CCR FUGITIVE DUST CONTROL PLAN

MUSCATINE POWER AND WATER
Muscatine County, Iowa
CCR Landfill

October 19, 2015

Revised December 5, 2018

Prepared For:

Muscatine Power and Water

Prepared By:

HRGreen

CERTIFICATION

I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

Date: 12/5/2018

Name: Jon E. Scharf

License Number: 11786

My renewal date is: 12/31/19

Pages or sheets covered by this seal:
Entire Bound Document

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I. INTRODUCTION

Muscatine Power and Water (MP&W) operates a Coal Combustion Residuals (CCR) monofill that receives CCR produced by the MP&W electricity generating units. The CCR materials include mixtures of synthetic gypsum, coal fly ash, bottom ash, and slag. The landfill is located in the Southwest ½ of Section 16, Township 76 North, Range 3 West in Muscatine County Iowa. The landfill has been in continuous operation since 1985 and is overseen by a Certified Landfill Operator. The total area occupied by the active and future disposal areas is about 40 acres.

The purpose of this document is to serve as the CCR Fugitive Dust Control Plan for the MP&W CCR landfill as required by Federal rule 40 CFR 257.80 “Air Criteria”.

This plan includes the following:

1. Identification and description of the CCR fugitive dust control measures that MP&W uses to minimize CCR from becoming airborne at the facility.
2. Procedures to emplace conditioned CCR.
3. Procedures to log citizen complaints
4. Description of procedures MP&W will follow to periodically assess the effectiveness of the control plan.

This document is an updated revision of the original plan which was dated October 19, 2015. The plan will be amended whenever there is a change in conditions that warrant revision of the written plan.

II. CCR TRANSPORTATION TO SITE

A variety of haul trucks are used to move bulk CCR material to MP&W’s CCR Landfill. Dust emissions from haul trucks, if uncontrolled, may be a safety hazard by impairing visibility or by depositing debris on roads or other vehicles. MP&W and its contractors will completely cover or enclose material in a manner that prevents CCR materials from blowing, dropping, sifting, leaking, or otherwise escaping from the vehicle.

MP&W contracts with outside contractors for hauling and placing the materials. Contractors are trained by MP&W staff (typically landfill operators). Part of this training includes dust control measures as outlined this document.

Transportation of the CCR materials from the site of generation to the landfill is via covered truck on paved roads. Fly ash, which is dry and powdery, is transported in completely encapsulated tanker trucks on paved roads. Other CCR materials are wet and are transported in tarped dump trucks and/or a tarped side-dump semi-truck. The truck routes are shown on attached Figure 1.

III. DESCRIPTION OF FUGITIVE DUST CONTROL MEASURES AND PROCEDURES FOR PLACEMENT OF CONDITIONED CCR

Dust Control on Haul Road

Upon entering the landfill site, trucks take the unpaved haul road before entering the active area of the disposal cell. These haul roads will continue to be used in the future. If a different routing is established in the future, the fugitive dust control plan will be amended to reflect the new route. The haul roads are unpaved so, on dry days, there is potential for dust from trucks on the roads. The road(s) will be watered down as needed using tanker trucks fitted with spray nozzles. Picture 1 shows this activity taking place on a haul road. A map of the site showing the haul roads and active areas is included as attached Figure 2.

Picture 1: Tanker Truck wetting the haul road

Dust Control during CCR Deposition onto the Active Area

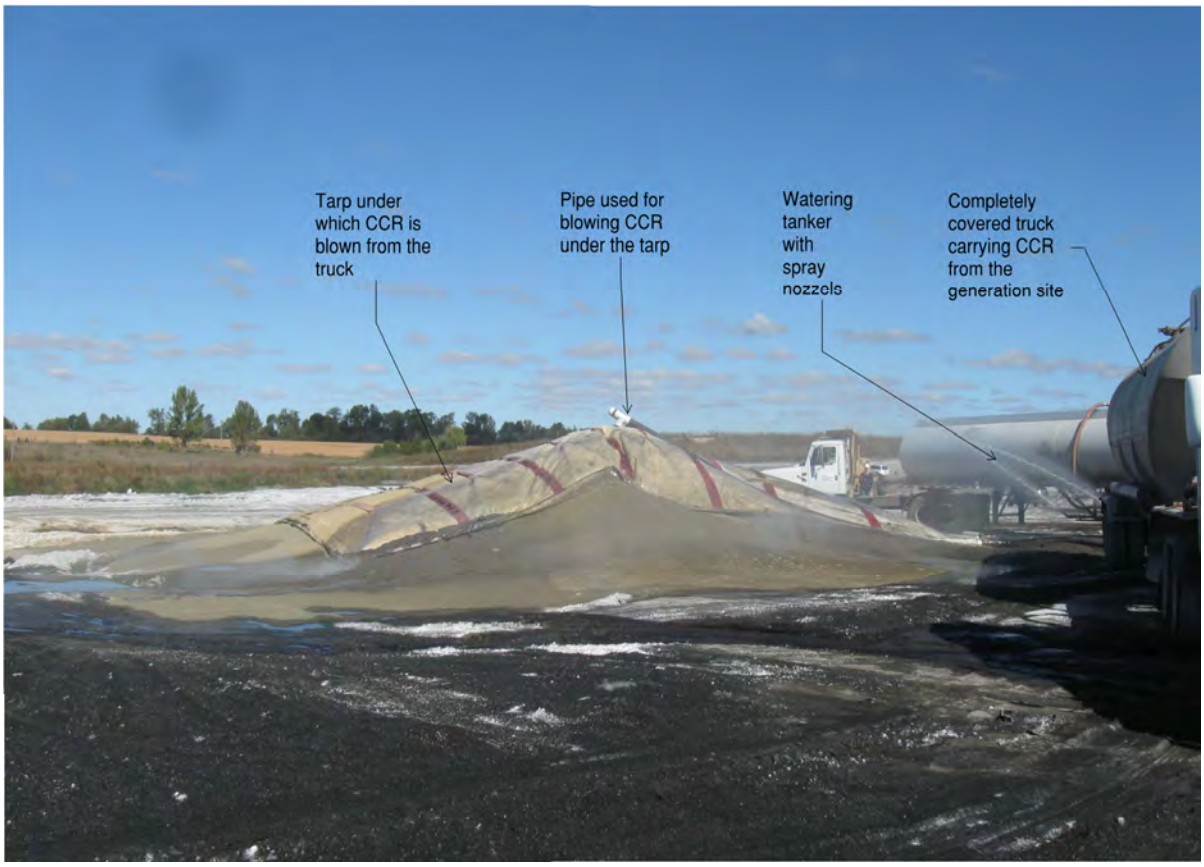
The current active landfill areas are Phases I and II as shown on attached Figure 2. When depositing fly ash in either of these areas, the material is blown from the tanker truck via a fully enclosed pipe that is either discharged directly to the surface or underneath a tarp. As

the fly ash is discharged, a water truck or portable tank with spray capability, or spray irrigation equipment will be used to moisture condition the fly ash and spray down fugitive dust as it is placed. The tanker spray process is shown in Picture 2. When the fly ash flows through the pipe into the tarp, or if sufficient liquid is applied during unloading, drop height is not of concern. MP&W's contractors will minimize free flow of liquid while wetting down. Wetting will be stopped if liquid begins to pond significantly or run off.

When temperatures are above freezing and wind speeds exceed 25 miles per hour, fly ash will not be placed at the landfill unless the tarp method is in use and spray is applied as needed to control dusting. If necessary, off-loading CCR will be temporarily halted if MP&W staff or trained contractors determine that fugitive dust control methods are not being effective.

When temperatures are below freezing and wind speeds exceed 15 miles per hour, no fly ash will be placed at the landfill unless the tarp is in used and no significant dusting is observed. If needed, off-loading will be temporarily halted if MP&W staff or trained contractors determine that fugitive dust control methods are not being effective. MP&W staff use the National Weather Oceanic and Atmosphere Administration (NOAA) web page to monitor wind speeds.

These means for dust suppression have been effective and will continue in the future. If alternative means are used in the future, this plan will be modified to address the change.



Picture 2: Dust Control during CCR placement

Dust Control in Active Area

During regular working hours, if areas of the active cell show potential for fugitive dust (loose CCR on the surface), an irrigation device (such as Ag-Rain Model T40A/1320) or other spray equipment can be used for dust suppression. The Ag Rain process is shown in Picture 3. If alternative means are used in the future, this plan will be modified to address the change.

Picture 3: Ag Rain being used to suppress dust on the active area

If fugitive dust is reported or observed during nonworking hours, MP&W staff can monitor weather via NOAA website to make determinations regarding wind conditions and take appropriate action. Where necessary, surfactants and/or binders (such as Soil Sement or Benetech BT-468) will be applied to areas that are deemed to have the potential for fugitive dust for these periods. If alternative means are used in the future, this plan will be modified to address the change.

Wind on the site is typically out of the southwest.

IV. PROCEDURE TO LOG CITIZEN COMPLAINTS

Citizens can log complaints with regard to fugitive dust in the following manner:

1. Access the MP&W site at **www.mpw.org**
2. Click on the "fugitive dust complaints" icon.
3. Type in date and description of complaint. Contact information for the complainant will be part of the form.

The complaint will be routed to the appropriate staff at MP&W. MP&W staff will then respond to the complaint by contacting the complainant within 24 hours to discuss the conditions. The same process will occur if a complaint is received by a route other than the CCR website. Complaints and responses will be logged by MP&W staff and placed in the landfill operating record.

V. DESCRIPTION OF PROCEDURES TO BE FOLLOWED TO ASSESS EFFECTIVENESS OF PLAN

Visual inspection of airborne CCR will serve as the primary means for assessing effectiveness of the plan. Liquid spray rate and frequency will be adjusted as needed to minimize fugitive dust as needed. If needed, off-loading will be temporarily halted if MP&W staff or trained contractors determine that fugitive dust control methods are not being effective.

Either MP&W staff or trained outside contractors will be responsible not only for hauling the material but for ensuring that the haul road is watered to keep dust down as needed. Visual inspection will serve as the primary medium for this as well.

The following items will trigger a reevaluation and change of the fugitive dust control plan:

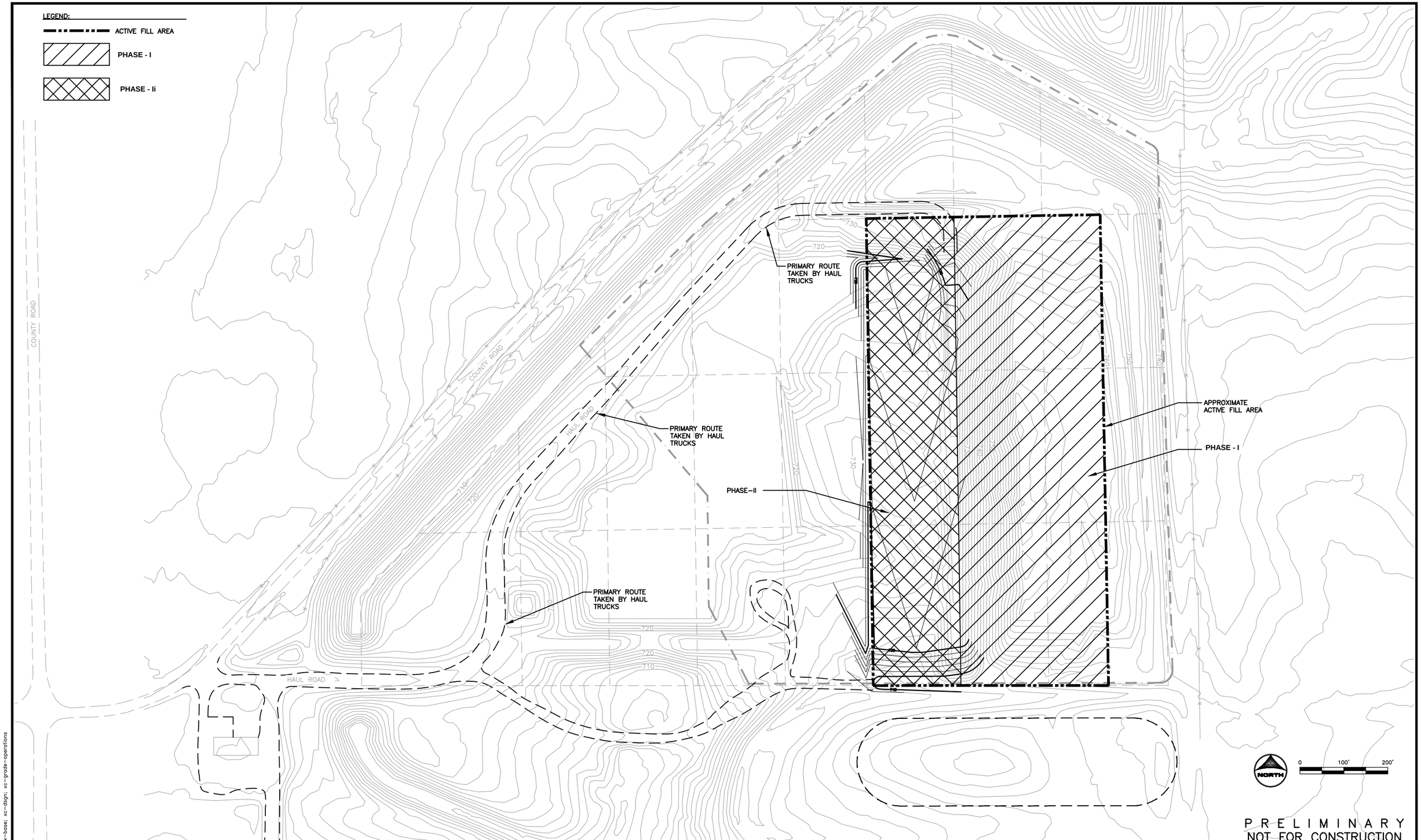
1. Transportation of the materials from the site of generation to the landfill is changed from paved to gravel roads.
2. Routing of trucks within the landfill is changed, i.e. other haul roads than what are included in this plan are built and used.
3. Means for dust control that are NOT described in section III of this plan are used.

It is the responsibility of MP&W or MP&W's contractor performing dust generating activities at the landfill to comply with the requirements of this plan to meet and use all dust control measures as needed to control fugitive dust.

FIGURES

FIGURE 1

MUSCATINE POWER AND WATER			
DESCRIPTION	GENERATION SITE TRUCK ROUTE TO LANDFILL		
DRAWN: RR	SCALE: NONE		DATE: 10/7/2015
CHECKED:	UNIT: GENERATION SITE	DRAWING NUMBER: GS-G-006	
APPROVED:			
APPROVED:			



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NO.	DATE	BY	REVISION DESCRIPTION
1	12.15.18	JES	PHASE - I & 2 LABELS

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CCR LANDFILL
MUSCATINE POWER & WATER
MUSCATINE, IOWA

FUGITIVE DUST CONTROL PLAN

SHEET NO.
FIGURE 2

Xrefs: xgt-1-dh01; xcx-base; xc-dsgn; xc-grade-operations