

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. 6512

DUKE ENERGY PROGRESS, LLC
is hereby issued a

PERMIT TO CONSTRUCT

6512-INDUS-2016, DUKE ENERGY SUTTON ENERGY COMPLEX

PERMIT TO OPERATE

6512-INDUS-2016, DUKE ENERGY SUTTON ENERGY COMPLEX

PERMIT FOR CLOSURE

Not Applicable

Located at the *L.V. Sutton Energy Complex, 801 Sutton Steam Plant Road, City of Wilmington, New Hanover 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	Expiration	DIN
6512-INDUS-2016, Duke Energy Sutton Energy Complex	Proposed	<i>September 21, 2016</i>	<i>September 21, 2026</i>	25526

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 shall not be effective until the certified copy of this permit which shows current ownership and references legal descriptions for all land within the solid waste management facility boundary is recorded in the Register of Deeds office and indexed in the grantor index under the name of the owner of the land in the county or counties in which the land is located. The certified copy of the permit affixed with the Register's seal and the date, book, and page number of recording must be returned to the Section within 30 calendar days of issuance of this permit. If the Section does not receive the certified copy of the recorded permit within 30 calendar days of issuance of the permit, then and in that event, the permit is suspended and of no effect until the date the Section receives the certified copy of the recorded permit.
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 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

New Hanover County, N.C. Register of Deeds			
Book	Page	Property Owner	Acres
886	829	Carolina Power and Light Company	1,585.0±
501	407	Carolina Power and Light Company	660.3±
			Total Site Acreage: 2,245.3±

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)
6512-INDUS-2016, Duke Energy Sutton Energy Complex

Permitting History

Permit Type	Date Issued	DIN
Permit to Construct and Permit to Operate, Original Issuance	September 21, 2016	25526

List of Documents for Approved Plan

DIN	Description
25387	<i>Onsite CCR Landfill Construction Application Report, L.V. Sutton Energy Complex, Sutton Steam Plant Road, Wilmington, North Carolina.</i> Prepared for Duke Energy Progress, LLC. Prepared by Geosyntec Consultants. Revised December 2015.
25548	<i>Operations Plan, L.V. Sutton Energy Complex, Onsite Coal Combustion Residuals Landfill, Wilmington, North Carolina.</i> Prepared for Duke Energy Progress, LLC. Prepared by Geosyntec Consultants. Revised December 2015. (Extracted from DIN 25387).
25549	<i>Water Quality Monitoring Plan, L.V. Sutton Energy Complex, Onsite Coal Combustion Residuals Landfill, Wilmington, North Carolina.</i> Prepared for Duke Energy Progress, LLC. Prepared by Geosyntec Consultants. Revised December 2015. (Extracted from DIN 25387).
26666	<i>Submittal of Proposed Leachate Storage Tanks for the Proposed Onsite CCR Landfill Located at the L.V. Sutton Energy Complex, Wilmington, North Carolina.</i> Prepared for Duke Energy. Prepared by N/S Carolina Storage Systems. August 2016.

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 permit 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. Prior to construction of the phase or cell(s) within the phase, all piezometers, borings, and groundwater monitoring wells within the footprint must be properly abandoned in accordance with 15A NCAC 2C .0113(b)(1) and (d), entitled "Abandonment of Wells".
8. In areas where soil is to be undercut, abandoned piezometers, monitoring wells and borings must not be grouted to pre-grade land surface, but to the proposed base grade surface to prevent having to cut excess grout and possibly damage the wells.
9. A licensed geologist must report any pertinent geological feature(s) exposed during phase or cell excavation. Prior to placing any landfill liner, the geologist must submit to the Section Hydrogeologist a written report that includes an accurate description of the exposed

geological feature(s) and effect of the geological feature(s) on the design, construction, and operation of the cell, phase, or unit.

10. Within thirty (30) days of the completed permanent abandonment of a piezometer, monitoring well or boring, the well abandonment record (Division of Water Resources Form GW-30) and any additional information included in the abandonment record must be submitted to the Section in electronic format (pdf). The well abandonment records must be submitted to the Section in accordance with 15A NCAC 2C .0114(b) and be certified by a licensed geologist.
11. Within 30 days of completed construction of each new groundwater monitoring well, a well construction record (Division of Water Resources Form GW-1b), typical well schematic, boring log, field log and notes, and description of well development activities must be submitted to the Section in electronic format (pdf).
12. A licensed geologist must supervise installation of groundwater monitoring wells and surface water sampling stations.
13. Any modification to the approved Water Quality Monitoring Plan must be submitted to the Section Hydrogeologist for review.
14. The permittee must submit a plan sheet-sized, scaled topographical map, showing the location and identification of new, existing and abandoned groundwater monitoring wells and piezometers and provide the Section Hydrogeologist a copy in electronic format (pdf).

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)

6512-INDUS-2016, Duke Energy Sutton Energy Complex

19. Pursuant to the N.C. Solid Waste Management Rules (Rule) 15A NCAC 13B .0201(c) and (d)(1), this permit approves construction of Phases 1 through 3 of the Duke Energy Progress, LLC, L.V. Sutton Energy Complex, industrial landfill.
20. The following conditions must be met prior to operation of each constructed unit of the solid waste management facility:
 - a. The Permittee must obtain a written approval for Phase(s) or Cell(s) from the Section in accordance with 15A NCAC 13B .0201(d).
 - b. Construction quality assurance (CQA) documentation as well as a certification by the project engineer that the landfill was built in accordance with approved plans and the conditions of the permit must be submitted to the Section for review and approval.
 - c. The Permittee must contact the appropriate Section Environmental Senior Specialist and Permitting Engineer to determine whether the Section chooses to hold a pre-operative meeting with key landfill personnel and representatives of the Section.
 - d. The edge of the waste footprint must be identified with permanent physical markers.
 - e. A leachate disposal permit must be provided, in electronic format (pdf).
 - f. Financial assurance must be updated, approved by the Section, and an appropriate mechanism in place for each constructed phase or cell.

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)

6512-INDUS-2016, Duke Energy Sutton Energy Complex

18. The Permit to Operate shall expire **September 21, 2026**.
19. This permit approves the operation of Phase 1 through 3, of the industrial landfill, as well as the onsite environmental management and protection facilities as described in the approved plans.
20. This facility is permitted to receive solid waste generated by or at the Duke Energy, L.V. Sutton Energy Complex 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, and boiler slag);
 - b. Waste water treatment sludge (WWTS);

- c. Petroleum Contaminated site soils;
 - d. Plant decommissioning-related materials;
 - i) Construction and Demolition (C&D) Waste and;
 - ii) Land Clearing and Inert Debris (LCID).
 - e. And Vacuum Truck Waste.
21. The following conditions must be met prior to approval for operation of any phase, cell or construction sequence of the landfill;
- 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.
22. On or before August 1 annually, the permittee must submit an annual facility report to the 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 **September 21, 2016** 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.
23. 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.

24. 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.

L.V. Sutton Energy Complex, Industrial Landfill Waste Capacity				
Construction Sequence	Waste Capacity (cubic yards)	Area (acres)	Lifetime (years)	Status
Phase 1 – Cell 3	840,787	10.1	0.9	Proposed
Phase 1 – Cell 4	810,807	9.2	0.8	Proposed
Phase 1 – Cell 5	766,286	8.9	0.7	Proposed
Phase 1 – Cell 6	806,715	9.0	0.7	Proposed
Phase 1 – Cell 7	818,223	9.0	0.8	Proposed
Phase 1 – Cell 8	902,372	9.9	0.9	Proposed
Phase 2 – Cell 1	457,857	7.1	1.2	Proposed
Phase 2 – Cell 2	549,967	7.9	1.3	Proposed
Phase 3 – Cell 9	916,989	10.0	1.5	Proposed
Phase 3 – Cell 10	1,038,598	9.5	1.5	Proposed
Phase 3 – Cell 11	840,385	10.5	1.6	Proposed
Total	8,748,987	101.1	11.9	

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)
Not Applicable

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 -