Gainesville Regional Utilities

Deerhaven Generating Station

Coal Combustion Residuals Fugitive Dust Control Plan (Version 1.0)

Prepared for:

Gainesville Regional Utilities
Gainesville, Florida

Prepared by:

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1.0 Introduction

Gainesville Regional Utilities (GRU) operates the Deerhaven Generating Station (facility) located in Gainesville, Florida. The facility produces electricity from a variety of sources, including coal. Coal combustion residuals (CCR) generated at the facility are either beneficially used or managed at an ash surface impoundment system (which includes two ash cells) and/or a CCR landfill (Figure 1-1).

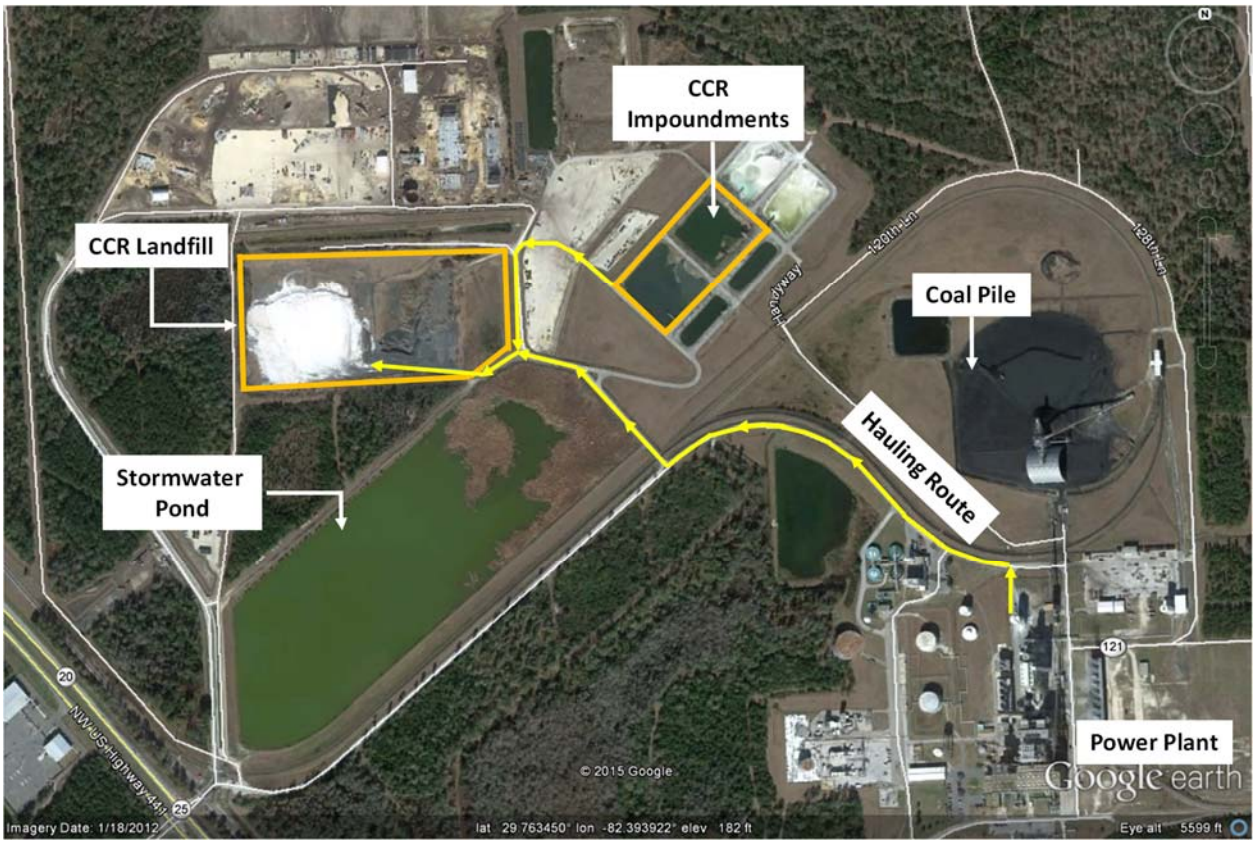


Figure 1-1. Deerhaven Generating Station (image from Google Earth, 10/16/2015)

This fugitive dust control plan describes the methods used by GRU to control fugitive CCR dust emissions, details additional procedures which will be implemented in the event that CCR fugitive dust emissions are observed or if citizen complaints concerning CCR dust are received, includes a logging form to document citizen complaints, describes the procedure for assessing the effectiveness of this dust control plan, and describes the development of an annual CCR fugitive dust control report. This plan was created in accordance with the requirements described in Title 40, Code of Federal Regulations, Section 257.80, as published in the Federal Register, Vol. 80, No. 74, on 17 April 2015.

1.1 *Document Version*

This control plan is intended to be a living document that can modified, as necessary. Each modification to this CCR fugitive dust control plan should be documented in this section along with the date of modification.

Version	Date	Brief Description of Modification(s)
1.0	October 2015	N/A (original document)

1.2 *Facility CCR*

The facility generates the following CCR:

1. **Bottom ash** – Bottom ash consists of the ash fraction which drops below the boiler during coal combustion. Bottom ash is sluiced to one of the two surface impoundments located at the facility by pipeline. Bottom ash is periodically (approximately every 5 years) dredged from the impoundments and transported to the CCR landfill.
2. **Fly ash** – Fly ash is generated from air pollution control equipment and consists of particulates removed from stack emissions. Fly ash is stored in a silo and is moisture conditioned prior to discharge into trucks for transport. Fly ash is predominantly transported offsite for beneficial use. However, a relatively small amount of this material is also occasionally placed in the CCR landfill.
3. **Flue Gas Desulfurization (FGD) Byproduct** – FGD byproduct is produced from a circulating dry scrubber system used for the removal of acid gas components (e.g., SO_x, HCl, HF, and other trace pollutants) from the flue gas. FGD byproduct is stored in a silo and is moisture conditioned prior to discharge into trucks for transport to the CCR landfill.

1.3 *Potential Sources of CCR Fugitive Dust*

1.3.1 Overview

The discharge of fly ash and FGD byproduct into trucks for transport is rigorously operated and monitored to minimize dust generation by implementing provisions such as moisture conditioning and enclosed chutes; more details of these systems are presented in the Best Management Practices Guide for Managing Coal Combustion Residuals at the facility. After the CCR are loaded into trucks, fugitive CCR dust emissions can occur during dredging and relocation of bottom ash from the two surface impoundments to the CCR landfill, during CCR truck transport on paved and unpaved roads, and during material deposition at the CCR landfill.

1.3.2 CCR Landfill

Bottom ash, FGD byproduct, and an occasional small amount of fly ash are disposed of in the CCR landfill. As possible, each of these materials is disposed of in the landfill in a segregated manner to optimize the potential for future recovery and beneficial use.

Bottom ash deposited in the surface impoundments is relatively moist during the dredging, loading, transport, and unloading at the CCR landfill. The bottom ash is allowed to dewater at the CCR landfill to the point that it can be spread in thin layers and compacted while still precluding dust generation. FGD byproduct is moisture conditioned prior to discharge into haul trucks for transport to CCR landfill. Similar to the bottom ash, discharged loads of FGD byproduct are spread in thin lifts and compacted. Aggregation and cementation of CCR particles over time, especially on the surface, significantly reduces dust emissions associated with wind erosion.

1.3.3 CCR Surface Impoundments

The bottom ash sluiced to the surface impoundments is saturated; the potential for dust generation from the impoundments is minimal until the deposited bottom ash is dredged for disposal at the CCR Landfill. Dust may be generated when the ash impoundments are drained and the accumulated bottom ash is disturbed during dredging and truck loading for transport to the CCR landfill.

1.3.4 Paved and Unpaved Roads

CCR fugitive dust emissions may be released from truck beds due to wind turbulence during CCR transport to the CCR landfill. Facility haul roads locations are shown in Figure 1-1. The road surfaces from the silos and impoundments to the CCR landfill are paved. The CCR landfill access ramp and internal roads are unpaved. Mechanical disturbance (e.g., wind turbulence) of CCR in the trucks and pulverization and uplifting of CCR from truck movement over unpaved CCR landfill access roads are additional means by which CCR may become airborne.

2.0 CCR Surface Impoundment Dust Control Measures

As discussed above, the bottom ash sluiced to the surface impoundments is saturated. The potential for dust generation from the impoundments, therefore, is minimal until the deposited bottom ash is dredged for disposal at the CCR Landfill. The following measures will be used, as needed, to minimize dust generation from the surface impoundments during dredging and transport activities:

1. The bottom ash will be excavated such that the ash in the top layers (typically with low water content) is mixed with the ash in lower layer (typically wet) before loading into the dump trucks. If needed, water truck or misting system will be used to minimize and control dust emissions.

2. Truck loading with dredged ash will be avoided during windy conditions that have the potential to create dust.
3. Trucks will be loaded in a manner to prevent the fall, leakage, or escape of ash.
4. Trucks transporting relatively dry bottom ash will be driven at speeds less than 20 mph. This speed limit will be strictly enforced by the facility supervisor responsible for ash dredging and relocation activities.
5. Ash dredging and relocation will be closely monitored for dust release. If visible dust emissions are observed at any point, dredging and ash relocation will immediately cease until additional dust control measures are successfully implemented to minimize dust generation/emission.

3.0 Paved and Unpaved Road Dust Control Measures

A speed limit of 20 mph is set for trucks transporting CCR at the facility. Open bed haul trucks are equipped with tarps that span the length and width of the bed of the truck; truck drivers deploy this tarp over the bed of the truck once the CCR are loaded. As necessary, a water truck equipped with a spray bar is used to wet the paved and unpaved roads during dry and windy conditions.

4.0 CCR Landfill Dust Control Measures

During typical landfill operations (i.e., accepting FGD byproduct and occasionally dredged bottom ash), operators spread and compact materials received at the CCR landfill on a daily basis to minimize the number of loose piles. These measures have historically been sufficient to minimize dust emissions once the materials are compacted; however, dust generation can still occur while discharging the CCR from the trucks, moving and compacting the CCR, and occasionally from relocating dried CCR. The following additional measures are implemented, if needed, to mitigate dust generation from the CCR landfill:

1. A water truck equipped with a spray bar is used to wet dust-producing surfaces (e.g., landfill access roads), as needed, during dry and/or windy conditions. This truck is used throughout the facility to help control dust.
2. Misting of non-moisture conditioned CCR, if received. Occasionally, FGD byproduct and fly ash are transported to the CCR landfill in a dry condition. A landfill operator supervises the unloading, placement and compaction of the dry CCR and may implement some or all of the following dust control measures to minimize dust generation from these materials:
   a) Misting water over the CCR as they are discharged
   b) Misting water over the stockpiled CCR
   c) Misting water over the CCR as they are spread and compacted
3. Minimize the fall distances at CCR unloading points

5.0 Additional Dust Control Measures

The following techniques may be utilized to control dust, depending on the specific dust-generating activity of concern, in the event measures describe above are not effective in controlling the dust:

1. Require and enforce lower speed limits (i.e., less than 20 mph) for trucks transporting CCR.
2. Apply gravel or other aggregate over unpaved roads.
3. Increase the frequency of water application to facility roads and the surface of the CCR landfill, especially during dry conditions.
4. Reduce the time interval between unloading and compacting loose material piles.
5. Implement and maintain a vegetative cover over inactive areas of the landfill.
6. Cease material hauling and disturbance during high-wind conditions.
7. Use a chemical dust suppression agent (e.g., chloride-based, asphalt-based, or lignin-based). The use of a chemical dust suppression agent will be considered based on ease of application, cost, impacts to landfill operations, and any regulatory or facility certification prohibitions.

In the event that facility practices warrant revisions to this plan (e.g., modifications in CCR transport or management practices), the plan will be updated and a copy of the revised plan will be placed in the operating record.

6.0 CCR Dust Complaint Logging

Citizen complaints regarding CCR fugitive dust will be logged by GRU. A form for logging citizen complaints regarding CCR fugitive dust is included as Addendum A. The form also includes a section for a detailed description of the corrective actions taken to address the complaint. Follow-up contact with the person(s) who filed the complaint will be performed to ensure that the problem has been addressed. This form will be completed and placed in the operating record any time a citizen CCR dust complaint concerning the facility is received by GRU.

7.0 Assessment of Dust Control Effectiveness

The effectiveness of these dust control measures will be annually assessed during the development of the Annual CCR Fugitive Dust Control Report using the following procedures:

1. GRU will conduct weekly inspects for visual dust emission from CCR landfill, impoundments, and access roads.
2. GRU will review all dust release complaints received in the last year, along with the corresponding dates on which the complaints were received.
3. GRU will review the specific actions that were taken to address the complaints, as documented on the complaint log form.

4. GRU will identify whether any additional complaints were received immediately following the documented dust control action.
5. If additional dust complaints were not received immediately following the implemented dust control action, GRU will consider adding the specific dust control action to the dust control methods included, if not included already, in the dust control plan.
6. If additional dust complaints were received immediately following the implemented dust control action, GRU will evaluate whether or not the dust complaint was a result of CCR released from the CCR landfill, surface impoundments, CCR truck transport (or some combination of these), or if it appears the complaint was the result of dust generated from a different source. If it appears the complaint was from another source, no additional dust control measures will be implemented for the CCR landfill, impoundments, or CCR truck transport. However, if it appears that the dust complaint was a result of CCR dust from the CCR landfill, the surface impoundments, or CCR truck transport (or some combination of these), then GRU will implement additional dust control measures as described in Section 5.0. In the event that CCR dust emissions continue to be an issue even after implementation of all the additional dust control measures described in Section 5.0, GRU will contract a qualified professional engineer within 7 days of the occurrence to evaluate additional strategies which may be used to control fugitive CCR dust. Once additional successful measures have been implemented, the dust control plan will be amended, and a revised version of the plan will be placed in the operational record.

8.0 Annual CCR Fugitive Dust Control Report

No later than 19 December 2016, and annually thereafter, GRU will develop and place a CCR Fugitive Dust Control Report in the operating record, send a notification of placement of this report in the operating record to the Florida Department of Environmental Protection, and place a copy of the report on GRU's publically-accessible internet site. This report will include the following elements:

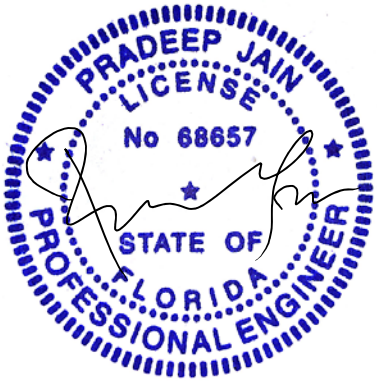
- A description of the measures which were taken to control CCR dust from the CCR landfill and surface impoundments since the last annual fugitive dust control report.
- A copy of all completed complaint logging forms which include a description of the corrective measures taken to address citizen complaints.
- A narrative describing the results of the evaluation steps (described in Section 7.0) that were taken to validate the adequacy of (or the need to adjust) the dust control measures described in Sections 2.0, 3.0 and 4.0.

9.0 Professional Engineer Certification

This plan was prepared under the supervision, direction and control of the undersigned registered professional engineer (PE). The undersigned PE is familiar with the requirements of 40 CFR 257.80. The undersigned PE certifies that this CCR Fugitive Dust Control Plan meets the requirements of 40 CFR 257.80. This certification was prepared per the requirement of 40 CFR 257.80(b)(7).

Name of Professional Engineer:	Pradeep Jain
Company:	Innovative Waste Consulting Services, LLC
Signature:	
Date:	October 19, 2015
PE Registration State:	Florida
PE License No.:	68657

PE Seal:



Addendum A

CCR Dust Complaint Logging Form

CCR Fugitive Dust Complaint Log

Name of Person Issuing Complaint	
Date	
Time	
Telephone #	
Email	
Address	
Notes on Complaint:	
Narrative of Specific Corrective Action Measures Taken:	
Contacted for Follow-Up? (Circle One)	**YES** **NO**
Notes from follow up:	