CCR Fugitive Dust Control Plan include the following:

- Review of the periodic visual observations for CCR fugitive dust and any actions taken
- Review of the citizen complaints and responses
- Results from the most recent annual CCR Fugitive Dust Control Report

OPPD will complete these reviews on a periodic basis to assess the control measures to mitigate CCR fugitive dust. The periodic assessment will be summarized and documented. If there are any improvements or additional control measures implemented then these will be noted in the review documentation. This Plan will be updated if any new CCR fugitive dust control measures are implemented at the Station.

3.3 Annual CCR Fugitive Dust Control Report

The CCR rule 40 CFR 257.80(c) requires preparation of an annual CCR Fugitive Dust Control Report that includes the following:

- Description of the actions taken by the owner or operator to control CCR fugitive dust
- Record of all citizen complaints
- Summary of any corrective measures taken

The initial annual report must be completed no later than 14 months after placing the initial CCR Fugitive Dust Control Plan in the facility's operating record. Completion means that the report has been placed in the facility's operating record. Subsequent annual reports must be completed within one year after the date of completing the previous report.

3.4 Recordkeeping and Notifications

Records will include those required by the CCR rule and those performed as part of normal Station operation relative to CCR fugitive dust control. Recordkeeping for CCR fugitive dust at the Station and existing CCR landfill will include the following plan and reports (as required by 40 CFR §257.80 and §257.105):

- CCR Fugitive Dust Control Plan and any amendment, and certification
- Annual CCR Fugitive Dust Control Report

OPPD will need to notify the NDEQ Director within 30 days of placing the CCR Fugitive Dust Control Plan and annual report in the operating record and posting to the CCR website (40 CFR §257.106 and §257.107).

The following records will be maintained by OPPD in the appropriate files in support of the CCR Fugitive Dust Control Plan and annual report:

- Record of citizen complaints
- Monthly visual observation results
- Documentation of periodic assessments of effectiveness of control plan
- Actions or corrective measures taken to control CCR fugitive dust



Attachment C-1
Facility Site Map



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