

COAL COMBUSTION RESIDUALS FUGITIVE DUST CONTROL PLAN

Colorado Springs Utilities' Clear Spring Ranch
Coal Combustion Residuals Landfill
El Paso County

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I declare that I am familiar with the provisions of 40 CFR Part 257.80 and in my professional opinion, as a Professional Engineer currently licensed in the State of Colorado, would consider this plan to meet the requirements of 40 CFR Part 257.80.

This Plan Is For The Sole Use Of Colorado Springs Utilities.

TABLE OF CONTENTS

1.0	INTRODUCTION.....	1
2.0	PURPOSE OF THIS PLAN.....	1
3.0	PLAN COORDINATOR & MATERIAL HANDLING PERSONNEL	1
4.0	CCR FUGITIVE DUST CONTROL MEASURES	2
4.1	Conditioned CCR.....	2
4.2	Daily Checks	3
4.3	Truck Covering	3
4.4	Unpaved Roads - Watering.....	3
4.5	Reduced Vehicle Speed	4
4.6	Deposit of Dirt and Mud on Improved Streets.....	4
4.7	Material Unloading / Final Placement / Cover / Re-vegetation.....	4
5.0	CITIZEN COMPLAINTS.....	4
6.0	ANNUAL CCR FUGITIVE DUST CONTROL REPORT.....	5
7.0	EFFECTIVENESS ASSESSMENT	5
8.0	PLAN AMENDMENTS & CERTIFICATION.....	6
9.0	RECORDKEEPING REQUIREMENTS.....	6
10.0	NOTIFICATION REQUIREMENTS	7
11.0	PUBLICLY ACCESSIBLE INTERNET SITE REQUIREMENTS.....	7

APPENDIX A - Citizen Complaint Log

1.0 INTRODUCTION

The Environmental Protection Agency (EPA) has recently established national regulations within Title 40 of the Code of Federal Regulations [40 CFR Parts 257 and 261] that provide a comprehensive set of requirements for the disposal of Coal Combustion Residuals (CCR), commonly known as coal ash, from coal-fired power plants.

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 [257.53].

These regulations, often referred to as the CCR Rule, contain provisions that are applicable to Colorado Springs Utilities' Clear Spring Ranch CCR Landfill located in El Paso County.

2.0 PURPOSE OF THIS PLAN

The general purpose of this CCR Fugitive Dust Control Plan is to aid in ensuring that Colorado Springs Utilities' operations at the CCR Landfill are performed in accordance with the applicable air quality provisions of the CCR Rule, specifically those within 40 CFR Part 257.80 (a) through (d).

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 [257.53].

Colorado Springs Utilities has adopted measures that will effectively minimize CCR from becoming airborne at the CCR Landfill, including CCR fugitive dust originating from the landfill's roads and other on-site CCR management and material handling activities [257.80(a)]. The measures are present in this CCR Fugitive Dust Control Plan.

3.0 PLAN COORDINATOR & MATERIAL HANDLING PERSONNEL

Colorado Springs Utilities shall operate the CCR Landfill in accordance with this CCR Fugitive Dust Control Plan [257.80(b)].

The Nixon Materials Handling Operations Supervisor is assigned as the Plan Coordinator and is responsible for ensuring that the measures outlined in this plan are followed. The Plan Coordinator may designate responsibilities, as deemed appropriate, to achieve the plan's objectives and requirements.

The success of dust control measures depends upon the involvement and cooperation of all Material Handling Personnel who may handle, load, transport, place, and/or otherwise manage CCR at the Clear Spring Ranch CCR Landfill, Drake Power Plant, and Nixon Power Plant. The Plan Coordinator should

ensure these Material Handling Personnel are aware of this plan, where it can be found, and its contents; as well as when any plan amendments are made.

If such Material Handling Personnel observe significant CCR fugitive dust being emitted from an operation or activity, it is their responsibility to notify the Plan Coordinator (if available) and stop work until the dust issue can be rectified. At that time, operation may recommence. Personnel must do their part to ensure that this is accomplished.

4.0 CCR FUGITIVE DUST CONTROL MEASURES

This section identifies and describes the CCR fugitive dust control measures that Colorado Springs Utilities will use to minimize CCR from becoming airborne at the CCR Landfill [257.80(b)(1)].

The CCR management process generally consists of the following steps: CCR is generated at the Drake and Nixon Power Plants, loaded into trucks as conditioned CCR, transported to the CCR Landfill by roadway, unloaded, with final cover areas terraced and re-vegetated. The majority of the roadways are paved, with a short unpaved section leading into the CCR Landfill.

The primary CCR fugitive dust sources at the CCR Landfill are:

- 1) Haul Roads,
- 2) Material Unloading at CCR Landfill, and
- 3) Final Material Placement at CCR Landfill.

The primary CCR fugitive dust causes are:

- 1) Wind Erosion and
- 2) Mechanical Disturbance.

The CCR fugitive dust control measures presented in the following subsections are currently considered most appropriate for the site's conditions. Colorado Springs Utilities believes the measures presented are applicable and appropriate for site conditions based on the type of operation (i.e. landfill), nature of the material, management practices, typical weather, and the facility's lengthy operational experience [257.80(b)(1)].

Other CCR fugitive dust control measures may be used, if applicable and appropriate for site conditions. If other measures will be routinely or periodically used, or conversely, if a current measure is no longer considered effective, this plan should be amended (see Section 8.0).

4.1 Conditioned CCR

This CCR Fugitive Dust Control Plan must include procedures to emplace CCR as conditioned CCR [257.80(b)(2)]. Conditioned CCR means wetting CCR with water to a moisture content that will prevent wind dispersal, but will not result in free liquids.

Systems are in place at both the Drake and Nixon Power Plants whereby CCR are loaded into trucks as conditioned CCR prior to transport to the CCR Landfill. This addition of water prior to transport reduces fugitive emissions. Daily checks (see Section 4.2) and water spray (see Section 4.7) should further ensure conditioned CCR is emplaced at the CCR Landfill.

4.2 Daily Checks

A daily check of the on-site haul roads, unloading areas, final placement activities, and overall CCR Landfill shall be conducted by the Plan Coordinator, or their designee(s), to monitor whether fugitive dust is being generated and to ensure conditioned CCR is being emplaced. High temperatures, low humidity, windy conditions, and days with above average load counts may merit additional checks.

If fugitive dust is being generated, additional water shall be applied, or other dust control techniques shall be promptly instigated. In lieu of water, CCR conditioning may be accomplished with an appropriate chemical dust suppression agent. The Environment, Health, & Safety Division - Regulatory Services Sections should be contacted prior to utilizing a chemical dust suppression agent, as Colorado Department of Public Health & Environment approval may be needed. Reducing or halting operations may be required at times during high wind events causing fugitive dust emissions.

Any actions required to control a fugitive dust problem identified by the daily observations shall be recorded in a written or electronic facility log.

4.3 Truck Covering

Truck covering is common practice in many industries to minimize fugitive dust and spillage during hauling. Trucks transporting CCR shall be covered to reduce the potential for emissions of fugitive dust and spillage while in transit to the CCR Landfill. Maintaining adequate freeboard between the load and top of hopper can further help reduce air emissions and road deposits.

4.4 Unpaved Roads - Watering

Unpaved roadways are a potential source of fugitive dust emissions due to vehicular traffic and wind. Applying water to unpaved roads is known to be effective in mitigating fugitive dust emission at industrial and construction sites. Regular water addition suppresses dust emission and prevents the carryout of fugitive dust by the truck traffic. "Carryout" refers to the dispersion of dust caused by vehicular traffic. The control efficiency of water addition to unpaved roads depends upon the following key variables: (1) traffic volume; (2) climatological conditions (especially rainfall, humidity, wind speed, evaporation); (3) application rates for water; and (4) elapsed time between water applications. With consideration of these key variables, unpaved roadways on-site shall be watered as often as necessary to control fugitive emissions.

4.5 Reduced Vehicle Speed

High vehicle speeds on unpaved roadways are more likely to generate fugitive dust. Vehicle speeds on unpaved roadways on-site shall be limited to a maximum of 15 miles per hour. The speed limit shall be appropriately posted and enforced by the Plan Coordinator, or their designee(s).

4.6 Deposit of Dirt and Mud on Improved Streets

Fugitive dust emissions from a vehicle traveling over a paved surface originate mostly from material previously deposited on the travel surface. Deposit of dirt and mud on improved streets and roads must be prevented or removed. Any CCR spillage on roads shall be cleaned up in a timely manner. Periodic brushing / sweeping off trucks after unloading can help reduce air emissions and road deposits on return trips and prevent the buildup of excessive CCR in and on the trucks over time.

4.7 Material Unloading / Final Placement / Cover / Re-vegetation

When at the CCR Landfill, trucks should be unloaded slowly and at the lowest height possible. Water spray shall be used if material unloading and/or final placement activities are resulting in significant fugitive dust emissions; and shall also be used to provide further “CCR conditioning”, if needed (see Section 4.1).

Water spray as required, or 6 inches of soil cover shall be used daily to prevent fugitive emissions from CCR landfill areas that have not yet had final cover applied. All final cover areas shall be terraced and re-vegetated. A natural vegetative cover is an effective way to control of wind erosion; therefore, reasonable efforts should be made to establish vegetation in a timely manner after final cover has been applied.

5.0 CITIZEN COMPLAINTS

Colorado Springs Utilities must log citizen complaints received involving CCR fugitive dust events at the CCR Landfill [257.80(b)(3)]. The Plan Coordinator, or their designee, shall use the following procedure, or similar approach:

- ▼ Periodically communicate with the Customer & Corporate Services Division to establish a reasonable level of assurance that a citizen complaint pertaining to fugitive dust at the CCR Landfill and received through Colorado Springs Utilities’ primary telephone, mail, email, and/or social media platforms would be routed to the Nixon Materials Handling Operations Supervisor.
- ▼ Gather relevant information from the citizen to understand the circumstances, facts, weather conditions, and timing surrounding the event.

- ▼ Inform the appropriate Material Handling Personnel, who shall investigate the event in a timely manner to evaluate if CCR fugitive dust is being generated, and if so, enact control measures to effectively minimize CCR from becoming airborne.
- ▼ Complete the log provided in Attachment A, or similar log, to document the details provided by the citizen, on-site circumstances surrounding the event, and any corrective measures taken.
- ▼ Any citizen complaints logged shall be included as part of the Annual CCR Fugitive Dust Control report (see Section 7.0).

6.0 ANNUAL CCR FUGITIVE DUST CONTROL REPORT

Colorado Springs Utilities must prepare an Annual CCR Fugitive Dust Control Report that includes a description of the actions taken to control CCR fugitive dust, a record of all citizen complaints, and a summary of any corrective measures taken [257.80(c)].

The Nixon Materials Handling Operations Supervisor, or their designee, shall be responsible for preparing the Annual CCR Fugitive Dust Control Report. The Environment, Health, & Safety Division - Technical Services Section shall provide guidance and support, if requested.

The initial Annual CCR Fugitive Dust Control Report must be completed no later than 14 months after placing the initial CCR Fugitive Dust Control Plan in the facility's operating record. The deadline for completing a subsequent report is one year after the date of completing the previous report. For purposes of this paragraph, Colorado Springs Utilities has completed the Annual CCR Fugitive Dust Control Report when it has been placed in the facility's operating record.

7.0 EFFECTIVENESS ASSESSMENT

Colorado Springs Utilities must periodically assess the effectiveness of this CCR Fugitive Dust Control Plan [257.80(b)(4)]. An effectiveness assessment may be appropriate following a significant unanticipated CCR fugitive dust event, or in conjunction with the Annual CCR Fugitive Dust Control Report (see Section 6.0). Additionally, performing an effectiveness assessment as a group (i.e., Plan Coordinator and all Material Handling Personnel) may provide benefits with regard to individual's experiences. The Plan Coordinator, or their designee, shall use the following procedure, or similar approach:

- ▼ Review all actions taken to control CCR fugitive dust, citizen complaints, and corrective measures taken since the prior assessment. Evaluate if there are any obvious deficiencies or consistent / reoccurring patterns with regard to dust events that would merit operational changes.
- ▼ Review general effectiveness of all control measures listed within Section 4.0. Evaluate if any of the control measures are ineffective or outdated and would merit operational changes.

- ▼ Review the general site conditions and typical CCR management practices. Evaluate if any significant changes have occurred that would merit operational changes.
- ▼ Determine if the plan is effective or requires amendments. If amendments appear merited contact the Environment, Health, & Safety Division - Technical Services Section for assistance.

8.0 PLAN AMENDMENTS & CERTIFICATION

Colorado Springs Utilities may amend this CCR Fugitive Dust Control Plan at any time provided the revised plan is placed in the facility's operating record (see Sections 9.0, 10.0, & 11.0).

Colorado Springs Utilities must amend this plan whenever there is a change in conditions that would substantially affect the plan [257.80(b)(6)]. The Plan Coordinator, or their designee, is responsible for initiating such amendments with the Environment, Health, & Safety Division - Technical Services Section, who shall provide guidance and support.

Colorado Springs Utilities must obtain a certification from a Qualified Professional Engineer that the initial CCR fugitive dust control plan, or any subsequent amendment of it, meets the requirements of 40 CFR Part 257.80. This certification is provided on the plan's cover page [257.80(b)(7)].

AMENDMENT HISTORY:

Preparer	Certifier	Date	Description of Primary Modifications / Updates
Environment, Health, & Safety Division	Brock A. Foster, P.E.	October 2015	Initial CCR Fugitive Dust Control Plan

9.0 RECORDKEEPING REQUIREMENTS

Colorado Springs Utilities must place the following information, as it becomes available, in the facility's operating record [257.80(d)]:

- ▼ The CCR Fugitive Dust Control Plan, and any subsequent amendment of the plan. Only the most recent plan must be maintained in the facility's operating record [257.105(g)(1)].
- ▼ The Annual CCR Fugitive Dust Control Report [257.106(g)(2)].

The Nixon Materials Handling Operations Supervisor, or their designee, shall be responsible for ensuring that these records are maintained in facility's operating record.

10.0 NOTIFICATION REQUIREMENTS

Colorado Springs Utilities must notify the State Director (i.e., Colorado Department of Public Health & Environment) when [257.80(d)]:

- ▼ The CCR Fugitive Dust Control Plan, or any subsequent amendment of the plan, has been placed in the operating record and on the publicly accessible internet site [257.106(g)(1)].
- ▼ The Annual CCR Fugitive Dust Control Report has been placed in the operating record and on our publicly accessible internet site [257.106(g)(2)].

The Environment, Health, & Safety Division - Technical Services Section shall be responsible for ensuring these required notifications are made to the State Director.

11.0 PUBLICLY ACCESSIBLE INTERNET SITE REQUIREMENTS

Colorado Springs Utilities must place the following information on the CCR website [257.80(d)]:

- ▼ The CCR Fugitive Dust Control Plan, and any subsequent amendment of the plan. Only the most recent plan must be maintained on the CCR website [257.107(g)(1)].
- ▼ The Annual CCR Fugitive Dust Control Report [257.107(g)(2)].

The Environment, Health, & Safety Division - Technical Services Section shall be responsible for ensuring these website postings are made.

APPENDIX A

Citizen Complaint Log

FUGITIVE DUST CITIZEN COMPLAINT FORM

GUIDANCE: The purpose of this form is to document citizen complaints of Coal Combustion Residual (CCR) fugitive dust events, circumstances of the event, and any facility corrective action. Please provide as much detail as possible in the fields below. This form is to be completed by the Plan Coordinator, or their designee, with any additional documentation or relevant information to be appended to this form. A copy of this completed form should be included as part of the Annual CCR Fugitive Dust Control Report.

Section 1: Information Provided by Citizen

Name of Citizen (if provided)

Citizen Contact Information (if provided)

Date and time of fugitive dust event

Date and time of complaint (if different)

Event ongoing or complete?

Observation point

Description of event (location, duration, color, meteorological conditions, etc.): _____

Additional comments: _____

Section 2: Information Provided by Colorado Springs Utilities' Representative

Name of Representative

Title of Representative

Date and time of investigation

Was CCR fugitive dust observed?

Additional comments: _____

If CCR fugitive dust observed, complete the items below

Description of event (location, duration, color, meteorological conditions, etc.): _____

Description of root cause: _____

Description of corrective action(s) implemented: _____

Describe the effectiveness of any corrective action(s) implemented: _____