



North Carolina Department of Environment and Natural Resources

Division of Water Quality  
Chares Wakild, P.E.  
Director

Beverly Eaves Perdue  
Governor

Dee Freeman  
Secretary

June 26, 2012

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CENTRAL FILES  
DWQ/BOG

Mr. Charles M. Gates, Vice President – Power Generation  
Progress Energy Carolinas  
P. O. Box 1551  
Raleigh, NC 27602-1551

Subject: **SPECIAL ORDER BY CONSENT**  
**EMC SOC WQ S10-012**  
Progress Energy Carolinas, Inc. – Mayo Steam Electric Plant WWTP  
**NPDES Permit NC0038377**  
Person County

Dear Mr. Gates:

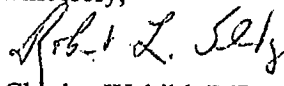
Attached for your records is a copy of the signed Special Order by Consent approved by the Environmental Management Commission.

The terms and conditions of the Order are in full effect, including those requiring submittal of written notice of compliance or non-compliance with any schedule date.

Pursuant to North Carolina General Statute 143-215.3D, water quality fees have been revised to include an annual fee for activities covered under a Special Order by Consent. Progress Energy will be subject to a fee of \$500.00 on a yearly basis while under the Order. The initial fee payment will be invoiced at a later date, with future fee invoicing done on an annual basis.

If you have any questions concerning this matter, please contact the Surface Water Protection Section staff in the Raleigh Regional Office at (919) 791-4200 or Bob Sledge at (919) 807-6398.

Sincerely,

  
Charles Wakild, P.E.

Attachment

cc: Jeanne Phillips, ITS  
Central Files  
NPDES Unit – SOC File  
Raleigh Regional Office, Surface Water Protection  
Don Joe – EPA Region 4

NORTH CAROLINA  
ENVIRONMENTAL MANAGEMENT COMMISSION

COUNTY OF PERSON

IN THE MATTER OF )  
NORTH CAROLINA )

SPECIAL ORDER BY CONSENT )  
EMC SOC WQ S10-012 )

CAROLINA POWER & LIGHT COMPANY )

d/b/a )

PROGRESS ENERGY CAROLINAS, INC. )

MAYO STEAM ELECTRIC PLANT )

NPDES PERMIT NC0038377 )

Pursuant to provisions of North Carolina General Statute (G.S.) 143-215.2, this Special Order by Consent is entered into by Carolina Power & Light d/b/a Progress Energy Carolinas, Inc., hereinafter referred to as Progress Energy, and the North Carolina Environmental Management Commission, an agency of the State of North Carolina created by G.S. 143B-282, and hereinafter referred to as the Commission:

1. Progress Energy and the Commission hereby stipulate the following:

- a. Progress Energy operates a steam electric power plant facility and holds NPDES permit NC0038377 to discharge process control and boiler water streams to Mayo Area Class WS-V waters of this state in the Roanoke River Basin, in Person County.
- b. Progress Energy installed wet limestone forced oxidation wet scrubbers on the operating unit at the Mayo Steam Electric Plant in response to requirements from the State of North Carolina under the Clean Smokestacks legislation. Accordingly, Progress Energy installed a Flue Gas Desulfurization (FGD) wastewater settling pond, a bioreactor (a biological treatment system), and a flush pond to treat wastewater generated by the recently added wet scrubbers.
- c. Since installation of settling pond, flush pond and bioreactor Progress Energy has:
  - upgraded the ash handling system to handle fly ash at the plant as dry ash, except during maintenance outages of the dry ash system, to reduce pollutant loading to the outfall;
  - Investigated treatment modifications and optimizations which have resulted in:
    - installation and use, on an as needed basis, of a chemical injection system to aid in the settling of mercury and other constituents in the settling pond;
    - addition of a pH adjustment system to the inlet of the bioreactor to aid in keeping the pH of the wastewater at an optimum level for maximum treatment efficiency;
    - placing into service secondary hydrocyclones to reduce the amount of suspended solids in the blowdown to the settling pond.

- d. Since the introduction of treated FGD wastewater into the system and the effective dates for certain effluent limitations, sampling of effluent from Outfall 002 (Ash Pond Treatment System) has indicated the overall treatment system is unable to consistently meet final effluent limits for Mercury, Boron, Thallium, Manganese and Selenium.
  - e. Noncompliance with final effluent limitations constitutes causing or contributing to pollution of the waters of this State named above, and Progress Energy is within the jurisdiction of the Commission as set forth in G.S. Chapter 143, Article 21.
  - f. Compliance will require study, investigation of the circumstances and construction.
  - g. Progress Energy has committed to providing necessary funding, for planning, designing, and constructing an enhanced wastewater handling, treatment and disposal system, which, once constructed and operated for a period of time, will be sufficient to manage wastewater to such an extent that the discharge from the Mayo Steam Electric Plant will be able to comply with final effluent limits.
  - h. Since this Special Order is by consent, neither party will file a petition for a contested case or for judicial review concerning its terms.
2. Progress Energy, desiring to attain full compliance with the permit and final effluent limitations (permit identified in paragraph 1.a. above), hereby agrees to do the following:

- a. Undertake the following activities in accordance with the indicated time schedule described in Attachment A:

- (1) Investigations. Conduct investigations into available treatment operations, measures or technologies that once constructed and operated for a period of time, will be expected to provide measures to such an extent that the pollutants discharged from the Mayo Electric Generating Plant will be significantly reduced and the discharge will be able to comply with final effluent limits. Progress Energy must communicate in writing the results of the investigations whereby a report of the proposed changes and installation of zero liquid discharge for certain wastewaters will illustrate how the reduction of the pollutants from the Mayo Electric Generating Plant NPDES discharge will be achieved (first action item of Attachment A). Progress Energy is to submit a written investigations report to the Raleigh Regional Supervisor, Division of Water Quality, Surface Water Protection Section, 1628 Mail Service Center, Raleigh, NC 27699-1628, and one copy must be mailed to the Point Source Branch, Division of Water Quality, 1617 Mail Service Center, Raleigh, NC 27699-1617.
- (2) Construction. Based upon the data collection, investigations and analyses noted in 2.a. (1) above, begin construction of new treatment facilities including zero liquid discharge for certain wastewaters and modification of existing facilities or processes as appropriate and secure all applicable permits for such activities in accordance with the schedules set forth in Attachment A. Progress Energy is to submit a construction schedule (second action item in Attachment A) to the Raleigh Regional Supervisor, Division of Water Quality, Surface Water Protection Section, 1628 Mail Service Center, Raleigh, NC 27699-1628, and one copy must be mailed to the Point Source Branch, Division of Water Quality, 1617 Mail Service Center, Raleigh, NC 27699-1617. This schedule must detail major construction milestones and adhere to the schedules set forth in Attachment A (including the end date) of this Order.

- (3) Permit modification. Progress Energy is required to submit NPDES permit modification request(s) prior to decommissioning the existing treatment facilities and/or the online use of new treatment unit(s)/system(s). Submit permit modification requests to the Point Source Branch, Division of Water Quality, 1617 Mail Service Center, Raleigh, NC 27699-1617.
- b. Undertake the following activities in accordance with the indicated time schedule established in Attachment A and Attachment B.
- (1) Quarterly Progress Reports. Progress Energy will submit quarterly progress reports detailing the work and activities undertaken with regard to schedules and activities included in this SOC. The reports are to be submitted as follows: one copy must be mailed to the Raleigh Regional Supervisor, Division of Water Quality, Surface Water Protection Section, 1628 Mail Service Center, Raleigh, NC 27699-1628, and one copy must be mailed to the Point Source Branch, Division of Water Quality, 1617 Mail Service Center, Raleigh, NC 27699-1617. The quarterly reports are due to be submitted no later than January 31, April 30, July 31 and October 31 for the duration of this order or until permit compliance is achieved.
- (2) Final Written Account. The purpose of this Final Written Account is to demonstrate the reduction of pollutants discharged from the Mayo Electric Generating Plant and the respective ability of the new wastewater facilities to meet effluent limits. Specifically, Progress Energy must illustrate the differences in the waste stream characteristics (using both concentration and mass loadings) of Mercury, Selenium, Boron, Manganese and Thallium between the current waste stream and the waste stream at the conclusion of this Order. This Final Written Account shall provide the means by which Progress Energy will demonstrate compliance with the NPDES Permit for the purposes of this Order.
- The Final Written Account must be submitted to the Raleigh Regional Supervisor, Division of Water Quality, Surface Water Protection Section, 1628 Mail Service Center, Raleigh, NC 27699-1628, and one copy must be mailed to the Point Source Branch, Division of Water Quality, 1617 Mail Service Center, Raleigh, NC 27699-1617 in accordance with Attachment A.
- (3) Construction Completion. Begin and complete construction of zero liquid discharge and modified wastewater treatment facilities or other measures in accordance with the schedule described in Attachment A. Provide written notice within 30 days of construction completion to the Raleigh Regional Supervisor, Division of Water Quality, Surface Water Protection Section, 1628 Mail Service Center, Raleigh, NC 27699-1628, and one copy must be mailed to the Point Source Branch, Division of Water Quality, 1617 Mail Service Center, Raleigh, NC 27699-1617 in accordance with Attachment A.
- (4) Interim Limits. Comply with all terms and conditions of the NPDES Permit except those effluent limitations identified as interim limitations in Attachment B (Mercury, Selenium, Boron, Manganese and Thallium). During the time the SOC is effective, Progress Energy shall comply with the interim effluent limitations for Mercury, Selenium, Boron, Manganese and Thallium as listed in Attachment B. A written notice must be submitted no later than fourteen (14) calendar days after failure to comply with any Interim Limits in Attachment B. Written notice must be submitted to the Raleigh Regional Supervisor, Division of Water Quality, Surface Water Protection Section, 1628 Mail Service Center, Raleigh, NC 27699-1628. A copy must also be mailed to the Point Source Branch,

Division of Water Quality, 1617 Mail Service Center, Raleigh NC 27699-1617. The written notice shall minimally include a statement of the reason(s) for noncompliance and remedial action(s) taken.

- (5) Written Notice. No later than fourteen (14) calendar days after any date identified for accomplishment of any activity listed in this paragraph [paragraph 2.] and in the schedule set forth in Attachment A, submit to the Raleigh Regional Supervisor, Division of Water Quality, Surface Water Protection Section, 1628 Mail Service Center, Raleigh, NC 27699-1628 written notice of noncompliance therein if applicable. A copy must be mailed to the Point Source Branch, Division of Water Quality, 1617 Mail Service Center, Raleigh NC 27699-1617. The notice shall include a statement of the reason(s) for noncompliance, remedial action(s) taken, and a statement identifying the extent to which subsequent dates or times for accomplishment of listed activities may be affected.
- (6) Effluent Limits. Attain compliance with effluent limitations in accordance with the schedule described in Attachment A.
3. Progress Energy agrees that unless excused under [paragraph 4.], it will pay the DWQ, by check payable to the North Carolina Department of Environment and Natural Resources, stipulated penalties according to the following schedule.

|   |   |
|---|---|
| Failure to provide written investigations report [2.a. (1)]<br><i>Action item (1) in Attachment A</i>   | \$1,000.00 per day.   |
| <del>Failure to submit construction schedule [2.a. (2)]</del><br><i>Action item (2) in Attachment A</i>   | <del>\$1,000.00 per day.</del>  |
| Failure to submit quarterly progress reports as [2.b. (1)]<br><i>Action items (3) and (5) in Attachment A</i>   | \$1,000.00 for the first violation;<br>doubles with each subsequent<br>assessment for late reports. |
| Failure to provide Final Written Account [2.b. (2)]<br><i>Action item (5) in Attachment A</i>   | \$1,000.00 per day.   |
| Failure to begin construction; provide a written notice<br>of construction completion as described in Attachment A<br>[2.b.(3)] <i>Action items (3) and (4) in Attachment A</i> | \$1,000.00 per day.   |
| Failure to comply with Interim Limits 2.b. (4) and<br>Attachment B  | \$500.00 per occasion   |
| Failure to sample analytes at frequency required<br>(Mercury, Selenium, Boron, Manganese and Thallium<br>in Attachment B)   | \$500.00 per occasion   |
| Failure to provide Written Notice of noncompliance<br>[2.b. (5)]  | \$200.00 per day for each day<br>beyond fourteen calendar<br>days past schedule date.               |

Failure to achieve compliance with  
NPDES permit by deadline established in Attachment A  
*Action item (5) in Attachment A*

\$10,000.00

Failure to meet schedule dates listed in Attachment A  
other than those referenced above.

\$1,000.00 per occasion

4. Progress Energy and the Commission agree stipulated penalties are not due if Progress Energy satisfies the Division of Water Quality that noncompliance was caused solely by:
  - a. An act of God;
  - b. An act of war;
  - c. An intentional act or omission of a third party, but this defense shall not be available if the act or omission is that of an employee or agent of Progress Energy or if the act or omission occurs in connection with a contractual relationship with Progress Energy;
  - d. An extraordinary event beyond Progress Energy's control. Contractor delays or failure to obtain funding will not be considered as events beyond Progress Energy's control; or
  - e. Any combination of the above causes.

~~Failure within thirty (30) days of receipt of written demand to pay the penalties, or challenge them by a contested case petition pursuant to G.S. 150B-23, will be grounds for a collection action, which the Attorney General is hereby authorized to initiate. The only issue in such an action will be whether the thirty (30) days has elapsed.~~

5. Noncompliance with the terms of this Special Order by Consent is subject to enforcement action in addition to the above stipulations, including injunctive relief pursuant to G.S. 143-215.6.C.
6. This Special Order by Consent (including Attachments) and any terms or conditions contained herein, hereby supersede any and all previous Special Orders, Enforcement Compliance Schedule Letters, terms, and conditions contained therein issued in connection with NPDES permit NC0038377. In the event of a permit modification or renewal, any applicable effluent limit or monitoring requirements contained therein shall supersede those contained in this Special Order by Consent, except as modified in paragraph 2.b.4 (Attachment B) above.
7. This Special Order by Consent may be amended provided Progress Energy has made good faith efforts to comply with the provisions of this Special Order by Consent.
8. Progress Energy, upon signature of this Special Order by Consent, will be expected to comply with all schedule dates, terms, and conditions of this document.

**This Special Order by Consent shall expire 365 days after completion of the last permitted construction project and achievement of permit limits OR no later than September 1, 2017.**

For Progress Energy Carolinas, Inc.:

*Charles M. Gates*

Charles M. Gates  
Vice President – Power Generation - PEC

*2/27/12*

Date

For the North Carolina Environmental Management Commission:

*Charles Wakild*

Charles Wakild, P.E., Director  
Division of Water Quality

*6/25/12*

Date

## Attachment A: Schedule

| <u>Action Item</u>                                    | <u>Start</u>   | <u>End</u>  | <u>Reporting requirements</u>   |
|---|--|---|---|
| <u>(1)Investigations</u>                              | <u>Within 45 days of the effective date of this Order</u>                    | <u>180 days from Start</u>  | <u>Provide written investigations report to RRO and Central Office within 225 days of the effective date of this order [see 2.a.(1.)]</u>   |
| <u>(2)Submit Construction Schedule</u>                |  | <u>Within 60 days of DWQ approval of written investigations report from 2.a.(1.) submit the construction schedule.</u>                                    | <u>Submit proposed schedule to RRO and Central Office [see 2.a.(2)]</u>   |
| <u>(3)Begin Construction</u>                          | <u>Within 90 Days of obtaining all applicable permits and authorizations</u> | <u>According to construction schedule, not to exceed 1000 days from obtaining all permits and authorizations or at maximum the end date of this order</u> | <u>Construction status must be communicated in quarterly report [2.b.(1) and 2.b(3)]</u>  |
| <u>(4)End Construction</u>                            | <u>Within 30 Days of completing construction</u>                             | <u>Provide notice to the RRO and Central Office</u>   | <u>Upon completion of construction written notice must be provided to DWQ [2.b. (3)].</u>   |
| <u>(5)Achieve Compliance with NPDES Permit Limits</u> | <u>365 days after construction is completed.</u>                             |   | <u>Operational Status must be communicated in quarterly report [2.b.(1)]. Provide Final Written Account [2.b.(2)] illustrating pollutant loading reduction [2.b.(2)], within 545 days of construction completion.</u> |



## ATTACHMENT B

## INTERIM EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning upon the effective date of this SOC and lasting until expiration, the following interim (SOC) limits associated with Outfall 002 (Ash Pond Treatment System) have been established. Discharges interim limits and monitoring frequency from **Outfall 002** are specified below:

| <u>Outfall</u> | <u>Parameter</u>     | <u>Interim Limitations</u>                             |  |                             |                    |
|----------------|----------------------|--|--|-----------------------------|--------------------|
|                |                      | <u>Monthly Average</u><br>(lbs/day) <sup>1,2,3,4</sup> | <u>Daily Maximum</u><br>(lbs/day) <sup>1,2,3</sup> | <u>Monitoring Frequency</u> | <u>Sample Type</u> |
| 002            | Flow <sup>5</sup>    |  |  | Continuous                  | Recording          |
| 002            | Mercury <sup>6</sup> | 0.0037   | 0.0095   | Weekly                      | Grab               |
| 002            | Selenium             | 4.755  | 6.461  | Weekly                      | Composite          |
| 002            | Boron                | 590.7  | 683.0  | Weekly                      | Composite          |
| 002            | Manganese            | 22.1   | 29.4   | Weekly                      | Composite          |
| 002            | Thallium             | 0.056  | 0.089  | Weekly                      | Composite          |

Superscripts:

1. Compliance shall be evaluated using the daily mass loading calculated from analyses performed during a calendar day.
2. Calculation for Daily Mass Loading = Total Daily Discharge Flow from Outfall 002 (defined as the average flow during a calendar day, or any 24 hour period that reasonably represents the calendar day for the purposes of sampling) in MGD x Parameter Concentration in mg/L (defined as the average measurement of the pollutant over a day, see Item 3. below - composite sample) x 8.34 pounds/gallon.
3. Composite Sample=A sample collected over a 24-hour period by continuous sampling, a single, continuous sample collected over a 24-hour period proportional to the rate of flow.
4. The monthly average shall be calculated as the arithmetic mean of all daily mass loadings reported during a calendar month. This is calculated as the sum of all daily mass loadings (superscript 2 above) divided by the number of days results are reported for the parameter during the calendar month.
5. Flow shall be monitored continually except for the infrequent times when there may be maintenance activities on the flow device. To ensure accurate calculations of pollutant loadings, Progress Energy will be required to install a recording, totalizing flow measurement device at outfall 002 within 90 days of the effective date of the SOC.
6. EPA method 1631(low level Mercury) and appropriate clean hands sampling protocols are required.

**NORTH CAROLINA  
ENVIRONMENTAL MANAGEMENT COMMISSION**

**SPECIAL ORDER BY CONSENT  
EMC SOC WQ S10-012  
ADDENDUM 1.0**

On March 2, 2012, the Division of Water Quality published a public notice of intent to issue a State Consent Order for Progress Energy Carolinas, Inc.'s Mayo Steam Electric Plant, that discharges treated wastewater to Mayo Lake in the Roanoke River Basin under the authority of NPDES permit NC0038377. Comments on the proposed Order received by April 6, 2012 were considered in the final determination. Accordingly, after review of the public comments, items listed in this addendum to the SOC (WQ S10-012) are incorporated as conditions of this Special Order by Consent.

1. Additional lake and fish tissue monitoring. As a part of this order Progress Energy Carolinas, Inc. must comply with all terms and conditions of Attachment C, which contains additional lake water quality and fish tissue monitoring. Sample locations are depicted on Attachment D - map.
2. Reporting. The results of the monitoring noted in 1. above must be compiled in a report to be submitted by October 1<sup>st</sup> of each calendar year until the expiration of the SOC. A copy of the report must be submitted to NC DWQ Raleigh Regional Office. In addition, copies of the reports are to be sent to:

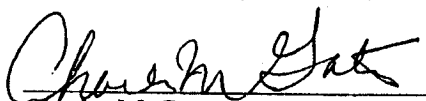
NC Wildlife Resources Commission  
1721 Mail Service Center  
Raleigh NC 27699-1721  
(attention: Shari L. Bryant)

Occupational & Environmental Epidemiology  
NC DHHS - Division of Public Health  
1902 Mail Service Center  
Raleigh, NC 27699-1902  
(attention: Dr. Kenneth M. Rudo, Ph.D.)

If monitoring indicates significant deviation(s) from historical or baseline data, or yields substantive individual values, this SOC may be reopened by the Director of the Division of Water Quality to modify the monitoring requirements described in this addendum.

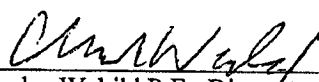
3. Signage. Progress Energy will provide and maintain signage in both English and Spanish discouraging fishing in/along the cove containing the NPDES outfall. Signs shall be erected in and along the cove containing the NPDES outfall, and at the Mayo Reservoir public boat access.

For Progress Energy Carolinas, Inc.:

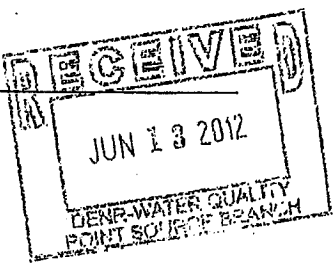
  
\_\_\_\_\_  
Charles M. Gates  
Vice President - Power Generation - PEC

6/12/12  
\_\_\_\_\_  
Date

For the North Carolina Environmental Management Commission:

  
\_\_\_\_\_  
Charles Wakild P.E., Director  
Division of Water Quality

6/25/12  
\_\_\_\_\_  
Date



SPECIAL ORDER BY CONSENT:  
EMC SOC WQ S10-012  
Attachment C – Monitoring Mayo Lake in the Roanoke River Basin, Person County

**Water Quality Monitoring Variables\*:**

pH  
Conductivity

**Water Chemistry Monitoring Variables\*:**

|                        |          |         |  |
|------------------------|----------|---------|--|
| Total Dissolved Solids | Chloride | Sulfate | <b><u>Trace Elements (total):</u></b><br>(lower reporting limits in parentheses) |
| Calcium                | Sodium   |         |  |
|                        |          |         | Boron (50 µg/L)  |
|                        |          |         | Mercury (0.5 ng /L)  |
|                        |          |         | Selenium (0.5 µg /L)   |
|                        |          |         | Thallium (0.1 µg /L)   |
|                        |          |         | Manganese (0.5 µg /L)  |

\*Sampling locations for Water Quality and Water Chemistry Monitoring Variables listed above are depicted on the Mayo Reservoir Sampling Location Map as locations B, E, and G. Samples are to be collected during alternate calendar months (February, April, June, August, October, December), each calendar year the SOC is in effect.

**Fish tissue monitoring \*\*:**

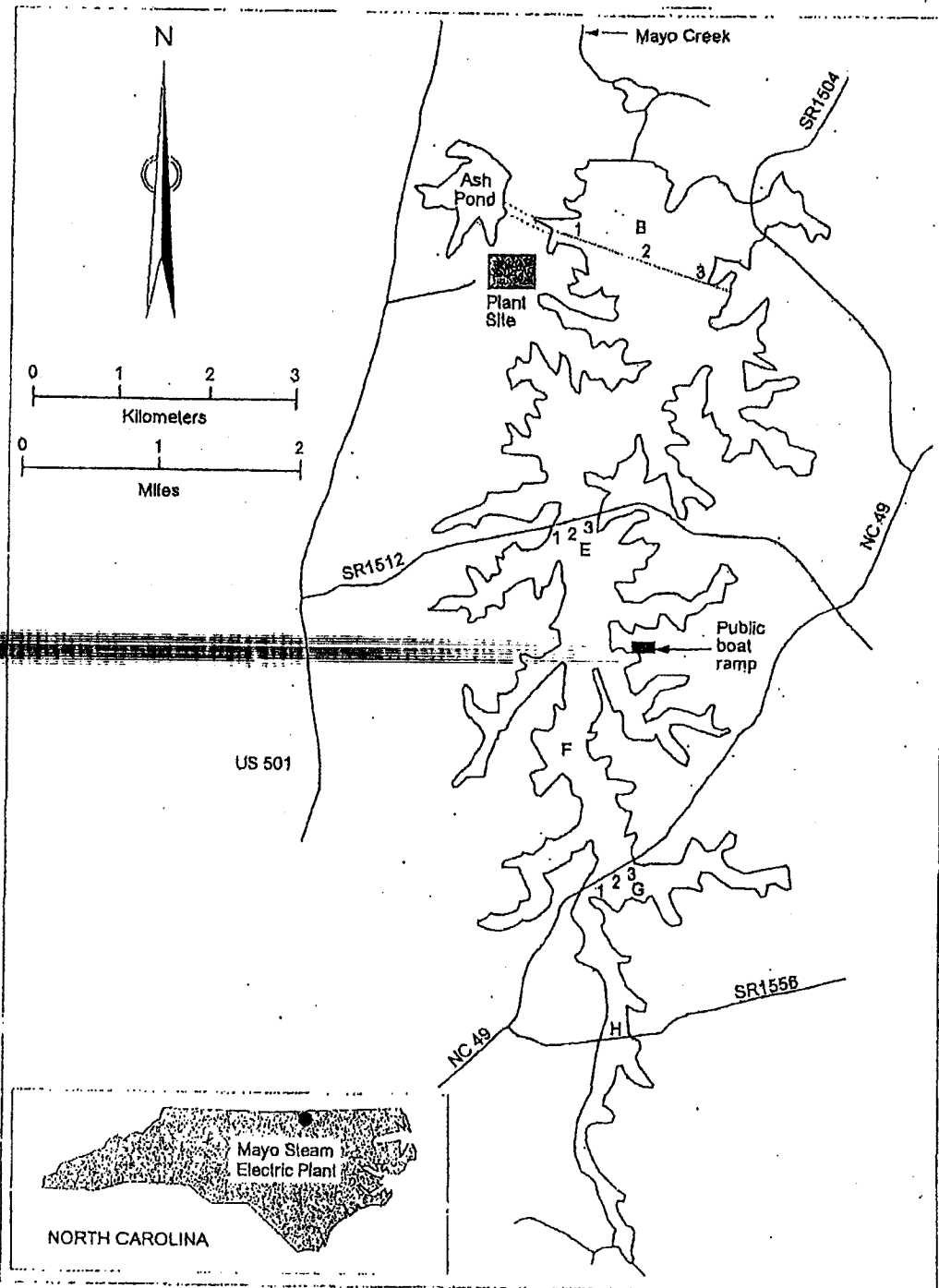
| <u>Species</u>                                   | <u>Tissue</u> | <u>Total number of fish per location</u> |
|--|---------------|--|
| Bluegill ( <i>Lepomis macrochirus</i> )          | Muscle        | 4  |
| Largemouth bass ( <i>Micropterus salmoides</i> ) | Muscle        | 4  |
| Catfish <sup>1</sup>                             | Muscle        | 4  |

<sup>1</sup> Brown bullhead targeted, but other species may be included depending upon availability

\*\* Fish species are to be collected and tested annually each calendar year the SOC is in effect, for the following analytes: mercury, thallium, and selenium. Fish collection locations are depicted on Mayo Reservoir Sampling Location Map as locations B, E, and G

A Biological Study Plan for Mayo Lake was approved by DWQ on March 14, 2012. Portions of this SOC Addendum complement or are coincident to the approved annual 2012 Biological Study Plan. However, this SOC Addendum is not a modification of the approved Biological Study Plan. Conversely, future modification(s) of the Biological Study Plan will not change the conditions of this Addendum to the SOC.

EMC SOC WQ S10-012  
Progress Energy Carolinas, Inc. – Mayo Steam Electric Plant  
Attachment D - Mayo Reservoir Sampling Location Map



## **Ash Pond Assessment Needs**

1. An assessment of groundwater constituents detected at or beyond the compliance boundary that are above the groundwater standards found in 15A NCAC 2L .0202, is needed to determine whether any of those exceedances are naturally occurring. This assessment shall include:
  - a statistical evaluation of analytical results in support of assessment determinations;
  - a comparison of constituents of concern to naturally occurring constituents;
  - development and refinement of a groundwater conceptual model that describes groundwater chemistry and flow system including incorporation of seeps related to groundwater discharge; and,
  - continued evaluation of well location, construction, and development.

If unable to determine whether exceedances are attributed to the Ash Pond or are naturally occurring based on evaluation of available data and resources, additional investigation, including but not limited to construction and sampling of new monitoring wells, shall be performed to such level to support accurate conclusions.

2. For those groundwater constituents detected at or beyond the compliance boundary that are above the groundwater standards found in 15A NCAC 2L .0202, and that are determined not to be naturally occurring, a report which assesses the cause, significance and extent of each groundwater exceedance shall be provided. This shall include:
  - The source and cause of exceedances;

- Any imminent hazards to public health and safety and actions taken to mitigate them in accordance with Paragraph (f) of 15A NCAC 2L .0106;
  - All receptors and significant exposure pathways;
  - The horizontal and vertical extent of soil and groundwater exceedances and all significant factors affecting contaminant transport; and
  - Geological and hydrogeological features influencing the movement, chemical, and physical character of the compounds showing exceedances.
3. Water quality sampling of the discharges from any toe drains of the Ash Ponds, overtopping or breaches of berms or dikes surrounding the Ash Ponds, and any other discharges that may be credited to the Ash Ponds; characterize these discharges, including volume; and determine whether there are water quality or groundwater quality violations or concerns.
  4. Water quality sampling of any public or private water supply wells that have the potential to be impacted by coal ash constituents as selected by DWQ.
  5. For all groundwater sampling, the most sensitive of the methods or procedures from sources listed in 15A NCAC 2L.0112 must be used to determine compliance with the groundwater standards in 15A NCAC 2L .0202 for substances where the standard is at or above the method detection limit.
  6. Submit to the Division a 1:24,000 scale topological map that indicates the locations of all toe drain outfalls associated with each Ash Pond. For each toe drain outfall:
    - Specify its latitude and longitude.
    - Specify whether the discharge is continuous or intermittent.

- Provide a monthly average flow measurement, including a description of the method used to measure flow.
  - Conduct and submit to the Division an analysis of the discharge for all parameters listed in EPA NPDES Application Form 2C (EPA Form 3510-2C) using the chemical analysis methods in 40 CFR Part 136 with detection levels appropriate to determine compliance with NC water quality standards.
7. Submit to the Division a 1:24,000 scale topological map that indicates the locations of all seeps on the dam walls or at the bottom of the dams for each Ash Pond. For each seep:
- Specify its latitude and longitude.
  - Specify whether the discharge is continuous or intermittent.
  - Provide a monthly average flow measurement, including a description of the method used to measure flow.
  - Specify whether the discharge from the seep reaches surface waters or connects to the existing outfall.
  - If the discharge from the seep reaches surface water, identify the location of the outfall on the map (to include latitude and longitude) and conduct and submit to the Division an analysis of the discharge for all parameters listed in EPA NPDES Application Form 2C (EPA Form 3510-2C) using the chemical analysis methods in 40 CFR Part 136 with detection levels appropriate to determine compliance with NC water quality standards.
8. For any areas where the Groundwater compliance boundary extends to, into or beyond a surface water feature such as a stream or lake, collect water samples of those features sufficient to determine compliance with applicable Water Quality standards.