

CCR COMPLIANCE

FUGITIVE DUST CONTROL PLAN

Prepared for:



NRG Power Midwest LP
New Castle Generating Station
West Pittsburg, Pennsylvania

Prepared by:



CB&I Environmental & Infrastructure, Inc.
Pittsburgh, Pennsylvania 15235

October 2015

Table of Contents

1.0	Introduction	1
2.0	Facility Description	2
2.1	Process Overview	2
2.2	CCR Fugitive Dust Sources	2
2.2.1	New Castle Plant Ash Landfill	2
2.2.2	Fly Ash Handling	2
2.2.3	Bottom Ash Handling	2
2.2.4	Transport Roadways	3
3.0	Fugitive Dust Control Regulatory Requirements	4
3.1	CCR Rule Air Criteria	4
3.2	Other Fugitive Dust Regulatory Requirements	4
3.2.1	Title V Operating Permit	4
3.2.2	Solid Waste Permit	5
4.0	Fugitive Dust Control Practices and Procedures	6
4.1	Fly Ash Handling	6
4.1.1	Monitoring	6
4.1.2	Recordkeeping	6
4.2	Transport Roadways	6
4.2.1	Monitoring	6
4.2.2	Recordkeeping	7
4.3	New Castle Plant Ash Landfill	7
4.3.1	Monitoring	7
4.3.2	Recordkeeping	7
4.4	Annual Reporting	7
5.0	Procedures for Citizen Complaints	9
6.0	Procedures for Plan Assessments and Amendments	10
7.0	Professional Engineer Certification	11

Figure 1 – Site Layout and Potential CCR Fugitive Dust Sources

Attachment A – Recordkeeping Log

1.0 Introduction

On December 19, 2014, the administrator of the United States Environmental Protection Agency signed the Disposal of Coal Combustion Residuals (CCR) from Electric Utilities final rule (the Rule). The Rule was published in the Federal Register on April 17, 2015 and becomes effective on October 19, 2015. The Rule establishes a comprehensive set of requirements for the disposal of CCR in landfills and surface impoundments at coal-fired power plants under Subtitle D of the Resource Conservation and Recovery Act. These requirements include compliance with location restrictions, design criteria, operating criteria, groundwater monitoring and corrective action, and closure and post-closure care aspects. The operating criteria include air criteria specified in Title 40 of the Code of Federal Regulations (CFR), §257.80 to address the potential pollution caused by windblown dust from CCR units. According to the Rule, owners or operators of CCR units must adopt measures that will effectively minimize CCR from becoming airborne at the facility by developing and operating in accordance with a fugitive dust control plan (Plan) with adequate dust control measures.

The New Castle Generating Station, operated by NRG Power Midwest LP (NRG), a subsidiary of NRG Energy, Inc., is a coal-fired power plant located in West Pittsburg, Pennsylvania. The Rule applies to this facility due to the disposal of CCR that is generated from the combustion of coal at the site. CCR units associated with the station operations include the New Castle Plant Ash Landfill and the North Bottom Ash Pond.

This Plan has been prepared to comply with the requirements as specified in §257.80(b)(1-7) of the Rule, including certification by a professional engineer as documented in Section 7.0 of this Plan. Additionally, this Plan will be placed in the New Castle facility's operating record per §257.105(g)(1), noticed to the State Director per §257.106(g)(1), and posted to the publicly accessible internet site per §257.107(g)(1).

2.0 Facility Description

2.1 Process Overview

The New Castle station is an electric generating facility located on State Route 168 in West Pittsburg, Pennsylvania. The facility utilizes three main boilers (exhausting to a common stack) which fire coal as the primary fuel and No.2 fuel oil as an auxiliary fuel. Pollution control equipment for the main boilers includes low nitrogen oxide (NO_x) burners and selective non-catalytic reduction (SNCR) systems for NO_x control, and electrostatic precipitators (ESP) for particulate matter control. The station also has one oil-fired auxiliary boiler which exhausts to its own stack, an electromotive diesel engine that exhausts to its own stack, and two emergency diesel generators that exhaust to their own stack.

2.2 CCR Fugitive Dust Sources

The Rule applies to fugitive dust originating from CCR units, roads, and other CCR management and material handling activities. CCR generated at the New Castle station includes fly ash and bottom ash. The following sub-sections provide a description of fugitive dust sources from handling each type of CCR. Each of these elements is highlighted on Figure 1 included with this Plan.

2.2.1 New Castle Plant Ash Landfill

The New Castle Plant Ash Landfill is a captive residual waste management area owned and operated by NRG, and located completely within the limits of the station property. The Ash Landfill has been identified as an existing CCR landfill according to the Rule. CCR materials including fly ash and bottom ash are transported by trucks from the main station area to the Ash Landfill where they are dumped and then spread and compacted with a bulldozer. No public road access is required during the transport of CCR materials from the station to the Ash Landfill.

2.2.2 Fly Ash Handling

Fly ash is generated from coal combustion in the boilers and is removed from the gas stream electrostatically in the ESP and then pneumatically conveyed to a silo for storage. Within the silo, the ash is wetted to 15 to 20 percent moisture, mixed, and loaded into trucks for transport to the Ash Landfill.

2.2.3 Bottom Ash Handling

Compared to fly ash, bottom ash is a heavier, coarser material that falls to the bottom of the boilers and has a typical moisture content of approximately 20 percent. From the ash hoppers underneath the boiler, bottom ash is sluiced directly to the North Bottom Ash Pond.

As necessary, the North Bottom Ash Pond is periodically cleaned out to remove accumulated bottom ash materials and to restore capacity for settling solids. When cleaning is performed, it is done while the Station is offline (either scheduled outage or economic considerations) so that ash sluicing operations can be temporarily halted. To support the cleaning, the pond is partially drained to expose the underlying ash materials which are then scraped from the bottom and placed along the pond sideslopes and near the top of the berm to promote further dewatering. Once the bottom ash materials have sufficiently dewatered (but not to the point of becoming dry), they are removed from the pond and loaded into trucks which then transport the materials to the Ash Landfill. After the cleaning is completed, normal operations are restored.

Although the North Bottom Ash Pond is considered a CCR unit, it is not represented as a viable contributing source of CCR fugitive dust emissions since entering streams are managed in an enclosed conveyance system; once in the pond, the materials are maintained in a submerged condition.

2.2.4 Transport Roadways

Trucks transport conditioned fly ash and bottom ash to the New Castle Plant Ash Landfill within the limits of the station on a combination of paved and unpaved roads. The internal haul routes to the Ash Landfill are shown on Figure 1 of this Plan.

3.0 Fugitive Dust Control Regulatory Requirements

3.1 CCR Rule Air Criteria

Under the Rule, the owner or operator of a CCR unit must adopt measures that will effectively minimize CCR from becoming airborne at the facility, including fugitive dust originating from CCR units, roads, and other CCR management and material handling activities.

In order to document these measures, the owner or operator of the CCR unit must prepare and operate in accordance with a CCR fugitive dust control plan. According to §257.80(b), the Plan must include the following elements:

- Identification and description of the CCR fugitive dust control measures that will be used to minimize CCR from becoming airborne at the facility, along with an explanation of how the measures selected are applicable and appropriate for site conditions.
- Description of procedures used to emplace CCR as conditioned CCR at CCR landfills. (Conditioned CCR means wetting CCR with water to a moisture content that will prevent wind dispersal but will not result in free liquids.)
- Description of procedures used to log citizen complaints received by the facility involving CCR fugitive dust events.
- Description of procedures to periodically assess the effectiveness of the Plan.

The Plan should be updated anytime there is a change in conditions that would substantially affect the written Plan.

In addition to the fugitive dust control plan, §257.80(c) requires the owner or operator of a CCR unit to file an annual fugitive dust control report.

3.2 Other Fugitive Dust Regulatory Requirements

Prior to the promulgation of the Rule, the New Castle station has been required by other regulations and permits to minimize and monitor fugitive dust from the site.

3.2.1 Title V Operating Permit

The facility is operated according to Title V Operating Permit No. 37-00023 issued by the Pennsylvania Department of Environmental Protection (PADEP). The permit incorporates fugitive dust emission requirements as codified in Title 25 Article III of the Pennsylvania Code (Pa. Code). The following citations are relevant to fugitive emission restrictions:

- According to 25 Pa. Code §123.1, the person responsible for a source of fugitive emissions shall take all reasonable actions to prevent fugitive air contaminants from becoming airborne.
- According to 25 Pa. Code §123.2, a person may not permit fugitive particulate matter to be emitted into the outdoor atmosphere from a source specified in §123.19(a)(1-9) (relating to prohibition of certain fugitive emissions) if such emissions are visible at the point the emissions pass outside the person's property.
- According to 25 Pa. Code §123.41, a person may not permit the emission into the outdoor atmosphere of visible air contaminants in such a manner that the opacity of the emission is either of the following: (1) Equal to or greater than 20% for a period or periods aggregating more than three minutes in any one hour. (2) Equal to or greater than 60% at any time.

The permit includes site level requirements that address fugitive dust. Site level requirements include maintaining a log of all reported fugitive emission deviations and the corrective action taken.

3.2.2 Solid Waste Permit

The New Castle Plant Ash Landfill is operated under Solid Waste Permit No. 300818 issued by PADEP. The disposal site is operated according to the terms in this permit and the associated PADEP Form G(A), "Air Resources Protection Dust Emissions Estimate and Control Plan," submitted with the solid waste permit application. The permit, Form G(A), and Form 12R include the following requirements related to fugitive emissions at the Ash Landfill:

- Vehicle traffic is limited to 10 miles per hour (mph) on unpaved roadways.
- A water tank truck will be used as necessary to suppress dust on active disposal areas and roadways.
- A temporary berm will be used as a wind block along the perimeter to minimize dusting on the primary working face.
- In extreme cases, cover soil will be applied to control dust.

4.0 Fugitive Dust Control Practices and Procedures

Potential CCR fugitive dust sources have been identified and described in Section 2.0 of this Plan. This section will detail control measures employed at the facility to minimize airborne dust from these sources in accordance with §257.80(b)(1-2) of the Rule.

4.1 Fly Ash Handling

Fly ash is recovered from the hoppers at the base of the ESP and is pneumatically conveyed to a silo controlled with a bin vent filter for storage. In the silo, the fly ash is conditioned with water (wetted to approximately 15-20 percent moisture), mixed, and then the wet fly ash is gravity loaded into a truck. After loading is complete, the trucks travel to the New Castle Plant Ash Landfill via internal roadways that are watered for fugitive dust control.

4.1.1 Monitoring

The facility maintains a log of all reported fugitive emissions that deviate from the permitted opacity standards.

4.1.2 Recordkeeping

The facility maintains a log of all reported fugitive emissions that deviate from the opacity limitations set forth in the Title V Operating permit; this log documents the cause of the deviation and the corrective action taken to abate the situation. The facility also maintains a dust suppression log that includes the date and time of water application, the weather condition, the gallons of water applied and the area where water was applied. A blank copy of this log is included in Attachment A. The logs are forwarded to the station's Environmental Department and retained for at least five years.

4.2 Transport Roadways

Road surfaces leading to the New Castle Plant Ash Landfill (refer to Figure 1) are watered to reduce fugitive dust emissions. The amount of time dedicated to watering the roads is a function of the dryness of the surface and is determined through daily observations by station personnel. The amount of water applied varies seasonally. Fugitive dust emissions are further controlled by posting and maintaining a maximum vehicle speed limit of 10 mph on unpaved roadways within the boundaries of the station property.

4.2.1 Monitoring

The facility maintains a log of all reported fugitive emissions that deviate from the permitted opacity standards.

4.2.2 Recordkeeping

The facility maintains a dust suppression log that includes the date and time of water application, the weather condition, the gallons of water applied and the area where water was applied. A blank copy of this log is included in Attachment A. The logs are forwarded to the station's Environmental Department and retained for at least five years.

4.3 New Castle Plant Ash Landfill

Fly ash and bottom ash are transported by trucks from the station to the New Castle Ash Landfill. Fugitive dust is minimized at the Ash Landfill by spreading and compacting the materials with a bulldozer as soon as practical after being delivered (i.e., the freshly dumped materials are not left on the landfill surface for extended periods of time). Additionally, a water truck regularly circulates to spread water on the internal roadways and is able to service the open operating areas of the disposal site. Vehicle traffic operating within the disposal site is restricted to a 10 mph speed limit on unpaved roadways.

4.3.1 Monitoring

The facility maintains a log of all reported fugitive emissions that deviate from the permitted opacity standards.

4.3.2 Recordkeeping

The facility maintains a log of all reported fugitive emissions that deviate from the opacity limitations set forth in the Title V Operating permit, the cause of the deviation and the corrective action taken to abate the situation. The facility also maintains a dust suppression log that includes the date and time of water application, the weather condition, the gallons of water applied and the area where water was applied. A blank copy of this log is included in Attachment A. The logs are forwarded to the station's Environmental Department and retained for at least five years. Also as noted above, dust fall reports are submitted to PADEP on a quarterly basis.

4.4 Annual Reporting

In accordance with §257.80(c), the station must prepare an annual fugitive dust control report that includes the following information:

- A description of actions taken to control CCR fugitive dust
- A record of all citizen complaints
- A summary of any corrective actions taken

The first annual report must be completed no later than 14 months after placing the initial CCR fugitive dust control plan in the New Castle facility's operating record. Subsequent annual

reports will be completed one year after the date of the initial annual report. Additionally, as required, the annual reports will be placed in the New Castle facility's operating record per §257.105(g)(2), noticed to the State Director per §257.106(g)(2), and posted to the newly established publicly accessible internet site per §257.107(g)(2).

5.0 Procedures for Citizen Complaints

In accordance with §257.80(b)(3) of the Rule, this section outlines the procedure that NRG follows (as contained in NRG's Environmental Policies and Procedures Manual) to log citizen complaints involving fugitive dust events at the station and the Ash Landfill. Within 24 hours of receiving a citizen complaint, the station's environmental coordinator will log the complaint in NRG's Environmental Management Information System (EMIS) database. The EMIS database will automatically forward notice of the complaint to the station manager, NRG's regional environmental manager, and NRG's Corporate Environmental Department. NRG will then conduct a thorough investigation. The results of the investigation will be recorded, entered into the EMIS database, and communicated to the appropriate parties. If the investigation confirms a fugitive dust emission event, NRG will undertake a root cause analysis to address the source of the excess fugitive dust and will develop a plan to mitigate future occurrences and remediate impacts, as necessary.

Citizens can contact the New Castle Generating Station directly at 724-535-1835.

6.0 Procedures for Plan Assessments and Amendments

Fugitive dust control practices for each source of CCR fugitive dust are described in Section 4.0 of this Plan. Based on current monitoring requirements and observations, these control measures have been determined to be effective. This Plan will be periodically reviewed by the station's environmental coordinator to ensure full compliance with all fugitive dust control, monitoring, and recordkeeping procedures as outlined herein. During this review, the Plan's effectiveness will be assessed as required per §257.80(b)(4) of the Rule. This review will serve to either confirm the continuing effectiveness of the Plan or will identify sections which require revision/upgrade to reflect any relevant changes in station operations, CCR unit aspects, or necessary improvements in fugitive dust control protocols.

Accordingly, when new processes or modifications of existing processes are planned, the station's environmental coordinator will evaluate the project for potential changes to this Plan. In accordance with §257.80(b)(6) of the Rule, the Plan will be amended to add any new CCR units or to update any modifications in the operation of existing fugitive dust sources. The amended Plan will be reviewed and recertified by a registered professional engineer and will be placed in the New Castle facility's operating record as required per §257.105(g)(1). The amended Plan will supersede and replace any prior versions. Availability of the amended Plan will be noticed to the State Director per §257.106(g)(1) and posted to the newly established publicly accessible internet site per §257.107(g)(1).

A record of Plan reviews/assessments is provided on the first page of this document, immediately following the Table of Contents.

7.0 Professional Engineer Certification

The undersigned registered professional engineer is familiar with the requirements of §257.80 and has visited and examined the New Castle station or has supervised examination of the New Castle station by appropriately qualified personnel. The undersigned registered professional engineer attests that this CCR Fugitive Dust Control Plan has been prepared in accordance with good engineering practice, including consideration of applicable industry standards and meets the requirements of §257.80, and that this Plan is adequate for the New Castle station. This certification was prepared as required by §257.80(b)(7).

Name of Professional Engineer: Jesse P. Varsho

Company: CB&I Environmental & Infrastructure, Inc.

Signature:  _____

Date: 10/8/15

PE Registration State: Pennsylvania

PE Registration Number: PE084004

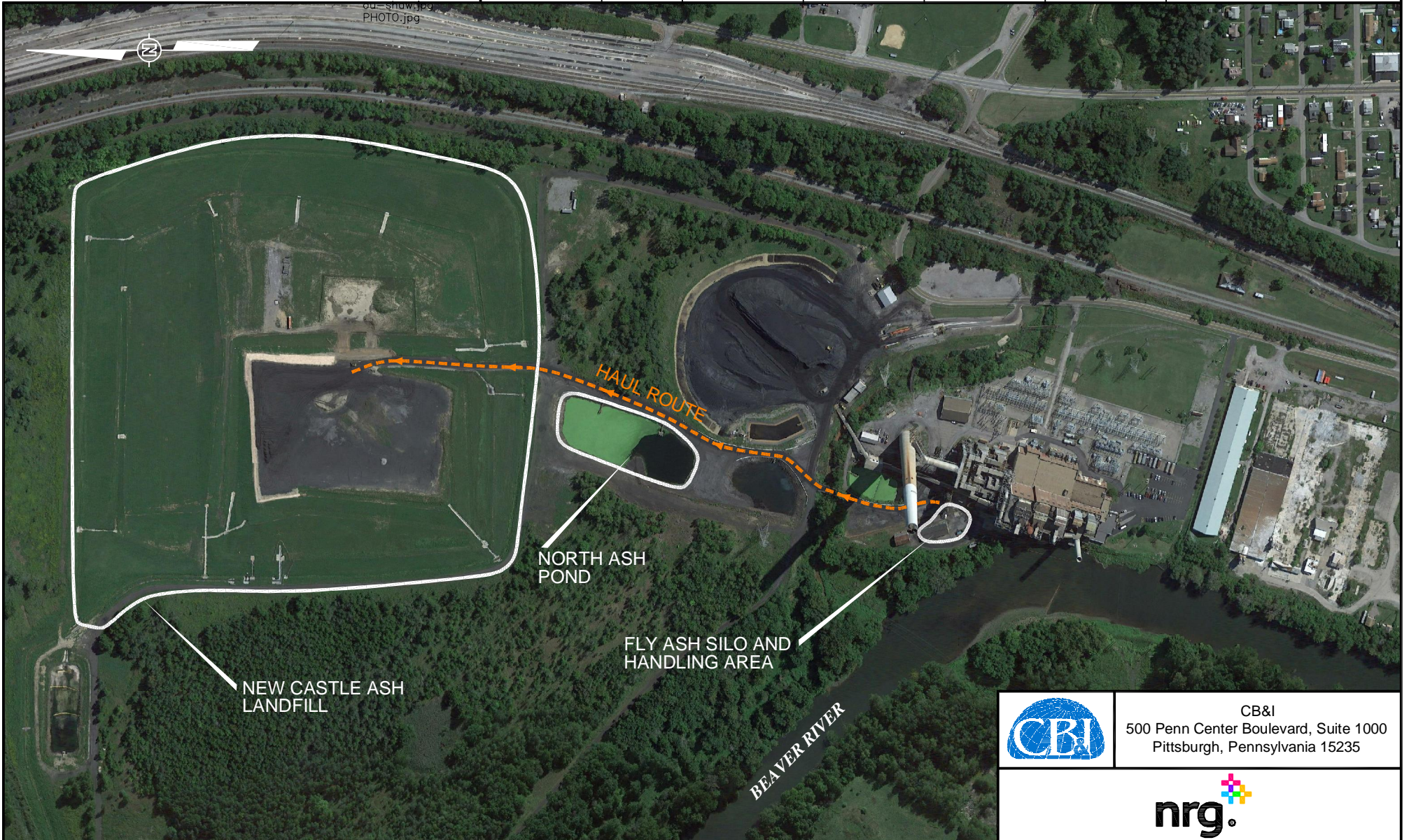
Professional Engineer Seal:



Figure

Xref: CB&l.jpg
 Image: NRG(R)_PITTSBURGH
 ou_show.jpg
 PHOTO.jpg

OFFICE	DATE	DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY	DRAWING NUMBER
Pittsburgh, PA	9/29/15	DJS	GSJ	DJS	JPV	1009194001-A1



CB&I
 500 Penn Center Boulevard, Suite 1000
 Pittsburgh, Pennsylvania 15235



FIGURE 1

SITE LAYOUT AND POTENTIAL CCR
 FUGITIVE DUST SOURCES
 NEW CASTLE GENERATING STATION
 LAWRENCE COUNTY, PENNSYLVANIA



Attachment A
Recordkeeping Log

New Castle Generating Station

Suppression Log

Date:

Time:

Person applying water:

Weather condition:

Number of gallons applied:

Area water is being applied:

_____ Stage 4 (Ash Landfill)

_____ Fly Ash Silo Area

_____ Road between Silo and Ash Landfill (Stage 4)

_____ Perimeter Roads around Entire Site

_____ Coal Pile/Area

_____ Other _____