



North Carolina Department of Environmental Quality  
Division of Waste Management

Pat McCrory  
Governor

Donald R. van der Vaart  
Secretary

STATE OF NORTH CAROLINA  
DEPARTMENT OF ENVIRONMENTAL QUALITY  
DIVISION OF WASTE MANAGEMENT  
SOLID WASTE SECTION

**SOLID WASTE MANAGEMENT FACILITY**  
**Permit No.'s 1804, 1809 and 1812**

DUKE ENERGY CAROLINAS, LLC  
is hereby issued a

**PERMIT TO CONSTRUCT**

1812-INDUS-2008, DUKE ENERGY MARSHALL STEAM STATION, PHASE 1 – CELLS 3 AND 4

**PERMIT TO OPERATE**

1809-INDUS-, DUKE POWER/MARSHALL STEAM PLT FGD, PHASE 1, CELL 1  
1812-INDUS-2008, DUKE ENERGY MARSHALL STEAM STATION, PHASE 1 CELLS 1 AND 2

**PERMIT FOR CLOSURE**

1804-INDUS-1983, DUKE POWER/MARSHALL STEAM PLT

Located within the *Duke Energy Carolinas, LLC – Marshall Steam Station property boundaries at 8320 East North Carolina Highway 150, Terrell Community, Catawba County, North Carolina*, in accordance with Article 9, Chapter 130A, of the General Statutes of North Carolina and all rules promulgated thereunder and subject to the conditions set forth in this permit. The legal description of the site is identified on the deeds recorded for this property listed in Attachment No. 1 of this permit.

Edward F. Mussler, III, P.E., Supervisor  
Permitting Branch, Solid Waste Section  
Division of Waste Management, NCDEQ



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**ATTACHMENT 1**  
GENERAL PERMIT CONDITIONS/INFORMATION

**PART I: GENERAL FACILITY**

Permit to Operate Date Table

Permit	Status	Issuance	Limited Review	Expiration	DIN
1804-INDUS-1983, Duke Power/Marshall Steam Plt	InactiveClosed	<i>Not Applicable</i>	<i>Not Applicable</i>	<i>Not Applicable</i>	20240
1809-INDUS-, Duke Power/Marshall Steam Plt	Active	May 18, 2012	<i>Not Applicable</i>	November 21, 2016	16623
1812-INDUS-2008, Duke Energy Marshall Steam	Active	<b>March 2, 2016</b>	March 7, 2021	March 7, 2026	25355

General Conditions

1. This permit is issued by the North Carolina Department Environmental Quality, Division of Waste Management, Solid Waste Section (Section). In accordance with North Carolina Solid Waste Management Rule 15A NCAC 13B .0201(d), a solid waste management facility permit shall have two parts: a Permit to Construct and a Permit to Operate. The Permit to Construct must be implemented in accordance with Attachment 2 of this permit. The Permit to Operate must be implemented in accordance with Attachment 3 of this permit.
2. The persons to whom this permit is issued (“permittee”) are the owners and operators of the solid waste management facility.
3. The Permit to Construct for this facility dated February 25, 2010, was recorded in the Catawba County Register of Deeds on March 11, 2010, in Deed Book 3016, Pages 1543 - 1551.
4. When this property is sold, leased, conveyed, or transferred in any manner, the deed or other instrument of transfer shall contain in the description section in no smaller type than that used in the body of the deed or instrument, a statement that the property has been used as a solid waste management facility and a reference by book and page to the recordation of the permit.
5. By beginning construction or receiving waste at this facility the permittee shall be considered to have accepted the terms and conditions of this permit.

6. Operation of this solid waste management facility shall be in accordance with the Solid Waste Management Rules, 15A NCAC 13B, Article 9 of the Chapter 130A of the North Carolina General Statutes (NCGS 130A-290, et seq.), the conditions contained in this permit, and the approved plan. Should the approved plan and the rules conflict, the Solid Waste Management Rules shall take precedence unless specifically addressed by permit condition. Failure to comply may result in compliance action or permit revocation.
7. This permit is issued based on the documents submitted in support of the application for permitting the facility including those identified in Attachment 1, List of Documents for Approved Plan, and which constitute the approved plan for the facility. Where discrepancies exist, the most recent submittals and the Conditions of Permit shall govern.
8. This permit may be transferred only with the approval of the Section, through the issuance of a new or substantially amended permit in accordance with applicable statutes and rules. In accordance with NCGS 130A-295.2(g) the permittee must notify the Section thirty (30) days prior to any significant change in the identity or business structure of either the owner or the operator, including but not limited to a proposed transfer of ownership of the facility or a change in the parent company of the owner or operator of the facility.
9. The permittee is responsible for obtaining all permits and approvals necessary for the development of this project including approval from appropriate agencies for a general or individual NPDES Stormwater Discharge Permit. Issuance of this permit does not remove the permittee's responsibilities for compliance with any other local, state or federal rule, regulation or statute.

Properties Approved for the Solid Waste Management Facility

Catawba County, N.C. Register of Deeds			
Book	Page	Property Owner	Acres
02954	0421-0428	Duke Energy Carolinas, LLC	1370±
			Total Site Acreage: 1370±

PART II: MUNICIPAL SOLID WASTE LANDFILL UNIT(S)

*Not Applicable*

PART III: CONSTRUCTION AND DEMOLITION DEBRIS LANDFILL UNIT(S)

*Not Applicable*

PART IV: INDUSTRIAL LANDFILL UNIT(S)

*1804-INDUS-1983, Duke Power/Marshall Steam Plt*

Permitting History

Permit Type	Date Issued	DIN
Permit to Operate – Phase 1 Cell 1.	December 30, 1983	

Closure Permit – Area 1 consists of a 58-acre flyash landfill, closed in 2001, Area 2 consists of a 38.1-acre asbestos landfill, closed in January 2009 and Area 3 consists of a 2.9-acre C&D landfill, closed in January 2009.	December 6, 2013	20240
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List of Documents for Approved Plan

DIN	Description
6066	<i>Closure and Post-Closure Plan, Marshall Steam Station Asbestos Landfill, Catawba County, North Carolina, S&amp;ME Project No. 1356-08-107. Prepared for Duke Energy. Prepared by S&amp;M. September 2008.</i>
16505	<i>Closure and Post-Closure Plan, Marshall Steam Station C&amp;D Landfill, Catawba County, North Carolina, S&amp;ME Project No. 1356-08-106. Prepared for Duke Energy. Prepared by S&amp;M. September 2008.</i>
6847	<i>Construction Certification Report, Marshall Steam Station Asbestos and C&amp;D Landfills, Catawba County, North Carolina, S&amp;ME Project No. 1356-08-07. Prepared for Duke Energy. Prepared by S&amp;M. January 2009.</i>
18329	<i>Groundwater Monitoring Program Sampling and Analysis Plan, Marshall Steam Station, Dry Ash Landfill, Permit No. 1804, October 22, 2012. Prepared for Duke Energy. Prepared by Altamont Environmental. October 2012.</i>

1809-INDUS-, Duke Power/Marshall Steam Plt FGD

Permitting History

Permit Type	Date Issued	DIN
Permit to Construct – New Permit, Phase 1, Issuance of the original Permit.	April 12, 2006	
Permit to Construct - Modification for HDPE liner and Cap System.	May 22, 2006	
Permit to Operate – Phase 1 Cell1.	November 21, 2006	
Permit to Operate – Amendment Five (5) Year Renewal.	May 18, 2012	16623
Permit to Operate – Modification, Chimney Drains	December 6, 2013	20240
Permit to Operate – Modification, Service Area	July 8, 2015	24667

List of Documents for Approved Plan

DIN	Description
14913	<i>Permit Amendment, Marshall Steam Station, Flue Gas Desulphurization (FGD) Residue Landfill, Phase 1, Cell 1, Permit No. 18-09, August 19, 2011. Prepared for Duke Energy. Prepared by Altamont Environmental. August 2011.</i>
16483	<i>Groundwater Sampling and Analysis Plan, Marshall Steam Station, Flue Gas Desulphurization (FGD) Residue Landfill, Phase 1, Cell 1, Permit No. 18-09, August 19, 2011. Prepared for Duke Energy. Prepared by Altamont Environmental. August 2011.</i>

16455	<i>Permit Amendment, Marshall Steam Station, Flue Gas Desulphurization (FGD) Residue Landfill, Phase 1, Cell 1, Permit No. 18-09, April 10, 2012. Prepared for Duke Energy. Prepared by Altamont Environmental. April 2012.</i>
16621	<i>Landfill Operations Plan, Duke Energy Carolinas, LLC-Marshall Steam Station, Flue Gas Desulfurization (FGD) Residue Landfill Phase 1, Cell1, Catawba County North Carolina, Permit No. 1809, April 10, 2012, Revision 1. Prepared for Duke Energy. Prepared by Altamont Environmental. April 2012.</i>
20177	<i>Landfill Operations Plan, Duke Energy Carolinas, LLC – Marshall Steam Station, Flue Gas Desulfurization (FGD) Residue Landfill Phase 1, Cell 1, Catawba County, North Carolina, Permit No. 1809, November 13, 2013, Revision2. Prepared for Duke Energy. Prepared by WSP. November 2013.</i>
24693	<i>Request to Permit Waste for Disposal, Marshall Steam Station Operational Landfills (Permit No. 1809-INDUS and 1812-INDUS, Catawba County, North Carolina. Prepared by Duke Energy. July 2015.</i>
25319	<i>Industrial Landfill Status, Permit No.: 1809-INDUS (FGD Landfill), Marshall Steam Station, Catawba County, Terrell, North Carolina 28682. Prepared by Duke Energy. November 2015.</i>

*1812-INDUS-2008, Duke Energy Marshall Steam*

Permitting History

Permit Type	Date Issued	DIN
Site Suitability approved.	July 27, 2009	8011
Permit to Construct – New Permit, Phase 1, Issuance of the original Permit.	February 25, 2010	9571
Permit to Operate – Modification, Phase 1 – Cells 1 and 2	March 7, 2011	12996
Permit to Operate – Revision, Ops Plan Revised to Add Dust Control Plan	April 7, 2014	20784
Permit to Operate – Revision, correction to inconsistent permit expiration dates.	March 25, 2015	24041
Permit to Operate – Modification, Service Area	July 8, 2015	24667
Permit to Operate – Amendment Ten (10) Year Renewal	<b>March 2, 2016</b>	25355

List of Documents for Approved Plan

DIN	Description
7384 7385	<i>Marshall Steam Station Industrial Landfill #1, Landfill Permit Application Revised Site Suitability Study, Volume 1 (DIN 7384) and Volume 2 (DIN 7385), Duke Energy Marshall Steam Station, Terrell, Catawba County, North Carolina, S&amp;ME Project No. 1356-08-122. Prepared for Duke. Prepared by S&amp;ME. May 2009.</i>

8968	<i>Permit to Construct Application – Industrial Landfill No. 1, Electronic Version, Duke Energy – Marshall Steam Station, Terrell, North Carolina.</i> Prepared for Duke. Prepared by S&ME. November 2009.
9500	<i>Marshall Steam Plant, Duke Energy Corporation, Phase 1 Proposed Landfill, Catawba County.</i> Letter prepared by Steven M. McEvoy, P.E., State Dam Safety Engineer, Land Quality Section. January 2010.
9546	<i>Permit to Construct Application, Operations Plan, Industrial Landfill No. 1, Marshall Steam Station, Terrell, North Carolina, S&amp;ME Project No. 1356-08-122.</i> Prepared for Duke. Prepared by S&ME. November 2009. Revised February 2010.
12845	<i>Cells 1 and 2 Construction Certification Report, Industrial Landfill No.1, Marshall Steam Station, Terrell, North Carolina, S&amp;ME Project No. 1356-08-122 Ph.7.</i> Prepared for Duke. Prepared by S&ME. January 2011
13124	<i>Operations Plan, Industrial Landfill No. 1, Marshall Steam Station, Terrell, North Carolina, S&amp;ME Project No. 1356-08-122.</i> Prepared for Duke. Prepared by S&ME. November 24, 2009, revised February 3, 2010, revised February 28, 2011.
12848	<i>Leachate Force Main.</i> Prepared for Duke. Prepared by S&ME. November 24, 2009, revised January 28, 2011.
14706	<i>Operations Plan, Industrial Landfill No. 1, Marshall Steam Station, Terrell, North Carolina, S&amp;ME Project No. 1356-08-122.</i> Prepared for Duke. Prepared by S&ME. November 24, 2009, revised February 3, 2010, revised February 28, 2011, revised August 3, 2011.
18311	<i>Request for Alternative Cover Material to Replace Intermediate Cover, Marshall Industrial Landfill (ILF) No. 1 (Permit No. 1812).</i> Prepared by Duke Energy. January 2013.
24693	<i>Request to Permit Waste for Disposal, Marshall Steam Station Operational Landfills (Permit No. 1809-INDUS and 1812-INDUS, Catawba County, North Carolina.</i> Prepared by Duke Energy. July 2015.
24964	<i>Industrial Landfill Permit Renewal, Permit No.: 1812-INDUS, Marshall Steam Station, Catawba County, Terrell, North Carolina 28682.</i> Prepared for Duke Energy. Prepared by S&ME. September 2015.
25687	<i>Operations Plan – Revision 5, Duke Energy Carolinas, LLC – Marshall Steam Station, Industrial Landfill No. 1 – Phase 1, Permit No. 1812, Catawba County, Terrell, North Carolina.</i> Prepared for Duke Energy. Prepared by S&ME. February 2015.

PART V: LAND CLEARING AND INERT DEBRIS LANDFILL UNIT(S)  
*Not Applicable*

PART VI: TRANSFER STATION/TREATMENT & PROCESSING UNIT(S)  
*Not Applicable*

PART VII: MISCELLANEOUS SOLID WASTE MANAGEMENT  
*Not Applicable*

*- End of Section-*

## ATTACHMENT 2

### CONDITIONS OF PERMIT TO CONSTRUCT

#### PART I: GENERAL FACILITY

1. The initial, substantial, construction authorized by this Permit to Construct must commence within 18 months from the issuance date of this permit. If substantial construction does not begin within 18 months from the issuance date of this permit, then the permit to construct shall expire. Substantial construction includes, but is not limited to, issuance of construction contracts, mobilization of equipment on site, and construction activities including installation of sedimentation and erosion control structures. The permittee may reapply for the permit to construct prior to the expiration date. The re-application will be subject to the statutes and rules in effect on that date and may be subject to additional fees.
2. The permittee must conduct a preconstruction meeting at the facility prior to initiating construction of any unit/cell and must notify the Section at least 10 days prior to the meeting.
3. Construction of all solid waste management units within this facility must be in accordance with the pertinent approved plans and only for those phases of development approved for construction as described in Attachment 1, List of Documents for Approved Plan.
4. Modifications or revisions of the approved documents or changes during construction of any landfill unit/cell require approval by the Section, and may constitute a permit modification and be subject to a permitting fee.
5. Burning of land-clearing debris generated on site as a result of construction activities requires approval by the Section prior to initiating the burn. In addition, the facility must ensure the activity is in compliance with all air pollution and open burning laws, regulations, and ordinances.
6. In areas with streams and/or wetlands, the permittee shall provide to the Section the approved 404/401 from U.S. Army Corps of Engineers and/or the NCDEQ Division of Water Resources, in electronic format (pdf) prior to construction in the affected areas.

#### Monitoring Requirements

7.-14. *Intentionally Blank* (double lined landfill over retired ash basin)

#### Erosion and Sedimentation Control Requirements

15. All required sedimentation and erosion control measures must be installed and operable to mitigate excessive on-site erosion and to prevent silt from leaving the area of the landfill unit during the service life of the facility.
16. All earth disturbing activities must be conducted in accordance with the Sedimentation Pollution Control Act of 1973 (15 NCAC 4) and consistent with any other local, state or federal requirements.

17. Facility construction, operations or practices must not cause or result in a discharge of pollution, dredged material, and/or fill material into waters of the state in violation of the requirements under Sections 401 and 404 of the Clean Water Act, as amended.
18. Modifications to the approved sedimentation and erosion control activities require approval by the North Carolina Land Quality Section. The Solid Waste Section must be notified of any sedimentation and erosion control plan modifications.

PART II: MUNICIPAL SOLID WASTE LANDFILL UNIT(S)  
*Not Applicable*

PART III: CONSTRUCTION AND DEMOLITION DEBRIS LANDFILL UNIT(S)  
*Not Applicable*

PART IV: INDUSTRIAL LANDFILL UNIT(S)  
*1812-INDUS-2008, Duke Energy Marshall Steam*

19. Pursuant to the NC Solid Waste Management Rules (Rule) 15A NCAC 13B .0201(c) and (d)(1), this permit approves construction of Phase 1, Cells 3 and 4 of the Duke Energy Carolinas, LLC, Marshall Steam Station, Industrial Landfill No. 1.

PART V: LAND CLEARING AND INERT DEBRIS LANDFILL UNIT(S)  
*Not Applicable*

PART VI: TRANSFER STATION/TREATMENT & PROCESSING UNIT(S)  
*Not Applicable*

PART VII: MISCELLANEOUS SOLID WASTE MANAGEMENT  
*Not Applicable*

*- End of Section -*

### ATTACHMENT 3

#### CONDITIONS OF PERMIT TO OPERATE

##### PART I: GENERAL FACILITY

1. Financial assurance must be continuously maintained for the facility in accordance with NCGS 130A 295.2. The owner and operator must annually adjust cost estimates for inflation.
2. All sedimentation and erosion control activities must be conducted in accordance with the Sedimentation Control Act NCGS 113A-50, et seq., and rules promulgated under 15A NCAC 4. All required sedimentation and erosion control measures must be installed and operable to mitigate excessive on-site erosion and to prevent silt from leaving the area of the landfill unit during the service life of the facility.
3. Copies of this permit, the approved plans, and all records, required to be maintained in the operating record by the permittee, must be maintained at the facility, unless otherwise approved by the Section, and made available to the Section upon request during normal business hours.
4. All forms, reports, maps, plans, and data submitted to the Section must include an electronic (pdf) copy.
5. The facility must be adequately secured by means of gates, chains, berms, fences, or other security measures approved by the Section to prevent unauthorized entry.
6. Interior roadways must be of all-weather construction and maintained in good condition.
7. The edge of the waste footprint for all disposal units must be identified and maintained with permanent physical markers.
8. The owner or operator must maintain a record of the amount of solid waste received at the landfill unit, compiled on a monthly basis, utilizing installed and well maintained truck scales. Any alternative methods for establishing truck weights must be approved in writing by the Section.
9. The following, at a minimum, must not be accepted for disposal at the facility: hazardous waste, yard trash, liquid wastes, regulated medical waste, sharps not properly packaged, PCB waste as defined in 40 CFR 761, and wastes banned from disposal by NCGS 130A-309.10(f).

##### Monitoring and Reporting Requirements

10. Groundwater locations must be established and monitored as identified in the List of Documents for Approved Plan.
11. A licensed geologist must be present to supervise the installation of groundwater monitoring wells. The exact locations, screened intervals, and nesting of the wells must be established after consultation with the Section Hydrogeologist at the time of well installation.
12. Groundwater monitoring wells must be sampled for the constituents in the approved monitoring plan, at least semi-annually, according to the specifications outlined in the

approved Water Quality Monitoring Plan and the current policies and guidelines of the Section in effect at the time of sampling.

13. Reports of the analytical data for each monitoring event must be submitted to the Section within 120 days of the respective sampling event. Analytical data must be submitted in a manner prescribed by the Section. Records of all groundwater and leachate analytical data must be kept as part of the permanent facility record.
14. Untreated leachate must be sampled and analyzed at least semi-annually concurrently with the groundwater water sampling, one sample per event. The leachate must be analyzed for the same constituent list as the groundwater monitoring wells outlined in the approved Water Quality Monitoring Plan. Test results must be submitted to the Section along with groundwater test results. In the event leachate is recirculated, additional leachate sampling may be required.
15. A readily accessible unobstructed path must be cleared and maintained so that four-wheel vehicles may access monitoring well locations at all times.
16. A log which details all development, sampling, repair, and all other pertinent activities associated with each monitoring well and all sampling activities associated with each surface water and leachate sampling location must be kept as part of the permanent facility record.
17. All well construction records and soil boring logs for new wells must be submitted to the Section Hydrogeologist for review within 30 days of completion.

**PART II: MUNICIPAL SOLID WASTE LANDFILL UNIT(S)**

*Not Applicable*

**PART III: CONSTRUCTION AND DEMOLITION DEBRIS LANDFILL UNIT(S)**

*Not Applicable*

**PART IV: INDUSTRIAL LANDFILL UNIT(S)**

*1809-INDUS-, Duke Power/Marshall Steam Plt FGD*

18. The Permit to Operate shall expire November 21, 2016. Pursuant to 15A NCAC 13B .0201(e), no later than May 21, 2016, the owner or operator must submit a request to the Section for permit review and must update pertinent facility plans including, but not limited to, the facility operation and waste screening plans.
19. *Intentionally Blank* (interim review 10 year permit)
20. This permit approves the continued operation of Phase 1, Cell 1, as well as the onsite environmental management and protection facilities as described in the approved plans.
21. This facility is permitted to receive solid waste generated by or at any Duke Energy Corporation property, as described in the approved plan and as defined in NCGS 130-290

- (a)(2b), except where prohibited by NCGS 130A, and the rules adopted by the Environmental Management Commission. Waste types include, but are not limited to:
- a. Coal Combustion Residuals (CCRs) (including fly and bottom ash, pyrites, and coal mill rejects),
  - b. Gypsum produced during the Flue Gas Desulfurization (FGD) process;
  - c. FGD clarifier sludge;
  - d. Waste limestone material, boiler slag, and sand blast material;
  - e. Ball mill rejects;
  - f. Asbestos;
  - g. Waste water treatment sludge; and
  - h. Soil material that contains any of the above material and soil used for operations.
22. The following conditions must be met prior to approval for operation of any phase, cell or construction sequence of the structural fill;
- a. Financial assurance must be made current if any adjustment is warranted.
  - b. A construction quality assurance documentation report shall be prepared in accordance with the approved plan and submitted to the Section for review prior to placement of waste.
  - c. New groundwater monitoring wells associated with each new phase or cell shall be installed and background sampling shall be completed for the constituents listed in the approved Water Quality Monitoring Plan listed in Attachment 1, List of Documents for Approved Plan.
23. On or before August 1 annually, the Permittee must submit an annual facility report to the Solid Waste Section, on forms prescribed by the Section.
- a. The reporting period shall be for the previous year beginning July 1 and ending June 30.
  - b. The annual facility report must list the amount of waste received and landfilled in tons and be compiled:
    - i) On a monthly basis.
    - ii) By specific waste type.
    - iii) By disposal location within the facility.
    - iv) By county of origin.
  - c. A measurement of volume utilized in the landfill cells must be performed during the second quarter of the calendar year. The date and volumes, in cubic yards, must be included in the report.
  - d. The amount of waste, in tons from records, disposed in landfill cells from November 21, 2006 through the date of the annual volume survey must be included in the report.
  - e. The completed report must be forwarded to the Section Environmental Senior Specialist for the facility by the date due on the prescribed annual facility report form.
  - f. A copy of the completed report must be forwarded to each county manager for each county from which waste was received at the facility. Documentation that a copy of the report has been forwarded to the county managers must be sent to the Section Environmental Senior Specialist by the date due on the prescribed annual facility report form.

24. The facility operator must complete an approved operator training course in compliance with NCGS 130A-309.25.
- a. A responsible individual certified in landfill operations must be on-site during all operating hours of the facility to ensure compliance with operational requirements.
  - b. All pertinent landfill-operating personnel must receive training and supervision necessary to properly operate the landfill units.
25. The following table lists the estimated gross capacity, acreage and status details for the landfill units. Gross capacity is defined as the calculated volume from the elevation of initial waste placement to the top of the final cover.

Phase	Acres	Gross Capacity (cubic yards)	Status
Phase 1, Cell 1	18	1,170,000	Constructed
Total	18	1,170,000	

*1812-INDUS-2008, Duke Energy Marshall Steam*

26. The Permit to Operate shall expire March 7, 2026. Pursuant to 15A NCAC 13B .0201(e), no later than September 7, 2025, the owner or operator must submit a request to the Section for permit review and must update pertinent facility plans including, but not limited to, the facility operation and waste screening plans.
27. Pursuant to NCGS 130A-294(a2), 15A NCAC 13B 0.0201(g) and 15A NCAC 13B 0.0206(b), the Permit to Operate is subject to a limited review by March 7, 2021. The permit must request the five-year limited review on or before September 7, 2020. A five-year limited review of a 10-year permit includes review of the operations plan, closure plan, post-closure plan, financial assurance cost estimates, environmental monitoring plans and any other applicable plans for the facility.
28. This permit approves the continued operation of Phase 1 – Cells 1 and 2, of the Industrial Landfill No. 1, as well as the onsite environmental management and protection facilities as described in the approved plans.
29. This facility is permitted to receive solid waste generated by or at any Duke Energy Corporation property, as described in the approved plan and as defined in NCGS 130-290 (a)(2b), except where prohibited by NCGS 130A, and the rules adopted by the Environmental Management Commission. Waste types include, but are not limited to:
- a. Coal Combustion Residuals (CCRs) (including fly and bottom ash, pyrites, and coal mill rejects),
  - b. Gypsum produced during the Flue Gas Desulfurization (FGD) process;
  - c. FGD clarifier sludge;
  - d. Waste limestone material, boiler slag, and sand blast material;
  - e. Ball mill rejects;
  - f. Waste water treatment sludge; and
  - g. Soil material that contains any of the above material and soil used for operations.

30. The following conditions must be met prior to approval for operation of any phase, cell or construction sequence of the structural fill;
  - a. Financial assurance must be made current if any adjustment is warranted.
  - b. A construction quality assurance documentation report shall be prepared in accordance with the approved plan and submitted to the Section for review prior to placement of waste.
  - c. *Intentionally Blank* (double lined landfill over retired ash basin)
31. On or before August 1 annually, the Permittee must submit an annual facility report to the Solid Waste Section, on forms prescribed by the Section.
  - a. The reporting period shall be for the previous year beginning July 1 and ending June 30.
  - b. The annual facility report must list the amount of waste received and landfilled in tons and be compiled:
    - i) On a monthly basis.
    - ii) By specific waste type.
    - iii) By disposal location within the facility.
    - iv) By county of origin.
  - c. A measurement of volume utilized in the landfill cells must be performed during the second quarter of the calendar year. The date and volumes, in cubic yards, must be included in the report.
  - d. The amount of waste, in tons from scale records, disposed in landfill cells from March 7, 2011 through the date of the annual volume survey must be included in the report.
  - e. The completed report must be forwarded to the Section Environmental Senior Specialist for the facility by the date due on the prescribed annual facility report form.
  - f. A copy of the completed report must be forwarded to each county manager for each county from which waste was received at the facility. Documentation that a copy of the report has been forwarded to the county managers must be sent to the Section Environmental Senior Specialist by the date due on the prescribed annual facility report form.
32. The facility operator must complete an approved operator training course in compliance with NCGS 130A-309.25.
  - a. A responsible individual certified in landfill operations must be on-site during all operating hours of the facility to ensure compliance with operational requirements.
  - b. All pertinent landfill-operating personnel must receive training and supervision necessary to properly operate the landfill units.
33. The following table lists the estimated gross capacity, acreage and status details for the landfill units. Gross capacity is defined as the calculated volume from the elevation of initial waste placement to the top of the final cover.

Marshall Industrial Landfill No. 1 Waste Capacity			
	Gross Capacity (cubic yards)	Area (acres)	Status
Phase 1 – Cells 1, 2, 3 and 4	3,829,020	35.5	Cells 1 & 2 Constructed – Cells 3 & 4 Proposed
Phase 2 – Cells 5 and 6	3,552,181	17.7	Proposed
Phase 3 – Cells 7 and 8	3,910,718	16.6	Proposed
Phase 4 – Cells 9 and 10	3,181,038	14.6	Proposed
Phase 5 – Cells 11, 12 and 13	3,455,584	18.6	Proposed
Total	17,928,541	103.0	

PART V: LAND CLEARING AND INERT DEBRIS LANDFILL UNIT(S)  
*Not Applicable*

PART VI: TRANSFER STATION/TREATMENT & PROCESSING UNIT(S)  
*Not Applicable*

PART VII: MISCELLANEOUS SOLID WASTE MANAGEMENT  
*Not Applicable*

- End of Section -

**ATTACHMENT 4**  
**CONDITIONS OF PERMIT FOR CLOSURE**

**PART I: GENERAL FACILITY**

1. Closure or partial closure of any landfill unit must be in accordance with the closure plans described in the approved plans. Proposed changes to the approved closure plans must be submitted to the Section at least 90 days prior to implementation.
2. Closure construction quality assurance reports must be submitted to the Section at least annually and maintained in the operating record of the facility.
3. Final closure of the landfill and initiation of the 30-year post-closure period commences upon the engineer's certification that the closure of the fill is complete.
4. Post-closure use of the property must not disturb the integrity of the cap system, base liner system, or any other components of the containment system or the function of the monitoring systems. The Section may approve disturbance if the constructor or operator demonstrates that disturbance of the cap system, base liner system, or other component of the containment system will not increase the potential threat to public health, safety, and welfare; the environment; and natural resources.

**PART II: MUNICIPAL SOLID WASTE LANDFILL UNIT(S)**

*Not Applicable*

**PART III: CONSTRUCTION AND DEMOLITION DEBRIS LANDFILL UNIT(S)**

*Not Applicable*

**PART IV: INDUSTRIAL LANDFILL UNIT(S)**

*1804-INDUS-1983, Duke Power/Marshall Steam Plt*

**General Requirements**

5. The owner must provide post-closure care and monitoring for the landfill. The post-closure period begins for; Area 1 January 2001, Areas 2 and 3 January 2009. After at least five years of post-closure care and monitoring, the landfill owner may submit a written request to modify or discontinue post-closure care and monitoring, depending upon the results of the previous monitoring. However, the owner must continue to conduct water quality monitoring, and post-closure care until the Section provides written approval to discontinue monitoring and/or post-closure care.
6. The industrial landfill stopped receiving waste on June 30, 2008.
7. The landfill owner must maintain the integrity and effectiveness of the cap system, including making repairs to the cover as necessary to correct the effects of settlement, subsidence, erosion, or other events, and prevent surface water from impounding over waste and run-on and run-off from eroding or otherwise damaging the cap system. Mowing of vegetation on

the landfill cover is required at least once per year. Trees on the final cover must be removed at least once per year.

8. The owner must maintain permanent markers that accurately identify the edge of the waste disposal boundary.
9. Public access to the landfill must be prevented by gates, fences, and/or other measures. The owner must maintain the public access preventive measures during the post-closure period.
10. Any post-closure use of the property, including but not limited to, residential, commercial, industrial, agricultural, or recreational use, is subject to review and approval by the Section and must not disturb the integrity of the cap system, or the function of the monitoring systems. The Section may approve any other disturbance if the owner or operator submits a modified post-closure plan which describes the planned use of the property and demonstrates that disturbance of the cap system, including any removal of waste, will not increase the potential threat to human health or the environment. Post-closure uses approved by the Section will be included in the List of Approved Documents.
11. All sedimentation and erosion control activities must be conducted in accordance with the Sedimentation Control Act N.C.G.S. 113A-50, et seq., and rules promulgated under 15A NCAC 4. All required sedimentation and erosion control measures must be installed and operable to mitigate excessive on-site erosion and to prevent silt from leaving the area of the landfill unit.
12. The owner or operator must ensure that the landfill units do not violate any applicable requirements developed under a State Implementation Plan approved or promulgated by the U.S. EPA Administrator pursuant to Section 110 of the Clean Air Act, as amended.

#### Monitoring and Reporting Requirements

13. Groundwater quality at the facility is subject to "Classifications and Water Quality Standards Applicable to the Groundwaters of North Carolina," 15A NCAC 2L. This includes, but is not limited to, the provisions for detection monitoring, assessment, and corrective action.
14. Ground water monitoring wells and surface water sampling location(s) must be sampled on a semi-annual basis, in accordance with the current policies and guidelines of the Section in effect at the time of sampling, unless otherwise specified by the Section. Any proposed modification to an approved plan must be submitted to the Section and approved prior to implementation. Sampling equipment and methods must conform to specifications in the "Solid Waste Section Guidelines for Groundwater, Soil, and Surface Water Sampling," dated April 2008, available on the Section website.
15. Monitoring reports of the analytical results for surface water and groundwater monitoring sampling events must be submitted to the Section within 120 days of the sample collection date. Analytical laboratory data must be submitted in electronic format (pdf or tiff) and in a spreadsheet format in an Electronic Data Deliverable (EDD) Template. All monitoring reports must contain:

- a. a potentiometric surface map for the current sampling event that also includes surface water sampling locations,
  - b. analytical laboratory reports and summary tables,
  - c. a completed Solid Waste Environment Monitoring Data Form, and
  - d. laboratory data submitted in accordance with the EDD Template.
16. The owner must maintain the integrity of all groundwater monitoring wells, including making repairs to well heads, covers, and surface pads, during the post-closure period.
17. A readily accessible unobstructed path must be maintained so that groundwater wells and surface water sampling locations are accessible using four-wheel drive vehicles.
18. Each groundwater monitoring well must be surveyed for location and elevation. Each groundwater monitoring well must have an identification plate permanently attached to the well, in accordance with 15A NCAC 2C .0108(o).
19. If a new well is required to be installed, either to add to the network or to replace an existing well, or if a well is required to be abandoned:
- a. The permittee must obtain approval from the Section for the design, installation, and abandonment of any groundwater well. A licensed geologist must be present to supervise the installation of groundwater monitoring wells. The exact locations, screened intervals, and nesting of the wells must be established after consultation with the Section Hydrogeologist at the time of well installation.
  - b. Within 30 days of completed construction of each new groundwater well, a well construction record, well schematic, boring log, field log and notes, and description of well development activities must be submitted to the Section. Form GW-1 must be used for both groundwater wells. The submittal must also include a scaled topographic map, showing the location and identification of new, existing, and abandoned wells and piezometers, and hydraulic conductivity and effective porosity values.
  - c. Hydraulic conductivity and effective porosity values must be established for each screened interval at each monitoring well in order to develop groundwater flow characteristics.
  - d. Within thirty (30) days of the abandonment of any groundwater monitoring well, the well abandonment record (GW-30 form) and any additional information included in the abandonment record must be certified by a Licensed Geologist, and submitted to the Section. A copy of the well abandonment records submitted to the Division of Water Quality, consistent with 15A NCAC 2C .0114(b), must be submitted to the Section.

#### Reporting and Recordkeeping

20. Documentation of well completion, development details, repair, abandonment, and all other pertinent activities associated with each groundwater monitoring well must be maintained in the facility operating record. The permittee must maintain a record of all groundwater, surface water, monitoring events and analytical data in the operating record.

21. Copies of this permit, the approved plans, and all records required to be maintained in the operating record by the permittee must be maintained at a location approved by the Section and made available to the Section upon request during normal business hours.
22. All forms, reports, maps, plans, and data submitted to the Section must include an electronic (pdf) copy.

PART V: LAND CLEARING AND INERT DEBRIS LANDFILL UNIT(S)  
*Not Applicable*

PART VI: TRANSFER STATION/TREATMENT & PROCESSING UNIT(S)  
*Not Applicable*

PART VII: MISCELLANEOUS SOLID WASTE MANAGEMENT  
*Not Applicable*

*- End of Conditions -*