FACILITY COMPLIANCE INSPECTION REPORT
Division of Waste Management
Solid Waste Section

UNIT TYPE:												
Lined MSWLF		LCID		YW		Transfer		Compost		SLAS		COUNTY: GASTON
Closed MSWLF		HHW		White goods		Incin		T&P		FIRM		PERMIT NO.: 36-12I
CDLF		Tire T&P / Collection		Tire Monofill		Industrial Landfill	X	DEMO		SDTF		FILE TYPE: COMPLIANCE

Date of Site Inspection: **12/27/13** and **1/13/14** **Date of Last Inspection:** **10/04/12**

FACILITY NAME AND ADDRESS:
Duke Energy, Allen Steam Station – Retired Ash Basin (RAB)
253 Plant Allen Road
Belmont, NC 28012

GPS COORDINATES: N: 35.18295° E: -81.00979°

FACILITY CONTACT NAME AND PHONE NUMBER:
Don Scruggs
(704) 829-2423 Office (704) 400-3005 Cell
don.scruggs@duke-energy.com
Fax: (704) 829-2370

FACILITY CONTACT ADDRESS:
Same as Above

PARTICIPANTS:
Don Scruggs – Duke Energy
Walter Fox – *Chara* (Construction Subcontractor)
Bill Wagner – NCDENR, Solid Waste Section

STATUS OF PERMIT:
Permit to Operate: Allen Steam Station / Retired Ash Basin (RAB) Phase 1, Cells 1 & 2 (DIN 14135)
Issued: 6/16/2011 Expires: 12/09/14

PURPOSE OF SITE VISIT:
Partial Compliance Inspections in response to two separate reported "off-liner" release of waste on 12/27/13 and on 1/13/14.

STATUS OF PAST NOTED VIOLATIONS:
None.

OBSERVED VIOLATIONS

1. 15A NCAC 13B .0505 states, in part that, a*ny person who maintains or operates a sanitary landfill site shall maintain and operate the site in conformance with the permit.*

   Incorporated in the *Permit to Operate – Modification, Duke Energy Allen Steam Station* (DIN 14135) is the approved *Operations Plan, Retired Ash Basin (RAB)* (DIN12344). Section 3.1 (Storm Water Collection and Conveyance) of the *Approved Operations Plan* requires, in part, that "storm water runoff from the landfill be

directed via a system of rain gutters, road ditches, "downchute" piping, and direct runoff to perimeter ditches surrounding the landfill limits."

2. 15A NCAC 13B .0505(4) states that:
   (a) Adequate erosion control measures shall be practiced to prevent silt from leaving the site
   (b) Adequate erosion control measures shall be practiced to prevent excessive on-site erosion.

3. 15A NCAC 13B .0505(6) states that temporary seeding will be utilized as necessary to stabilize the site.

On 12/27/13 and on 1/13/14 Duke Energy, Allen Steam Station – Retired Ash Basin (RAB) was observed in violation of the three above stated rules and permit conditions by failing to control storm water runoff and by failing to control on-site erosion and by failing to prevent silt and ash from leaving the landfill footprint.

Corrective action: Under consult from a licensed North Carolina professional engineer (P.E.) please develop a written plan addressing any design, operational, and/or maintenance changes necessary to control future storm water runoff at the landfill. The plan should include, but not limited to, stabilization of the landfill slopes and non-active areas; prevention of excessive on-site and off-site erosion, and the containment of ash within the landfill footprint. Within 30-days of your receipt of this report, submit the proposed plan for review and approval to:

Larry Frost
NCDENR – Solid Waste Section
Asheville Regional Office
2090 US Hwy 70
Swannanoa, NC 28778

The item(s) listed above were observed by Section staff and require action on behalf of the facility in order to come into or maintain compliance with the Statutes, Rules, and/or other regulatory requirements applicable to this facility. Be advised that pursuant to N.C.G.S. 130A-22, an administrative penalty of up to $15,000 per day may be assessed for each violation of the Solid Waste Laws, Regulations, Conditions of a Permit, or Order under Article 9 of Chapter 130A of the N.C. General Statutes. Further, the facility and/or all responsible parties may be subject to enforcement actions including penalties, injunction from operation of a solid waste management facility or a solid waste collection service and any such further relief as may be necessary to achieve compliance with the North Carolina Solid Waste Management Act and Rules.

ADDITIONAL COMMENTS

Release of Waste and Silt on 12/27/13

1. On December 23, 2013 Sean DeNeale (Engineer for Duke Energy) reported the release of soil and coal ash at the *Allen Steam Station Retired Ash Basin (RAB)* in Belmont, Gaston County. Mr. DeNeale made the report to Bill Wagner (NCDENR, Solid Waste Section) by telephone and by e-mail:
   a) The release was discovered at approximately 7:15AM on12/23/13.
   b) The release occurred on the southern slope of Cell 1 of Phase 1.
   c) Heavy rainfall (approximately 3-inches in the 16-hours leading up to the discovery of the release) caused two "significant erosion rills" from the cap of Cell 1 of Phase 1 to the southern perimeter stormwater perimeter ditch.
   d) Crews immediately began repairing the two rills
   e) Crews also recovered the coal ash and soil that had been released beyond the edge of the landfill liner. This material was returned to the landfill.
   f) Two additional "down drains" will be installed on the southern slope of Cell 1 of Phase 1to control surface water runoff.

Duke Energy Allen Steam Station 36-12I– Belmont, Gaston Co. Retired Ash Basin (RAB)

Site Map of the Approximate Location of the "Off-site" Release of Waste and Silt on 12/27/13

2. Since October 2012 this is the third incidence of the release of waste off of the liner due to heavy rains.

Date of Release	Location of Release	Comment
September 2011	Northern Slope of Cell1, Phase 1	Self-reported by Duke Energy Sept. 2012
10/14/13	Western Slope of Cell 1, Phase 1	Self-reported by Duke Energy 10/15/13.
12/23/13	Southern Slope of Cell 1, Phase 1	Self-reported by Duke Energy 12/23/13.

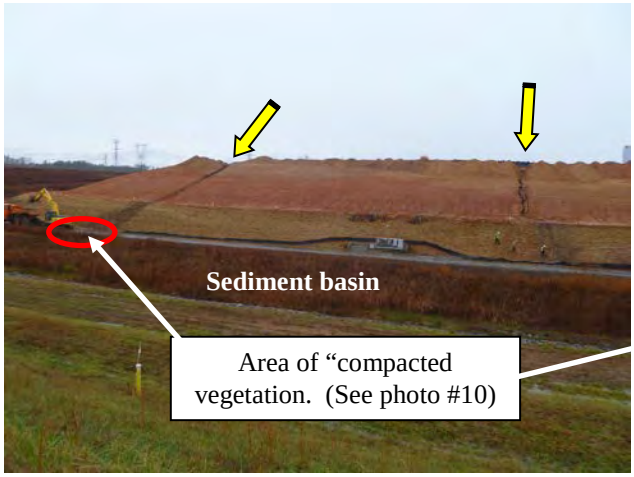
3. The retired ash basin (RAB) landfill is located within the footprint of an older, closed RAB for the Allen Steam Station. The older, closed RAB has not been in use since the 1970's.
4. The landfill is permitted to receive combustion products / residuals consisting of fly ash, bottom ash, boiler slag, mill rejects and flue gas desulfurization (FGD) residue generated from the Allen Steam Station plant.
5. At the time of construction, the projected life of the RAB landfill was approximately 12-years.
6. The power plant was not operating at the time of the inspection due to low demand for electricity.
7. The current active area of the landfill is Cell 2, of Phase 1. (Figure 1)
8. The retired ash basin (RAB) landfill has been constructed on top of a former structural fill landfill.
9. There are three 'chimney drains" in Cell 2 of Phase 1 that collect and direct storm water that contacts the coal ash to the leachate collection system. (Figure 1 and Photo #1)
10. Both the edge of waste and the edge of liner are identified with white PVC markers.
11. While it appeared that leachate from the two "rills" was mostly held within the limits of the perimeter stormwater ditch, there was matted vegetation in the sediment basin that suggested that leachate and / or stormwater had spilled from the perimeter ditch, over the perimeter access road and into the sediment basin. (Photo #10)

Duke Energy Allen Steam Station 36-12I– Belmont, Gaston Co. Retired Ash Basin (RAB)

Site Map of the Approximate Location of the "Off-site" Release of Waste and Silt on 1/12/14

1. Western "rill" in the (S) slopes of the landfill under repair. (Photo taken by Duke Energy 12/23/13) Note edge-of-waste maker.

2. Eastern "rill" in the (S) slopes of the landfill. (Photo taken by Duke Energy 12/23/13) Note edge-of-waste marker.



3. Looking (N) across the sediment basin at the two "rills" on the (S) slope of the landfill. (Photo taken by Duke Energy 12/23/13)

4. Looking (N) at the (S) slopes of the landfill at the two repaired "rills" caused by stormwater runoff from the cap of Phase 1. Photo taken by B.Wagner 12/27/13.

5. Looking (NNE) at Cell 2, in Phase 1. (Note the "chimney drain".) Photo taken by B.Wagner 12/27/13.

6. Looking (W) down the sediment basin located to the (S) of the landfill. (Landfill is in the upper right background.) Photo taken by B.Wagner 12/27/13.

7. Looking (E) down the perimeter road on the (S) side of the landfill., Cell 2, Section A, at the cap on Phase 1, Cell 1, Section B. Photo taken by B.Wagner 12/27/13.

8. "Drop inlet" at the (W) end of the perimeter ditch on the (S) side of the landfill. Photo taken by B.Wagner 12/27/13.

9. Crew vacuuming stormwater from the perimeter ditch on the (S) side of the landfill. Photo taken by B.Wagner 12/27/13.

10. Vegetation in the sediment basin compacted by runoff from the outfall of the western rill. Photo taken by B.Wagner 12/27/13.

12. There is a "drop inlet" at the western end of the perimeter stormwater ditch that channels the contents of the stormwater ditch to the sediment basin on the south side of the landfill. (Figure 1 & Photo #8)
13. There was no visual evidence that any ash or soil associated with this episode reached the sediment basin.
14. Other than the two "erosion rills" on the southern slope, the landfill does not exhibit any excessive on-site erosion.
15. The side slopes of the landfill had well sloped.

Release of Waste and Silt on 1/12/14

16. On January 12, 2014 Sean DeNeale (Engineer for Duke Energy) reported the release of soil and coal ash at the *Allen Steam Station Retired Ash Basin (RAB)* in Belmont, Gaston County. Mr. DeNeale made the report to Larry Frost (NCDENR, Solid Waste Section) by e-mail at 12:25 AM on Sunday 1/12/14 :
    g) The release occurred when the inlet to the "down slope drain" in the SW corner of the top of the landfill became blocked during a heavy rain event (approximately 2.5-inches) on Saturday (1/11/14) and Sunday 1/12/14. This caused stormwater run-off on the cap of Cell 1 of Phase 1, to spill over the top of the containment berm and flow down the western slope, off the liner, and to the perimeter stormwater ditch. It did not appear that any sediment or waste moved beyond the perimeter stormwater ditch in the immediate vicinity of the outfall of the "down slope drain". (Photos 1,2,3,4, & 6)
    h) Crews recovered the coal ash and soil that had been released beyond the edge of the landfill liner. This material was returned to the landfill.
    i) The inlet to the "down slope drain" was repaired. (Photo #1)
    j) The SW slope that was eroded due this incident was repaired.

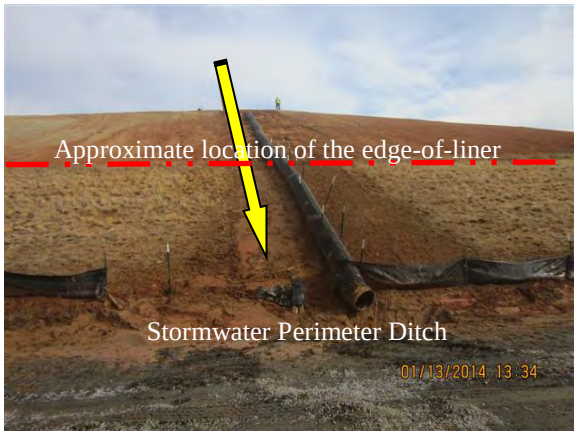
11. Inlet to the "down slope drain" in the SW corner of landfill after initial repairs. (Photo taken by Duke Energy on 1/12/14)

12. Out fall of the "down slope drain" in the SW corner of landfill. Note the surface water runoff spilling over the silt fence into the perimeter stormwater ditch. (Photo taken by Duke Energy on 1/12/14)

13. Perimeter stormwater ditch partially filled with sediment & possibly waste, at the outfall of the "down slope drain" in the SW corner of landfill. (Photo taken by Duke Energy on

14. "Down slope drain" in the SW corner of landfill and the silt fence after the rain event and before being repaired. (Photo taken by Duke Energy on 1/12/14)

15. Looking (S) the NW corner of Phase 1, Cell 1, of the RAB landfill. (Photo taken by B.Wagner on 1/13/14)



16. Looking (E), from the perimeter road, at the repaired & cleaned up path of the release of sediment & coal ash. (Photo taken by B.Wagner on 1/13/14)

17. Looking (N) down the perimeter ditch on the (W) side of the landfill. Outfall of the down slope drain is on the lower right. (Photo taken by B.Wagner on 1/13/14)

18. Looking (E) down the perimeter ditch on the (S) side of the landfill. Note the "drop inlet" in the center of the photo. (Photo taken by B.Wagner on 1/13/14)

19. Looking (NE), from the perimeter road, at the SE corner of the landfill. Outfall of the down slope drain is on the center right. (Photo taken by B.Wagner on 1/13/14)

20. Stormwater ditch on the (W) side of the perimeter road, directly across from the point where the outfall from the down slope drain in the SW corner of the landfill discharged. (Photo taken by B.Wagner on 1/13/14)

17. On the early afternoon of Monday 1/13/14 *Chara* (Duke Energy's construction subcontractor) finishing up repairs to the slope, the down slope drain and to the perimeter stormwater ditch of the landfill. (Photos 16 - 19)
18. There was no evidence that any waste had migrated beyond the stormwater perimeter ditch in the immediate area of the outfall from the down slope drain in the SW corner of the landfill. (Photos 17 -20)
19. None of the other three down slope drains were adversely impacted.
20. Since October 2012 this is the fourth incidence of the release of waste off of the liner due to heavy rains.

Date of Release	Location of Release	Comment
September 2011	Northern Slope of Cell1, Phase 1	Self-reported by Duke Energy Sept. 2012
10/14/13	Western Slope of Cell 1, Phase 1	Self-reported by Duke Energy 10/15/13.
12/23/13	Southern Slope of Cell 1, Phase 1	Self-reported by Duke Energy 12/23/13.
1/12/14	Western Slope of Cell 1, Phase 1	Self-reported by Duke Energy 1/12/14.

SITE HISTORY:

21. The retired ash basin (RAB) landfill is located within the footprint of an older, closed RAB for the Allen Steam Station. The older, closed RAB has not been in use since the 1970's.
22. The landfill is permitted to receive combustion products / residuals consisting of fly ash, bottom ash, boiler slag, mill rejects and flue gas desulfurization (FGD) residue generated from the Allen Steam Station plant.
23. At the time of construction, the projected life of the RAB landfill was approximately 12-years.
24. The power plant was not operating at the time of the inspection due to low demand for electricity.
25. The current active area of the landfill is Cell 2, of Phase 1. (Figure 1)
26. The retired ash basin (RAB) landfill has been constructed on top of a former structural fill landfill.
27. Both the edge of waste and the edge of liner are identified with white PVC markers.
28. There is a "drop inlet" at the western end of the perimeter stormwater ditch that channels the contents of the stormwater ditch to the sediment basin on the south side of the landfill. (Figure 1 & Photo #8)
29. There was no visual evidence that any ash or soil associated with this episode reached the sediment basin.

Please contact me if you have any questions or concerns regarding this inspection report.

Bill Wagner
Environmental Senior Specialist
Regional Representative

Phone: 828-296-4705

Sent on: 1/29/14 to: **CT Corporation, Registered Agent** **Box 1011** **Raleigh, NC 27601**		Email		Hand Delivery		US Mail	**X**	**Certified No.:** **7012 1010 0002 1967 9880**

ec: Don Scruggs – Duke Energy (Don.Scruggs@duke-energy.com)
Sean DeNeale - Duke Energy (Sean.DeNeale@duke-energy.com)
Jason Watkins, District Supervisor – Solid Waste Section
Sarah Rice, Compliance Officer – Solid Waste Section