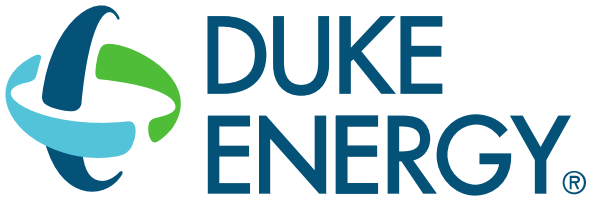
Dan River Steam Station

Coal Ash Excavation Plan



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I. Statement of Purpose

Duke Energy Carolinas, LLC (Duke Energy or the Company) is required by Section 3(b) of the Coal Ash Management Act of 2014 to close in accordance of Section 3(c) the coal combustion residuals (CCR) surface impoundments located at the Dan River Combined Cycle Plant, National Pollutant Discharge Eliminations System Permit No. #NC0003468 Rockingham County (Dan River) as soon as practicable, but not later than August 1, 2019. Further, by letter to Duke Energy dated August 13, 2014, North Carolina Department of Environment and Natural Resources (NC DENR) requested that Duke Energy submit coal ash excavation plans for inactive coal ash impoundments at Dan River no later than November 15, 2014 (NC DENR Letter).

This Coal Ash Excavation Plan (Plan) represents Phase I and other Subsequent Phase(s) activities to satisfy the requirements outlined in Sections 3(b) and 3(c) Subparagraph 1&2 of the Coal Ash Management Act of 2014 and the requests set forth in the NC DENR Letter.

In general, the Plan covers the first 12 – 18 months of ash basin excavation activities, including the initiation of basin dewatering, site preparation, ash basin preparation, and ash removal from the basins. These activities may include decanting ash within the ash basin system.

For Subsequent Phase(s), this document will be revised for any modifications to the Plan for the site. The Plan will be updated and submitted to NC DENR annually or earlier as required by Subsequent Phase(s).

The NC DENR Letter specifically requests that the Plan include 1) a schedule for soil and sedimentation erosion control measures, 2) dewatering, and 3) the proposed location(s) of the removed ash. These requirements are found in Section V. Level 1 Schedule, Section VI. Erosion and Sedimentation Control Plans, Section VII. Dewatering Plan, and Section VIII. Proposed Location(s) for Removed Ash.

The Plan covers some of the work required by Sections 3(b) and 3(c) of the Coal Ash Management Act of 2014 (Session Law 2014-122) (Coal Ash Act, or Act). The Act requires the closure of the ash basins as soon as practicable, but no later than August 1, 2019. However, the Act contains no requirement for the submittal of an excavation plan of the kind presented here. Thus, while the formulation, submittal, and review of this Plan will assist in Duke Energy's work to close the ash basins, its ultimate approval is an action not specifically required by statutory, regulatory or other applicable authority. Additionally, it may become necessary for the Company to modify the Plan to address other legal requirements or factors that develop during the ash basin excavation. Any changes will be included in annual updates to the Plan that Duke Energy will submit to NC DENR.

The precise scope of work in excavating the ash basins will be determined by applicable laws, rules, permits, and approvals that control the activities to be performed under the Plan. For example, the United States Environmental Protection Agency (EPA) is considering issuing rules regarding the management of coal ash (proposed EPA Coal Ash Rules). Similarly, the water quality permit for the discharge from the Pond (National Pollutant Discharge Elimination System Permit No. #NC0003468 Rockingham County) or its reissuance or amendment (NPDES Permit) could contain terms that control or affect the scope of that work. NC DENR filed legal cases in Superior Court (NC DENR Cases), which could be resolved through decision or settlement. NC DENR also sent Duke Energy a Notices of Violation (NOVs) regarding surface water and groundwater quality issues at the Plant.

All of the above (Coal Ash Act, NC DENR Letter, NPDES Permit, NC DENR Cases, NOVs, and the proposed EPA Coal Ash Rules) are illustrative of actions that could potentially affect the precise scope of the work to be performed under the Plan. As a consequence, neither the submittal of this Plan nor its approval by NC DENR should be taken as requiring actions different from other such applicable requirements. Thus, Duke Energy submits this Plan to NC DENR based on the understanding that it may be necessary to make changes in the Plan in the future to reflect any such actions and reserves the right to make such changes after NC DENR's approval of the Plan.

II. General Facility Description

The Dan River coal station began operation around 1950 and is currently being decommissioned. The Primary Ash Basin was constructed in 1956, with an embankment crest elevation of 523.5 feet. In 1968, the pond embankment crests were raised to elevation 530 feet and extended in length approximately 1,200 feet east along the Dan River. An intermediate dike was constructed in 1976, resulting in two basins, with the primary basin dam crest being raised to elevation 540 feet. The Primary Ash Basin was periodically dredged and the material dry-stacked on higher terrain north of the ponds (referred to as dry ash stacks). The dam numbers for the ash basins are ROCKI-237 and ROCKI-238. The dry ash stacks have been capped.

Primary Ash Basin

The Primary Ash Basin at Dan River consists of a composite dam made up of local borrow materials, including silty sands and sandy silts with some clay. Portions of the dam may have been built on, or contain, ash materials. The eastern face of the embankment is armored with dumped rock up to elevation 512 feet. A rock fill berm was constructed alongside the river, up to elevation 503 feet. An intermediate bench was constructed at approximate elevation of 530 feet. The Primary Ash Basin has an approximate footprint of 39 acres with a surface water area of 18 acres. The Primary Ash Basin received sluiced ash from pipes in the southwest corner, and outlets into the Secondary Ash Basin through a decant structure in the northwest corner. Currently, the Primary Ash Basin contains approximately 957 thousand tons of CCR material.

Intermediate Dike (separates the Primary Ash Basin and the Secondary Ash Basin)

The intermediate dike was constructed in 1976-77, bisecting the pond into Primary and Secondary Ash Basins. The dike was constructed on existing ash deposits, with an upper crest elevation of 540 feet adjacent to the Primary Ash Basin and a lower crest elevation of 530 feet adjacent to the Secondary Ash Basin. The dike has a surface road at the 540 foot level. It has a vegetated slope adjacent to the road which extends to a 530 foot elevation shelf adjacent to the Secondary Ash Basin. A dumped rock buttress was constructed below the elevation 530 foot crest. The width of the intermediate dike is approximately 100 feet.

Secondary Ash Basin

The Secondary Ash Basin embankments, including the intermediate dike forming the southwest boundary, have a crest elevation of 530 feet and are constructed of the same local materials as the Primary Ash Basin. The eastern face of the embankment is armored with dumped rock up to elevation 512 feet. A rock fill berm was constructed alongside the river, up to elevation 503 feet. The pond receives decanted flow from the

Primary Ash Basin in the western corner, and flows exit the basin through a decant structure in the northeast corner. Flow from the Secondary Ash basin is controlled by National Pollutant Discharge Elimination System (NPDES) Permit #NC 0003468. The pool level is controlled by the decant riser using concrete stop-logs and conveys to the outlet through a 36-inch diameter reinforced concrete pipe (RCP) constructed through the embankment dike. Currently, the Secondary Ash Basin contains approximately 207 thousand tons of CCR material.

Ash Stacks

The dry ash stacks are located to the North of the Primary and Secondary Ash Basins. These ash stacks consist of CCR material dredged from the Primary Pond. Ash Stack 1 and Ash Stack 2 contain approximately 1.1 million tons and 372 thousand tons of CCR material, respectively. For the purposes of water management, the Ash Stacks are located within the ash basin system. Stormwater run-off from the Ash Stacks is contained within the ash basin system and flows to the Primary and Secondary Ash Basins.

Figure 1: Dan River Combine Cycle Plant (#NC 0003468) in Rockingham County

III. Project Charter

As a further commitment, the Company has formed an internal team, the Ash Basin Strategic Action Team (ABSAT). This team is dedicated to strengthening and executing a comprehensive strategy for increased oversight and closure of all of the Company's ash basins.

Dewatering of the ash basins and the removal of ash from the site will be performed within project phases, Phase I and Subsequent Phase(s). Required permits for each phase are set forth in Section X of this Plan. Phase I will include site preparation, dewatering, ash excavation to an off-site landfill location, and completing any other subsequent permitted activities. The excavation will begin with the approval of this Plan by NC DENR and the receipt of final permits.

In addition, a dewatering plan for the ash basins has been drafted and, if approved by NC DENR, bulk dewatering will be expedited during the initial phase of work. Duke Energy has submitted an application to modify its NPDES wastewater permit to include controls to be implemented during dewatering activities.

During Phase I, the Company will continue to perform the pre-construction and planning activities for the Subsequent Phase(s). These activities include project planning, development of new permanent disposal and sale or reuse options, and completion of additional required permitting that may be necessary for the ash removal from the ash basins. Knowledge and opportunities for program improvement obtained during Phase I of the project will be applied to the Subsequent Phase(s).

The Plan will begin removing ash to an off-site location while simultaneously developing an on-site landfill in order to meet the closure requirement mandated in the Coal Ash Management Act. Permits to construct and operate the landfill must be received no later than October 24, 2015 and June 1, 2017; respectively, in order to make the on-site landfill a viable option to comply with the mandatory closure date of August 1, 2019.

Project Charter Objectives

Phase I Objectives

1. Initiate the removal of ash from the Dan River ash basins
2. Begin dewatering of the ash basins
3. Determine the disposition of the ash stacks
4. Obtain permit to construct on-site landfill by October 24, 2015
5. Plan activities for Subsequent Phase(s), including development of option(s) for reuse or proposed ash disposal location(s)
6. Gain knowledge and opportunities for program improvement that can be applied to Subsequent Phase(s)

7. Validate production rates to meet project requirements
8. Evaluate the on-site landfill option and sale and beneficial reuse options

Subsequent Phase(s) Objectives

1. Remove remaining ash from ash basins and ash stacks
2. Obtain permit to operate the on-site landfill by June 1, 2017
3. Develop, construct, and operate the on-site landfill if viable
4. Continue developing beneficial reuse opportunities and placement alternatives for subsequent phase(s) ash removal

Phase I Scope

1. Finalize end location(s) for removed ash and obtain all required permits
2. Obtain all applicable permits for work in Phase I
3. Begin site preparation activities, including mobilization
4. Install site erosion and sediment control measures
5. Install required site haul roads
6. Prepare and install rail load out spur for rail transportation
7. Prepare and install truck load out and truck wash for truck transportation
8. Perform site preparation for the basin dewatering (Primary & Secondary Ash Basins)
9. Engineer plan to stop water inputs into the ash basins
10. Initiate rerouting or elimination of inflows to the ash basins
11. Begin bulk dewatering of the Secondary Basin
12. Perform site preparation in the Primary & Secondary Ash Basins for ash excavation
13. Perform site preparation for ash stack removal
14. Develop the on-site landfill if viable
15. Excavate and transport approximately 1.2 million tons of ash from the Primary and Secondary Ash Basin & Ash Stacks to an approved landfill or structural fill location
16. Perform an engineering and constructability review for the on-site landfill
17. Obtain all required permits for subsequent phase activities

Subsequent Phase(s) Scope

1. Identify and/or develop additional off-site ash options
2. Obtain all required permits for the added options
3. Obtain all remaining required permits for next Subsequent Phase activities
4. If viable construct and operate the on-site landfill
5. Complete basin dewatering
6. Excavate and transport the remaining ash from the Dan River Station to the on-site landfill or off-site reuse options
7. Complete closure activities as outlined in Sections 3(b) and 3(c) Subparagraphs 1&2 of the Coal Ash Management Act of 2014

IV. Critical Milestone Dates

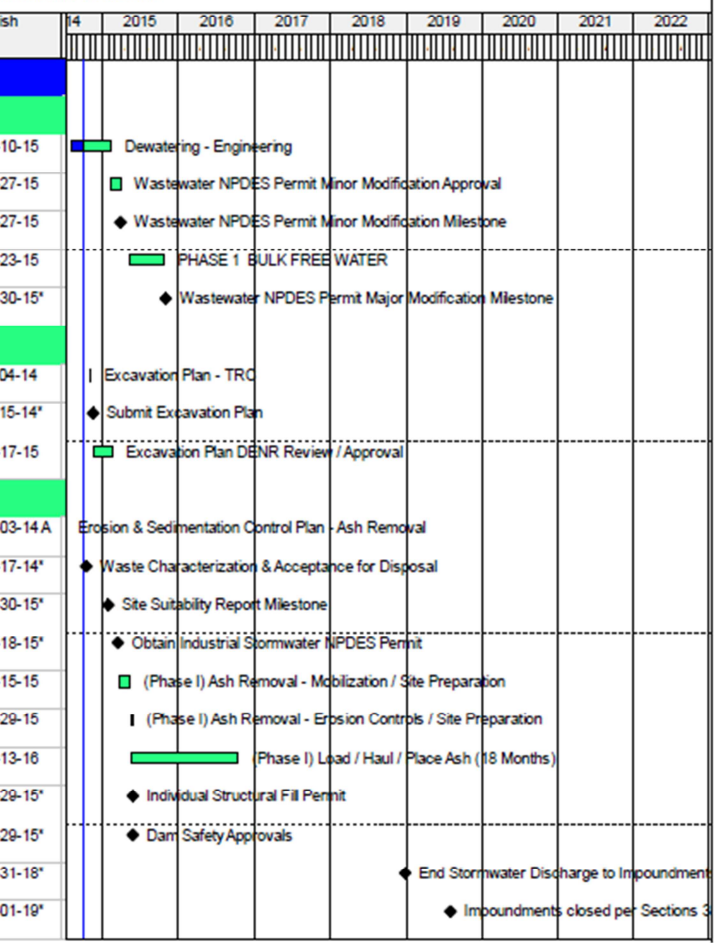
Critical Milestones within the Plan are summarized in the table below. These milestones have been added to the Level 1 Schedule.

MILESTONES	NO LATER THAN DATE
Submit Excavation Plan	November 15, 2014
Complete comprehensive engineering review	November 30, 2014
Excavation Plan Approval	February 17, 2015
Industrial Stormwater Permit	March 18, 2015
Commence work - ash removal	Final permit approval + 60 Days
Receive Permit to Construct On-site Landfill	October 24, 2015
Submit Updated Excavation Plan – Subsequent Phase(s)	December 31, 2015
Receive Permit to Operate On-Site Landfill	June 1, 2017
Eliminate stormwater discharge into impoundments	December 31, 2018
Impoundments closed per Sections 3(b) and 3(c) of the Coal Ash Management Act of 2014	August 1, 2019

V. Level 1 Schedule

Dan River Ash Pond Closure Ash Relocation — Dan River Ash Pond Closure Ash Relocation Excavation Plan Schedule — Print Date 10-16-14 10:18

Activity Name	Start	Finish
DAN RIVER		
DEWATERING		
Dewatering - Engineering	08-04-14 A	02-10-15
Wastewater NPDES Permit Minor Modification Approval	02-11-15	03-27-15
Wastewater NPDES Permit Minor Modification Milestone		03-27-15
PHASE 1 BULK FREE WATER	05-11-15	10-23-15
Wastewater NPDES Permit Major Modification Milestone		10-30-15*
EXCAVATION PLAN		
Excavation Plan - TRC	11-03-14*	11-04-14
Submit Excavation Plan		11-15-14*
Excavation Plan DENR Review / Approval	11-17-14	02-17-15
ASH REMOVAL		
Erosion & Sedimentation Control Plan - Ash Removal	07-03-14 A	07-03-14 A
Waste Characterization & Acceptance for Disposal		10-17-14*
Site Suitability Report Milestone		01-30-15*
Obtain Industrial Stormwater NPDES Permit		03-18-15*
(Phase I) Ash Removal - Mobilization / Site Preparation	03-23-15*	05-15-15
(Phase I) Ash Removal - Erosion Controls / Site Preparation	05-18-15	05-29-15
(Phase I) Load / Haul / Place Ash (18 Months)	05-18-15	10-13-16
Individual Structural Fill Permit		05-29-15*
Dam Safety Approvals		05-29-15*
End Stormwater Discharge to Impoundments		12-31-18*
Impoundments closed per Sections 3.(b) and 3.(c) of the Coal Ash Management Act of 2014		08-01-19*



Note: This Level 1 Schedule is a living element of this Plan. Dates and durations are based on known information on the date of this Plan.

VI. Erosion and Sedimentation Control Plan

The Erosion and Sedimentation Control Plan (E&SC) for the excavation of the Ash Stack is being developed. The approval of this plan by NC DENR will meet the requirement outlined in the NC DENR Letter.

Any deviations from the current E&SC for Subsequent Phase(s) will be submitted to and approved by NC DENR prior to installation and initiation of subsequent phases of work.

The approved contractor will install the E&SC measures indicated in the plan. The Engineer of Record will review the installation prior to commencing excavation on site. All control measures will be maintained through the project in accordance with the E&SC.

VII. Dewatering Plan

The Dan River ash basins will be dewatered to facilitate the removal of ash and to mitigate risk. Lowering the water level within each basin will improve safety factors of the dams by reducing the driving force on the upstream face of the dam. Similarly, dewatering will improve the physical properties of the retained ash, making it less susceptible to flow in the event of an unexpected dam failure.

An Engineered Dewatering Plan for Dan River is being developed. This plan details removal of the following water:

Sequence

1. Primary Ash Basin – Removal of water 25 feet below top of ash

   The Primary Ash Basin contains an undetermined amount of water which will be pumped to the Secondary Ash Basin at a maximum drawdown rate of one foot over seven days. Following free water removal, vacuum well points will be installed in the ash along the dam to draw down entrapped water in the vicinity of the dam.

2. Secondary Ash Basin – Removal of water 15 feet below top of ash

   Based on data from April 2014, the Secondary Ash Basin contains approximately 20.7 million gallons of free water. The maximum free water drawdown rate will be one foot over seven days. Following free water removal, vacuum well points will be installed in the ash along the dam to draw down entrapped water in the vicinity of the dam.

VIII. Proposed Location(s) for Removed Ash

Phase I of the Plan will include the excavation and removal of approximately 1.2 million tons of ash from Dan River. Subsequent Phase(s) will remove the remaining ash at the site. Ash removed from the site will be transported by the contractor to properly permitted facilities. The ash placement location will be properly managed and maintained to ensure environmental compliance with all applicable rules and regulations.

Phase I: Ash Disposition Sites

For Phase I, the Maplewood Landfill located in Jetersville, Virginia has been identified for ash placement. This primary option provides a solution for Phase I and/ or Subsequent Phase(s).

Disposition Site	Location	Amount (Tons)	CCR Use
Maplewood Landfill	Jetersville, VA	1.2 million	Landfill

Contingent Plan: Ash Disposition Sites

In the event of any issues with accepting ash at the Maplewood Landfill, the Atlantic Landfill has been determined as a suitable alternative site. All necessary steps will be taken to assure that the Atlantic Landfill is ready to accept ash in the event of any issues at the Maplewood Landfill. The Atlantic Landfill is located in the city of Waverly, Virginia.

Disposition Site	Location	Amount (Tons)	CCR Use
Atlantic Landfill	Waverly, VA	1.2 million	Landfill

Subsequent Phase(s): Ash Disposition Sites

The project team will utilize lessons learned from Phase I to develop an off-site disposal strategy and/ or alternative sale or reuse site(s) that will provide the improvements below.

- Provide a reliable, long-term, cost effective, solution for ash designated for removal
- Develop a supplier diverse Program to drive innovation and competition
- Establish performance baselines and the system to optimize pickup, transport, drop-off and reuse

IX. Transportation Plan

Ash will be transported from the site via rail car to the off-site facility. Transportation of the CCR will be conducted by approved transporters and meet DOT and other applicable federal, state, and local regulations.

Phase 1: Transportation

For Phase 1, all CCRs will be transported by rail from Dan River to the Maplewood Landfill site. Trains will consist of approximately 65 gondola cars at 100 tons per car. One train will leave the site every other day or 2.5 to 3 trains per week on average establishing a production rate of approximately 16,400 tons per week. The operation of loading rail cars will be completed with a crew working typically 10 hours per day, 5 days per week. Plans are being made to design and install a rail loading system at Dan River that would transport ash to the Maplewood Landfill.

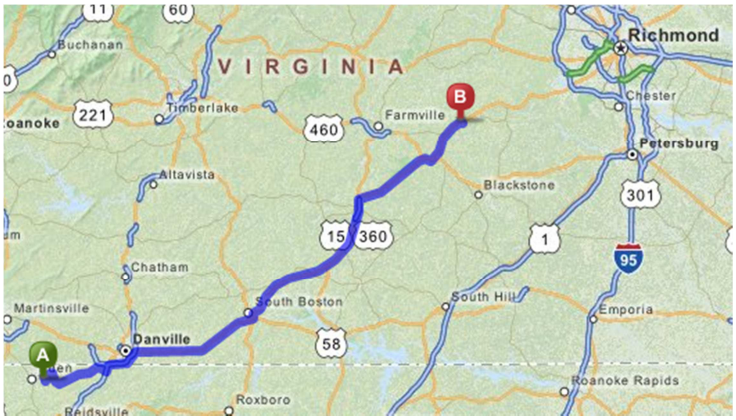


Figure 2: Typical Truck Route to Maplewood Landfill

Contingent Plan: Transportation

To support the transportation of ash for the Contingent Location, ash will be transported to the Atlantic Landfill instead of the Maplewood Landfill. In the event of rail transportation disruption, truck transportation remains a contingency option for either the Maplewood Landfill or the Atlantic Landfill.

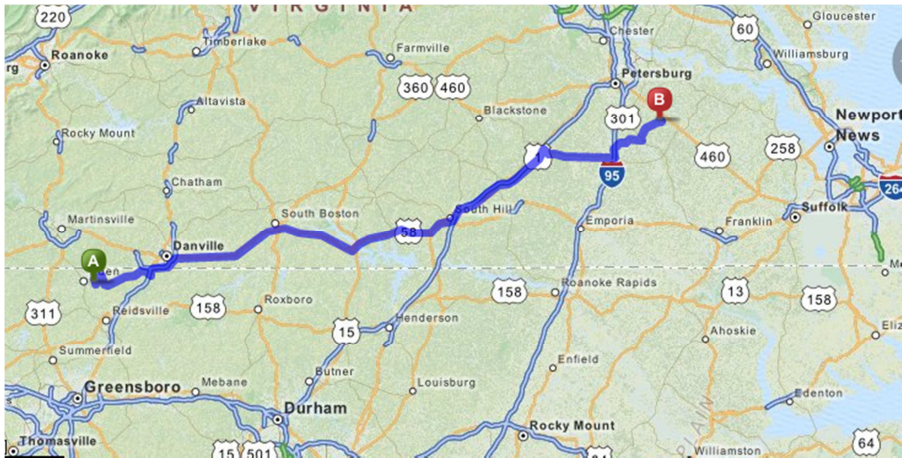


Figure 3: Typical Truck Route to Atlantic Landfill

Subsequent Phase(s): Transportation

The transportation plan and any other options will be reviewed and could be amended in Subsequent Phase(s) to enhance the excavation process and objectives.

X. Environmental Permitting Plan

Phase I

Phase 1 will include excavation and removal of 1.0 – 1.2 million tons of ash either from the ash stack or ash basins. Implementation for Phase I can begin once the permitting for Phase I is in place, although different permitting may be necessary prior to initiating Subsequent Phase work. Phase I will include permitting activities for subsequent phases.

Through this Excavation Plan approval process, Duke Energy is seeking to confirm that all necessary approvals have been identified. The Excavation Plan is intended to authorize the excavation and movement of ash once the identified permits have been obtained.

Excavation of ash creates potential for stormwater impacts. NC DENR has indicated an industrial stormwater permit may be needed. Based on this representation from NC

DENR, Duke Energy has applied for an NPDES industrial stormwater permit to support ash removal at the site. A stormwater pollution prevention plan (SWPPP) incorporating best management practices (BMPs) will be created. Future modifications to the permit/plan will be managed as necessary.

NC DENR has recently indicated that modification of the NPDES wastewater permit may be required to initiate removal of free water from inactive ash basins. Duke is submitting additional information to NC DENR for its consideration to support incorporating dewatering requirements into the pending the Company's pending NPDES permit application. The Company is working with United States Environmental Protection Agency (EPA) and NC DENR with a goal of identifying the regulatory framework that will allow the removal of free-standing water from inactive basins to move forward.

There are no jurisdictional wetlands/streams associated with the removal of the Ash Stack or Primary or Secondary Ash Basins in Phase I. Future wetlands/stream impacts and jurisdictional determinations will be managed through the US Army Corps of Engineers (ACOE) with particular attention paid to the difference between jurisdictional wetlands/streams under Section 404 and those arising from Section 402 waters.

Before creation of new mine reclamation structural fills, an individual structural fill permit will need to be obtained by the mine reclamation project owner/operator. It is anticipated that the mining permit will be transferred from the existing mine owner to a mine reclamation contractor. Once the permit is transferred, the mine reclamation contractor will submit an individual structural permit application and mine reclamation plan to the Division of Mining. It is anticipated that the Division of Mining will then forward the reclamation plan to the Division of Water Resources, Division of Waste Management, and other divisions as necessary for comments. Subject to any changes from Division of Mining, the revised reclamation plan would be approved and an individual Structural Fill Permit will be issued.

No information currently exists to indicate that the Dan River ash should be treated as a DOT hazardous material shipped via truck or rail.

Subsequent Phase(s) will include dewatering (once NPDES permit modification complete) and continued excavation and removal of ash from the Primary and Secondary Ash Basins. Subsequent Phase(s) also potentially include the construction of an offsite landfill.

Future jurisdictional determinations will be managed through the US Army Corps of Engineers with particular attention paid to the difference between jurisdictional

wetlands/streams under Section 404 and those arising from Section 402 waters. Any Section 404 permitting will require Section 401 Water Quality Certification by NC DENR.

In order to facilitate adjacent-site ash monofill construction and operation, Site Suitability approvals (Site Suitability Report, Required Public Comment, DWM Approval of Site Suitability), Permit-to-Construct (Construction Plan Application, Receive Permit-to-Construct from DWM), and Permit-to-Operate (Construction Quality Assurance Report, Receive Permit-to-Operate) will be obtained. If used, before shipping ash to a third-party Subtitle D landfill, waste characterization and approval will be completed. All necessary Dam Safety approvals will be obtained to cover activities on or around jurisdictional dams. Breaching of the dams will require Dam Safety approval. Any impacted wells or piezometers will be properly abandoned and dispositioned with NC DENR. Fugitive dust will be managed to mitigate impacts to neighboring areas. Impacts to threatened and endangered species will be avoided.

No additional site-specific or local requirements have been identified.

Phase I Permit Matrix

Media	Permit	Milestone/ Target Date	Reasoning
Water	Industrial Stormwater NPDES Permit	March 18, 2015	Excavation of ash creates potential for stormwater impacts. The facility will seek an approved E&SC and associated Construction Stormwater Permit approval for ash stack removal. NC DENR has indicated an industrial stormwater permit may also be needed. Duke has applied for this permit. A SWPPP incorporating BMPs will be created.
	Wastewater NPDES Permit – Minor Modification	March 27, 2015	NC DENR has indicated dewatering activities including free water removal, may require NPDES wastewater permit modification. Based on this requirement, Duke Energy is submitting proposed dewatering permit conditions in its pending NPDES permit application.
	Jurisdictional Wetland and Stream Impacts/ 404 Permitting and 401 WQC	N/A	There are no identified jurisdictional wetland/stream impacts in Phase I.
Waste	Dam Safety Approvals	May 29, 2015	Hauling and excavation activities must not impact a jurisdictional dam or dike. Activities are initially staying away from the jurisdictional dike. Removing ash from the Primary and Secondary Ash Basins will have to be reviewed with Dam Safety. Breaching of dike will require Dam Safety approval.
	Individual Structural Fill Permit	March 27, 2015	Mine Reclamation Owner/Operator to obtain a structural fill permit as set forth in Subpart 3 of Part 2 of Article 9 of the Coal Ash Management Act.
Local Ordinances	Site Specific Nuisance/Noise/Odor/Other Requirements including DOT and FERC Requirements	N/A	No local nuisance requirements identified.

Subsequent Phase(s) Permit Matrix

Media	Permit	Milestone/ Target Date	Reasoning
Water	Industrial Stormwater NPDES Permit	June 26, 2015	Excavation of ash creates potential for stormwater impacts. The facility will seek an approved E&SC and associated Construction Stormwater Permit approval for ash stack removal. NC DENR has indicated an industrial stormwater permit may also be needed. Duke has applied for this permit. A SWPPP incorporating BMPs will be created.
	Wastewater NPDES Permit – Major Modification	October 30, 2015	NC DENR has indicated dewatering activities including free water removal, may require NPDES wastewater permit modification. Based on this requirement, Duke Energy is submitting proposed dewatering permit conditions in its pending NPDES permit application.
	Jurisdictional Wetland and Stream Impacts/ 404 Permitting and 401 WQC	October 30, 2015	Identify if project scope results in impacts to jurisdictional wetlands or streams. Obtain JD and pursue 404 permit for impacts from ACOE. Also, 404 permits are required for working below the ordinary high water mark. If Federal individual permitting is required, obtain 401 WQC.
Waste	Individual Structural Fill Permit	March 27, 2015	Mine Reclamation Owner/Operator to obtain a structural fill permit as set forth in Subpart 3 of Part 2 of Article 9 of the Coal Ash Management Act.
	Dam Safety Approvals	October 30, 2015	Hauling and excavation activities must not impact a jurisdictional dam or dike. Activities are initially staying 50 feet away from the jurisdictional dike. Breaching of dike will require Dam Safety approval.
	Site Suitability Report	January 30, 2015	Site Suitability anticipated for offsite landfill must go through public comment.
	Permit-to-Construct	October 24, 2015	Must receive permit to begin construction and corresponding E&SC approval to cover approved Construction design.
	Permit-to-Operate	June1, 2017	Must provide Construction Quality Assurance Report and then received permit before operation.
Local Ordinances	Site Specific Nuisance/Noise/Odor/Other Requirements including DOT and FERC Requirements	N/A	No local nuisance requirements identified.

XI. Contracting Strategy

The Ash Management Program strategy is to engage multiple contractors, to drive competition, system wide innovation and the collection of best practices. During the initial phase (Phase I) of ash removal at Riverbend, L.V. Sutton, Dan River and Asheville, the Company will award the excavation, transportation, and disposal of the Ash to a single contractor for each site. The result may be two to three contractors, with each contractor having responsibility for one, or two sites, working on a firm fixed per ton price basis. The contracting strategy will shift for subsequent Phases, and potentially during Phase 1, as the Company and the selected contractors recognize enhancements that can increase productivity or drive unit cost lower. Duke Energy's core values of safety and quality are non-negotiable and will not be compromised in order to increase productivity or generate cost savings.

In summary, the Company's contracting strategy will provide the most effective combination of ash removal, transportation, disposal, and beneficial reuse options balancing strategic intent, cost, and schedule. The health and safety of workers, the communities, and environment will not be sacrificed to achieve these goals.

XII. Environmental, Health, and Safety Plan

Protecting workers, the public, the community, and the environment

The Company is committed to the health, safety and welfare of employees, contractors and the public, and to protecting the environment and natural resources. During all phases of the project work, the Company and its contractors will follow the Company Safe Practices; the ABSAT Environmental, Health, and Safety (EHS) supplement document, and any additional requirements. Occupational health and safety expectations include oversight and continuous improvement throughout the project.

The project will include comprehensive environmental, health and safety plans encompassing all aspects of the project work including at the plant, in transit and at the final destination as needed. The project's commitment is to minimize public and environmental impacts.

XIII. Communications Plan

Many different external stakeholders including neighbors, government officials and media have an interest in this project. For example, there is the potential for facility neighbors and the general public to see or experience construction-related impacts such as truck traffic, landscape changes, or noise. The Company is committed to

providing information by proactively communicating about the Project activities to potentially affected parties and responding to inquiries in a timely manner.

The Project team will coordinate with Duke Energy's Corporate Communications Department to develop a comprehensive external communications plan tailored to the specific needs of each phase of the project.

XIV. Glossary

Term	Definition
ABSAT	Duke Energy organization acronym for Ash Basin Strategic Action Team
Ash Basin	Synonymous with Coal Combustion Residual Impoundment. A topographic depression, excavation, or dammed area that is primarily formed from earthen materials; without a base liner approved for use by Article 9 of Chapter 130A of the General Statutes or rules adopted thereunder for a combustion products landfill or coal combustion residuals landfill, industrial landfill, or municipal solid waste landfill; and an Area that is designed to hold accumulated coal combustion residuals in the form of liquid wastes, wastes containing free liquids, or sludge, and that is not backfilled or otherwise covered during periods of deposition.
Ash Ponds	Coal Combustion Residual stored in wet impoundments, or ponds
Ash Stack	Ash storage areas located north and west of the Primary and Secondary Ash Basins.
Beneficial and Beneficial Use	Projects promoting public health and environmental protection, offering equivalent success relative to other alternatives, and preserving natural resources
Bottom Ash	The agglomerated, angular ash particles formed in pulverized coal furnaces that are too large to be carried in the flue gases and collect on the furnace walls. Bottom Ash falls through open grates to an ash hopper at the bottom of the furnace.
Bulk Water	Water above the ash contained in the ash basin. Synonymous with free water
Coal Ash Excavation Plan	Plan required by NC DENR letter dated August 13, 2014 including a schedule for soil and sedimentation erosion control measures, dewatering, and the proposed location of the removed ash
Coal Ash Management Act of 2014	North Carolina Session Law 2014-122
Coal Combustion Residuals (CCR)	Residuals, including fly ash, bottom ash, boiler slag, mill rejects, and flue gas desulfurization residue produced by a coal-fired generating unit
Decanting	The act of removing water from ash

Term	Definition
Dewatering	The act of removing bulk and entrapped water from the ash basin
Dewatering Plan	Engineered plan and the associated process steps necessary to dewater an ash basin
Duke Safe Work Practices	Document detailing the Duke Energy safety guidelines
Engineer of Record	Duke Energy or 3rd party contracted engineer responsible for final verification of specific plan actions and documents
Entrapped Water	Flowable water below the ash surface which creates hydrostatic pressure on the dam
Excavation Activities	Tasks and work performed related to the planning, engineering and excavation of ash from an ash basin
Excavation Plan	Refer to Coal Ash Excavation Plan
Factor of Safety	In reference to dam safety, the ratio of the forces or moments resisting mass movement to the forces or moments tending to produce mass movement
Free Water	Water above the ash contained in the ash basin. Synonymous with bulk water
Fly Ash	Very fine, powdery material, composed mostly of silica with nearly all particles spherical in shape, which is a product of burning finely ground coal in a boiler to produce electricity and is removed from the plant exhaust gases by air emission control devices
Grading Plan	Document detailing the final elevation, drainage and lay of the excavated area
Level 1 Schedule	Schedule view that shows the main milestones to complete the project
NPDES	National Pollutant Discharge Elimination System
NPDES Permit	A permit that regulates the direct discharge of wastewater to surface waters
Off-Site Disposal Facility	A structural fill or mine reclamation for the long term placement of coal combustion residuals
Permitting	Federal, state, county or local government authorizing document

Term	Definition
Primary Ash Basin	As defined in the General Facility Description
Secondary Ash Basin	As defined in the General Facility Description
Work Plan	Document detailing activities to accomplish a specific task or scope of work

XV. Reference Documents

Ref	Document	Date
1	Letter to Duke Energy, Request for Excavation Plans	August 13, 2014
2	Coal Ash Management Act of 2014	September 20, 2014