



PAT MCCRORY

Governor

DONALD R. VAN DER VAART

Secretary

S. JAY ZIMMERMAN

Director

September 9, 2016

Mr. Harry Sideris, Senior Vice President
Environmental, Health and Safety
Duke Energy Carolinas, LLC
Mail Code EC13K
P.O. Box 1006
Charlotte, North Carolina 28201-1006

Subject: Issuance of NPDES Permit
Permit NC0004987
Marshall Steam Station
Catawba County
Facility Class I

Dear Mr. Sideris:

The Division of Water Resources is forwarding herewith the Final NPDES permit for Riverbend Steam Station. This permit renewal is issued pursuant to the requirements of North Carolina General Statute 143-215.1 and the Memorandum of Agreement between North Carolina and the U.S. Environmental Protection Agency dated October 15, 2007 (or as subsequently amended).

A public hearing was held on June 22, 2016 in Hickory seeking comments on the Draft permit. This Final permit incorporates recommendations of the DWR Hearing Officer and EPA as well as other changes:

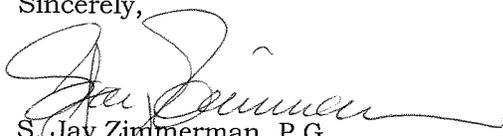
- Clarifying language was added to the permit in Section A. (2.)/Note 2 to state that continuous monitoring of Total Suspended Solids is only required when decanting via pumps.
- Clarifying language was added to the permit in Section A. (2.) to specify that limits and conditions in Section A. (3.) of the permit apply when water in the ash settling basin is lowered below the three feet trigger mark.
- Clarifying language was added to the permit in Section A. (2.) to specify that the zero discharge limits on fly ash and bottom ash transport water only apply to fly ash and bottom ash transport water generated after November 1, 2018 and January 31, 2021 accordingly.
- Section A. (7.) was corrected to include an addition of a Note 4 superscript to the total mercury limit to clarify that limits are effective on January 31, 2021.
- Section A. (17.) was amended to include a separate IWC for dewatering phase toxicity testing.
- The Groundwater Monitoring Plan attachment was amended to include the following clarifying language: "3(h). The provisions of sections 3(f) and 3(g) apply only to the sampling events described in 3(b) above. The reporting requirements for any sampling events other than those described in 3(b) above shall be in accordance with the general provisions of 15A NCAC 02L."
- A Special Condition entitled "Domestic Wastewater Treatment Plan" was added to the permit to address the EPA comment (Please see Special Condition A. (32.)).
- The Daily Maximum limit for TSS was reduced to 50.0 mg/L for Outfall 002 to meet the requirements of 40 CFR 423.

- The limits for TSS and Oil and Grease were added to Outfall 002A and 002B to meet the requirements of 40 CFR 423.
- A Special Condition A. (30.) was modified to address the EPA concern regarding the permitting of the newly identified seeps and locations of the instream sampling for compliance with the water quality standards.
- The limits for BOD and Fecal Coliforms were added to Outfall 002 to address the EPA comment.
- The footnote describing the effluent limitations for Turbidity was modified to better address the state turbidity standard (Outfall 002).
- The monitoring frequency for Oil and Grease was increased to Monthly (Outfall 002) to address the EPA comment.
- The Plan for Identification of New Discharges was added to the permit to address the EPA comment.
- The Seep Pollutant Analysis Special Condition (Please see A. (30.)) was modified based on the discussion with the US Army Corps of Engineers.
- The additional decanting conditions for closing ash ponds were added to the permit to address the EPA comment.

If any parts, measurement frequencies, or sampling requirements contained in this permit are unacceptable to you, you have the right to an adjudicatory hearing upon written request within thirty (30) days following receipt of this letter. This request must be in the form of a written petition, conforming to Chapter 150B of the North Carolina General Statutes, and filed with the office of Administrative Hearings, 6714 Mail Service Center, Raleigh, North Carolina 27699-6714. Unless such a demand is made, this permit shall be final and binding.

Please take notice that this permit is not transferable except after notice to the Division of Water Resources. The Division may require modification or revocation and reissuance of the permit. This permit does not affect the legal requirements to obtain other permits which may be required by the Division of Water Resources, the Division of Land Resources, the Coastal Area Management Act, or any other federal or local governmental permit.

If you have any questions on this permit, please contact Sergei Chernikov at 919-807-6386.

Sincerely,

 S. Jay Zimmerman, P.G.
 Director, Division of Water Resources

Hardcopy: Central Files,
 NPDES Files
 Mooresville Regional Office, Water Quality

E-copy: US EPA, Region IV
 Aquatic Toxicology Unit

**STATE OF NORTH CAROLINA
DEPARTMENT OF ENVIRONMENTAL QUALITY
DIVISION OF WATER RESOURCES**

PERMIT

TO DISCHARGE WASTEWATER UNDER THE

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of North Carolina General Statute 143-215.1, other lawful standards and regulations promulgated and adopted by the North Carolina Environmental Management Commission, and the Federal Water Pollution Control Act, as amended,

Duke Energy Carolinas, LLC

is hereby authorized to discharge wastewater from a facility located at

Marshall Steam Station

At the intersection of NC Highway 150 and NCSR 1841
Terrell
Catawba County

to receiving waters designated as the Catawba River (Lake Norman) in the Catawba River Basin in accordance with effluent limitations, monitoring requirements, and other applicable conditions set forth in Parts I, II, and III hereof.

This permit shall become effective October 1, 2016.

This permit and authorization to discharge shall expire at midnight on September 30, 2021.

Signed this day September 9, 2016.



S. Jay Zimmerman P.G., Director
Division of Water Resources
By Authority of the Environmental Management Commission

SUPPLEMENT TO PERMIT COVER SHEET

All previous NPDES Permits issued to this facility, whether for operation or discharge are hereby revoked, and as of this issuance, any previously issued permit bearing this number is no longer effective. Therefore, the exclusive authority to operate and discharge from this facility arises under the permit conditions, requirements, terms, and provisions included herein.

Duke Energy Carolinas, LLC is hereby authorized to:

1. Continue to discharge:
 - Outfall 001: once-through cooling water and intake screen backwash
 - Outfall 002: treated wastewater (consisting of metal cleaning wastes, coal pile runoff, ash transport water, domestic wastewater, storm water, low volume wastes, and FGD wet scrubber wastewater) from the ash settling basin
 - Outfalls 002A and 002B: yard sump overflows
 - Internal Outfall 003: non-contact cooling water from the induced draft fan control house to intake for cooling water pumps
 - Internal Outfall 004: treated FGD wet scrubber wastewater to the ash settling basin
 - Seep Outfalls 101 and 102: 2 potentially contaminated groundwater seeps

From a facility located at Duke Energy's Marshall Steam Station at the intersection of NC Highway 150 and NCSR 1841 in Terrell, Catawba County;

2. Discharge from said treatment works at the locations specified on the attached map into the Catawba River (Lake Norman) which is classified WS-IV and B CA waters in the Catawba River Basin.

PART I

A. (1.) Effluent Limitations and Monitoring Requirements (Outfall 001)

[15A NCAC 02B .0400 et seq., 02B .0500 et seq.]

During the period beginning on the effective date of this permit and lasting until expiration, the Permittee is authorized to discharge from **Outfall 001 (once-through cooling water)**. Such discharges shall be limited and monitored² by the Permittee as specified below:

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS		
	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type	Sample Location
Flow, MGD	Monitor & Report		Daily	Pump logs or similar readings	Effluent
Temperature (November 1 - June 30)	33.3 °C		Daily	Grab	Effluent
Temperature (July 1 - October 31)	34.4 °C		Daily	Grab	Effluent
Free Available Chlorine ¹	0.2 mg/L	0.5 mg/L	Daily	Grab	Effluent

NOTES:

- 1 Once-through cooling water shall not be chlorinated. Should the facility wish to chlorinate once-through cooling water, Division permission shall be obtained prior to commencement of chlorination. The monitoring requirement and effluent limitations only apply if chlorination is commenced.
- 2 Starting on December 21, 2016, begin submitting Discharge Monitoring Reports electronically using NC DWR's eDMR application system. Please See Special Condition A. (31.).

There shall be no discharge of floating solids or visible foam in other than trace amounts.

Based upon studies conducted by the permittee and submitted to the Division, it has been determined pursuant to Section 316(a) of the Clean Water Act that the thermal component of the discharge assures the protection and propagation of a balanced, indigenous population of shellfish, fish and wildlife in the receiving water.

A. (2.) Effluent Limitations and Monitoring Requirements (Outfall 002 – normal operation/decanting)

[15A NCAC 02B .0400 et seq., 02B .0500 et seq.]

During the period beginning on the effective date of this permit and lasting until expiration, the Permittee is authorized to discharge from **Outfall 002 (ash settling basin discharge - decanting the free water above the settled ash layer that does not involve mechanical disturbance of the ash)**. Such discharges shall be limited and monitored⁴ by the Permittee as specified below:

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS		
	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type	Sample Location ¹
Flow, MGD	Monitor & Report		Weekly	Pump logs or similar readings	Effluent
Oil and Grease	9.0 mg/L	12.0 mg/L	Monthly	Grab	Effluent
Total Suspended Solids ²	20.0 mg/L	50.0 mg/L	Monthly	Grab	Effluent
BOD, 5-day, 20° C ²	30.0 mg/L	45.0 mg/L	Monthly	Grab	Effluent
Fecal Coliform (geo. mean)	200/100 mL	400/100 mL	Monthly	Grab	Effluent
Total Arsenic, µg/L			Weekly	Grab	Effluent
Total Copper	1.0 mg/L ³	1.0 mg/L ³	Weekly	Grab	Effluent
Total Iron	1.0 mg/L ³	1.0 mg/L ³	Weekly	Grab	Effluent
Total Mercury ⁶			Weekly	Grab	Effluent
Total Selenium, µg/L			Weekly	Grab	Effluent
Turbidity ⁵ , NTU			Monthly	Grab	Effluent
Nitrate/nitrite as N, mg/L			Quarterly	Grab	Effluent
Bromide, mg/L			Monthly	Grab	Effluent
Total Hardness, mg/L			Monthly	Grab	Effluent
Total Nitrogen (NO ₂ +NO ₃ +TKN), mg/L	Monitor & Report		Quarterly	Grab	Effluent
Total Phosphorus, mg/L	Monitor & Report		Quarterly	Grab	Effluent
Chronic Toxicity	See Part I, Section A. (17.)		Monthly	Grab	Effluent
pH ⁷	Between 6.0 and 9.0 Standard Units		Monthly	Grab	Effluent

NOTES:

- 1 Effluent sampling shall be conducted at the discharge from the ash settling basin prior to mixing with any other waste stream(s).
- 2 The facility shall continuously monitor TSS concentration when the decanting process commences and the decanting pump shall be shutoff automatically when the one half of the Daily Maximum limit (15 minutes average) is exceeded. Pumping will be allowed to continue if interruption might result in a dam failure or damage. The continuous TSS monitoring only required when the pumps are employed for decanting.
- 3 The limits for total copper and total iron only apply when chemical metal cleaning wastewaters are being discharged.
- 4 Starting on December 21, 2016, begin submitting Discharge Monitoring Reports electronically using NC DWR's eDMR application system. Please See Special Condition A. (31.).
- 5 The net turbidity shall not exceed 50 NTU using a grab sample and measured by the difference between the effluent turbidity and the background turbidity. The sample for the

background turbidity shall be taken at point in the receiving waterbody upstream of the discharge location, and the background turbidity and the effluent turbidity samples shall be taken within the same 24 hour period.

NTU - Nephelometric Turbidity Unit.

- 6 The facility shall use EPA method 1631E.
- 7 The facility shall continuously monitor pH when the decanting process commences and the decanting pump shall be shutoff automatically when 15 minutes running average pH falls below 6.1 standard units or rises above 8.9 standard units. Pumping will be allowed to continue if interruption might result in a dam failure or damage.

There shall be no discharge of floating solids or visible foam in other than trace amounts.

The facility is allowed to drawdown the wastewater in the ash pond to no less than three feet above the ash.

The level of water in the ash pond should not be lowered more than 1 ft/week, unless approved by the DEQ Dam Safety Program.

The facility shall use a floating pump station with free water skimmed from the basin surface using an adjustable weir.

By November 1, 2018 there shall be no discharge of pollutants in fly ash transport water. This requirement only applies to fly ash transport water generated after November 1, 2018.

By January 31, 2021 there shall be no discharge of pollutants in bottom ash transport water. This requirement only applies to bottom ash transport water generated after January 31, 2021.

The limits and conditions in Section A. (3.) of the permit apply when water in the ash settling basin is lowered below the three feet trigger mark.

The facility shall notify DWR Complex NPDES Permitting Unit and DWR Mooresville Regional Office seven calendar days prior to the commencement of the decanting.

When the facility commences the ash pond/ponds decommissioning process, the facility shall treat the wastewater discharged from the ash pond/ponds by the physical-chemical treatment facilities.

A. (3.) Effluent Limitations and Monitoring Requirements (Outfall 002 – dewatering phase)

[15A NCAC 02B .0400 et seq., 02B .0500 et seq.]

During the period beginning on the effective date of this permit and lasting until expiration, the Permittee is authorized to discharge from **Outfall 002 Ash Settling Basin Discharge (Dewatering – removing the interstitial water)**. Such discharges shall be limited and monitored⁴ by the Permittee as specified below:

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS		
	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type	Sample Location ¹
Flow		1.0 MGD	Weekly	Pump logs or similar readings	Effluent
Oil and Grease	9.0 mg/L	12.0 mg/L	Monthly	Grab	Effluent
Total Suspended Solids ²	20.0 mg/L	50.0 mg/L	Monthly	Grab	Effluent
Total Arsenic	397.1 µg/L	11,121 µg/L	Weekly	Grab	Effluent
Total Copper	1.0 mg/L ³	1.0 mg/L ³	Weekly	Grab	Effluent
Total Iron	1.0 mg/L ³	1.0 mg/L ³	Weekly	Grab	Effluent
BOD, 5-day, 20° C ²	30.0 mg/L	45.0 mg/L	Monthly	Grab	Effluent
Fecal Coliform (geo. mean)	200/100 mL	400/100 mL	Monthly	Grab	Effluent
Total Mercury ⁶			Weekly	Grab	Effluent
Total Selenium, µg/L			Weekly	Grab	Effluent
Turbidity ⁵ , NTU			Monthly	Grab	Effluent
Nitrate/nitrite as N, mg/L			Quarterly	Grab	Effluent
Bromide, mg/L			Monthly	Grab	Effluent
Total Hardness, mg/L			Monthly	Grab	Effluent
Total Nitrogen (NO ₂ +NO ₃ +TKN), mg/L	Monitor & Report		Quarterly	Grab	Effluent
Total Phosphorus, mg/L	Monitor & Report		Quarterly	Grab	Effluent
Chronic Toxicity	See Part I, Section A. (17.)		Monthly	Grab	Effluent
pH ⁷	Between 6.0 and 9.0 Standard Units		Monthly	Grab	Effluent

NOTES:

- 1 Effluent sampling shall be conducted at the discharge from the ash settling basin prior to mixing with any other waste stream(s).
- 2 The facility shall continuously monitor TSS concentration when the dewatering process commences and the dewatering pump shall be shutoff automatically when the one half of the Daily Maximum limit (15 minutes average) is exceeded. Pumping will be allowed to continue if interruption might result in a dam failure or damage.
- 3 The limits for total copper and total iron only apply when chemical metal cleaning wastewaters are being discharged.
- 4 Starting on December 21, 2016, begin submitting Discharge Monitoring Reports electronically using NC DWR's eDMR application system. Please See Special Condition A. (31.).
- 5 The net turbidity shall not exceed 50 NTU using a grab sample and measured by the difference between the effluent turbidity and the background turbidity. The sample for the background turbidity shall be taken at point in the receiving waterbody upstream of

the discharge location, and the background turbidity and the effluent turbidity samples shall be taken within the same 24 hour period.

NTU - Nephelometric Turbidity Unit.

- 6 The facility shall use EPA method 1631E.
- 7 The facility shall continuously monitor pH when the dewatering process commences and the dewatering pump shall be shutoff automatically when 15 minutes running average pH falls below 6.1 standard units or rises above 8.9 standard units. Pumping will be allowed to continue if interruption might result in a dam failure or damage.

There shall be no discharge of floating solids or visible foam in other than trace amounts.

The level of water in the ash pond should not be lowered more than 1 ft/week, unless approved by the DEQ Dam Safety Program.

By November 1, 2018 there shall be no discharge of pollutants in fly ash transport water. This requirement only applies to fly ash transport water generated after November 1, 2018.

By January 31, 2021 there shall be no discharge of pollutants in bottom ash transport water. This requirement only applies to bottom ash transport water generated after January 31, 2021.

When the facility commences the ash pond/ponds decommissioning process, the facility shall treat the wastewater discharged from the ash pond/ponds by the physical-chemical treatment facilities.

A. (4.) Effluent Limitations and Monitoring Requirements (Outfall 002A)
 [15A NCAC 02B .0400 et seq., 02B .0500 et seq.]

During the period beginning on the effective date of this permit and lasting until expiration, the Permittee is authorized to discharge from **Outfall 002A (yard sump #1 overflows)**. Such discharges shall be limited and monitored² by the Permittee as specified below:

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS		
	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type	Sample Location ¹
Flow, MGD			Per discharge event	Estimate	Effluent
pH	Between 6.0 and 9.0 Standard Units		Per discharge event	Grab	Effluent
Total Suspended Solids	30.0 mg/L	100.0 mg/L	Per discharge event	Grab	Effluent
Oil and Grease	15.0 mg/L	20.0 mg/L	Per discharge event	Grab	Effluent
Total Iron, mg/L			Per discharge event	Grab	Effluent

NOTES:

- 1 Effluent samples shall be collected at a point upstream of the discharge to the Catawba River.
- 2 Starting on December 21, 2016, begin submitting Discharge Monitoring Reports electronically using NC DWR's eDMR application system. Please See Special Condition A. (31.).

There shall be no discharge of floating solids or visible foam in other than trace amounts.

All flows shall be reported on monthly DMRs. Should no flow occur during a given month, the words "No Flow" shall be clearly written on the front of the DMR. All samples shall be of a representative discharge.

A. (5.) Effluent Limitations and Monitoring Requirements (Outfall 002B)
 [15A NCAC 02B .0400 et seq., 02B .0500 et seq.]

During the period beginning on the effective date of this permit and lasting until expiration, the Permittee is authorized to discharge from **Outfall 002B (yard sump #2 overflows)**. Such discharges shall be limited and monitored² by the Permittee as specified below:

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS		
	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type	Sample Location ¹
Flow, MGD			Per discharge event	Estimate	Effluent
pH	Between 6.0 and 9.0 Standard Units		Per discharge event	Grab	Effluent
Total Suspended Solids	30.0 mg/L	100.0 mg/L	Per discharge event	Grab	Effluent
Oil and Grease	15.0 mg/L	20.0 mg/L	Per discharge event	Grab	Effluent
Total Iron, mg/L			Per discharge event	Grab	Effluent

NOTES:

- 1 Effluent samples shall be collected at a point upstream of the discharge to the Catawba River.
- 2 Starting on December 21, 2016, begin submitting Discharge Monitoring Reports electronically using NC DWR's eDMR application system. Please See Special Condition A. (31.).

There shall be no discharge of floating solids or visible foam in other than trace amounts.

All flows shall be reported on monthly DMRs. Should no flow occur during a given month, the words "No Flow" shall be clearly written on the front of the DMR. All samples shall be of a representative discharge.

A. (6.) Effluent Limitations and Monitoring Requirements (Internal Outfall 003)
 [15A NCAC 02B .0400 et seq., 02B .0500 et seq.]

During the period beginning on the effective date of this permit and lasting until expiration, the Permittee is authorized to discharge from **Internal Outfall 003 (non-contact cooling water from the induced draft fan control house)**. Such discharges shall be limited and monitored² by the Permittee as specified below:

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS		
	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type	Sample Location
Flow, MGD			Semi-annually	Estimate	Effluent
Temperature, °C			Semi-annually	Grab	Effluent
Total Residual Chlorine ¹ , µg/L			Semi-annually	Grab	Effluent
Free Available Chlorine ¹	0.2 mg/L	0.5 mg/L	Semi-annually	Grab	Effluent
pH	Between 6.0 and 9.0 Standard Units		Semi-annually	Grab	Effluent

NOTES:

- 1 Monitoring requirements apply only if chlorine is added to the cooling water. Neither free available chlorine nor total residual chlorine may be discharged from any unit for more than two hours in any one day and not more than one unit in any plant may discharge free available chlorine or total residual chlorine at any one time.
- 2 Starting on December 21, 2016, begin submitting Discharge Monitoring Reports electronically using NC DWR's eDMR application system. Please See Special Condition A. (31).

There shall be no discharge of floating solids or visible foam in other than trace amounts.

Limitations shall be met at the discharge point.

A. (7.) Effluent Limitations and Monitoring Requirements (Internal Outfall 004)
 [15A NCAC 02B .0400 et seq., 02B .0500 et seq.]

During the period beginning on the effective date of this permit and lasting until expiration, the Permittee is authorized to discharge from **Internal Outfall 004 (treated FGD wet scrubber wastewater to ash settling basin)**. Such discharges shall be limited and monitored² by the Permittee as specified below:

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS		
	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type	Sample Location ¹
Flow, MGD	Monitor & Report		Monthly	Pump logs or similar readings	Effluent
Total Arsenic	8.0 µg/L ⁴	11.0 µg/L ⁴	Quarterly	Grab	Effluent
Total Mercury ³ , ng/L	356.0 ng/L ⁴	788.0 ng/L ⁴	Quarterly	Grab	Effluent
Total Selenium	12.0 µg/L ⁴	23.0 µg/L ⁴	Quarterly	Grab	Effluent
Nitrate/nitrite as N	4.4 mg/L ⁴	17.0 mg/L ⁴	Quarterly	Grab	Effluent
pH	Between 6.0 and 9.0 Standard Units		Quarterly	Grab	Effluent

NOTES:

- 1 Sample Location: E - Effluent samples shall be collected from the constructed wetland prior to discharge to the ash settling basin.
- 2 Starting on December 21, 2016, begin submitting Discharge Monitoring Reports electronically using NC DWR's eDMR application system. Please See Special Condition A. (31.).
- 3 The facility shall use EPA method 1631E.
- 4 The TBEL limits shall become effective on January 31, 2021. This time period is provided in order for the facility to budget, design, and construct the treatment system. The facility shall monitor these parameters even before the limits become effective.

All flows shall be reported on monthly DMRs. Should no flow occur during a given month, the words "No Flow" shall be clearly written on the front of the DMR. All samples shall be of a representative discharge.

A. (8.) Effluent Limitations and Monitoring Requirements (Outfall 101)
 [15A NCAC 02B .0400 et seq., 02B .0500 et seq.]

During the period beginning on the effective date of this permit and lasting until expiration, the Permittee is authorized to discharge from outfall 101 – Seep Discharge. Such discharges shall be limited and monitored¹ by the Permittee as specified below:

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS		
	Monthly Average	Daily Maximum	Measurement Frequency ²	Sample Type	Sample Location
Flow, MGD			Monthly/Quarterly	Estimate	Effluent
pH ³			Monthly/Quarterly	Grab	Effluent
TSS	30.0 mg/L	100.0 mg/L	Monthly/Quarterly	Grab	Effluent
Oil and Grease	15.0 mg/L	20.0 mg/L	Monthly/Quarterly	Grab	Effluent
Fluoride, µg/L			Monthly/Quarterly	Grab	Effluent
Total Mercury ⁴ , ng/L			Monthly/Quarterly	Grab	Effluent
Total Barium, mg/L			Monthly/Quarterly	Grab	Effluent
Total Iron, µg/L			Monthly/Quarterly	Grab	Effluent
Total Manganese, µg/L			Monthly/Quarterly	Grab	Effluent
Total Zinc, µg/L			Monthly/Quarterly	Grab	Effluent
Total Arsenic, µg/L			Monthly/Quarterly	Grab	Effluent
Total Cadmium, µg/L			Monthly/Quarterly	Grab	Effluent
Total Chromium, µg/L			Monthly/Quarterly	Grab	Effluent
Total Copper, µg/L			Monthly/Quarterly	Grab	Effluent
Total Lead, µg/L			Monthly/Quarterly	Grab	Effluent
Total Nickel, µg/L			Monthly/Quarterly	Grab	Effluent
Total Selenium, µg/L			Monthly/Quarterly	Grab	Effluent
Nitrate/nitrite as N, mg/L			Monthly/Quarterly	Grab	Effluent
Sulfates, mg/L			Monthly/Quarterly	Grab	Effluent
Chlorides, mg/L			Monthly/Quarterly	Grab	Effluent
TDS, mg/L			Monthly/Quarterly	Grab	Effluent
Total Hardness, mg/L			Monthly/Quarterly	Grab	Effluent
Temperature, °C			Monthly/Quarterly	Grab	Effluent
Conductivity, µmho/cm			Monthly/Quarterly	Grab	Effluent

Notes:

- Starting on December 21, 2016, begin submitting Discharge Monitoring Reports electronically using NC DWR's eDMR application system. Please See Special Condition A. (31.).
- The facility shall conduct monthly sampling from the effective date of the permit. After one year from the effective date of the permit the monitoring will be reduced to quarterly
- The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units.
- The facility shall use EPA method 1631E.

If the facility is unable to obtain a seep sample due to the dry or low flow conditions preventing the facility from obtaining a representative sample, then "no flow" should be reported on the DMR. This requirement is established in the Section D of the Standard Conditions and 40 CFR 122.41 (j).

There shall be no discharge of floating solids or visible foam in other than trace amounts.

A. (9.) Effluent Limitations and Monitoring Requirements (Outfall 102)
 [15A NCAC 02B .0400 et seq., 02B .0500 et seq.]

During the period beginning on the effective date of this permit and lasting until expiration, the Permittee is authorized to discharge from outfall 102 – Seep Discharge. Such discharges shall be limited and monitored¹ by the Permittee as specified below:

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS		
	Monthly Average	Daily Maximum		Monthly Average	Daily Maximum
Flow, MGD			Monthly/Quarterly	Estimate	Effluent
pH ³			Monthly/Quarterly	Grab	Effluent
TSS	30.0 mg/L	100.0 mg/L	Monthly/Quarterly	Grab	Effluent
Oil and Grease	15.0 mg/L	20.0 mg/L	Monthly/Quarterly	Grab	Effluent
Fluoride, mg/L			Monthly/Quarterly	Grab	Effluent
Total Mercury ⁴ , ng/L			Monthly/Quarterly	Grab	Effluent
Total Barium, mg/L			Monthly/Quarterly	Grab	Effluent
Total Iron, mg/L			Monthly/Quarterly	Grab	Effluent
Total Manganese, µg/L			Monthly/Quarterly	Grab	Effluent
Total Zinc, µg/L			Monthly/Quarterly	Grab	Effluent
Total Arsenic, µg/L			Monthly/Quarterly	Grab	Effluent
Total Cadmium, µg/L			Monthly/Quarterly	Grab	Effluent
Total Chromium, µg/L			Monthly/Quarterly	Grab	Effluent
Total Copper, µg/L			Monthly/Quarterly	Grab	Effluent
Total Lead, µg/L			Monthly/Quarterly	Grab	Effluent
Total Nickel, µg/L			Monthly/Quarterly	Grab	Effluent
Total Selenium, µg/L			Monthly/Quarterly	Grab	Effluent
Nitrate/nitrite as N, mg/L			Monthly/Quarterly	Grab	Effluent
Sulfates, mg/L			Monthly/Quarterly	Grab	Effluent
Chlorides, mg/L			Monthly/Quarterly	Grab	Effluent
TDS, mg/L			Monthly/Quarterly	Grab	Effluent
Total Hardness, mg/L			Monthly/Quarterly	Grab	Effluent
Temperature, °C			Monthly/Quarterly	Grab	Effluent
Conductivity, µmho/cm			Monthly/Quarterly	Grab	Effluent

Notes:

- Starting on December 21, 2016, begin submitting Discharge Monitoring Reports electronically using NC DWR's eDMR application system. Please See Special Condition A. (31.).
- The facility shall conduct monthly sampling from the effective date of the permit. After one year from the effective date of the permit the monitoring will be reduced to quarterly
- The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units.
- The facility shall use EPA method 1631E.

If the facility is unable to obtain a seep sample due to the dry or low flow conditions preventing the facility from obtaining a representative sample, then "no flow" should be reported on the DMR. This requirement is established in the Section D of the Standard Conditions and 40 CFR 122.41 (j).

There shall be no discharge of floating solids or visible foam in other than trace amounts.

A. (10.) ADDITIONAL CONDITIONS AND DEFINITIONS

1. EPA methods 200.7 or 200.8 (or the most current versions) shall be used for analyses of all metals except for total mercury (EPA Method 1631E).
2. All effluent samples for all external outfalls shall be taken at the most accessible location after the final treatment but prior to discharge to waters of the U.S. (40 CFR 122.41(j)).
3. The term *low volume waste sources* means wastewater from all sources except those for which specific limitations are otherwise established in this part (40 CFR 423.11 (b)).
4. The term *chemical metal cleaning waste* means any wastewater resulting from cleaning any metal process equipment with chemical compounds, including, but not limited to, boiler tube cleaning (40 CFR 423.11 (c)).
5. The term *metal cleaning waste* means any wastewater resulting from cleaning [with or without chemical cleaning compounds] any metal process equipment including, but not limited to, boiler tube cleaning, boiler fireside cleaning, and air preheater cleaning (40 CFR 423.11 (d)).
6. For all outfalls where the flow measurement is to be "estimated" the estimate can be done by using calibrated V-notch weir, stop-watch and graduated cylinder, or other method approved by the Division.
7. The term "FGD wet scrubber wastewater" means wastewater resulting from the use of the flue-gas desulfurization wet scrubber.

A. (11.) TOXICITY RE-OPENER CONDITION

This permit shall be modified, or revoked and reissued to incorporate toxicity limitations and monitoring requirements in the event toxicity testing or other studies conducted on the effluent or receiving stream indicate that detrimental effects may be expected in the receiving stream as a result of this discharge.

A. (12.) APPLICABLE STATE LAW (STATE ENFORCEABLE ONLY)

The facility shall meet the requirements of Senate Bill 729 (Coal Ash Management Act). This permit may be reopened to include new requirements imposed by Senate Bill 729.

A. (13.) POLYCHLORINATED BIPHENYL COMPOUNDS

There shall be no discharge of polychlorinated biphenyl compounds such as those commonly used for transformer fluid.

A. (14.) BIOCIDES CONDITION

The permittee shall not use any biocides except those approved in conjunction with the permit application. The permittee shall notify the Director in writing not later than ninety (90) days prior to instituting use of any additional biocide used in cooling systems which may be toxic to aquatic life other than those previously reported to the Division of Water Resources. Such notification shall include completion of Biocide Worksheet Form 101 and a map locating the discharge point and receiving stream. Completion of Biocide Worksheet Form 101 is not necessary for those outfalls containing toxicity testing. Division approval is not necessary for the introduction of new biocides into outfalls currently tested for whole effluent toxicity.

A. (15.) INTAKE SCREEN BACKWASH

Continued intake screen backwash discharge and overflow from the settling basin are permitted without limitations or monitoring requirements.

A. (16.) BEST MANAGEMENT PRACTICES

It has been determined from information submitted that the plans and procedures in place at Marshall Steam Station are equivalent to that of a Best Management Practice (BMP).

A. (17.) CHRONIC TOXICITY PASS/FAIL PERMIT LIMIT – OUTFALL 002

[15A NCAC 02B .0200 et seq.]

The effluent discharge shall at no time exhibit observable inhibition of reproduction or significant mortality to *Ceriodaphnia dubia* at an effluent concentration of 23.0% for decanting and 2.6% for dewatering.

The permit holder shall perform at a minimum, *monthly* monitoring using test procedures outlined in the “North Carolina *Ceriodaphnia* Chronic Effluent Bioassay Procedure,” Revised December 2010, or subsequent versions or “North Carolina Phase II Chronic Whole Effluent Toxicity Test Procedure” (Revised- December 2010) or subsequent versions. Effluent sampling for this testing must be obtained during representative effluent discharge and shall be performed at the NPDES permitted final effluent discharge below all treatment processes.

If the monthly test procedure results in a failure or ChV below the permit limit, then multiple-concentration testing shall be performed at a minimum, in each of the two following months as described in “North Carolina Phase II Chronic Whole Effluent Toxicity Test Procedure” (Revised-December 2010) or subsequent versions.

All toxicity testing results required as part of this permit condition will be entered on the Effluent Discharge Monitoring Form (MR-1) for the months in which tests were performed, using the parameter code **TGP3B** for the pass/fail results and **THP3B** for the Chronic Value. Additionally, DWR Form AT-3 (original) is to be sent to the following address:

Attention: North Carolina Division of Water Resources
Water Sciences Section/Aquatic Toxicology Branch
1623 Mail Service Center
Raleigh, North Carolina 27699-1623

Completed Aquatic Toxicity Test Forms shall be filed with the Water Sciences Section no later than 30 days after the end of the reporting period for which the report is made.

Test data shall be complete, accurate, include all supporting chemical/physical measurements and all concentration/response data, and be certified by laboratory supervisor and ORC or approved designate signature. Total residual chlorine of the effluent toxicity sample must be measured and reported if chlorine is employed for disinfection of the waste stream.

Should there be no discharge of flow from the facility during a month in which toxicity monitoring is required, the permittee will complete the information located at the top of the aquatic toxicity (AT) test form indicating the facility name, permit number, pipe number, county, and the month/year of the report with the notation of "No Flow" in the comment area of the form. The report shall be submitted to the Water Sciences Section at the address cited above.

Should the permittee fail to monitor during a month in which toxicity monitoring is required, monitoring will be required during the following month. Assessment of toxicity compliance is based on the toxicity testing month.

Should any test data from this monitoring requirement or tests performed by the North Carolina Division of Water Resources indicate potential impacts to the receiving stream, this permit may be re-opened and modified to include alternate monitoring requirements or limits.

NOTE: Failure to achieve test conditions as specified in the cited document, such as minimum control organism survival, minimum control organism reproduction, and appropriate environmental controls, shall constitute an **invalid test** and will require immediate follow-up testing to be completed no later than the last day of the month following the month of the initial monitoring.

A. (18.) ASH SETTLING BASIN

Beginning on the effective date of this permit and lasting until expiration, there shall be no discharge of plant wastes to the ash pond unless the permittee provides and maintains at all times a minimum free water volume equivalent to the sum of the maximum 24-hour plant discharges plus all direct rainfall and all runoff flows to the pond resulting from a 10-year, 24-hour rainfall event, when using a runoff coefficient of 1.0.

During the term of the permit, the permittee shall remove settled material from the ponds or otherwise enlarge the available storage capacities in order to maintain the required minimum volumes at all times. Annually the permittee shall determine and report to the permit issuing authority: (1) the actual free water volume of the ash pond, (2) physical measurements of the dimensions of the free water volume in sufficient detail to allow validation of the calculated volume, and (3) a certification that the required volume is available with adequate safety factor to include all solids expected to be deposited in the ponds for the following year. Any changes to plant operations affecting such certification shall be reported to the Director within five days.

NOTE: In the event that adequate volume has been certified to exist for the term of the permit, periodic certification is not needed.

A. (19.) CHEMICAL METAL CLEANING WASTES

It has been demonstrated that under certain conditions it is possible to reduce the concentration of metals in boiler cleaning wastes in the range of 92 to 99+ percent by treatment in ash ponds. Because of dilution problems, and the existence of boundary interface layers at the extremities of the plume, it is difficult to prove beyond doubt that the quantity of iron and copper discharged will always be less than one milligram per liter times the flow of metal cleaning when treated in this manner.

The application of physical/chemical methods of treating wastes has also been demonstrated to be effective in the treatment of metal cleaning wastes. However, the effectiveness of ash pond treatment should be considered in relation to the small differences in effluent quality realized between the two methods.

It has been demonstrated that the presence of ions of copper, iron, nickel, and zinc in the ash pond waters was not measurably increased during the ash pond equivalency demonstration at the Duke Energy's Marshall Steam Station. Therefore, when the following conditions are implemented during metal cleaning procedures, effective treatment for metals can be obtained at this facility:

- (1) Large ash basin providing potential reaction volumes.
- (2) Well-defined shallow ash delta near the ash basin influent.
- (3) Ash pond pH of no less than 6.5 prior to metal cleaning waste addition.
- (4) Four days retention time in ash pond with effluent virtually stopped.
- (5) Boiler volume less than 86,000 gallons.
- (6) Chemicals for cleaning to include only one or more of the following:
 - (a) Copper removal step- sodium bromate, NaBrO_3 ; ammonium carbonate, $(\text{NH}_4)_2\text{CO}_3$; and ammonium hydroxide, NH_4OH .
 - (b) Iron removal step-hydrochloric acid, HCl ; and ammonium bifluoride, $(\text{NH}_4)\text{BF}_2$ and proprietary inhibitors.
- (7) Maximum dilution of wastes before entering ash pond 6 to 1.
- (8) After treatment of metal cleaning wastes, if monitoring of basin effluents as required by the permit reveals discharges outside the limits of the permit, the permittee will re-close the basin discharge, conduct such in-basin sampling as necessary to determine the cause of nonconformance, will take appropriate corrective actions, and will file a report with EPA including all pertinent data.

A. (20.) FLOATING MATERIALS

The Permittee shall report all visible discharges of floating materials, such as an oil sheen, to the Director when submitting DMRs.

A. (21.) CHEMICAL DISCHARGES

Discharge of any product registered under the Federal Insecticide, Fungicide, and Rodenticide Act to any waste stream which may ultimately be released to lakes, rivers, streams or other waters of the United States is prohibited unless specifically authorized elsewhere in this permit. Discharge of chlorine from the use of chlorine gas, sodium hypochlorite, or other similar chlorination compounds for disinfection in plant potable and service water systems and in sewage treatment is authorized. Use of restricted use pesticides for lake management purposes by applicators licensed by the N.C. Pesticide Board is allowed.

A. (22.) PRIORITY POLLUTANT ANALYSIS - OUTFALL 002

The Permittee shall conduct a priority pollutant analysis (in accordance with 40 CFR Part 136) once per permit cycle at outfall 002 and submit the results with the application for permit renewal.

A. (23.) WAIVERS

Nothing contained in this permit shall be construed as a waiver by permittee or any right to a hearing it may have pursuant to State or Federal laws or regulations.

A. (24.) GROUNDWATER MONITORING WELL CONSTRUCTION AND SAMPLING (STATE ENFORCEABLE ONLY)

The permittee shall conduct groundwater monitoring to determine the compliance of this NPDES permitted facility with the current groundwater standards found under 15A NCAC 2L .0200. The monitoring shall be conducted in accordance with the Sampling Plan approved by the Division. See Attachment 1.

A. (25.) STRUCTURAL INTEGRITY INSPECTIONS OF ASH POND DAM

The facility shall meet the dam design and dam safety requirements per 15A NCAC 2K.

A. (26.) CLEAN WATER ACT SECTION 316(a) THERMAL VARIANCE

The thermal variance granted under Section 316(a) terminates on expiration of this NPDES permit. Should the permittee wish a continuation of its 316(a) thermal variance beyond the term of this permit, reapplication for such continuation shall be submitted in accordance with 40 CFR Part 125, Subpart H and Section 122.21(1) (6) not later than 180 days prior to permit expiration. Reapplication shall include a basis for continuation such as a) plant operating conditions and load factors are unchanged and are expected to remain so for the term of the reissued permit; b) there are no changes to plant discharges or other discharges in the plant site area which could interact with the thermal discharges; and c) there are no changes to the biotic community of the receiving water body which would impact the previous variance determination.

The next 316(a) studies shall be performed in accordance with the Division of Water Resources approved plan. The temperature analysis and the balanced and indigenous study plan shall conform to the specifications outlined in 40 CFR 125 Subpart H, the EPA's Draft 316(a) Guidance Manual, dated 1977, and the Region 4 letter to NCDENR, dated June 3, 2010. EPA shall be provided an opportunity to review the plan prior to the commencement of the study.

Copies of all the study plans, study results, and any other applicable materials should be submitted to:

- 1) Electronic Version Only (pdf and CD)
Division of Water Resources
WQ Permitting Section - NPDES
1617 Mail Service Center
Raleigh, NC 27699-1617
- 2) Electronic Version (pdf and CD) and Hard Copy
Division of Water Resources
Water Sciences Section
1621 Mail Service Center
Raleigh, NC 27699-1621

A. (27.) CLEAN WATER ACT SECTION 316 (B)

The permittee shall comply with the Cooling Water Intake Structure Rule per 40 CFR 125.95. The permittee shall submit all the materials required by the Rule with the next renewal application.

A. (28.) FISH TISSUE MONITORING NEAR ASH POND DISCHARGE – OUTFALL 002

The facility shall conduct fish tissue monitoring annually and submit the results with the NPDES permit renewal application. The objective of the monitoring is to evaluate potential uptake of pollutants by fish tissue near the Ash Pond discharge. The parameters analyzed in fish tissue shall be arsenic, selenium, and mercury. The monitoring shall be conducted in accordance with the Sampling Plan approved by the Division.

A. (29.) INSTREAM MONITORING

The facility shall conduct semiannual instream monitoring (approximately one mile upstream and approximately one mile downstream of the ash pond discharge) for arsenic, selenium, mercury (method 1631E), chromium, lead, cadmium, copper, zinc, bromide, total hardness, and total dissolved solids (TDS). Instream monitoring should be conducted at the stations that have already been established through the BIP monitoring program. The monitoring results shall be submitted with the NPDES permit renewal application.

A. (30.) DISCHARGE FROM SEEPAGE

Existing Discharges from Seepage

The facility identified 2 non-engineered discharges from seepage from the ash settling basin. The locations of the seeps are identified below and are depicted on the map attached to the permit.

Table 1. Discharge Coordinates and Assigned Outfall Numbers

Discharge ID	Latitude	Longitude	Outfall number
S-1	35°36'71"	80°57'62"	101
S-2	35°42'56"	80°21'56"	102

The outfall for these discharges is through an effluent channel meeting the requirements in 15A NCAC 2B .0228. Within 180 days of the effective date of this permit, the permittee shall demonstrate, through in-stream sampling meeting the requirements of condition A. (29.), that the water quality standards in the receiving stream are not contravened.

Discharges from Seepage Identified After Permit Issuance

The facility shall comply with the "Plan for Identification of New Discharges" as contained in Attachment 2. For any discharge identified pursuant to this Plan, the facility shall, within 90 days of the seep discovery, determine if the discharge seep meets the state water quality standards established in 15A NCAC 2B .0200 and submit the results of this determination to the Division. If the standards are not contravened, the facility shall conduct monitoring for the parameters specified in A. (8.).

If any of the water quality standards are exceeded, the facility shall be considered in violation until one of the options below is fully implemented:

- 1) Submit a complete application for 404 Permit (within 30 days after determining that a water quality standards is exceeded) to pump the seep discharge to one of the existing outfalls, install a pipe to discharge the seep to the Catawba River, or install an *in-situ* treatment system. After the 404 Permit is obtained, the facility shall complete the installation of the pump, pipe, or treatment system within 180 days from the date of the 404 permit receipt and begin pumping/discharging or treatment.
- 2) Demonstrate through modeling that the decanting and dewatering of the ash basin will result in the elimination of the seep. The modeling results shall be submitted to the Division within 120 days from the date of the seep discovery. Within 180 days from the completion of the dewatering the facility shall confirm that the seep flow ceased. If the seep flow continues, the facility shall choose one of the other options in this Special Condition.
- 3) Demonstrate that the seep is discharging through the designated "Effluent Channel" and the water quality standards in the receiving stream are not contravened. This demonstration should be submitted to the Division no later than 180 days from the date of the seep discovery. The "Effluent Channel" designation should be established by the DEQ Regional Office personnel prior to the issuance of the permit. This permit shall be reopened for cause to include the "Effluent Channel" in a revised permit.

All effluent limits, including water quality-based effluent limits, remain applicable notwithstanding any action by the Permittee to address the violation through one of the identified options, so that any discharge in exceedance of an applicable effluent limit is a violation of the Permit as long as the seep remains flowing.

New Identified Seeps

If new seeps are identified, the facility shall follow the procedures outlined above. The deadlines for new seeps shall be calculated from the date of the seep discovery. The new identified seep are not permitted until the permit is modified and the new seep included in the permit and the new outfall established for the seep.

A. (31.) ELECTRONIC REPORTING OF DISCHARGE MONITORING REPORTS

[G.S. 143-215.1(b)]

Federal regulations require electronic submittal of all discharge monitoring reports (DMRs) and program reports and specify that, if a state does not establish a system to receive such submittals, then permittees must submit monitoring data and reports electronically to the Environmental Protection Agency (EPA). The final NPDES Electronic Reporting Rule was adopted and became effective on December 21, 2015.

NOTE: This special condition supplements or supersedes the following sections within Part II of this permit (*Standard Conditions for NPDES Permits*):

- Section B. Signatory Requirements (11.)
- Section D. (2.) Reporting

- Section D. (6.) Records Retention
- Section E. (5.) Monitoring Reports

1. Reporting Requirements [Supersedes Section D. (2.) and Section E. (5.) (a)]

Effective **December 21, 2016**, the permittee shall report discharge monitoring data electronically using the NC DWR's Electronic Discharge Monitoring Report (eDMR) internet application.

Monitoring results obtained during the previous month(s) shall be summarized for each month and submitted electronically using eDMR. The eDMR system allows permitted facilities to enter monitoring data and submit DMRs electronically using the internet. Until such time that the state's eDMR application is compliant with EPA's Cross-Media Electronic Reporting Regulation (CROMERR), permittees will be required to submit all discharge monitoring data to the state electronically using eDMR and will be required to complete the eDMR submission by printing, signing, and submitting one signed original and a copy of the computer printed eDMR to the following address:

NC DEQ / Division of Water Resources / Water Quality Permitting Section
 ATTENTION: Central Files
 1617 Mail Service Center
 Raleigh, North Carolina 27699-1617

If a permittee is unable to use the eDMR system due to a demonstrated hardship or due to the facility being physically located in an area where less than 10 percent of the households have broadband access, then a temporary waiver from the NPDES electronic reporting requirements may be granted and discharge monitoring data may be submitted on paper DMR forms (MR 1, 1.1, 2, 3) or alternative forms approved by the Director. Duplicate signed copies shall be submitted to the mailing address above. See "How to Request a Waiver from Electronic Reporting" section below.

Regardless of the submission method, the first DMR is due on the last day of the month following the issuance of the permit or in the case of a new facility, on the last day of the month following the commencement of discharge.

Starting on **December 21, 2020**, the permittee must electronically report the following compliance monitoring data and reports, when applicable:

- Sewer Overflow/Bypass Event Reports;
- Pretreatment Program Annual Reports; and
- Clean Water Act (CWA) Section 316(b) Annual Reports.

The permittee may seek an electronic reporting waiver from the Division (see "How to Request a Waiver from Electronic Reporting" section below).

2. Electronic Submissions

In accordance with 40 CFR 122.41(l)(9), the permittee must identify the initial recipient at the time of each electronic submission. The permittee should use the EPA's website resources to identify the initial recipient for the electronic submission.

Initial recipient of electronic NPDES information from NPDES-regulated facilities means the entity (EPA or the state authorized by EPA to implement the NPDES program) that is the designated entity for receiving electronic NPDES data [see 40 CFR 127.2(b)].

EPA plans to establish a website that will also link to the appropriate electronic reporting tool for each type of electronic submission and for each state. Instructions on how to access and use the appropriate electronic reporting tool will be available as well. Information on EPA's NPDES Electronic Reporting Rule is found at: <http://www2.epa.gov/compliance/final-national-pollutant-discharge-elimination-system-mpdes-electronic-reporting-rule>.

Electronic submissions must start by the dates listed in the "Reporting Requirements" section above.

3. How to Request a Waiver from Electronic Reporting

The permittee may seek a temporary electronic reporting waiver from the Division. To obtain an electronic reporting waiver, a permittee must first submit an electronic reporting waiver request to the Division. Requests for temporary electronic reporting waivers must be submitted in writing to the Division for written approval at least sixty (60) days prior to the date the facility would be required under this permit to begin submitting monitoring data and reports. The duration of a temporary waiver shall not exceed 5 years and shall thereupon expire. At such time, monitoring data and reports shall be submitted electronically to the Division unless the permittee re-applies for and is granted a new temporary electronic reporting waiver by the Division. Approved electronic reporting waivers are not transferrable. Only permittees with an approved reporting waiver request may submit monitoring data and reports on paper to the Division for the period that the approved reporting waiver request is effective.

Information on eDMR and the application for a temporary electronic reporting waiver are found on the following web page:

<http://deq.nc.gov/about/divisions/water-resources/edmr>

4. Signatory Requirements [Supplements Section B. (11.) (b) and Supersedes Section B. (11.) (d)]

All eDMRs submitted to the permit issuing authority shall be signed by a person described in Part II, Section B. (11.) (a) or by a duly authorized representative of that person as described in Part II, Section B. (11.) (b). A person, and not a position, must be delegated signatory authority for eDMR reporting purposes.

For eDMR submissions, the person signing and submitting the DMR must obtain an eDMR user account and login credentials to access the eDMR system. For more information on North Carolina's eDMR system, registering for eDMR and obtaining an eDMR user account, please visit the following web page:

<http://deq.nc.gov/about/divisions/water-resources/edmr>

Certification. Any person submitting an electronic DMR using the state's eDMR system shall make the following certification [40 CFR 122.22]. NO OTHER STATEMENTS OF CERTIFICATION WILL BE ACCEPTED:

"I certify, under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations."

5. Records Retention [Supplements Section D. (6.)]

The permittee shall retain records of all Discharge Monitoring Reports, including eDMR submissions. These records or copies shall be maintained for a period of at least 3 years from the date of the report. This period may be extended by request of the Director at any time [40 CFR 122.41].

A. (32.) DOMESTIC WASTEWATER TREATMENT PLANT

The domestic wastewater treatment plant shall be properly operated and maintained to ensure treatment of domestic wastewater to secondary levels.

Attachment 1

GROUNDWATER MONITORING PLAN

The permittee shall conduct groundwater monitoring as may be required to determine the compliance of this NPDES permitted facility with the current groundwater Standards found under 15A NCAC 2L .0200.

1. WELL CONSTRUCTION
 - a. Monitoring wells shall be constructed in accordance with 15A NCAC 02C .0108 (Standards of Construction for Wells Other than Water Supply) and any other jurisdictional laws and regulations pertaining to well construction.
 - b. Monitoring wells must be constructed by a North Carolina Certified Well Contractor, the property owner, or the property lessee according to General Statutes 87-98.4. If the construction is not performed by a certified well contractor, the property owner or lessee, provided they are a natural person, must physically perform the actual well construction activities.
 - c. Within 30 days of completion of well construction, a completed Well Construction Record (Form GW-1) must be submitted for each compliance monitoring well to Division of Water Resources, Water Quality Regional Operations Section (WQROS), 1636 Mail Service Center, Raleigh, NC 27699-1636.
 - d. The Mooresville Regional Office, telephone number (704) 663-1699, shall approve the location of new compliance monitoring wells prior to installation. The regional office shall be notified at least 48 hours prior to the construction of any compliance monitoring well and such notification to the WQROS regional supervisor shall be made from 8:00 a.m. until 5:00 p.m. on Monday through Friday, excluding State Holidays.
 - e. All monitoring wells shall be regularly maintained. Such maintenance shall include ensuring that the well caps are rust-free and locked at all times, the outer casing is upright and undamaged, and the well does not serve as a conduit for contamination.
 - f. If the Permittee intends to abandon a compliance monitoring well either temporarily or permanently, the Permittee shall justify the abandonment and request approval from the WQROS Regional Office within 30 business days prior to initiating abandonment procedures.
 - g. Monitoring wells shall be abandoned in accordance with 15A NCAC 02C .0113 (Abandonment of Wells). Within 30 days of completion of well abandonment, a completed Well Abandonment Record (Form GW-30) must be submitted for each monitoring well to WQROS, 1636 Mail Service Center, Raleigh, NC 27699-1636.
2. MAPS
 - a. Updated maps shall be provided within 60 days when any of the following occur:
 - i. Compliance monitoring wells are added or deleted from the plan.

- ii. The facility operation changes that would require a change in the waste boundary, compliance boundary, or property line.
- b. If the map is updated, the Permittee shall submit two original copies of a site map with an appropriate scale to easily identify all features overlaid on the most recent aerial photograph. At a minimum, the map shall include the following information:
 - i. The location and identity of each monitoring well.
 - ii. The location of major components of the waste disposal system.
 - iii. The location of property boundaries within 500 feet of the disposal areas.
 - iv. The elevation of the top of the well casing (i.e., measuring point) relative to a common datum.
 - vi. The depth of water below the measuring point at the time the measuring point is established.
 - vii. The location of compliance boundary.
 - viii. The date the map is prepared and/or revised.
 - ix. Topographic contours in no more than ten (10) foot intervals. For areas of high relief, 20 foot intervals shall be acceptable.
- c. The map and any supporting documentation shall be sent to the WQROS, 1636 Mail Service Center, Raleigh, NC 27699-1636.

3. GROUNDWATER SAMPLING AND COMPLIANCE.

- a. The compliance boundary for the disposal system shall be specified in accordance with 15A NCAC 02L .0107(a) or (b) dependent upon the date permitted. An exceedance of groundwater standards at or beyond the compliance boundary is subject to remediation action according to 15A NCAC 02L .0106(c) or (d) as well as enforcement actions in accordance with North Carolina General Statute 143-215.6A through 143-215.6C.
- b. Monitoring wells shall be sampled after construction and thereafter at the frequencies and for the parameters as specified in Part 4 of this plan. All maps, well construction forms, well abandonment forms and monitoring data shall refer to the permit number and the well nomenclature.
- c. Per 15A NCAC 02H .0800, a Division certified laboratory shall conduct all laboratory analyses for the required effluent, groundwater or surface water parameters.
- d. The measurement of water levels shall be made prior to purging the wells. The depth to water in each well shall be measured from the surveyed point on the top of the casing.
- e. The measuring points (top of well casing) of all monitoring wells shall be surveyed to provide the relative elevation of the measuring point for each monitoring well. The measuring points (top of casing) of all monitoring wells shall be surveyed relative to a common datum.
- f. Two copies of the monitoring well sampling shall be submitted on a Compliance Monitoring Form (GW-59CCR), and received no later than 60 days from the sampling date. Copies of the laboratory analyses shall be kept on site, and made available upon request.

The Compliance Monitoring Form (GW-59CCR) shall include this permit number and the appropriate well identification number. The Compliance Monitoring Forms (GW-59CCR) shall be submitted to the Division of Water Resources Information Processing Unit, 1617 Mail Service Center, Raleigh, North Carolina 27699-1617

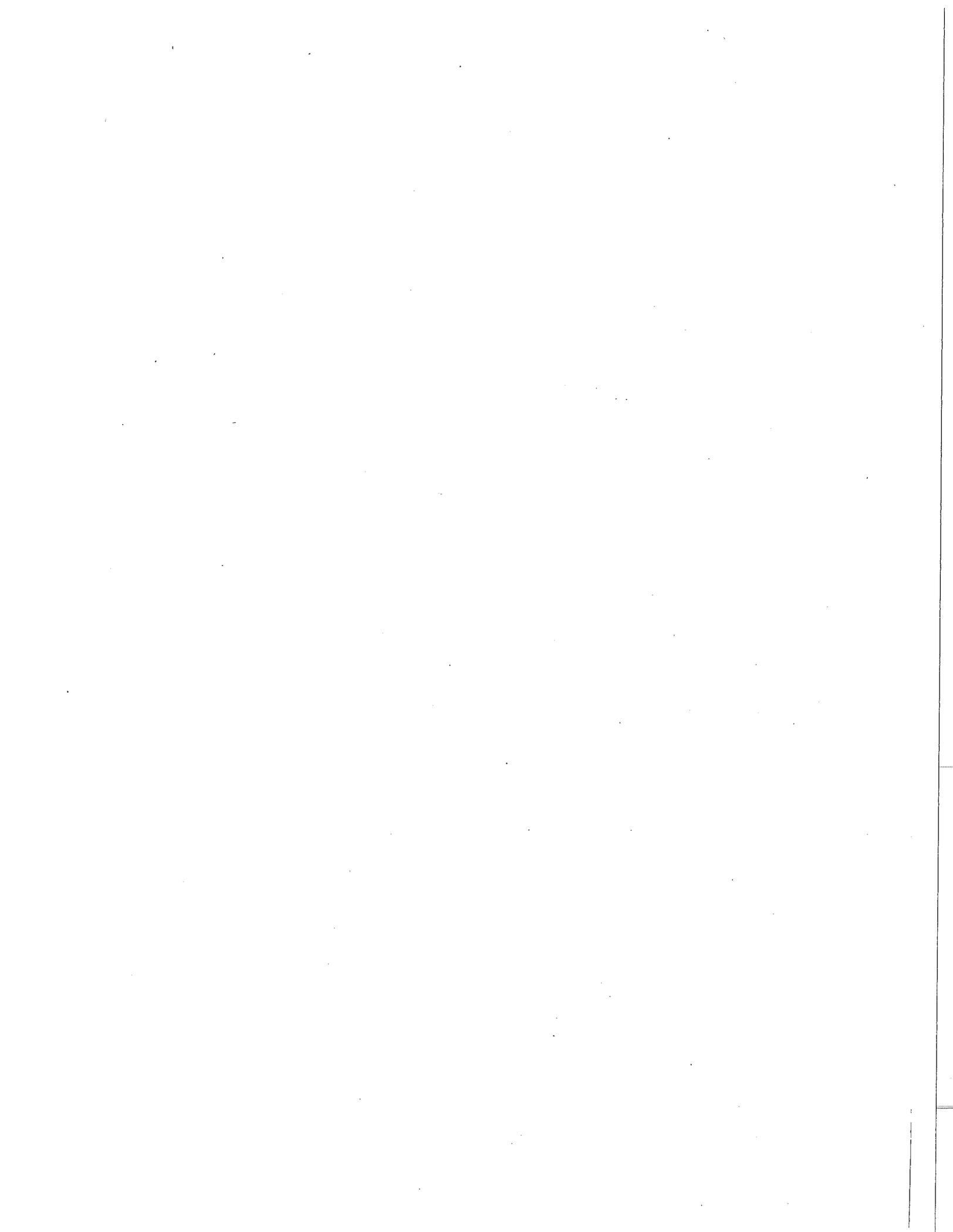
- g. For groundwater samples that exceed the ground water quality standards in 15A NCAC 02L .0202, the Regional Office shall be contacted within 30 days after submission of the groundwater monitoring form; an evaluation may be required to determine the impact of the waste disposal activities. Failure to do so may subject the permittee to a Notice of Violation, fines, and/or penalties.
 - h. The provisions of sections 3(f) and 3(g) apply only to the sampling events described in 3(b) above. The reporting requirements for any sampling events other than those described in 3(b) above shall be in accordance with the general provisions of 15A NCAC 02L.
4. MONITORING WELLS, PARAMETERS, AND SAMPLING FREQUENCY.
- a. Laboratory methods shall be EPA approved and sufficient to detect constituent quantities at or below their individual 15A NCAC 02L groundwater standards.
 - b. The following chart contains the compliance monitoring wells to be sampled, the parameters to be sampled, and the frequency in which the samples shall be collected.

MONITORING WELLS	PARAMETERS				FREQUENCY
MW-4, MW-4D, MW-10S, MW-10D, MW-11S, MW-11D, MW-12S, MW-12D, MW-13S, MW-13D, MW-14S, MW-14D	<i>Laboratory Parameters</i>				February, June, October
	<i>Aluminum</i>	<i>Antimony</i>	<i>Arsenic</i>	<i>Barium</i>	
	<i>Beryllium</i>	<i>Boron</i>	<i>Cadmium</i>	<i>Calcium</i>	
	<i>Cobalt</i>	<i>Chromium</i>	<i>Copper</i>	<i>Iron</i>	
	<i>Lead</i>	<i>Magnesium</i>	<i>Manganese</i>	<i>Molybdenum</i>	
	<i>Mercury</i>	<i>Nickel</i>	<i>Potassium</i>	<i>Selenium</i>	
	<i>Sodium</i>	<i>Strontium</i>	<i>Thallium</i>	<i>Vanadium</i>	
	<i>Zinc</i>	<i>Chloride</i>	<i>Sulfate</i>	<i>Alkalinity</i>	
	<i>Bicarbonate</i>	<i>Carbonate</i>	<i>Total Dissolved Solids</i>	<i>Total Suspended Solids</i>	
	<i>Field Parameters</i>				
	<i>Turbidity</i>	<i>pH</i>	<i>Temperature</i>	<i>Specific Conductance</i>	
	<i>Dissolved Oxygen</i>	<i>Oxidation Reduction Potential</i>	<i>Water level</i>		

Attachment 2

Plan for Identification of New Discharges (State Enforceable Only)

<http://deq.nc.gov/about/divisions/water-resources/water-resources-hot-topics/dwr-coal-ash-regulation/duke-energy-mpdes-permits-for-facilities-with-coal-ash-ponds/duke-energy-mpdes-modifications-renewals>



Lake Norman North Quad

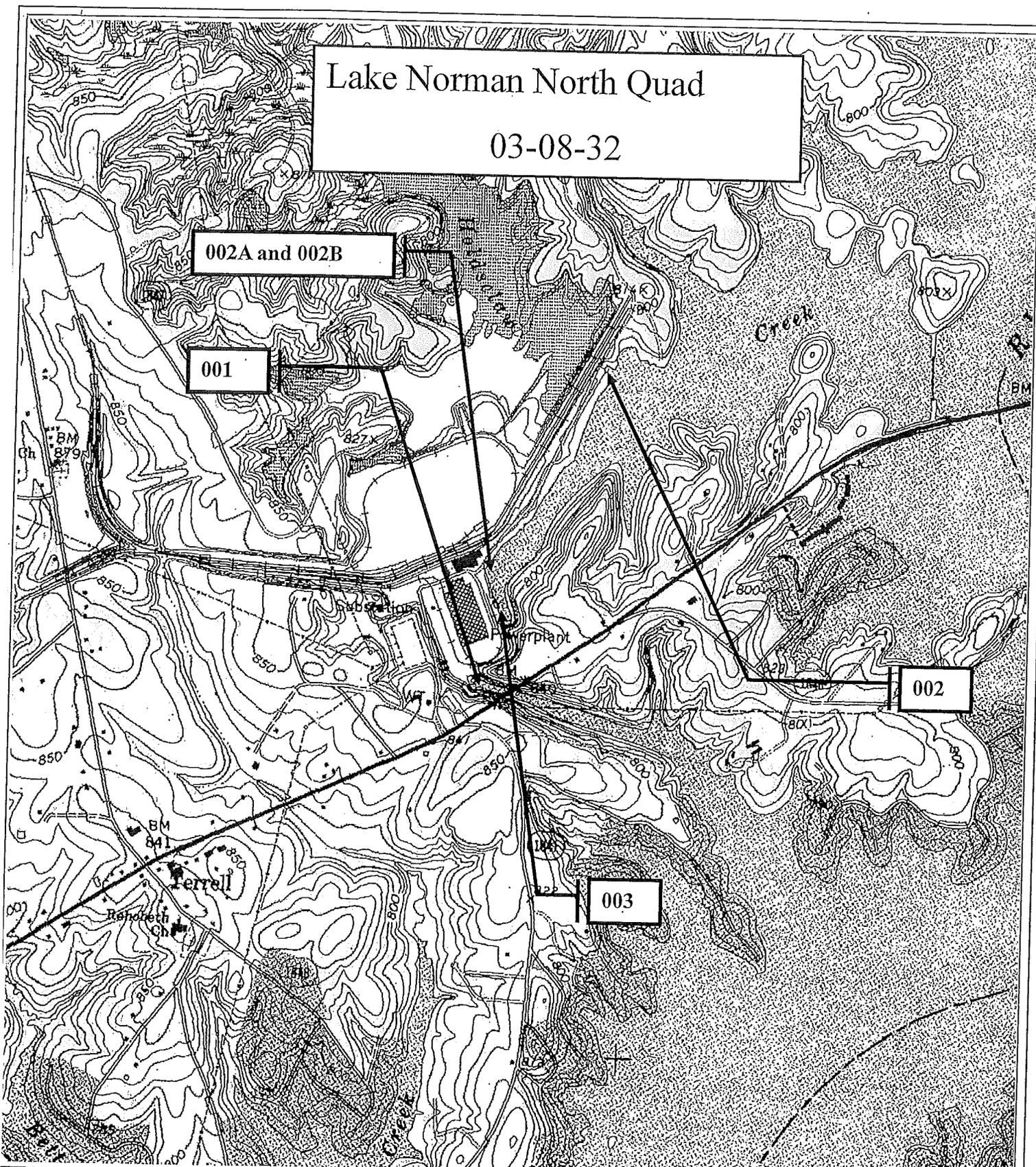
03-08-32

002A and 002B

001

002

003



Outfall Information

Outfall #: 001
 Receiving Stream: Catawba River
 Latitude: 35°35'43"
 Longitude: 80°57'52"

Outfall #: 002A and 002B
 Receiving Stream: Catawba
 Latitude: 35°35'51"
 Longitude: 80°57'36"
 Longitude for 002B: 80°57'34"

Outfall #: 002
 Receiving Stream: Catawba River
 Latitude: 35°36'21"
 Longitude: 80°57'35"

Outfall #: 003
 Receiving Stream: Catawba River
 Latitude: 35°35'52"
 Longitude: 80°57'47"



North

Facility Location



Duke Power Corporation
 NC0004987
 Marshall Steam Station

