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

H.F. Lee Energy Complex
1199 Black Jack Church Road
Goldsboro, North Carolina
Wayne County

to receiving waters designated as the Neuse River in the Neuse River Basin

in accordance with effluent limitations, monitoring requirements, and other applicable conditions set forth in Parts I, II, and III hereof.

The Major Modification shall become effective December 1, 2022.

This permit and the authorization to discharge shall expire at midnight on March 31, 2024.

Signed this day October 21, 2022.

DocuSigned by:
Douglas W Dowden
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Richard E. Rogers, Jr., 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. 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 discharge the following treated waste streams from the H. F. Lee Energy Complex located at 1199 Black Jack Church Road, Goldsboro, Wayne County:

- Outfall 001 – Active Ash Basin - 2.16 MGD

  No process wastewaters are discharged to Outfall 001.
  - Ash Pond Decant, Phase I
  - Ash Pond Dewatering and Groundwater Extraction, Phase II
  - Ash Pond Groundwater Extraction, Phase III

- Outfall 002 and 002A - Cooling Pond – No Flow Limit
  The facility uses an existing 545 acre closed-cycle cooling pond with baffled dikes to treat recirculating condenser cooling and process water.
  - Recirculated condenser cooling water (~369 MGD)
  - Lee Combined Cycle Plant Site wastewaters:
    - Cooling tower blowdown from the Wet Surface Air Cooler and the combined cycle Heat Recovery Steam Generator (HRSG),
    - Wayne County Combustion Turbine Site wastewaters from the sump lift station,
    - Wayne County Combustion Reverse osmosis reject wastewaters from the water treatment plant and RO cleaning wastewaters
    - Filter plant wastewaters
  - Low volume Wastewaters
  - Storm water from drains and Combustion Turbine Site secondary containment and fuel forwarding area
  - Equipment and containment drains and wash waters
  - Miscellaneous wastewaters as described in the application
  - Coal pile runoff (ceased)
  - Outfall 002A – additional outfall to be used only during severe weather or required maintenance

  No metal cleaning wastes shall be discharged to Outfall 002 or Outfall 002A.

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- Outfall 004 – Coal Ash Beneficiation Plant – No Flow Limit
  The facility shall treat wastewater discharged from the beneficiation plant in a retention pond and an oil/water separator.
  Beneficiation Plant wastewaters:
  - Truck wash water
  - Dust suppression water
  - Storm water

The effluent from the Coal Ash Beneficiation Plant can be discharged to the Neuse River via Outfall 004 or to the Cooling Pond (Outfall 002).

- Outfall 005a (Latitude 35° 22' 40.40"; Longitude 78° 6' 7.64") – Inactive basin 1 and 2, including storm water runoff, groundwater, and interstitial water. Flow limit 8 MGD (combined for Outfall 005a and 005b).

- Outfall 005b (Latitude 35° 22' 21.94"; Longitude 78° 6' 11.65") – Inactive basin 3, including storm water runoff, groundwater, and interstitial water. Flow limit 8 MGD (combined for Outfall 005a and 005b).

- Outfall 006 – Inactive basin 1 and 2 emergency spillway, including stormwater runoff, groundwater, and interstitial water. No Flow Limit.

- Outfall 007 – Inactive basin 3 emergency spillway, including stormwater runoff, groundwater, and interstitial water. No Flow Limit.

- Outfall 008 – Inactive basin 3 emergency spillway, including stormwater runoff, groundwater, and interstitial water. No Flow Limit.

- Outfall 009 – Inactive basin 1 and 2 emergency spillway, including stormwater runoff, groundwater, and interstitial water. No Flow Limit.

- Discharge from 21 seeps around the cooling pond.

2. Discharge from said treatment works via Outfalls 001, Outfalls 002 and 002A, Outfall 004, Outfall 005a, Outfall 005b, Outfall 006, Outfall 007, Outfall 008, Outfall 009, and 21 seeps into the Neuse River, a Class WS-IV; NSW water in the Neuse River Basin, at the locations specified on the attached maps.

Part I

A. (1.) EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (Phase I – Ash Pond Decant - 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 commencement of dewatering, or expiration, the permittee is authorized to discharge effluent from **Outfall 001** (**decanting the free water above the settled ash layer that does not involve mechanical disturbance of the ash**). Such discharges shall be limited and monitored[1] by the permittee as specified below:

EFFLUENT CHARACTERISTICS	LIMITS		MONITORING REQUIREMENTS		
	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type	Sample Location[2]
Flow, MGD		2.16	Daily	Pump Logs	Effluent
pH[3]	6.0 ≤ pH ≤ 9.0		2/Month	Grab	Effluent
Total Suspended Solids[4]	30.0 mg/L	100.0 mg/L	2/Month	Grab	Effluent
Oil and Grease	15.0 mg/L	20.0 mg/L	2/Month	Grab	Effluent
Total Kjeldahl Nitrogen (TKN), mg/L			Monthly	Grab	Effluent
Total Nitrogen (TN), mg/L TN = (NO_2 + NO_3) + TKN			Monthly	Calculated	Effluent
TN Load [5]	Monitor & Report (lbs/month) Monitor & Report (lbs/year)		Monthly Annually	Calculated Calculated	Effluent
Total Phosphorus, mg/L			Monthly	Grab	Effluent
Chronic Toxicity[6]			Monthly	Grab	Effluent
Turbidity[7], NTU			Monthly	Grab	Effluent
Total Hardness, mg/L [$CaCO_3$]			Monthly	Grab	Effluent
Total Arsenic, µg/L			Weekly	Grab	Effluent
Total Mercury[8], ng/L			Weekly	Grab	Effluent
Total Selenium, µg/L			Weekly	Grab	Effluent
Total Chromium, µg/L			Monthly	Grab	Effluent
Total Lead, µg/L			Monthly	Grab	Effluent
Total Cadmium, µg/L			Monthly	Grab	Effluent
Total Copper, µg/L			Monthly	Grab	Effluent
Total Zinc, µg/L			Monthly	Grab	Effluent
TDS, mg/L			Monthly	Grab	Effluent
Nitrate/nitrite as N, mg/L			Monthly	Grab	Effluent

Notes:

1. The permittee shall submit Discharge Monitoring Reports electronically using NC DWR's eDMR application system. Please See Special Condition A. (30.).
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 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 after the pH issue has been resolved or if interruption might result in a dam failure or damage.
4. The facility shall continuously monitor TSS concentration when the decanting process commences, and the pump shall be shutoff automatically when one half of the Daily Maximum

limit (15 minutes average) is exceeded. Pumping will be allowed to continue after the TSS issue has been resolved or if interruption might result in a dam failure or damage. Continuous TSS monitoring is only required when the pumps are employed.

5. See Special Condition A. (17.) Total Nitrogen Calculations
6. Chronic Toxicity (Ceriodaphnia) at 1.3%; Monthly; see Special Condition A. (14.).
7. The discharge from this facility shall not cause turbidity in the receiving stream to exceed 50 NTU. If the instream turbidity exceeds 50 NTU due to natural background conditions, the discharge cannot cause turbidity to increase in the receiving stream. Therefore, if the effluent measurement exceeds 50 NTU, the Permittee shall sample upstream and downstream turbidity in the receiving waterbody, within 24 hours, to demonstrate the existing turbidity level in the receiving waterbody was not increased. All data shall be reported on the DMRs. (See 15A NCAC 2B .0211 (21)). NTU - Nephelometric Turbidity Unit.
8. The facility shall use EPA method 1631E.

a. When the facility commences the ash pond/ponds decanting/dewatering, the facility shall treat the wastewater discharged from the ash pond using physical-chemical treatment, if necessary, to assure state Water Quality Standards are not contravened in the receiving stream. Duke Energy shall notify DWR NPDES Permitting and DWR Washington Regional Office, in writing, within seven calendar days of installing additional physical-chemical treatment at this Outfall.

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

c. The rate for lowering the liquid level in a coal ash pond shall not exceed one (1) foot per day unless a higher rate is supported to the satisfaction of DEMLR and in accordance with NCAC, Title 15A, Subchapter 2K.

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

e. The limits and conditions in Section A. (2.) of the permit apply when water in the ash settling basin is lowered below the three feet trigger mark.

f. The facility shall notify DWR NPDES Permitting Unit and DWR Washington Regional Office, in writing, seven calendar days prior to the commencement of the dewatering.

g. If any one of these pollutants (As, Se, and Hg) reaches 85% of the allowable level during decanting/dewatering, the facility shall immediately discontinue discharge from the decanting/dewatering operations and report the event to the Washington Regional Office and Complex NPDES Permitting Branch via telephone and e-mail.

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

There shall be no discharge of polychlorinated biphenyls (PCBs).

This facility is currently classified as “non-nutrient bearing”.

A. (2.) EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (Phase II - Ash Pond Dewatering and Groundwater Extraction - Outfall 001) [15A NCAC 02B .0400 et seq., 02B .0500 et seq.]

During the period beginning on the commencement date of the dewatering operation and lasting until completion of dewatering or expiration, the Permittee is authorized to discharge treated effluent from **Outfall 001 (ash pond dewatering or ash pond dewatering and groundwater extraction from remediation wells)**. Such discharges shall be limited and monitored[1] by the permittee as specified below:

EFFLUENT CHARACTERISTICS	LIMITS		MONITORING REQUIREMENTS		
	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type	Sample Location[2]
Flow		2.16 MGD	Weekly	Pump Logs	Effluent
pH[3]	6.0 ≤ pH ≤ 9.0		Weekly	Grab	Effluent
Total Suspended Solids[4]	30.0 mg/L	100.0 mg/L	Weekly	Grab	Effluent
Oil and Grease	15.0 mg/L	20.0 mg/L	Weekly	Grab	Effluent
Total Kjeldahl Nitrogen (TKN), mg/L			Monthly	Grab	Effluent
Total Nitrogen (TN), mg/L TN = (NO_2 + NO_3) + TKN			Monthly	Calculated	Effluent
TN Load[5]	Monitor & Report (lbs/month) Monitor & Report (lbs/year)		Monthly Annually	Calculated Calculated	Effluent
Total Phosphorus, mg/L			Monthly	Grab	Effluent
Chronic Toxicity[6]			Monthly	Grab	Effluent
Turbidity[7], NTU			Weekly	Grab	Effluent
Total Hardness, mg/L [$CaCO_3$]			Weekly	Grab	Effluent
Total Arsenic, µg/L	3295 µg/L	21994 µg/L	Weekly	Grab	Effluent
Total Mercury[8], ng/L			Weekly	Grab	Effluent
Total Selenium, µg/L			Weekly	Grab	Effluent
Total Chromium, µg/L			Weekly	Grab	Effluent
Total Lead, µg/L			Weekly	Grab	Effluent
Total Cadmium, µg/L			Weekly	Grab	Effluent
Total Copper, µg/L			Weekly	Grab	Effluent
Total Zinc, µg/L			Weekly	Grab	Effluent
TDS, mg/L			Weekly	Grab	Effluent
Nitrate/nitrite as N, mg/L			Weekly	Grab	Effluent

Notes:

1. The permittee shall submit Discharge Monitoring Reports electronically using NC DWR's eDMR application system. Please See Special Condition A. (30.).
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 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 after the pH issue has been resolved or if interruption might result in a dam failure or damage.
4. The facility shall continuously monitor TSS concentration when the dewatering process commences, and the dewatering pump shall be shutoff automatically when one half of the

Daily Maximum limit (15 minutes average) is exceeded. Pumping will be allowed to continue after the TSS issue has been resolved or if interruption might result in a dam failure or damage. Continuous TSS monitoring is only required when the pumps are employed.

5. See Special Condition A. (17.) Total Nitrogen Calculations
6. Chronic Toxicity (Ceriodaphnia) at 1.3%; Monthly; see Special Condition A. (14.).
7. The discharge from this facility shall not cause turbidity in the receiving stream to exceed 50 NTU. If the instream turbidity exceeds 50 NTU due to natural background conditions, the discharge cannot cause turbidity to increase in the receiving stream. Therefore, if the effluent measurement exceeds 50 NTU, the Permittee shall sample upstream and downstream turbidity in the receiving waterbody, within 24 hours, to demonstrate the existing turbidity level in the receiving waterbody was not increased. All data shall be reported on the DMRs. (See 15A NCAC 2B .0211 (21)). NTU - Nephelometric Turbidity Unit
8. The facility shall use EPA method 1631E.

a. The rate for lowering the liquid level in a coal ash pond shall not exceed one (1) foot per day unless a higher rate is supported to the satisfaction of DEMLR and in accordance with NCAC, Title 15A, Subchapter 2K.

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

c. When the facility commences the ash pond/ponds decanting/dewatering, the facility shall treat the wastewater discharged from the ash pond using physical-chemical treatment, if necessary, to assure state Water Quality Standards are not contravened in the receiving stream. Duke Energy shall notify DWR NPDES Permitting and DWR Washington Regional Office, in writing, within seven calendar days of installing additional physical-chemical treatment at this Outfall.

d. If any one of these pollutants (As, Se, and Hg) reaches 85% of the allowable levels during decanting/dewatering, the facility shall immediately discontinue discharge from the decanting/dewatering operations and report the event to the Washington Regional Office and Complex NPDES Permitting Branch via telephone and e-mail.

e. When pond dewatering has finished and the discharge primarily consists of treated groundwater extraction and remediation wastewater, Duke Energy shall sample and submit a completed EPA Form 2C for Outfall 001 as soon as practicable, but no later than 180 days from the commencement of groundwater remediation discharges through Outfall 001.

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

There shall be no discharge of polychlorinated biphenyls (PCBs).

This facility is currently classified as “non-nutrient bearing”.

A. (3.) EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (Phase III - Groundwater Extraction - Outfall 001) [15A NCAC 02B .0400 et seq., 02B .0500 et seq.]

During the period when ash pond dewatering has finished and beginning on the commencement date of only groundwater remediation discharge and lasting until expiration, the Permittee is authorized to discharge treated effluent from **Outfall 001 (consisting of groundwater extraction from remediation wells)**. Such discharges shall be limited and monitored[1] by the permittee as specified below:

EFFLUENT CHARACTERISTICS	LIMITS		MONITORING REQUIREMENTS		
	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type	Sample Location[2]
Flow		1.8 MGD	Weekly	Pump Logs	Effluent
pH	6.0 ≤ pH ≤ 9.0		2/ Month	Grab	Effluent
Total Kjeldahl Nitrogen (TKN), mg/L			Monthly	Composite	Effluent
Total Nitrogen (TN), mg/L TN = (NO_2 + NO_3) + TKN			Monthly	Calculated	Effluent
TN Load[3]	Monitor & Report (lbs/month) Monitor & Report (lbs/year)		Monthly Annually	Calculated Calculated	Effluent
Total Phosphorus, mg/L			Monthly	Composite	Effluent
Chronic Toxicity[4]			Monthly	Composite	Effluent
Turbidity[5], NTU			Monthly	Grab	Effluent
Total Hardness, mg/L [$CaCO_3$]			Monthly	Composite	Effluent
Total Arsenic, µg/L			Weekly	Composite	Effluent
Total Cadmium, µg/L			Monthly	Composite	Effluent
Total Copper, µg/L			Monthly	Composite	Effluent
Total Lead, µg/L			Weekly	Composite	Effluent
Total Mercury[6], ng/L			Monthly	Grab	Effluent
Total Barium, mg/L			Monthly	Composite	Effluent
Total Selenium, µg/L			Weekly	Composite	Effluent
Nitrate/nitrite as N, mg/L			Monthly	Composite	Effluent

Notes:

1. The permittee shall submit Discharge Monitoring Reports electronically using NC DWR's eDMR application system. Please See Special Condition A. (30.).
2. Effluent sampling shall be conducted at the discharge from the Wastewater Treatment System prior to mixing with any other waste stream.
3. See Special Condition A. (17.) Total Nitrogen Calculations
4. Chronic Toxicity (Ceriodaphnia) at 1.0 %; Monthly; see Special Condition A. (14.).
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.

a. **When pond dewatering has finished and the discharge primarily consists of treated groundwater extraction and remediation wastewater, Duke Energy shall sample and submit a completed EPA Form 2C for Outfall 001 as soon as practicable, but no later than 180 days from the commencement of groundwater remediation discharges through Outfall 001.**

b. **If any one of these pollutants (As, Se, and Hg) reaches 85% of the allowable levels during decanting/dewatering, the facility shall immediately discontinue discharge from the decanting/dewatering operations and report the event to the Washington Regional Office and Complex NPDES Permitting Branch via telephone and e-mail.**

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

A. (4.) EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (COOLING POND - OUTFALL 002) [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 treated effluent from **Outfall 002** (consisting primarily of recirculated condenser cooling water, low volume wastes, cooling tower blowdown, combustion turbine site wastewaters, reverse osmosis reject wastewaters, filter plant wastewaters, storm water, coal pile runoff (ceased) and equipment wash waters). Such discharges shall be limited and monitored[1] by the permittee as specified below:

EFFLUENT CHARACTERISTICS	LIMITS		MONITORING REQUIREMENTS		
	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type	Sample Location
Flow, MGD[2]			Each Event	Estimate	Outfall Structure
Temperature[3]		32.0 °C	Each Event	Grab	Outfall Structure
Total Suspended Solids	30.0 mg/L	50.0 mg/L	Each Event	Grab	Outfall Structure
Oil and Grease	15.0 mg/L	20.0 mg/L	Each Event	Grab	Outfall Structure
pH	6.0 ≤ pH ≤ 9.0		Each Event	Grab	Outfall Structure
Total Residual Chlorine[4]		28.0 µg/L	Each Event	Grab	Outfall Structure
Free Available Chlorine[4]	200 µg/L	500 µg/L	Each Event	Grab	Outfall Structure
Fluoride, mg/L			Each Event	Grab	Outfall Structure
Total Hardness, mg/L [$CaCO_3$]			Each Event	Grab	Outfall Structure
Total Arsenic µg/L,			Each Event	Grab	Outfall Structure
Total Chromium	200 µg/L	200 µg/L	Each Event	Grab	Outfall Structure
Total Zinc	1000 µg/L	1000 µg/L	Each Event	Grab	Outfall Structure
Total Lead, µg/L			Each Event	Grab	Outfall Structure
Total Mercury[5], ng/L			Each Event	Grab	Outfall Structure
Total Molybdenum, µg/L	13,734 µg/L	13,734 µg/L	Each Event	Grab	Outfall Structure
Acute Episodic Toxicity[6]			See A. (15.)	Grab	Outfall Structure
The 126 Priority Pollutants (40 CFR Part 423, Appendix A) Exclusive of Zinc and Chromium[7]	No Detectable Amount		Each Event	Grab	Outfall Structure

Notes:

1. The permittee shall submit Discharge Monitoring Reports electronically using NC DWR's eDMR application system. Please See Special Condition A. (30.).
2. This discharge is permitted only in the following cases: a) caused by extreme rainfall; b) where unavoidable to prevent loss of life, severe property damage, or damage to the cooling pond structure; or c) for necessary maintenance activities. In the event that a discharge occurs, the permittee shall inform the Washington Regional Office (252-946-6481) and the Neuse River Water and Sewer Authority (252-522-2567) by telephone as soon as possible, but in no case later than 48 hours after the discharge occurs. The permittee shall also provide the following information, in writing, to the Division within 10 days of the discharge: a) a description and cause of the discharge; b) the duration of the discharge, including time and dates, anticipated time the discharge is expected to continue, and steps being taken to reduce, prevent, and eliminate reoccurrence of the discharge. The permittee shall take all reasonable steps necessary to minimize any adverse impact to navigable waters resulting from the discharge, including such monitoring as necessary to determine the environmental impact of the discharge.
3. As a result of this discharge, the temperature of the receiving water shall not be increased by more than 2.8°C above ambient water temperature and in no case exceed 32°C.
4. Monitoring requirement for total residual chlorine applies only when chlorine is added to the recirculating condenser cooling or process water discharged to the pond. Neither free available chlorine nor total residual chorine 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.
5. The facility shall use EPA method 1631E.
6. Acute Episodic Toxicity (Fathead Minnow 24-hr); LC50; see Special Condition A. (15.).
7. 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.

a. The permittee shall obtain authorization from the Division of Water Resources prior to using any biocide in the cooling water; see condition A. (21.).

b. In accordance with 15A NCAC 2B .0505 (c)(4), sampling may be discontinued when flow conditions or extreme weather conditions could result in injury or death of the person(s) collecting samples. In such cases, on each day that sampling is discontinued, written justification for the discontinuance shall be specified in the monitoring report for the month in which the event occurred.

There shall be no discharge of polychlorinated biphenyls (PCBs).

There shall be no discharge of metal cleaning wastes.

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

A. (5.) EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (Cooling Pond - 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 treated effluent from **Outfall 002A only during severe weather events or required maintenance** (this wastewater primarily consists of recirculated condenser cooling water, low volume wastes, cooling tower blowdown, combustion turbine site wastewaters, reverse osmosis reject wastewaters, filter plant wastewaters, storm water, and equipment wash waters). Such discharges shall be limited and monitored[1] by the permittee as specified below:

EFFLUENT CHARACTERISTICS	LIMITS		MONITORING REQUIREMENTS		
	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type	Sample Location
Flow, MGD[2]			Each Event	Estimate	Outfall Structure
Temperature[3]		32.0 °C	Each Event	Grab	Outfall Structure
Total Suspended Solids	30.0 mg/L	50.0 mg/L	Each Event	Grab	Outfall Structure
Oil and Grease	15.0 mg/L	20.0 mg/L	Each Event	Grab	Outfall Structure
pH	6.0 ≤ pH ≤ 9.0		Each Event	Grab	Outfall Structure
Total Residual Chlorine[4]		28.0 µg/L	Each Event	Grab	Outfall Structure
Free Available Chlorine[4]	200 µg/L	500 µg/L	Each Event	Grab	Outfall Structure
Fluoride, mg/L			Each Event	Grab	Outfall Structure
Total Hardness, mg/L [$CaCO_3$]			Each Event	Grab	Outfall Structure
Total Arsenic µg/L,			Each Event	Grab	Outfall Structure
Total Chromium	200 µg/L	200 µg/L	Each Event	Grab	Outfall Structure
Total Zinc	1000 µg/L	1000 µg/L	Each Event	Grab	Outfall Structure
Total Lead, µg/L			Each Event	Grab	Outfall Structure
Total Mercury[5], ng/L			Each Event	Grab	Outfall Structure
Total Molybdenum, µg/L	13,734 µg/L	13,734 µg/L	Each Event	Grab	Outfall Structure
Acute Episodic Toxicity[6]			See A. (15.)	Grab	Outfall Structure

Notes:

1. The permittee shall submit Discharge Monitoring Reports electronically using NC DWR's eDMR application system. Please See Special Condition A. (30.).
2. This discharge is permitted only in the following cases: a) caused by extreme rainfall; b) where unavoidable to prevent loss of life, severe property damage, or damage to the cooling pond structure; or c) for necessary maintenance activities. In the event that a discharge occurs, the permittee shall inform the Washington Regional Office (252-946-6481) by telephone as soon as possible, but in no case later than 48 hours after the discharge occurs. The permittee shall also provide the following information, in writing, to the Division within 10 days of the discharge: a) a description and cause of the discharge; b) the duration of the discharge, including time and dates, anticipated time the discharge is expected to continue, and steps being taken to reduce, prevent, and eliminate reoccurrence of the discharge. The permittee shall take all reasonable steps necessary to minimize any adverse impact to navigable waters resulting from the discharge, including such monitoring as necessary to determine the environmental impact of the discharge.
3. As a result of this discharge, the temperature of the receiving water shall not be increased by more than 2.8°C above ambient water temperature and in no case exceed 32°C.

4. Monitoring requirement for total residual chlorine applies only when chlorine is added to the recirculating condenser cooling or process water discharged to the pond. Neither free available chlorine nor total residual chorine 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.
5. The facility shall use EPA method 1631E.
6. Acute Episodic Toxicity (Fathead Minnow 24-hr); LC50; see Special Condition A. (15.).

a. The permittee shall obtain authorization from the Division of Water Resources prior to using any biocide in the cooling water; see condition A. (21.).

b. In accordance with 15A NCAC 2B .0505 (c)(4), sampling may be discontinued when flow conditions or extreme weather conditions could result in injury or death of the person(s) collecting samples. In such cases, on each day that sampling is discontinued, written justification for the discontinuance shall be specified in the monitoring report for the month in which the event occurred.

There shall be no discharge of polychlorinated biphenyls (PCBs).

There shall be no discharge of metal cleaning wastes.

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

A. (6.) EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (Coal Ash Beneficiation Plant - Outfall 004) [15A NCAC 02B .0400 et seq., 02B .0500 et seq.]

During the period beginning on the commencement date of the beneficiation plant operations and lasting until expiration, the Permittee is authorized to discharge from **Outfall 004** – Coal Ash Beneficiation Plant discharge. Such discharges shall be limited and monitored[1] by the Permittee as specified below:

EFFLUENT CHARACTERISTICS	LIMITS		MONITORING REQUIREMENTS		
	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type	Sample Location
Flow, MGD			Daily	Estimate	Effluent
pH	6.0 to 9.0 S.U.		Monthly	Grab	Effluent
TSS	30.0 mg/L	50.0 mg/L	Monthly	Grab	Effluent
Oil and Grease	15.0 mg/L	20.0 mg/L	Monthly	Grab	Effluent
Total Dissolved Solids, mg/L			Monthly	Grab	Effluent
Chlorides, mg/L			Monthly	Grab	Effluent
Sulfates, mg/L			Monthly	Grab	Effluent
Total Hardness, mg/L as $CaCO_3$			Monthly	Grab	Effluent
Total Arsenic, µg/L			Monthly	Grab	Effluent
Total Selenium, µg/L			Monthly	Grab	Effluent
Total Copper, µg/L			Monthly	Grab	Effluent
Total Lead, µg/L			Monthly	Grab	Effluent
Total Nickel, µg/L			Monthly	Grab	Effluent
Total Mercury[2]	47 ng/L		Monthly	Grab	Effluent
Total Thallium, µg/L			Monthly	Grab	Effluent
Total Zinc, µg/L			Monthly	Grab	Effluent
Acute Toxicity[3]			Monthly	Grab	Effluent

Notes:

1. The permittee shall submit Discharge Monitoring Reports electronically using NC DWR's eDMR application system. Please See Special Condition A. (30.).
2. The facility shall use EPA method 1631E. This limit is an annual average limit based on a calendar year.
3. Acute Toxicity, see Special Condition A. (16.).

a. When the coal ash beneficiation discharge and treatment commences from the coal ash beneficiation facility, Duke Energy shall sample and submit a completed EPA Form 2C for Outfall 004 as soon as practicable, but no later than 180 days from the commencement of the discharge through Outfall 004.

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

A. (7.) EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (Inactive Ash Pond Dewatering - Outfall 005a) [15A NCAC 02B .0400 et seq., 02B .0500 et seq.]

During the period beginning on the commencement date of the dewatering operation and lasting until completion of dewatering or expiration, the Permittee is authorized to discharge treated effluent from **Outfall 005a (inactive ash pond dewatering)**. Such discharges shall be limited and monitored[1] by the permittee as specified below:

EFFLUENT CHARACTERISTICS	LIMITS		MONITORING REQUIREMENTS		
	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type	Sample Location[2]
Flow	8.0 MGD[9]		Weekly	Pump Logs	Effluent
pH[3]	6.0 ≤ pH ≤ 9.0		Weekly	Grab	Effluent
Total Suspended Solids[4]	30.0 mg/L	100.0 mg/L	Weekly	Grab	Effluent
Oil and Grease	15.0 mg/L	20.0 mg/L	Weekly	Grab	Effluent
Total Nitrogen (TN), mg/L TN = (NO_2 + NO_3) + TKN			Monthly	Calculated	Effluent
TN Load[5]	Monitor & Report (lbs/month) Monitor & Report (lbs/year)		Monthly Annually	Calculated Calculated	Effluent
Total Phosphorus, mg/L			Monthly	Grab	Effluent
Chronic Toxicity[6]			Monthly	Grab	Effluent
Turbidity[7], NTU			Weekly	Grab	Effluent
Total Hardness, mg/L [$CaCO_3$]			Weekly	Grab	Effluent
Total Arsenic, µg/L			Monthly	Grab	Effluent
Total Mercury[8]	47.0 ng/L		Monthly	Monthly	Effluent
Total Selenium	111.0 µg/L	1,019.0 µg/L	Monthly	Grab	Effluent
Total Antimony, µg/L			Monthly	Grab	Effluent
Total Thallium, µg/L			Monthly	Grab	Effluent
Nitrate/nitrite as N, mg/L			Monthly	Grab	Effluent

Notes:

1. The permittee shall submit Discharge Monitoring Reports electronically using NC DWR's eDMR application system. Please See Special Condition A. (30.).
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 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 after the pH issue has been resolved or if interruption might result in a dam failure or damage.
4. The facility shall continuously monitor TSS concentration when the dewatering process commences, and the dewatering pump shall be shutoff automatically when one half of the Daily Maximum limit (15 minutes average) is exceeded. Pumping will be allowed to continue after the TSS issue has been resolved or if interruption might result in a dam failure or damage. Continuous TSS monitoring is only required when the pumps are employed.
5. See Special Condition A. (17.) Total Nitrogen Calculations
6. Chronic Toxicity (Ceriodaphnia) at 4.5%; Monthly; see Special Condition A. (14.).
7. The discharge from this facility shall not cause turbidity in the receiving stream to exceed 50 NTU. If the instream turbidity exceeds 50 NTU due to natural background conditions, the discharge cannot cause turbidity to increase in the receiving stream. Therefore, if the effluent measurement

exceeds 50 NTU, the Permittee shall sample upstream and downstream turbidity in the receiving waterbody, within 24 hours, to demonstrate the existing turbidity level in the receiving waterbody was not increased. All data shall be reported on the DMRs. (See 15A NCAC 2B .0211 (21)). NTU - Nephelometric Turbidity Unit

8. The facility shall use EPA method 1631E. This limit is an annual average limit based on a calendar year.
9. This is a combined flow limit for Outfall 005a and Outfall 005b. The sum of the monthly average flows from these outfalls shall not exceed 8.0 MGD.

a. The rate for lowering the liquid level in a coal ash pond shall not exceed one (1) foot per day unless a higher rate is supported to the satisfaction of DEMLR and in accordance with NCAC, Title 15A, Subchapter 2K.

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

c. When the facility commences the ash pond/ponds decanting/dewatering, the facility shall treat the wastewater discharged from the ash pond using physical-chemical treatment, if necessary, to assure state Water Quality Standards are not contravened in the receiving stream. Duke Energy shall notify DWR NPDES Permitting and DWR Washington Regional Office, in writing, within seven calendar days of installing additional physical-chemical treatment at this Outfall.

d. If any one of these pollutants (As, Se, and Hg) reaches 85% of the allowable levels during decanting/dewatering, the facility shall immediately discontinue discharge from the decanting/dewatering operations and report the event to the Washington Regional Office and Complex NPDES Permitting Branch via telephone and e-mail.

e. Duke Energy shall submit a completed EPA Form 2C as soon as practicable, but no later than 180 days from the commencement of discharges.

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

There shall be no discharge of polychlorinated biphenyls (PCBs).

This facility is currently classified as “non-nutrient bearing”.

A. (8.) EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (Inactive Ash Pond Dewatering - Outfall 005b) [15A NCAC 02B .0400 et seq., 02B .0500 et seq.]

During the period beginning on the commencement date of the dewatering operation and lasting until completion of dewatering or expiration, the Permittee is authorized to discharge treated effluent from **Outfall 005b (inactive ash pond dewatering)**. Such discharges shall be limited and monitored[1] by the permittee as specified below:

EFFLUENT CHARACTERISTICS	LIMITS		MONITORING REQUIREMENTS		
	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type	Sample Location[2]
Flow	8.0 MGD[9]		Weekly	Pump Logs	Effluent
pH[3]	6.0 ≤ pH ≤ 9.0		Weekly	Grab	Effluent
Total Suspended Solids[4]	30.0 mg/L	100.0 mg/L	Weekly	Grab	Effluent
Oil and Grease	15.0 mg/L	20.0 mg/L	Weekly	Grab	Effluent
Total Nitrogen (TN), mg/L TN = (NO_2 + NO_3) + TKN			Monthly	Calculated	Effluent
TN Load[5]	Monitor & Report (lbs/month) Monitor & Report (lbs/year)		Monthly Annually	Calculated Calculated	Effluent
Total Phosphorus, mg/L			Monthly	Grab	Effluent
Chronic Toxicity[6]			Monthly	Grab	Effluent
Turbidity[7], NTU			Weekly	Grab	Effluent
Total Hardness, mg/L [$CaCO_3$]			Weekly	Grab	Effluent
Total Arsenic, µg/L			Monthly	Grab	Effluent
Total Mercury[8]	47.0 ng/L		Monthly	Monthly	Effluent
Total Selenium	111.0 µg/L	1,019.0 µg/L	Monthly	Grab	Effluent
Total Antimony, µg/L			Monthly	Grab	Effluent
Total Thallium, µg/L			Monthly	Grab	Effluent
Nitrate/nitrite as N, mg/L			Monthly	Grab	Effluent

Notes:

1. The permittee shall submit Discharge Monitoring Reports electronically using NC DWR's eDMR application system. Please See Special Condition A. (30.).
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 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 after the pH issue has been resolved or if interruption might result in a dam failure or damage.
4. The facility shall continuously monitor TSS concentration when the dewatering process commences, and the dewatering pump shall be shutoff automatically when one half of the Daily Maximum limit (15 minutes average) is exceeded. Pumping will be allowed to continue after the TSS issue has been resolved or if interruption might result in a dam failure or damage. Continuous TSS monitoring is only required when the pumps are employed.
5. See Special Condition A. (17.) Total Nitrogen Calculations.
6. Chronic Toxicity (Ceriodaphnia) at 4.5%; Monthly; see Special Condition A. (14.).
7. The discharge from this facility shall not cause turbidity in the receiving stream to exceed 50 NTU. If the instream turbidity exceeds 50 NTU due to natural background conditions, the discharge cannot cause turbidity to increase in the receiving stream. Therefore, if the effluent measurement

exceeds 50 NTU, the Permittee shall sample upstream and downstream turbidity in the receiving waterbody, within 24 hours, to demonstrate the existing turbidity level in the receiving waterbody was not increased. All data shall be reported on the DMRs. (See 15A NCAC 2B .0211 (21)). NTU - Nephelometric Turbidity Unit.

8. The facility shall use EPA method 1631E. This limit is an annual average limit based on a calendar year.
9. This is a combined flow limit for Outfall 005a and Outfall 005b. The sum of the monthly average flows from these outfalls shall not exceed 8.0 MGD.

a. The rate for lowering the liquid level in a coal ash pond shall not exceed one (1) foot per day unless a higher rate is supported to the satisfaction of DEMLR and in accordance with NCAC, Title 15A, Subchapter 2K.

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

c. When the facility commences the ash pond/ponds decanting/dewatering, the facility shall treat the wastewater discharged from the ash pond using physical-chemical treatment, if necessary, to assure state Water Quality Standards are not contravened in the receiving stream. Duke Energy shall notify DWR NPDES Permitting and DWR Washington Regional Office, in writing, within seven calendar days of installing additional physical-chemical treatment at this Outfall.

d. If any one of these pollutants (As, Se, and Hg) reaches 85% of the allowable levels during decanting/dewatering, the facility shall immediately discontinue discharge from the decanting/dewatering operations and report the event to the Washington Regional Office and Complex NPDES Permitting Branch via telephone and e-mail.

e. Duke Energy shall submit a completed EPA Form 2C as soon as practicable, but no later than 180 days from the commencement of discharge.

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

There shall be no discharge of polychlorinated biphenyls (PCBs).

This facility is currently classified as “non-nutrient bearing”.

A. (9.) 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 this permit and lasting until expiration, the Permittee is authorized to discharge from **outfall 006** – Emergency spillway of the inactive ash pond. Such discharges shall be limited and monitored[1] by the Permittee as specified below:

EFFLUENT CHARACTERISTICS	LIMITS		MONITORING REQUIREMENTS		
	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type	Sample Location
Flow, MGD			Waived	Estimate	Effluent
pH			Waived	Grab	Effluent
TSS, mg/L			Waived	Grab	Effluent
Oil and Grease, mg/L			Waived	Grab	Effluent

The emergency spillway is designed for safe discharge of the floods and significant rain events. Sampling of this spillway is waived due to unsafe conditions associated with sampling during an overflow event.

A. (10.) EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (Outfall 007) [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 007** – Emergency spillway of the inactive ash pond. Such discharges shall be limited and monitored[1] by the Permittee as specified below:

EFFLUENT CHARACTERISTICS	LIMITS		MONITORING REQUIREMENTS		
	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type	Sample Location
Flow, MGD			Waived	Estimate	Effluent
pH			Waived	Grab	Effluent
TSS, mg/L			Waived	Grab	Effluent
Oil and Grease, mg/L			Waived	Grab	Effluent

The emergency spillway is designed for safe discharge of the floods and significant rain events. Sampling of this spillway is waived due to unsafe conditions associated with sampling during an overflow event.

A. (11.) EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (Outfall 008) [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 008** – Emergency spillway of the inactive ash pond. Such discharges shall be limited and monitored[1] by the Permittee as specified below:

EFFLUENT CHARACTERISTICS	LIMITS		MONITORING REQUIREMENTS		
	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type	Sample Location
Flow, MGD			Waived	Estimate	Effluent
pH			Waived	Grab	Effluent
TSS, mg/L			Waived	Grab	Effluent
Oil and Grease, mg/L			Waived	Grab	Effluent

The emergency spillway is designed for safe discharge of the floods and significant rain events. Sampling of this spillway is waived due to unsafe conditions associated with sampling during an overflow event.

A. (12.) EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (Outfall 009) [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 009** – Emergency spillway of the inactive ash pond. Such discharges shall be limited and monitored[1] by the Permittee as specified below:

EFFLUENT CHARACTERISTICS	LIMITS		MONITORING REQUIREMENTS		
	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type	Sample Location
Flow, MGD			Waived	Estimate	Effluent
pH			Waived	Grab	Effluent
TSS, mg/L			Waived	Grab	Effluent
Oil and Grease, mg/L			Waived	Grab	Effluent

The emergency spillway is designed for safe discharge of the floods and significant rain events. Sampling of this spillway is waived due to unsafe conditions associated with sampling during an overflow event.

A. (13.) TOXICITY RE-OPENER CONDITION [15A NCAC 02B .0400 et seq., 02B .0500 et seq.]

This permit shall be modified, or revoked and reissued, to incorporate additional toxicity limitations and monitoring requirements in the event that 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. (14.) CHRONIC TOXICITY LIMIT (Monthly - Outfall 001, Outfall 005a and Outfall 005b) [15A NCAC 02B .0400 et seq., 02B .0500 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 1.3 % (Phase I and II)/1.0% (Phase III)/4.5% (Outfalls 005a and 005b).

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 test procedure performed as the first test of any month 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 electronically using the Division's eDMR system 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
1621 Mail Service Center
Raleigh, North Carolina 27699-1621

Or, results can be sent to the email, ATForms.ATB@ncdenr.gov.

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. (15.) ACUTE TOXICITY MONITORING - Outfalls 002 and 002A

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

The permittee shall conduct FIVE acute toxicity tests using protocols defined as definitive in EPA Document EPA/600/4–90/027 entitled "Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms." The monitoring shall be performed as a Fathead Minnow (*Pimephales promelas*) 24 hour static test. Effluent samples for self-monitoring purposes must be obtained below all waste treatment. For each Outfall, sampling and subsequent testing will occur during the first five discrete discharge events after the effective day of this permit. After monitoring of the first five toxicity tests, the permittee will conduct one test annually, with the annual period beginning in January of the next calendar year. The annual test requirement must be performed and reported by June 30. If no discharge occurs by June 30, verbal notification shall be made to the Division within two weeks of this date by contacting the Aquatic Toxicology Unit at 919-743-8401. Verbal notification shall be followed by the Aquatic Toxicity Test Form indicating "No Discharge through June 30th" within 30 days following the reporting period. Toxicity testing shall be performed on the next discharge event for the annual test requirement.

The parameter code for this test is TAE6C. All toxicity testing results required as part of this permit condition will be entered electronically using the Division's eDMR system 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

Or, results can be sent to the email, ATForms.ATB@ncdenr.gov.

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 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. (16.) ACUTE TOXICITY MONITORING - Outfall 004 [15A NCAC 02B .0400 et seq., 02B .0500 et seq.]

The permittee shall conduct acute toxicity tests on a ***monthly*** basis 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 electronically using the Division's eDMR system 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

Or, results can be sent to the email, ATForms.ATB@ncdenr.gov.

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 Quality 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.) CALCULATION OF TOTAL NITROGEN LOADS - Outfall 001 (Ash Pond)

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

a. The Permittee shall calculate monthly and annual TN Loads as follows:

i. Monthly TN Load (lb/mo) = TN x TMF x 8.34
where:

TN = the average Total Nitrogen concentration (mg/L) of the samples collected during the month

TMF = the Total Monthly Flow of wastewater discharged during the month (MG/mo)

8.34 = conversion factor, from (mg/L x MG) to pounds

ii. Annual TN Load (lb/yr) = Sum of the 12 Monthly TN Loads for the calendar year

b. The Permittee shall report monthly Total Nitrogen results (mg/L and lb/mo) in the discharge monitoring report for that month and shall report each year's annual results (lb/yr) in the December report for that year.

A. (18.) ANNUAL LIMITS FOR TOTAL NITROGEN [G.S. 143-215.1(b)]

a. Total Nitrogen (TN) allocations and TN Load limits for NPDES dischargers in the Neuse River basin apply on a calendar year basis.

b. For any given calendar year, the Permittee shall be in compliance with the annual TN Load limit in this Permit if:

   i. the Permittee's annual TN discharge is less than or equal to its TN Load limit, or
   ii. the Permittee is a co-permittee member of a compliance association.

c. If the Permittee is not a co-permittee member of a compliance association and the Permittee's cumulative annual TN discharge exceeds the effective TN Load limit in this permit at any point during the calendar year, the Permittee is in violation of its TN Load limit, and each day of a continuing violation shall constitute a separate violation.

d. The TN Load limit in this Permit (if any) may be modified as the result of allowable changes in the Permittee's TN allocation.

   i. Allowable changes include those resulting from purchase of TN allocation from the Wetlands Restoration Fund; purchase, sale, trade, or lease of allocation between the Permittee and other dischargers; regionalization; and other transactions approved by the Division.
   ii. The Permittee may request a modification of the TN Load limit in this Permit to reflect allowable changes in its TN allocation. Upon receipt of timely and proper application, the Division will modify the permit as appropriate and in accordance with state and federal program requirements.
   iii. Changes in TN limits become effective on January 1 of the year following permit modification. The Division must receive application no later than August 31 for changes proposed for the following calendar year.
   iv. Application shall be sent to:

NCDWR / NPDES Programs
Attn: Neuse River Basin Coordinator
1617 Mail Service Center
Raleigh, NC 27699-1617

e. If the Permittee is a member and co-permittee of an approved compliance association, its TN discharge during that year is governed by that association's group NPDES permit and the TN limits therein.

   i. The Permittee shall be considered a Co-Permittee Member for any given calendar year in which it is identified as such in Appendix A of the association's group NPDES permit.

   ii. Association roster(s) and members' TN allocations will be updated annually and in accordance with state and federal program requirements.

   iii. If the Permittee intends to join or leave a compliance association, the Division must be notified of the proposed action in accordance with the procedures defined in the association's NPDES permit.

      (A) Upon receipt of timely and proper notification, the Division will modify the permit as appropriate and in accordance with state and federal program requirements.

      (B) Membership changes in a compliance association become effective on January 1 of the year following modification of the association's permit.

f. The TN monitoring and reporting requirements in this Permit remain in effect until expiration of this Permit and are not affected by the Permittee's membership in a compliance association.

A. (19.) TOTAL NITROGEN ALLOCATIONS [G.S. 143-215.1(b)]

a. The following table lists the Total Nitrogen (TN) allocation(s) assigned to, acquired by, or transferred to the Permittee in accordance with the Neuse River nutrient management rule (T15A NCAC 02B .0234) and the status of each as of permit issuance. For compliance purposes, this table does not supersede any TN limit(s) established elsewhere in this permit or in the NPDES permit of a compliance association of which the Permittee is a Co-Permittee Member.

ALLOCATION TYPE	SOURCE	DATE	ALLOCATION AMOUNT [1]		STATUS
			Estuary (lb/yr)	Discharge (lb/yr)	
NA	See Footnote 2.	-	-	-	-
		TOTAL	**-**	**-**	**-**

Footnote:

1. Transport Factor = 70%
2. Duke Energy Progress' H.F. Lee Energy Complex received no TN allocation under the Neuse rule but is allowed a baseline TN load of 3,260 lb/yr at its Outfall 001 (2,282 lb/yr at the estuary), which is not part of the point source waste load allocation.

b. Any addition, deletion, or modification of the listed allocations (other than typographical errors) or any change to Active status of any of the listed allocations shall be considered a major modification of this permit and shall be subject to the public review process afforded such modifications under state and federal rules.

A. (20.) ADDITIONAL CONDITIONS AND DEFINITIONS [G.S. 143-215.3(a)(2) & 143-215.66]

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

a) There shall be no discharge of polychlorinated biphenyl compounds such as those once commonly used for transformer fluid.
b) 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.
c) 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.
d) The permittee shall report all visible discharges of floating materials (such as an oil slick) to the Director when submitting DMRs.
e) "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 cause by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventative maintenance, or improper operations.
f) 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.
g) EPA methods 200.7 or 200.8 (or the most current versions) shall be used for analyses of all metals except for total mercury.
h) 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)).
i) 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)).
j) 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)).

k) 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)).
l) 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.

A. (21.) BIOCIDE CONDITION [NCGS 143-215.1]

The permittee shall not use any biocides except those approved in conjunction with the permit application or in accordance with this condition. 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. (22.) CLEAN WATER ACT SECTION 316(B) [40 CFR 125.95]

The permittee shall comply with the Cooling Water Intake Structure Rule per 40 CFR 125.95. Pursuit to 40 CFR 125.98 the Director has determined that operating and maintaining the existing Closed-cycle recirculating system meets the requirements for an interim BTA.

The permittee shall submit the following information as required in §122.21 (except 122.21 (r)(6)) by July 31, 2022.

§122.21(r)(2) Source Water Physical Data
§/22.21(r)(3) Cooling Water Intake Structure Data
§122.21(r)(4) Source Water Baseline Biological Characterization Data
§/22.21(r)(5) Cooling Water System Data
§122.21(r)(6) Chosen Method(s) of Compliance with the Impingement Mortality Standard (**the chosen method will be defined after the site-specific BTA determination is made by the Director**)
§122.21(r)(7) Entrainment Performance Studies
§122.21(r)(8) Operational Status

Based on the Director's selection of entrainment, this permit may be reopened to establish a schedule to implement the selected technology to comply with the Rule.

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

Nothing in this permit authorizes take for the purposes of a facility compliance with the Endangered Species Act.

A. (23.) COMPLIANCE BOUNDARY [15A NCAC 02L.0107]

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), (d), or (e) as well as enforcement actions in accordance with North Carolina General Statute 143-215.6A through 143-215.6C. The compliance boundary map for this facility is incorporated herein and attached hereto as Attachment A.

A. (24.) STRUCTURAL INTEGRITY INSPECTIONS OF ASH POND DAM [15A NCAC 02K.0208]

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

A. (25.) ASH POND CLOSURE [NCGS 143-215.1(b)]

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

Electronic Version Only (PDF and CD)
Division of Water Resources
WQ Permitting Section - NPDES
1617 Mail Service Center
Raleigh, NC 27699-1617

A. (26.) INSTREAM MONITORING [15A NCAC 02B .0500 et seq.]

The facility shall conduct monthly instream monitoring (upstream of Outfall 002 - at the Ferry Bridge Road, and downstream of Outfall 003 – at Stevens Mill Road bridge) for total arsenic, total selenium, total mercury (method 1631E), total chromium, dissolved lead, dissolved cadmium, dissolved copper, dissolved zinc, bromide, total hardness, and total dissolved solids (TDS). The monitoring results shall be reported in the monthly DMRs and summarized with the NPDES permit renewal application. Sampling periods and the samples collected shall be representative of the surface waters.

Instream monitoring by the permittee is provisionally waived considering the permittee's participation in the Neuse River Basin Association provided the Association agrees to sample for all the parameters listed in this condition and at the specified locations and frequencies. Instream monitoring shall be conducted as stated in this permit should the permittee end its participation in the Association.

A. (27.) FISH TISSUE MONITORING NEAR ASH POND DISCHARGE (Outfall 001)

[NCGS 143-215.3 (a)(2)]

The facility shall conduct fish tissue monitoring annually and submit the results with the NPDES permit renewal application. The objective of this monitoring is to evaluate potential uptake of pollutants by fish tissue near the ash pond discharge. The parameters analyzed in fish tissue shall include arsenic, selenium, and mercury. The monitoring shall be conducted in accordance with the sampling plan approved by the Division. The plan should be submitted to the Division within 180 days from the effective date of the permit. Upon approval, the plan becomes an enforceable part of the permit.

Copies of the plan and monitoring results shall 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
WSS - Biological Assessment Branch
1621 Mail Service Center
Raleigh, NC 27699-1621

A. (28.) APPLICABLE STATE LAW (STATE ENFORCEABLE ONLY) [NCGS 143-215.1(b)]

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 Senate Bill 729.

A. (29.) CHEMICAL DISCHARGES [G.S. 143-215, 143-215.1]

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. (30.) 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. <u>Reporting Requirements [Supersedes Section D. (2.) and Section E. (5.) (a)]</u>

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:

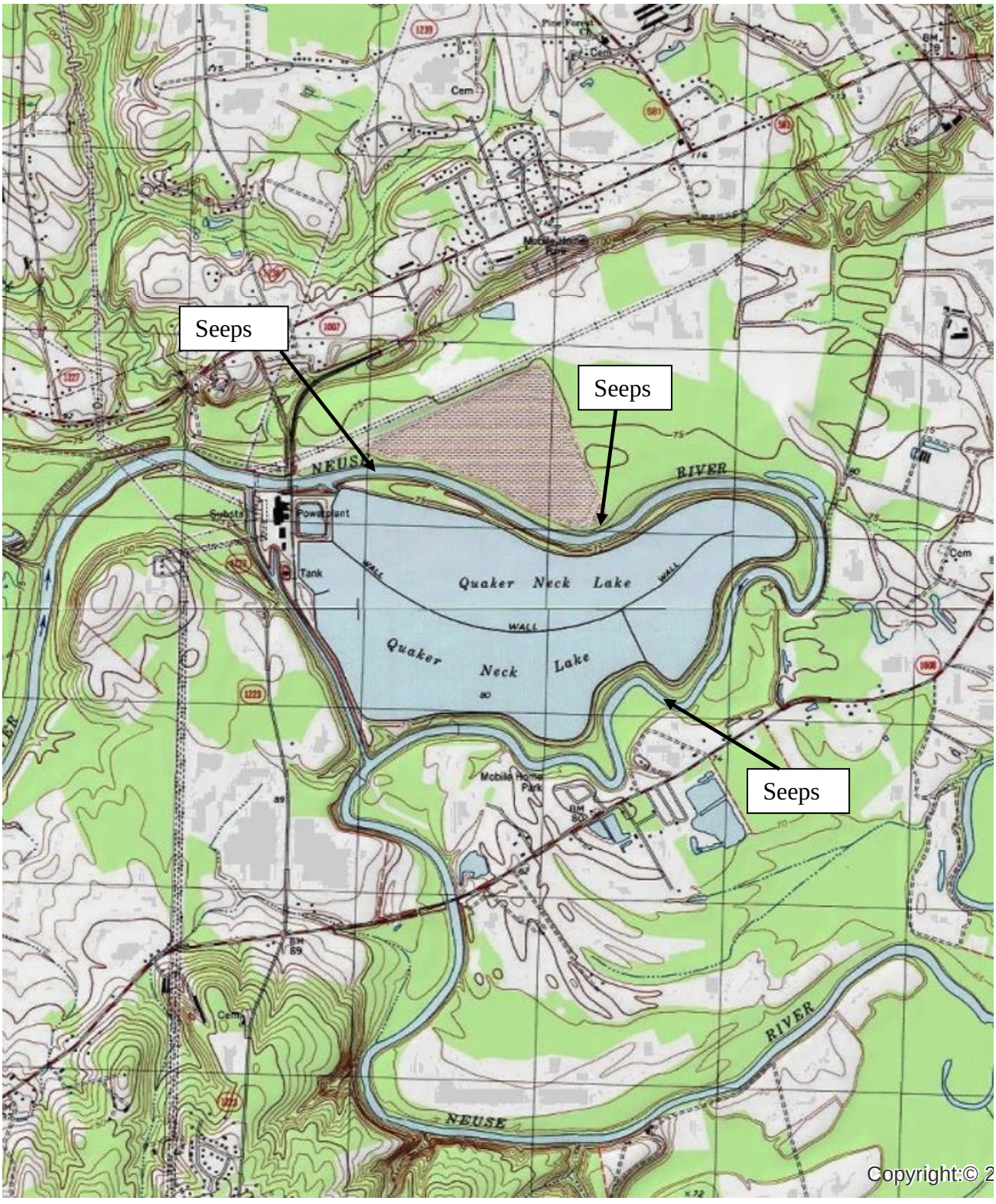
http://deq.nc.gov/about/divisions/water-resources/edmr

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].



HF Lee Energy Complex – NC0003417

Receiving Stream: Neuse River
State Grid/USGS Quad: F26NE / NW Goldsboro
HUC: 03050105
Sub-Basin: 03-04-12

Stream Class: WS-IV
Drainage Basin: Neuse River Basin

Facility Location (not to scale)

Wayne County