

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 provision 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 Progress, LLC**

is hereby authorized to discharge wastewater from a facility located at the

**Roxboro Steam Electric Generating Plant**  
1700 Dunnaway Road, Semora  
Person County

to receiving waters designated as Hyco Reservoir in the Roanoke River Basin in accordance with effluent limitations, monitoring requirements, and other conditions set forth in Parts I, II, III and IV hereof.

This permit shall become effective .

This permit and the authorization to discharge shall expire at midnight on .

Signed this day .

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S. Jay Zimmerman, P.G.  
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. As of this permit 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 Progress, LLC is hereby authorized to:

1. Continue to operate the following systems located at Roxboro Steam Electric Generating Plant off NCSR 1377 near Roxboro in Person County:
  - **Outfall 001.** Continue to discharge stormwater, rail runoff and seeps from the ash landfill into Hyco Reservoir.
  - **Ash Pond Treatment System (Internal Outfall 002).** Continue to discharge ash transport water, low volume wastewater, runoff from the ash landfill, dry fly ash handling system wash water, ash silo wash water, storm water runoff, cooling tower blowdown from unit number 4, and domestic sewage treatment plant effluent. Effluent from the ash pond discharges to the heated water discharge canal, and is ultimately released into Hyco Reservoir through Outfall 003.
  - **Heated Water Discharge Canal System (Outfall 003).** Continue to discharge once-through cooling water, stormwater runoff, flue gas desulfurization treated wastewater, flue gas desulfurization cooling water, seepage from ash pond dam, anhydrous ammonia testing waters and emergency flows (until construction of low volume wastes treatment system), and effluent from the ash pond (Outfall 002). Upon construction, discharge the effluent from the low volume waste treatment systems (Outfall 012A and 012B), and yard sump overflow to the heated discharge canal. This outfall discharges to Hyco Reservoir.
  - **Cooling Tower Blowdown System (Internal Outfall 005).** Continue to discharge cooling tower blowdown from unit number 4 into the ash transport system, and ultimately into the ash pond (Outfall 002), upon construction of the low volume waste treatment system discharge to the low volume wastewater treatment system or into the discharge canal.
  - **Coal Pile Runoff Treatment System (Outfall 006).** Continue to discharge runoff from the coal pile and other coal handling areas, runoff from the limestone and emergency gypsum stack, raw water tank drainage, incidental leakage from absorbent seals, and the truck wheel wash water. These waters are routed to a retention pond for treatment by neutralization, sedimentation, and equalization prior to being discharged directly into Hyco Reservoir.
  - **Domestic Wastewater Treatment System (Internal Outfall 008).** Continue to discharge effluent from the domestic treatment system into the ash pond or the low volume waste treatment system (Outfall 012) upon completion of construction.
  - **Chemical Metal Cleaning Treatment System (Internal Outfall 009).** Continue to discharge chemical metal cleaning wastes into the ash pond or the low volume waste treatment system (Outfall 012) upon completion of construction.
  - **Flue Gas Desulfurization Treatment System (Internal Outfall 010).** Continue to operate a FGD wet scrubber treatment system consisting a settling pond and a bioreactor, discharging into the discharge canal.
  - **Flue Gas Desulfurization Treatment System (Internal Outfall 011).** Upon completion of construction operate a Flue Gas Desulfurization System discharging to the low volume waste treatment system (outfall 012B) or the discharge canal.
  - **Low Volume Wastes Treatment System (Internal Outfall 012A).** Upon completion of construction of a waste treatment system discharge landfill leachate, silo wash water, contact and non-contact storm water runoff into the discharge canal.
  - **Low Volume Wastes Treatment System (Internal Outfall 012B).** Upon completion of construction of construction of a low volume waste treatment system discharge low volume wastes, metal cleaning wastes, ash silo wash water, cooling water from Unit 4, anhydrous ammonia testing waters

and emergency flows, domestic sewage treatment plant effluent, cooling tower blowdown and storm water runoff into the discharge canal.

- **Emergency overflow from low volume wastewater treatment system (outfall 012C).** Upon completion of construction of a wastewater treatment system discharge emergency overflow from basin 12B to Hyco Reservoir.
2. Discharge from said treatment works and/or outfalls at the locations specified on the attached map into the Hyco Reservoir, classified as WS-V & B waters in the Roanoke River Basin.

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## 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 (Stormwater and seeps)**. Such discharges shall be limited and monitored<sup>1</sup> by the Permittee as specified below:

EFFLUENT CHARACTERISTICS	LIMITS		MONITORING REQUIREMENTS		
	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type	Sample Location
Flow, MGD			Monthly/Quarterly <sup>3</sup>	Estimate	Effluent
pH <sup>2</sup>			Monthly/Quarterly <sup>3</sup>	Grab	Effluent
TSS	30.0 mg/L	100.0 mg/L	Monthly/Quarterly <sup>3</sup>	Grab	Effluent
Oil and Grease	15.0 mg/L	20.0 mg/L	Monthly/Quarterly <sup>3</sup>	Grab	Effluent
Fluoride	1.8 mg/L	1.8 mg/L	Monthly/Quarterly <sup>3</sup>	Grab	Effluent
Total Arsenic	10 µg/L	10 µg/L	Monthly/Quarterly <sup>3</sup>	Grab	Effluent
Total Copper, µg/L			Monthly/Quarterly <sup>3</sup>	Grab	Effluent
Total Antimony, µg/l			Monthly/Quarterly <sup>3</sup>	Grab	Effluent
Total Lead, µg/L			Monthly/Quarterly <sup>3</sup>	Grab	Effluent
Total Selenium	5 µg/L	56 µg/L	Monthly/Quarterly <sup>3</sup>	Grab	Effluent
Total Barium, mg/L			Monthly/Quarterly <sup>3</sup>	Grab	Effluent
Total Iron, µg/L			Monthly/Quarterly <sup>3</sup>	Grab	Effluent
Total Manganese, µg/L			Monthly/Quarterly <sup>3</sup>	Grab	Effluent
Total Zinc, µg/L			Monthly/Quarterly <sup>3</sup>	Grab	Effluent
Total Nickel, µg/L			Monthly/Quarterly <sup>3</sup>	Grab	Effluent
Total Mercury, ng/l			Monthly/Quarterly <sup>3</sup>	Grab	Effluent
Chlorides, mg/L			Monthly/Quarterly <sup>3</sup>	Grab	Effluent
Nitrate/Nitrite as N			Monthly/Quarterly <sup>3</sup>	Grab	Effluent
Sulfates	250 mg/L	250 mg/L	Monthly/Quarterly <sup>3</sup>	Grab	Effluent
Total Dissolved Solids, mg/L			Monthly/Quarterly <sup>3</sup>	Grab	Effluent
Hardness–Total as [CaCO <sub>3</sub> or (Ca + Mg)] mg/L.			Monthly/Quarterly <sup>3</sup>	Grab	Effluent
Conductivity, µmho/cm			Monthly/Quarterly <sup>3</sup>	Grab	Effluent
Acute Toxicity <sup>4</sup>			Monthly/Quarterly <sup>3</sup>	Grab	Effluent

**Notes:**

1. The permittee shall submit Discharge Monitoring Reports electronically using NC DWR's eDMR application system. See Special Condition A. (31).
2. The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units.
3. 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
4. Acute Toxicity (*Pimephales promelas*, 24-hour) monitoring shall be performed in accordance with Special Condition A. (16) of this permit.

If the facility is unable to obtain a sample due to dry or low flow conditions preventing the facility from obtaining a representative sample, the Permittee shall submit its DMR, as required, and indicate "No Flow" for the seep (15A NCAC 02B .0506(a)(1)(E)).

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

Within 180 days of the issuance date of the permit the permittee shall submit Items V and VI of NPDES application Form 2C.

**A. (2) Effluent Limitations and Monitoring Requirements (Outfall 002 - normal operation - decanting phase) [15A NCAC 02B .0400 et seq., 02B .0500 et seq.]**

During the period beginning on the effective date of the permit and lasting until expiration or commencement of the dewatering operations, the Permittee is authorized to discharge from Internal Outfall 002 (Ash Pond Treatment System to the Heated Water Discharge Canal - Normal operations/Decanting of the free water above the settled ash layer that does not involve mechanical disturbance of the ash). Such discharges shall be limited and monitored<sup>1</sup> by the Permittee as specified below:

EFFLUENT CHARACTERISTICS	LIMITS		MONITORING REQUIREMENTS		
	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type	Sample Location <sup>2</sup>
Flow			Daily	Continuous	Effluent
Total Selenium			Monthly	Grab	Effluent
Oil and Grease	15.0 mg/L	20.0 mg/L	2/ Month	Grab	Effluent
Total Suspended Solids <sup>3</sup>	30.0 mg/L	100 mg/L	2/ Month	Grab	Effluent
Total Arsenic			Quarterly	Grab	Effluent
Total Molybdenum			Quarterly	Grab	Effluent
Total Chromium			Quarterly	Grab	Effluent
pH <sup>4</sup>	Between 6.0 and 9.0 Standard Units		Monthly	Grab	Effluent

**Notes:**

1. The permittee shall submit Discharge Monitoring Reports electronically using NC DWR's eDMR application system See Special Condition A. (31).
2. Samples taken in compliance with the monitoring requirements listed above shall be taken at the ash pond discharge prior to mixing with other sources of wastewater.
3. The facility shall continuously monitor TSS concentration when the decanting 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. The continuous TSS monitoring only required when the pumps are employed for decanting.
4. 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.

The low volume wastes shall be discharged to the ash pond treatment system until new treatment system is in operation.

There shall be no discharge of pollutants in fly ash transport waters to the ash basin.

By April 30, 2021 there shall be no discharge of pollutants in bottom ash transport waters. This requirement only applies to bottom ash transport water generated after April 30, 2021.

When the facility commences the ash pond decanting/dewatering, the facility shall treat the wastewater discharged from the ash pond by physical-chemical treatment.

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.**

**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 Raleigh Regional Office seven calendar days prior to the commencement of the decanting.**

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**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 upon the commencement of the dewatering operations and lasting until expiration, the Permittee is authorized to discharge from **Internal Outfall 002 (Ash Pond Treatment System Dewatering - removing the interstitial water)**. Such discharges shall be limited and monitored<sup>1</sup> by the Permittee as specified below:

EFFLUENT CHARACTERISTICS	LIMITS		MONITORING REQUIREMENTS		
	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type	Sample Location <sup>2</sup>
Flow		2.0 MGD	Weekly	Continuous	Effluent
Total Selenium			Weekly	Grab	Effluent
Total Arsenic			Weekly	Grab	Effluent
Total Mercury			Weekly	Grab	Effluent
Total Molybdenum			Weekly	Grab	Effluent
Total Antimony			Weekly	Grab	Effluent
Total Copper			Weekly	Grab	Effluent
Oil and Grease	15.0 mg/L	20.0 mg/L	Weekly	Grab	Effluent
Total Suspended Solids <sup>3</sup>	30.0 mg/L	100 mg/L	Weekly	Grab	Effluent
pH <sup>4</sup>	Between 6.0 and 9.0 Standard Units		Monthly	Grab	Effluent

**Notes:**

1. The permittee shall submit Discharge Monitoring Reports electronically using NC DWR's eDMR application system. See Special Condition A. (31).
2. Effluent sampling shall be conducted at the discharge from the ash settling pond prior to mixing with any other waste stream.
3. The facility shall continuously monitor TSS concentration when the decanting 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. The continuous TSS monitoring only required when the pumps are employed for decanting.
4. 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.

There shall be no discharge of pollutants in fly ash transport waters to the ash basin.

By April 30, 2021 there shall be no discharge of pollutants in bottom ash transport waters. This requirement only applies to fly ash transport water generated after April 30, 2021.

When the facility commences the ash pond decanting/dewatering, the facility shall treat the wastewater discharged from the ash pond by physical-chemical treatment.

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.

**A. (4) Effluent Limitations and Monitoring Requirements (Outfall 003) [15A NCAC 02B .0400 et seq., 02B .0500 et seq.]**

During the period beginning on the effective date of the permit and lasting until expiration, the Permittee is authorized to discharge from **Outfall 003 (Heated Water Discharge Canal System to the Hyco Reservoir)**. Such discharges shall be limited and monitored<sup>1</sup> by the Permittee as specified below:

EFFLUENT CHARACTERISTICS	LIMITS		MONITORING REQUIREMENTS		
	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type	Sample Location <sup>2</sup>
Flow			Daily	Calculation	Effluent
Total Residual Chlorine <sup>3</sup>		28 µg/L	2/Month	Grab	Effluent
Total Phosphorus			Monthly	Grab	Effluent
Total Nitrogen			Monthly	Grab	Effluent
Temperature <sup>4</sup>			Continuous	Recorder	Effluent, Afterbay Discharge
Total Arsenic			Monthly	Grab	Effluent
Total Selenium			Monthly	Grab	Effluent
Chloride			Monthly	Grab	Effluent
Total Mercury			Monthly	Grab	Effluent
Total Antimony			Monthly	Grab	Effluent
Total Molybdenum			Monthly	Grab	Effluent
Total Thallium	0.24 µg/l	0.24 µg/l	Monthly	Grab	Effluent
pH <sup>5</sup>			Weekly	Grab	Effluent
Ammonia <sup>6</sup>	1.0 mg/l	5.0 mg/l	Daily <sup>6</sup>	Grab	Effluent
Acute Toxicity <sup>7</sup>			Quarterly	Composite	Effluent
Hardness–Total as [CaCO <sub>3</sub> or (Ca + Mg)], mg/l			Quarterly	Grab	Effluent, 4C 4D
Turbidity <sup>8</sup> , NTU			Monthly	Grab	Effluent

**Notes:**

1. The permittee shall submit Discharge Monitoring Reports electronically using NC DWR's eDMR application system. See Special Condition A. (31).
2. Effluent sampling shall be performed in the discharge canal at the point of discharge into Hyco Reservoir.
3. Total Residual Chlorine compliance is required only if chlorine or chlorine derivative is added to the cooling water. The Division shall consider all effluent TRC values reported below 50 µg/L to be in compliance with the permit. However, the permittee shall continue to record and submit all values reported by a North Carolina certified laboratory (including field certified), even if these values fall below 50 µg/L.
4. The Permittee shall operate so as to remain in compliance with the conditions outlined in the mixing zone defined in Special Condition A. (19) of this permit. The temperature of Hyco Reservoir at no time shall exceed the thermal water quality standard outside the mixing zone defined in Special Condition A. (18). These thermal limitations may be deleted or revised, as appropriate, based upon evaluation of the results of the thermal studies. This permit may be reopened to implement a temperature limit if the permittee is not in compliance with Special Condition A. (19).
5. The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units.
6. Ammonia limit and monitoring is only applicable in the event of an emergency release of anhydrous ammonia during the time the released waters are discharged through outfall 003.



7. Acute Toxicity (*Pimephales promelas*) P/F @ 90%, March, June, September and December. See Special Condition A. (16) of this permit. Composite samples for this effluent characteristic shall consist of 24 or more grab samples of equal volumes collected at equal intervals over a 24-hour period.
8. 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

The Permittee is allowed to operate Unit 3 in a once-through cooling mode from October 15 through April 30.

There shall be no discharge of floating solids or visible foam in other than trace amounts outside a distance five (5) meters from the discharge pipe.

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**A. (5) Effluent Limitations and Monitoring Requirements (Internal Outfall 005) [15A  
NCAC 02B .0400 et seq., 02B .0500 et seq.]**

During the period beginning on the effective date of the permit and lasting until expiration, the Permittee is authorized to discharge from **Internal Outfall 005 (Cooling Tower Blowdown)**. Such discharges shall be limited and monitored<sup>1</sup> by the Permittee as specified below:

EFFLUENT CHARACTERISTICS	LIMITS		MONITORING REQUIREMENTS		
	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type	Sample Location <sup>2</sup>
Flow			Continuous during discharge	Pump Logs	Effluent
Free Available Chlorine <sup>3</sup>	200 µg/L	500 µg/L	2/month	Multiple Grabs	Effluent
Total Residual Chlorine <sup>3</sup>			Monthly	Multiple Grabs	Effluent
Total Chromium <sup>4</sup>	200 µg/L	200 µg/L	2/Month	Composite	Effluent
Total Zinc <sup>4</sup>	1.0 mg/L	1.0 mg/L	2/Month	Composite	Effluent
The 126 Priority Pollutants (40 CFR Part 423, Appendix A) Exclusive of Zinc and Chromium <sup>4</sup>	No Detectable Amount		Annual	Grab	Effluent

**Notes:**

1. The permittee shall submit Discharge Monitoring Reports electronically using NC DWR's eDMR application system. See Special Condition A. (31).
2. Effluent sampling shall be conducted at the discharge from the cooling tower prior to mixing with other waste streams.
3. Neither free available chlorine nor total residual chlorine may be discharged from any single generating unit for more than two hours per day, unless the Permittee demonstrates to the Division that discharge for more than two hours is required for macroinvertebrate control. The 500 µg/L is a daily maximum limitation and is to be measured during the chlorine release period. The 200 µg/L limitation is an average during the chlorine release period. Monitoring is required only when chlorine is added to the cooling water system.
4. These limitations and monitoring requirements apply if these substances are added by the Permittee for cooling tower maintenance. There shall be no detectable amounts of the 126 priority pollutants (40 CFR 423 Appendix A) contained in chemicals added for cooling tower except for total chromium and total zinc. Compliance with the limitations for the 126 priority pollutants in 40 CFR Section 423.13(d)(1) may be determined by engineering calculations which demonstrate that the regulated pollutants are not detectable in the final discharge by the analytical methods in 40 CFR Part 136.

Discharge of blowdown from the cooling tower is defined as the minimum discharge of recirculation water necessary for the purpose of discharging materials contained in the process, the further build-up of which would cause concentration in amounts exceeding limitations established by best engineering practice.

The Permittee is authorized to discharge Maintenance Drain wastewater from the Cooling Tower for Unit 4 directly to the discharge canal. Grab samples of the following parameters are to be collected prior to mixing with other waste streams and the results shall be submitted to DWR: pH (SU), flow (MGD) and total residual chlorine (mg/L). The Permittee shall notify the Division of Water Resources, Raleigh Regional Office, prior to draining the cooling tower, except during non-office hour emergencies when notification must be made the next working day. Total residual chlorine monitoring is required prior to a maintenance drain of the Unit 4 Cooling Tower only if chlorine is added to the system.

**A. (6) Effluent Limitations and Monitoring Requirements (Outfall 006) [15A NCAC 02B .0400 et seq., 02B .0500 et seq.]**

During the period beginning on the effective date of the permit and lasting until expiration, the Permittee is authorized to discharge from **Outfall 006 (Coal Pile Runoff Treatment System to the Hyco Reservoir)**. Such discharges shall be limited and monitored<sup>1</sup> by the Permittee as specified below:

EFFLUENT CHARACTERISTICS	LIMITS		MONITORING REQUIREMENTS		
	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type	Sample Location <sup>2</sup>
Flow			2/Month	Estimate	Effluent
Total Suspended Solids	30 mg/L	50 mg/L	2/Month	Grab	Effluent
Total Selenium	5.0 µg/l	56.0 µg/l	Monthly	Grab	Effluent
Oil and Grease	15.0 mg/L	20.0 mg/L	2/Month	Grab	Effluent
pH <sup>3</sup>			2/Month	Grab	Effluent
Acute Toxicity <sup>4</sup>			Annually	Grab	Effluent

**Notes:**

1. The permittee shall submit Discharge Monitoring Reports electronically using NC DWR's eDMR application system. See Special Condition A. (31).
2. Effluent sampling shall be conducted at the point of discharge into Hyco Reservoir. Samples taken in compliance with the monitoring requirements listed above shall be taken prior to mixing with other sources of wastewater.
3. The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units.
4. Acute Toxicity (*Pimephales promelas*, 24-hour) monitoring shall be performed in accordance with Special Condition A. (17) of this permit.

There shall be no discharge of floating solids or visible foam in other than trace amounts outside a distance five (5) meters from the discharge pipe.

Material storage runoff shall include rainfall to navigable waters through any discernable, confined and/or discrete conveyance from, or through, coal.

Within 180 days of the effective date of the permit, the permittee shall submit Items V and VI of NPDES application Form 2C.

**A. (7) Effluent Limitations and Monitoring Requirements (Internal Outfall 008) [15A  
NCAC 02B .0400 et seq., 02B .0500 et seq.]**

During the period beginning on the effective date of the permit and lasting until expansion to 0.025 MGD or expiration, the Permittee is authorized to discharge from **Internal Outfall 008 (Domestic Wastewater Treatment System)** into the ash pond or the low volume waste treatment system. Such discharges shall be limited and monitored<sup>1</sup> by the Permittee as specified below:

EFFLUENT CHARACTERISTICS	DAILY MAXIMUM		MONITORING REQUIREMENTS		
	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type	Sample Location <sup>2</sup>
Flow	0.015 MGD		Annual	Pump Logs	Effluent
Biochemical Oxygen Demand (5-day @ 20°C)	30.0 mg/L	45.0 mg/L	Annual	Grab	Effluent
Total Suspended Solids	30.0 mg/L	45.0 mg/L	Annual	Grab	Effluent
Total Ammonia (as N)			Annual	Grab	Effluent
pH <sup>3</sup>			Annual	Grab	Effluent
Fecal Coliform	200/100 ml	400/100 ml	Annual	Grab	Effluent

**Notes:**

1. The permittee shall submit Discharge Monitoring Reports electronically using NC DWR's eDMR application system. See Special Condition A. (31).
2. Samples taken in compliance with the monitoring requirements listed above shall be taken after treatment and prior to mixing with other sources of wastewater.
3. The pH shall not be less than 6.0 standard units, nor greater than 9.0 standard units.

See Special Condition A (24).

**A. (8) Effluent Limitations and Monitoring Requirements (Internal Outfall 008) [15A NCAC 02B .0400 et seq., 02B .0500 et seq.]**

During the period beginning upon expansion to 0.025 MGD and lasting until expiration, the Permittee is authorized to discharge from **Internal Outfall 008 (Domestic Wastewater Treatment System)** into the ash pond or the low volume waste treatment system. Such discharges shall be limited and monitored<sup>1</sup> by the Permittee as specified below:

EFFLUENT CHARACTERISTICS	DAILY MAXIMUM		MONITORING REQUIREMENTS		
	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type	Sample Location <sup>2</sup>
Flow	0.025 MGD		Quarterly/Annual <sup>3</sup>	Pump Logs	Effluent
Biochemical Oxygen Demand (5-day @ 20°C)	30.0 mg/L	45.0 mg/L	Quarterly/Annual <sup>3</sup>	Grab	Effluent
Total Suspended Solids	30.0 mg/L	45.0 mg/L	Quarterly/Annual <sup>3</sup>	Grab	Effluent
Total Ammonia (as N)			Quarterly/Annual <sup>3</sup>	Grab	Effluent
pH	6 to 9 S.U.		Quarterly/Annual <sup>3</sup>	Grab	Effluent
Fecal Coliform	200/100 ml	400/100 ml	Quarterly/Annual <sup>3</sup>	Grab	Effluent

**Notes:**

1. The permittee shall submit Discharge Monitoring Reports electronically using NC DWR's eDMR application system. See Special Condition A: (31).
2. Samples taken in compliance with the monitoring requirements listed above shall be taken after treatment and prior to mixing with other sources of wastewater.
3. After one year of quarterly monitoring the sampling frequency will be modified to Annual.

See Special Condition A (24).

**A. (9) Effluent Limitations and Monitoring Requirements (Internal Outfall 009) [15A NCAC 02B .0400 et seq., 02B .0500 et seq.]**

During the period beginning on the effective date of the permit and lasting until expiration, the Permittee is authorized to discharge from **Internal Outfall 009 (Metal Cleaning Wastes)**. Such discharges shall be limited and monitored<sup>1</sup> by the Permittee as specified below:

EFFLUENT CHARACTERISTICS	LIMITS		MONITORING REQUIREMENTS		
	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type	Sample Location <sup>2</sup>
Flow			Once per Discharge Event	Pump Logs or similar reading	Outfall 002
Total Suspended Solids	30.0 mg/L	100 mg/L	Once per Discharge Event	Grab	Outfall 002
Oil and Grease	15.0 mg/L	20.0 mg/L	Once per Discharge Event	Grab	Outfall 002
Total Copper	1.0 mg/L	1.0 mg/L	Once per Discharge Event	Grab	Outfall 002
Total Iron	1.0 mg/L	1.0 mg/L	Once per Discharge Event	Grab	Outfall 002
pH	6 to 9 S.U.		Once per Discharge Event	Grab	Outfall 002

**Notes:**

1. The permittee shall submit Discharge Monitoring Reports electronically using NC DWR's eDMR application system. See Special Condition A. (31).
2. Samples taken in compliance with the monitoring requirements listed above shall be taken prior to mixing with other sources of wastewater.

For the purposes of this permit, the term "Once per Discharge Event" shall mean the discharge from Outfall 002 that occurs within 30 minutes from the time the fly ash containing metal cleaning waste is discharged into the ash pond plus the calculated detention time of the ash pond.

**A. (10) Effluent Limitations and Monitoring Requirements (Internal Outfall 010) [15A NCAC 02B .0400 et seq., 02B .0500 et seq.]**

During the period beginning on the effective date of the permit and lasting until the existing treatment system is decommissioned, the Permittee is authorized to discharge from **Internal Outfall 010 (FGD blowdown)**. Such discharges shall be limited and monitored<sup>1</sup> by the Permittee as specified below:

EFFLUENT CHARACTERISTICS	LIMITS		MONITORING REQUIREMENTS		
	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type	Sample Location <sup>2</sup>
Flow			Monthly	Pump Logs or similar reading	Effluent
Total Suspended Solids	30 mg/l	100 mg/l	Quarterly	Grab	Effluent
Oil and grease	15 mg/l	20 mg/l	Quarterly	Grab	Effluent
Total Arsenic <sup>3</sup>	8 µg/l	11 µg/l	Quarterly	Grab	Effluent
Total Mercury <sup>3</sup>	356 ng/l	788 ng/l	Quarterly	Grab	Effluent
Total Selenium <sup>3</sup>	12 µg/l	23 µg/l	Quarterly	Grab	Effluent
Nitrate/Nitrite as N <sup>3</sup>	4.4 mg/l	17 mg/l	Quarterly	Grab	Effluent
pH <sup>4</sup>			Quarterly	Grab	Effluent

**Notes:**

1. The permittee shall submit Discharge Monitoring Reports electronically using NC DWR's eDMR application system. Special Condition A. (31).
2. Samples taken in compliance with the monitoring requirements listed above shall be taken after bioreactor treatment and prior to mixing with other sources of wastewater.
3. The limits shall become effective December 31, 2023.
4. The pH shall not be less than 6.0 standard units, nor greater than 9.0 standard units.

There shall be no discharge of untreated FGD blowdown.

**A. (11) Effluent Limitations and Monitoring Requirements (Internal Outfall 011) [15A  
NCAC 02B .0400 et seq., 02B .0500 et seq.]**

During the period beginning upon the commencement of operations of the new FGD system and lasting until expiration, the Permittee is authorized to discharge from Internal Outfall 011 (FGD blowdown). Such discharges shall be limited and monitored<sup>1</sup> by the Permittee as specified below:

EFFLUENT CHARACTERISTICS	LIMITS		MONITORING REQUIREMENTS		
	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type	Sample Location <sup>2</sup>
Flow			Monthly	Pump Logs or similar reading	Effluent
Total Suspended Solids	30 mg/l	100 mg/l	Quarterly	Grab	Effluent
Oil and grease	15 mg/l	20 mg/l	Quarterly	Grab	Effluent
Total Arsenic <sup>3</sup>	8 µg/l	11 µg/l	Quarterly	Grab	Effluent
Total Mercury <sup>3</sup>	356 ng/l	788 ng/l	Quarterly	Grab	Effluent
Total Selenium <sup>3</sup>	12 µg/l	23 µg/l	Quarterly	Grab	Effluent
Nitrate/Nitrite as N <sup>3</sup>	4.4 mg/l	17 mg/l	Quarterly	Grab	Effluent
pH	6 to 9 S.U.		Quarterly	Grab	Effluent

**Notes:**

1. The permittee shall submit Discharge Monitoring Reports electronically using NC DWR's eDMR application system. See Special Condition A. (31).
2. Samples taken in compliance with the monitoring requirements listed above shall be taken after bioreactor treatment and prior to mixing with other sources of wastewater.
3. The limits shall become effective December 31, 2023.

There shall be no discharge of untreated FGD blowdown.



**A. (12) Effluent Limitations and Monitoring Requirements (Internal Outfall 012A) [15A  
NCAC 02B .0400 et seq., 02B .0500 et seq.]**

During the period beginning upon the start of operation of the retention basin and lasting until expiration, the Permittee is authorized to discharge from **Internal Outfall 012A**. Such discharges shall be limited and monitored<sup>1</sup> by the Permittee as specified below:

EFFLUENT CHARACTERISTICS	LIMITS		MONITORING REQUIREMENTS		
	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type	Sample Location <sup>2</sup>
Flow			Monthly	Pump Logs or similar reading	Effluent
Total Suspended Solids	30 mg/l	100 mg/l	Quarterly	Grab	Effluent
Oil and grease	15 mg/l	20 mg/l	Quarterly	Grab	Effluent
pH	6 to 9 S.U.		Quarterly	Grab	Effluent

**Notes**

1. The permittee shall submit Discharge Monitoring Reports electronically using NC DWR's eDMR application system. See Special Condition A. (31).
2. Samples taken in compliance with the monitoring requirements listed above shall be taken after the treatment system and prior to mixing with other sources of wastewater.

Within 180 days of the commencement of operations of the treatment system the permittee shall submit Items V and VI of NPDES application Form 2C.

**A. (13) Effluent Limitations and Monitoring Requirements (Internal Outfall 012B) [15A  
NCAC 02B .0400 et seq., 02B .0500 et seq.]**

During the period beginning upon the start of operation of the retention basin and lasting until expiration, the Permittee is authorized to discharge from **Internal Outfall 012B**. Such discharges shall be limited and monitored<sup>1</sup> by the Permittee as specified below:

EFFLUENT CHARACTERISTICS	LIMITS		MONITORING REQUIREMENTS		
	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type	Sample Location <sup>2</sup>
Flow			Monthly	Pump Logs or similar reading	Effluent
Total Suspended Solids	30 mg/l	100 mg/l	Quarterly	Grab	Effluent
Oil and grease	15 mg/l	20 mg/l	Quarterly	Grab	Effluent
pH	6 to 9 S.U.		Quarterly	Grab	Effluent
Ammonia <sup>3</sup>			Per discharge event	Grab	Effluent
BOD			Quarterly	Grab	Effluent
Fecal Coliform			Quarterly	Grab	Effluent

**Notes**

1. The permittee shall submit Discharge Monitoring Reports electronically using NC DWR's eDMR application system. See Special Condition A. (31).
2. Samples taken in compliance with the monitoring requirements listed above shall be taken after the treatment system and prior to mixing with other sources of wastewater.
3. Ammonia monitoring shall be daily during a discharge of emergency anhydrous ammonia.

Within 180 days of the commencement of operations of the treatment system the permittee shall submit Items V and VI of NPDES application Form 2C.

**A. (14) Effluent Limitations and Monitoring Requirements (Internal Outfall 012C) [15A  
NCAC 02B .0400 et seq., 02B .0500 et seq.]**

During the period beginning upon the start of operation of the retention basin and lasting until expiration, the Permittee is authorized to discharge from **Internal Outfall 012C**. Such discharges shall be limited and monitored<sup>1</sup> by the Permittee as specified below:

EFFLUENT CHARACTERISTICS	LIMITS		MONITORING REQUIREMENTS		
	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type	Sample Location <sup>2</sup>
Flow			Monthly	Pump Logs or similar reading	Effluent
Total Suspended Solids	30 mg/l	100 mg/l	Per discharge event	Grab	Effluent
Oil and grease	15 mg/l	20 mg/l	Per discharge event	Grab	Effluent
pH	6 to 9 S.U.		Per discharge event	Grab	Effluent
Ammonia <sup>3</sup>	1.0 mg/l	5.0 mg/l	Per discharge event	Grab	Effluent
BOD			Per discharge event	Grab	Effluent
Fecal Coliform			Per discharge event	Grab	Effluent
Total Arsenic, µg/l			Per discharge event	Grab	Effluent
Total Mercury, ng/l			Per discharge event	Grab	Effluent
Total Selenium, µg/l			Per discharge event	Grab	Effluent
Nitrate/Nitrite as N, mg/l			Per discharge event	Grab	Effluent
Total Copper, µg/l			Per discharge event	Grab	Effluent
Total Iron, µg/l			Per discharge event	Grab	Effluent

**Notes**

1. The permittee shall submit Discharge Monitoring Reports electronically using NC DWR's eDMR application system. See Special Condition A. (31).
2. Samples taken in compliance with the monitoring requirements listed above shall be taken after the treatment system and prior to mixing with other sources of wastewater.
3. Ammonia limits and monitoring shall apply if a discharge of emergency anhydrous ammonia is occurring at the same time as the emergency overflow.

Within 180 days of the first discharge event the permittee shall submit Items V and VI of NPDES application Form 2C.

### A. (15) Discharge from Seepage

#### Existing discharges from seepage

The facility identified four unpermitted seeps from the ash landfill area discharging from a common outfall. The locations for the seeps covered by the permit are identified below and are depicted on the map attached to the permit.

#### Seeps

Seep ID	Latitude	Longitude	Outfall
S9	36.47823	-79.056076	001
S10	36.479169	-79.056936	001
S11	36.478569	-79.056737	001
S12	36.478103	-79.056735	001

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. (20.), 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. (1.).

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 standard 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.

The new identified seep is not permitted until the permit is modified and the new seep included in the permit and the new outfall established for the seep.

**A. (16) Acute Toxicity Testing PASS/FAIL Permit Limit Outfalls 001 and 003 [15A NCAC 02B .0200 et seq.]**

The Permittee shall conduct acute toxicity tests on a quarterly basis using protocols defined in the North Carolina Procedure Document entitled "Pass/Fail Methodology For Determining Acute Toxicity In A Single Effluent Concentration" (Revised-December 2010 or subsequent versions). The monitoring shall be performed as a Fathead Minnow (*Pimephales promelas*) 24 hour static test. The effluent concentration at which there may be at no time significant acute mortality is 90% (defined as treatment two in the procedure document). The tests will be performed during the months of . These months signify the first month of each three month toxicity testing quarter assigned to the facility. 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.

The Permittee shall conduct acute toxicity tests on a *quarterly* basis using protocols defined in the North Carolina Procedure Document entitled "Pass/Fail Methodology For Determining Acute Toxicity In A Single Effluent Concentration" (Revised-December 2010 or subsequent versions). The monitoring shall be performed as a Fathead Minnow (*Pimephales promelas*) 24 hour static test. The effluent concentration at which there may be at no time significant acute mortality is 90% (defined as treatment two in the procedure document). The tests will be performed during the months of March, June, September and December. These months signify the first month of each three month toxicity testing quarter assigned to the facility. 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.

The parameter code for *Pimephales promelas* is TGE6C. All toxicity testing results required as part of this permit condition will be entered on the Effluent Discharge Form (MR-1) for the month in which it was performed, using the appropriate parameter code. Additionally, DWR Form AT-2 (original) is to be sent to the following address:

Attention: North Carolina Division of Water Resources  
Water Sciences Section/Aquatic Toxicology Branch  
1621 Mail Service Center  
Raleigh, North Carolina 27699-1621

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 and accurate and include all supporting chemical/physical measurements performed in association with the toxicity tests, as well as all dose/response data. 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 any month, 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, then monthly monitoring will begin immediately. Upon submission of a valid test, this monthly test requirement will revert to quarterly in the months specified above

Should any test data from either these monitoring requirements 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 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. (17) Acute Toxicity Monitoring (ANNUAL) Outfall 006 [15A NCAC 02B .0200 et seq.]**

The permittee shall conduct annual acute toxicity tests using protocols defined as definitive in EPA Document EPA-821-R-02-012 entitled "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms." The monitoring shall be performed as a Fathead Minnow (*Pimephales promelas*) **48 hour static test**. Effluent samples for self-monitoring purposes must be obtained during representative effluent discharge and shall be performed at the NPDES permitted final effluent discharge below all waste treatment processes.

The parameter code for *Pimephales promelas* is TAA6C. All toxicity testing results required as part of this permit condition will be entered on the Effluent Discharge Form (MR-1) for the month in which it was performed, using the appropriate parameter code. Additionally, DWR Form AT-1 (original) is to be sent to the following address:

Attention: North Carolina Division of Water Resources  
Water Sciences Section/Aquatic Toxicology Branch  
1621 Mail Service Center  
Raleigh, North Carolina 27699-1621

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 and accurate and include all supporting chemical/physical measurements performed in association with the toxicity tests, as well as all dose/response data. 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 any month, 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 any test data from either these monitoring requirements 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 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) Intake Screen Backwash Condition**

Continued intake screen backwash discharge is permitted without limitations or monitoring requirements.

**A. (19) Temperature Requirements (Outfall 003 Mixing Zone)**

- a. Water quality standards for temperature for lower piedmont waters (32° C) will not apply within a mixing zone, which shall include the North Hyco arm downstream of NC Highway 57, the main body of Hyco Reservoir downstream of the confluence of the Cobbs Creek Arm and the North Hyco Arm, and the entire afterbay lake. The area described does not include the South Hyco Arm or the first finger arms on the west side of the reservoir lying upstream of the dam. Water within the main lake and the afterbay lake to Hyco River shall comply with water quality standards except the temperature standards in the areas of the lake defined herein as a mixing zone. Water discharged from the afterbay shall comply with the temperature standard.
- b. Temperature measurements made to monitor compliance with this provision shall be made at least six inches, but not more than one foot, below the surface of the lake. A monthly average temperature shall consist of at least five determinations conducted on five separate days.
- c. Temperature increases shall be determined as the increase in temperature above the temperature measured at the confluence of the two southern finger arms on the north side of the lake (Lat. 36.5111, Long 79.06629).
- d. A summary of the temperature monitoring results at all sampling locations as established in the biological monitoring program for Hyco Reservoir and condition A.(4) shall be submitted to the Division with the annual Biological Monitoring Report due by July 31 of the following year.

**A. (20) Biological and Instream Monitoring**

In accordance with the previously submitted biological monitoring program (as approved by the Director of the Division, and as it may be amended), the Permittee shall submit results of biological studies and monitoring programs by July 31 of the following year. The following parameters shall be included in the surface water sampling protocol: total arsenic, total selenium, total mercury (method 1631E), total chromium, dissolved lead, dissolved cadmium, dissolved copper, total hardness, and dissolved zinc. For fish tissue sampling the following parameters shall be included: arsenic, selenium and mercury.

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 Science Section
  - 1621 Mail Service Center
  - Raleigh, NC 27699-1621

**A. (21) Applicable State Law**

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

**A. (22) PCB Prohibition**

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

**A. (23) Limitations Reopener**

The permit shall be modified, or revoked and reissued, to comply with any applicable effluent guideline or water quality standard issued or approved under sections 302(b)(2)(c) and (d), 304(b)(2) and 307(a) of the Clean Water Act, if the effluent guideline or water quality standard so issued or approved:

- a. Contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
- b. Controls a pollutant not limited in the permit.

The permit as modified or reissued under this paragraph shall also contain any other requirements in the Act then applicable.

**A. (24) Domestic Wastewater Treatment Plant**

The permittee shall at all times properly operate and maintain the domestic wastewater treatment plant to meet secondary standards as specified for internal outfall 008.

**A. (25) Bioreactor Condition**

An operation and maintenance plan, including a monitoring regimen for the bioreactor units and an emergency response plan in the event of an upset, shall be maintained and available for inspection by Division personnel.

**A. (26) Ash Pond Closure**

The facility shall prepare an Ash Ponds Closure Plan. This Plan shall be submitted to the Division one month prior to the closure of ash ponds.

**A. (27) Groundwater Monitoring Well Construction And Sampling**

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. (28) 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.

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  
1623 Mail Service Center  
Raleigh, NC 27699-1623



**A. (29) Structural Integrity Inspections of Ash Pond Dam**

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

**A. (30) Biocide 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. (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. 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. (11.) Signatory Requirements
- 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)]**

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 DENR / 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-npdes-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].

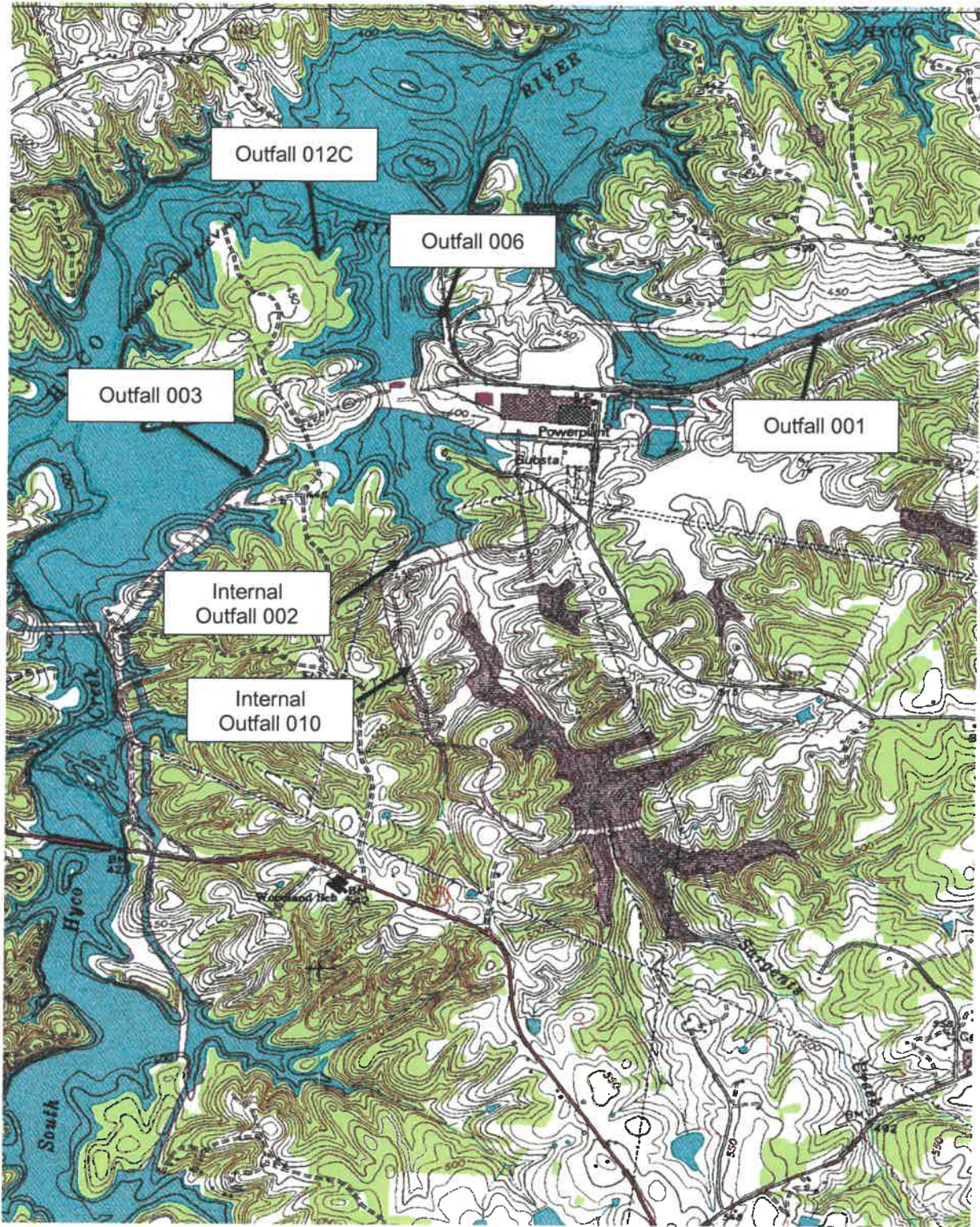
**A. (32) Additional Conditions and Definitions**

The following special conditions are applicable to all outfalls regulated by this permit:

- a) Nothing contained in this permit shall be construed as a waiver by the permittee of any right to a hearing it may have pursuant to State or Federal laws or regulations.
- b) Discharge of any waste resulting from the combustion of toxic or hazardous waste to any waste stream which ultimately discharges to waters of the United States is prohibited, unless specifically authorized in this permit.
- c) The permittee shall report all visible discharges of floating materials (such as an oil slick) to the Director when submitting DMRs.
- d) "Upset," means an exceptional incident in which there is an unintentional and temporary non-compliance with technology-based effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventative maintenance, or improper operations.
- e) All flows shall be reported on monthly DMRs. Should no flow occur during a given month, the words "no flow" should be clearly written on the front of the DMR.
- f) EPA methods 200.7 or 200.8 (or the most current versions) shall be used for analyses of all metals except for total mercury.
- g) 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)).
- h) 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)).

- i) 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)).
- j) 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)).
- k) 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.

DRAFT



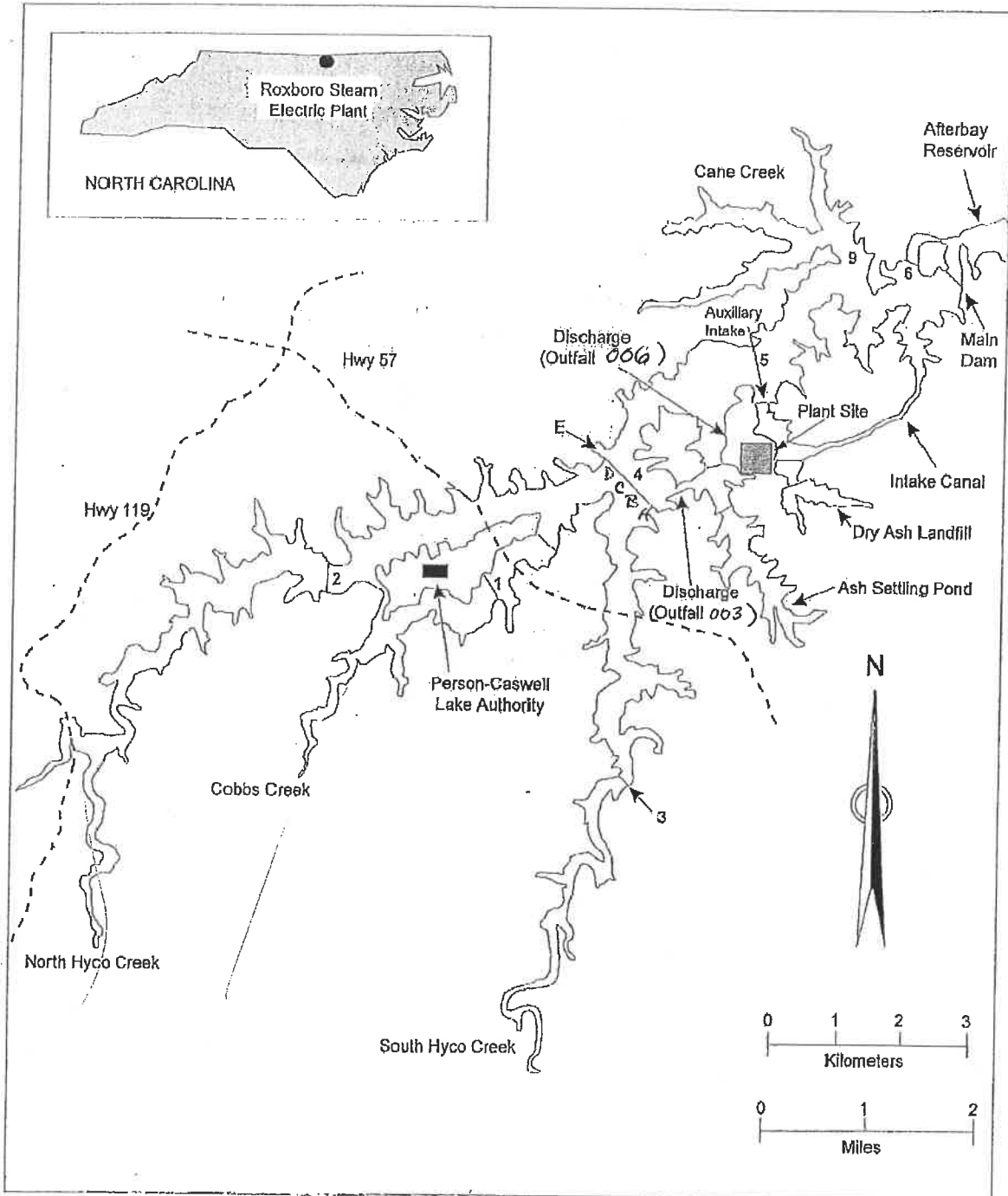
Duke Energy Progress – Roxboro Steam Station, Person County

<b>Receiving Stream:</b> Hycos Reservoir	<b>Stream Class:</b> WS-V, B
<b>Sub-Basin:</b> 03-02-05	<b>State Grid:</b> B22NE/Olive Hill
<b>Drainage Basin:</b> Roanoke River Basin	
<b>Outfall 001:</b> Latitude 36° 29' 10" Longitude 79° 03' 34"	
<b>Outfall 003:</b> Latitude 36° 28' 48" Longitude 79° 05' 11"	
<b>Outfall 006:</b> Latitude 36° 19' 13" Longitude 79° 04' 41"	
<b>Outfall 012C:</b> Latitude: 36° 12' 14" Longitude 79° 04' 55"	





# Hyco Reservoir Sampling Locations







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 Raleigh Regional Office, telephone number (919) 791-4200, 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 45 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
<b>CW-1, CW-2, CW-2D,            CW-3, CW-3D, CW-4,            CW-5, BG-1</b>	<b>Laboratory Parameters</b>				<b>April, July, November</b>
	Aluminum	Antimony	Arsenic	Barium	
	Beryllium	Boron	Cadmium	Calcium	
	Cobalt	Chromium	Copper	Iron	
	Lead	Magnesium	Manganese	Molybdenum	
	Mercury	Nickel	Potassium	Selenium	
	Sodium	Strontium	Thallium	Vanadium	
	Zinc	Chloride	Sulfate	Alkalinity	
	Bicarbonate	Carbonate	Total Dissolved Solids	Total Suspended Solids	
	<b>Field Parameters</b>				
	Turbidity	pH	Temperature	Specific Conductance	
	Dissolved Oxygen	Oxidation Reduction Potential	Water level		



Attachment 2

Plan for Identification of New Discharges (State Enforceable Only)

<https://ncdenr.s3.amazonaws.com/s3fs-public/Water%20Quality/NPDES%20Coal%20Ash/Cliffside%20Plan%20for%20Identification%20of%20New%20Discharges%20Sept%2030%202014.pdf>

