

Permit No.	Scan Date	DIN
3612	May 16, 2011	13911



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May 16, 2011

Solid Waste Section

Asheville Regional Office

May 13, 2011

North Carolina Department of Environment and Natural Resources
Division of Waste Management - Solid Waste Section
2090 U.S. Highway 70
Swannanoa, North Carolina 28778

Attention: Mr. Larry Frost
Larry.Frost@ncdenr.gov

Reference: Landfill Operations Dust Control Plans
Retired Ash Basin (RAB) Ash Landfill
Duke Energy - Allen Steam Station, Belmont, North Carolina
S&ME Project No. 1356-10-009A, Task 05
S&ME Engineering License No. F-0176

Dear Mr. Frost:

On behalf of Duke Energy (Duke), S&ME Inc., (S&ME) is pleased to submit this letter requesting that the North Carolina Department of Environment and Natural Resources (NCDENR) Division of Waste Management consider approval of dust control measures at Duke coal combustion product (CCP) landfills. We prepared this letter based on the telephone discussion between Mr. Larry Frost of NCDENR, Mr. Ed Sullivan and Mr. Andy Tinsley of Duke, and Mr. Ken Daly of S&ME on April 13, 2011.

Duke began permitting a new generation of lined CCP landfills at their coal burning power facilities in the early 2000s. Duke began operating the new CCP landfills around 2006 consistent with NCDENR issued Permit to Operate requirements. The CCP landfill waste streams are uniform, homogenous, and composed predominately of fly ash and flue gas desulfurization (FGD) residue. Fly ash and FGD residue are fine grained materials that compact well during waste placement and resemble the characteristics of natural soils placed in an engineered fill. Each CCP landfill is operated consistent with an approved Operations Plan.

Duke understands that NCDENR's ordinary municipal solid waste (MSW) landfill operational concerns are related to blowing litter, dust control, vector control, and fire prevention. Unlike MSW landfills, operational concerns for CCP landfills are primarily dust control. Based on the uniformity of the waste materials and the primary operational concern being dust control, Duke requests that NCDENR consider this proposal for an Allen Steam Station Dust Control Plan. We propose that this Dust Control Plan be used as a template for Duke's North Carolina CCP landfills. Attached for your review and comment is Allen Steam Station's Dust Control Plan to be included as Appendix III to the Operations Plan.

In general, each site-specific Dust Control Plan will identify a variety of dust control measures and provide for monitoring and documentation. Specifically, we anticipate each Dust Control Plan will:

- provide an introduction and site description unique to each CCP landfill;
- summarize possible dust control measures;
- summarize equipment used at each site;
- outline monitoring methods; and
- recommend corrective actions.

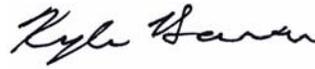
For compliance purposes the Dust Control Plan will focus on keeping CCP dust within the disposal unit. In the event that a Duke facility contains multiple CCP landfills, the landfill operator will make provisions to have the necessary equipment to control multiple fugitive CCP dusting emission events. Duke understands that consequences of fugitive CCP dust beyond the facility boundary could result in NCDENR action including possible violations and requirements to return to operational soil cover use. Furthermore, Duke understands that dust control practice performance will be based on monitoring and documentation.

We appreciate NCDENR's practicality and consideration of the proposed Dust Control Plan. Please contact us at your convenience with comments and questions.

Sincerely,
S&ME, Inc.



Ken Daly, P.E.
Senior Project Engineer



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Attachments: Dust Control Plan, May 13, 2011, Retired Ash Basin (RAB) Ash
Landfill, Allen Steam Station, Permit No. 36-12

DUST CONTROL PLAN
RETIRED ASH BASIN (RAB) - ASH LANDFILL
PERMIT NO. 36-12
ALLEN STEAM STATION
BELMONT, NORTH CAROLINA
S&ME Project No. 1356-10-009A
S&ME Engineering License No. F-0176



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May 13, 2011

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FIGURE	TITLE
1	Cells 1 and 2 Operations Grid

1. INTRODUCTION AND SITE DESCRIPTION

This Dust Control Plan is for the Retired Ash Basin (RAB) ash landfill at Duke Energy's Plant Allen. This Plan provides dust control methods for managing dust emissions at the RAB ash landfill. This Plan provides a monitoring program and corrective action response to contain CCP's to prevent dust nuisances to employees and the public. The monitoring program will aid Duke Energy and the landfill operator in evaluating the dust control methods, or combination of dust control methods, that prove effective with site specific conditions.

The RAB ash landfill has an approximate 47-acre footprint, and is used for coal combustion product (CCP) management. CCP's primarily consist of moisture conditioned fly ash from the plant's dry ash handling system as well as ash basin ash, bottom ash, boiler slag, mill rejects, flue gas desulfurization (FGD) residue, and sand blast material.

This Plan will be added as an appendix to the approved Operations Plan for the RAB ash landfill.

2. DUST CONTROL METHODS

The primary potential source of dust emissions in the landfill is the top deck area and active area of waste placement. These areas are at a higher risk for producing dust due to vehicular and equipment traffic and earthworks-like construction. Exterior landfill slopes are less of a dust control concern as they have intermediate or operational soil covers which are vegetated as required in the Operations Plan. Operational soil cover is currently defined as 6 inches of soil material applied weekly to the active area of waste placement.

Dust emissions from the landfill can be controlled through a variety of dust control methods. Possible dust control methods are identified herein. Dust control methods may be characterized as products and/or applications, structural wind breaks and/or covers, and operational methods.

Dust control methods for the landfill area include:

- Watering;
- Establishing vegetative cover;
- Mulching;
- Structural controls consisting of:
 - Wind breaks (i.e. fencing and/or berms); and
 - Temporary coverings (i.e. tarps);
- Spray applied dust suppressants consisting of, and not limited to:
 - Anionic asphalt emulsion;
 - Latex emulsion;
 - Resin in water;
 - Polymer based emulsion; and

- Mineral mortar coatings (i.e. posi-shell);
- Calcium chloride;
- Soil stabilizers (i.e. soil cements);
- Operational soil cover;
- Modifying the active working area; and
- Modifying operations during dry and windy conditions.

The operator may use, and is not limited to, combinations of these dust control methods or any method that is technically sound to control dust for the specific site conditions. If the operator intends to use a dust control method not presented above, the proposed dust control method will be evaluated on a case by case basis to assess the effectiveness with specific site conditions. For the purposes of this Plan, operational soil cover will be defined as soil material applied at a suitable thickness to provide dust control. The effectiveness of the dust control methods implemented should be evaluated through a dust monitoring program outlined in Section 3.

Operational equipment generally consists of dump trucks, vibratory smooth drum roller, bulldozer, water truck, spray trailer, track hoe, and service truck. Operational equipment will be used to construct, install, apply, and/or repair dust control methods. The operator will make provisions to alleviate any on-site issues that arise when primary equipment is being maintained or is inoperable. In the event that Plant Allen contains multiple landfill facilities in the future, the landfill operator will make provisions to have the necessary equipment to control multiple fugitive CCP dusting emission events.

3. MONITORING AND CORRECTIVE ACTION RESPONSE

This section describes a dust monitoring program and suggests corrective action responses should fugitive emissions be observed.

3.1 Monitoring

During landfill operations, a dust monitoring program will be implemented to evaluate the dust control measure performance and observe the areas for dust emissions. The dust monitoring program consists of performing visual observations of dust prone areas, dust control measures, and monitoring existing and forecasted weather conditions.

Dust emissions can occur under many conditions. For the purposes of this Plan, dust emissions are characterized as fugitive emissions, where CCP dust is located outside the limit of landfill waste. This is most likely to occur during windy, dry, and hot weather conditions. Therefore, the operator will monitor both existing and forecasted weather conditions and use dust control measures suited to the weather conditions. The dust control measures shall be implemented prior to the forecasted weather conditions.

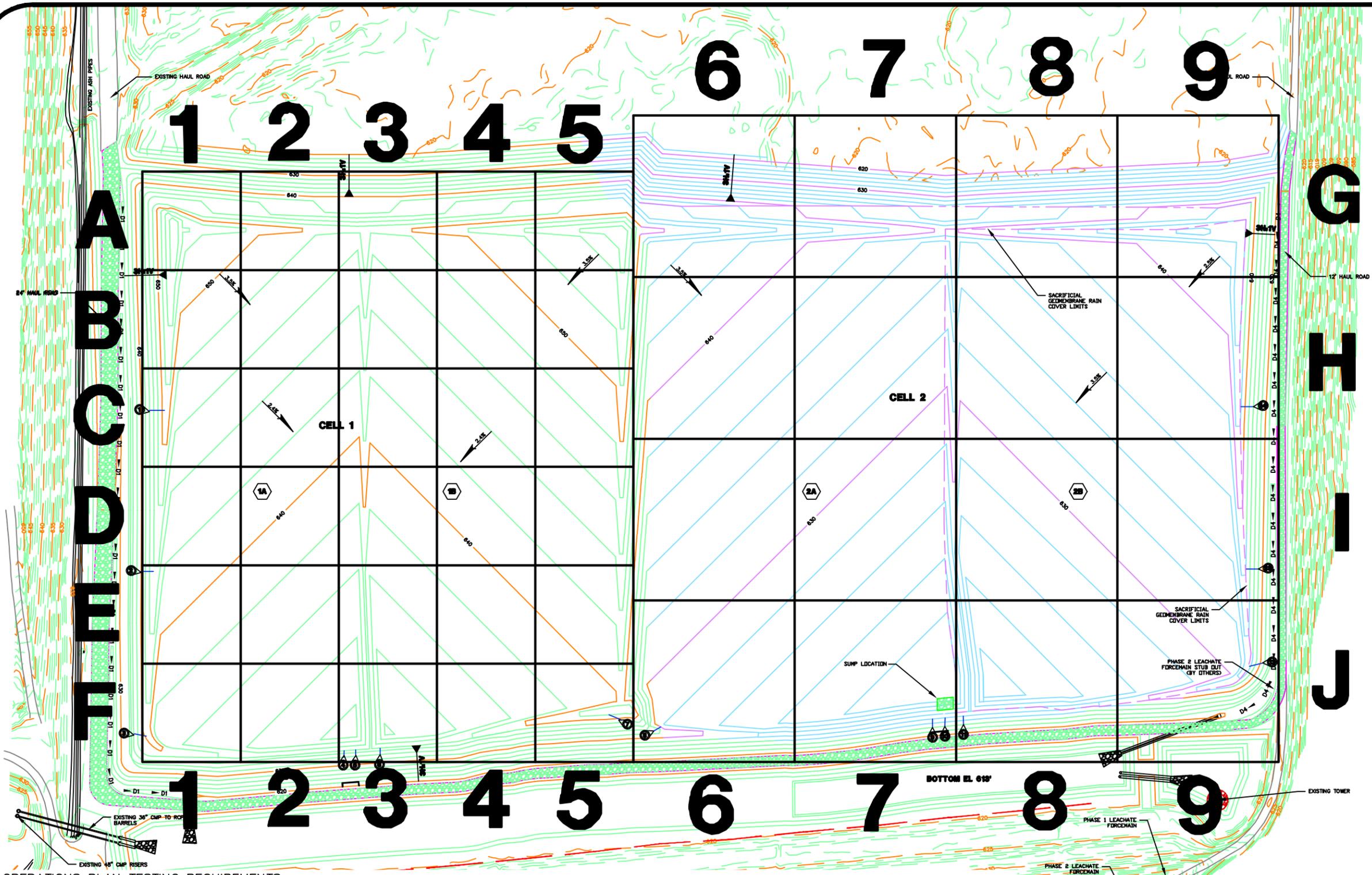
Equipment operators shall continuously observe the active face and other areas within the landfill limit for dust emissions. In addition, preventative dust control measures should be observed and documented at least twice daily (morning and afternoon) when the landfill is in operation to evaluate the dust control measure performance. Additional

observations may be necessary as site and weather conditions dictate. Observations will be documented on the attached “*Monitoring Worksheet*,” or online database/worksheet, etc. Due to the continual maintenance necessary on moisture conditioned and spray-applied areas, the operator shall pay particular attention to these areas. Structural controls shall be observed to monitor that they are achieving their intended purpose. Observations in the landfill area may be made with reference to the Cells 1 and 2 grid system shown in the attached Figure 1.

Monitoring will be conducted during times when the landfill is in operations. The operator shall continue to provide necessary dust control measures during periods when operations are inactive (i.e. outages, weekends, holidays). Operators are to establish appropriate measures so that dust emissions are not reasonably likely to occur during inactive operations periods when monitoring is not being conducted.

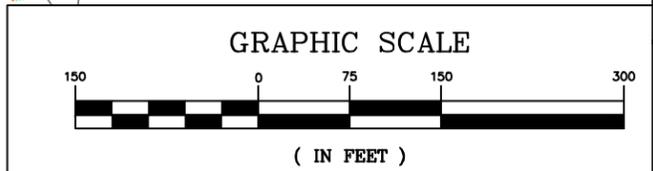
3.2 Corrective Action

If fugitive dust emissions are observed and observations indicate dust control measures are not achieving their intended purpose, then appropriate corrective actions will be taken. Dust control measures should be reapplied, repaired, or added, as necessary, to control dust emissions. The operator will construct, install, apply, and/or repair dust control measures prior to the end of the work day to control dust emissions during non-operating hours. The operator will implement dust control measures as preventative controls rather than in response to fugitive dust emissions.



OPERATIONS PLAN TESTING REQUIREMENTS:

- CELL 1: FIELD DENSITY TESTING – ONE TEST PER 216,000 SQ. FT. PER 12-INCH THICK LIFT (APPROX. 11 (140' X 140') GRIDS)
 LABORATORY TESTING – ONE STANDARD PROCTOR TEST PER 1,350,000 SQ. FT. PER 12-INCH THICK LIFT (APPROX. 69 (140' X 140') GRIDS)
- CELL 2: FIELD DENSITY TESTING – ONE TEST PER 54,000 SQ. FT. PER 12-INCH THICK LIFT (APPROX. 1 (230' X 230') GRID)
 LABORATORY TESTING – ONE STANDARD PROCTOR TEST PER 540,000 SQ. FT. PER 12-INCH THICK LIFT (APPROX. 10 (230' X 230') GRIDS)



CELLS 1 AND 2 OPERATIONS GRID DUST CONTROL PLAN	DATE: 05/13/11 DRAWN BY: KB CHECKED BY:
S&ME 9751 SOUTHERN PINE BLVD. CHARLOTTE, N.C. 28273 (704)523-4726 WWW.SMEINC.COM	SCALE: 1" = 500' PROJECT NO. 1356-10-009 ENGINEERING LICENSE NO. F-0176
ALLEN STEAM STATION RAB ASH LANDFILL BELMONT, NORTH CAROLINA	
FIGURE NO. 1	