Responsive Documents for
Duke Energy Corporation's
First Response to EPA's July 31, 2014
Request for Information under
the Clean Water Act

September 17, 2014

EPARFI00001 - EPARFI00519

DUKE ENERGY.

September 17, 2014

Mr. Michael Hom
Environmental Engineer
U.S. Environmental Protection Agency
Clean Water Enforcement Branch
61 Forsyth Street, SW
Atlanta, GA 30303-8960

Re: First Response of Duke Energy Corporation to
U.S. EPA's Request for Information
Pursuant to Section 308 of the Clean Water Act

Dear Mr. Hom:

This letter and the attached Responses and Objections constitute the first response of Duke Energy Corporation ("Duke Energy") to the Request for Information ("RFI") from the U.S. Environmental Protection Agency ("EPA") dated July 31, 2014, addressed to Ms. Lynn J. Good of Duke Energy Corporation ("Duke Energy") and received by Duke Energy on August 4, 2014. The RFI initially set a response date of thirty days from receipt of the RFI by Duke Energy (i.e., September 3, 2014). By e-mail dated August 7, 2014, from Matt Hicks of EPA to David Buente, EPA agreed to the following phased responses:

September 18, 2014 (45 days after receipt of the RFI)

Responses due to Questions 1 and 2

October 3, 2014 (60 days after receipt of the RFI)

Responses due to Questions 3 and 4 for the following facilities:

Asheville
Belews Creek
Cape Fear
Cliffside
Dan River
L.V. Sutton
Riverbend

December 2, 2014 (120 days after receipt of the RFI)

Responses due to Questions 3 and 4 for the following facilities:

Allen
Buck
H.F. Lee
Marshall
Mayo

Roxboro
Weatherspoon

Accordingly, the enclosed Responses and Objections address Questions 1 and 2 of the RFI. Responsive documents may be found on the enclosed disk.

Sincerely,

Harry K. Sideris
Senior Vice President
Environment, Health & Safety

cc: Laurie Lindquist Ireland, EPA
Matthew Hicks, EPA
Denisse Diaz, EPA
Thomas Reeder, NCDENR
David Fountain, Duke Energy
Julie Ezell, Duke Energy
David Buente, Sidley Austin LLP
Sylvia Lowrance

Enclosures

September 17, 2014

First Responses and Objections of Duke Energy Corporation to
EPA's Section 308 Request for Information Dated July 31, 2014

I. General Objections

A. Duke Energy Corporation ("Duke Energy") objects to the Request for Information ("RFI") from the U.S. Environmental Protection Agency ("EPA") dated July 31, 2014, to the extent that it seeks information regarding claimed discharges or discharge locations where such discharges or locations are not through a discernible, confined and discrete conveyance. Any such discharges or locations that are not through a discernible, confined and discrete conveyance would not be a "point source" under 33 U.S.C. § 1318(a)(4)(A), and on that basis the RFI exceeds the scope of EPA's authority under 33 U.S.C. § 1318(a).

B. Duke Energy objects to the Information Request to the extent that it seeks privileged information, including, but not limited to, documents and other information protected by the attorney-client privilege and/or work product doctrine.

C. Duke Energy objects to the requirement to provide a certification by a responsible Duke Energy official as unreasonable because it seeks to require a certification that is not required by 33 U.S.C. § 1318(a). Subject to and without waiving the foregoing objection, Duke Energy has provided a certification.

D. Duke Energy objects to Instruction No. 5 to the extent it seeks to require Duke Energy to identify "all . . . persons consulted, examined, or referred to in the preparation of each response" as vague, ambiguous, overly broad, and unreasonable, and to the extent it seeks privileged information. Subject to and without waiving the foregoing objection, Duke Energy will provide the names of the primary individuals consulted in the preparation of the responses.

E. Duke Energy further objects to Instruction No. 5 to the extent that it seeks to require Duke Energy to identify "all documents . . . consulted, examined, or referred to in the preparation of each response and provide true and accurate copies of all such documents" to the extent it seeks to require Duke Energy to produce a copy of each document "consulted" or "examined" in the preparation of the response as vague, ambiguous, overly broad, and unreasonable, and to the extent it seeks privileged information. Duke Energy "consulted" and/or "examined" many documents in order to locate responsive material and does not intend to produce all such documents. By e-mail dated August 7, 2014, from Matt Hicks of EPA to David Buente, EPA agreed that Duke Energy need produce "only those documents consulted, examined, or referred to that directly answer the question with a summary or general description of all documents Duke Energy is not producing, either because they don't directly answer the question or because they are superfluous." Subject to and without waiving the foregoing objection and Objection B, above, Duke Energy will produce documents in accordance with EPA's e-mail direction.

F. Duke Energy objects to Instruction No. 6 as unreasonable to the extent it seeks to impose a duty to supplement its responses with information that was not known to Duke Energy as of the date of the RFI.

G. Duke Energy objects to Instruction No. 9 as unreasonable to the extent it seeks to require Duke Energy to speculate regarding persons who might have information responsive to the RFI.

H. Duke Energy objects to Instruction No. 10 as unreasonable to the extent it seeks to require Duke Energy to speculate regarding persons who might provide "a more detailed or complete response" to a question or who may have additional responsive documents or information.

I. Duke Energy objects to Instruction No. 13 as unreasonable to the extent it seeks to require Duke Energy to speculate regarding activities undertaken by entities other than Duke Energy.

J. Duke Energy objects to Definition No. 14 to the extent it seeks to apply all statutory and regulatory definitions to the RFI. This requirement is vague, ambiguous and unreasonable. Duke Energy also objects to the definition of any term that is inconsistent with an existing statutory or regulatory definition of the same term.

K. Duke Energy objects to Definition No. 16, directing Duke Energy to construe "And" and "Or" either disjunctively or conjunctively as vague, ambiguous and unreasonable.

L. Duke Energy objects to Definition No. 17 as unreasonable to the extent it seeks home address and telephone information concerning employees. To the extent EPA wishes to contact any Duke Energy employee, EPA should contact Julie Ezell at (317) 838-1100.

M. Duke Energy objects to Definition No. 21 as unreasonable to the extent it seeks information outside the knowledge or control of Duke Energy.

N. Duke Energy objects to Definition No. 25 as vague, ambiguous and unreasonable.

O. Duke Energy objects to the introductory instruction under "Questions," to "identify all documents consulted, examined, or referred to in the preparation of each response and provide true and accurate copies of all such documents," to the extent it seeks to require Duke Energy to produce a copy of each document "consulted" or "examined" in the preparation of the response as vague, ambiguous, overly broad, and unreasonable, and to the extent it seeks privileged information. Duke Energy "consulted" and/or "examined" many documents in order to locate responsive material and does not intend to produce all such documents. By e-mail dated August 7, 2014, from Matt Hicks of EPA to David Buente, EPA agreed that Duke Energy need product "only those documents consulted, examined, or referred to that directly answer the question with a summary or general description of all documents Duke Energy is not producing, either because they don't directly answer the question or because they are superfluous." Subject to and without waiving the foregoing objection and Objection B, above, Duke Energy is producing documents in this first response in accordance with EPA's e-mail direction.

II. Responses and Specific Objections

Subject to and without waiving the General Objections above or Specific Objections below, Duke Energy responds to Questions 1 and 2 of the RFI as set forth below. Duke Energy reserves the right to supplement these responses.

1. *Provide all documents submitted to NCDENR for permit transfers pursuant to 40 C.F.R. § 122.61 "Transfer of permits" for the following NPDES permitted facilities:*
   a. *NPDES NC0000396 Asheville Steam Electric Generating Plant*
   b. *NPDES NC0001422 L. Y. Sutton Electric Plant*
   c. *NPDES NC0003417 H. F. Lee Steam Plant*
   d. *NPDES NC0003425 Roxboro Steam Electric Generating Plant*
   e. *NPDES NC0003433 Cape Fear Steam Electric Generating Plant*
   f. *NPDES NC0003468 Dan River Combined Cycle Station*
   g. *NPDES NC0004774 Buck Steam Station*
   h. *NPDES NC0004961 Riverbend Steam Station*
   i. *NPDES NC0004979 Plant Allen Steam Station*
   j. *NPDES NC0004987 Marshall Steam Station*
   k. *NPDES NC0005088 Cliffside Steam Station*
   l. *NPDES NC0005363 Weatherspoon Steam Electric Plant*
   m. *NPDES NC0024406 Belews Creek Steam Station*
   n. *NPDES NC0038377 Mayo Steam Electric Generating Plant*

Specific Objections:

Duke Energy objects to Question No. 1 to the extent it requests copies of documents that are equally available to EPA as to Duke Energy.

Duke Energy further objects to Question No. 1 as overly broad and unreasonable in that it is unlimited in temporal scope. Duke Energy is responding to Question No. 1 for the time period after January 1, 2009 (which is the time period also specified for Question Nos. 2, 3 and 4).

Response:

Notwithstanding and without waiving its General and Specific Objections, Duke Energy responds to Question No. 1 as follows:

Of the fourteen facilities listed by EPA, seven of them did not undergo any change in name or ownership during the period beginning January 1, 2009. NPDES permits issued for those seven facilities bear the name "Duke Energy Carolinas, LLC" and have throughout that time period. The seven facilities with such NPDES permits are as follows:

Dan River Combined Cycle Station
Buck Steam Station
Riverbend Steam Station
Plant Allen Steam Station
Marshall Steam Station
Cliffside Steam Station
Belews Creek Steam Station

With regard to the other seven facilities identified by EPA, beginning in approximately February of 2013, representatives from Duke Energy contacted persons at the North Carolina Department of Environment and Natural Resources ("NCDENR") to discuss the

anticipated name change of Carolina Power & Light Co. d/b/a Progress Energy Carolinas, Inc. to Duke Energy Progress, Inc. d/b/a Duke Energy Progress. The point person for these discussions with respect to NPDES permits in North Carolina was Robin Bryson. Ms. Bryson explained to NCDENR personnel that Duke Energy was seeking an efficient way to effectuate what was a name change, only (i.e., not a change in ownership or transfer of permits) for the many NPDES permits held by Progress Energy Carolinas in North Carolina. Ms. Bryson communicated with several individuals at NCDENR over the next few months, including Linda Lewis, Jeff Poupart, Autumn Romanski, Charles Weaver and Jovonah Weeden.

Ultimately, Mr. Poupart suggested that Duke Energy could effectuate the name change by means of a letter requesting a "universal change" to the new corporate name and providing a list of the affected facilities with NPDES permits. Ms. Bryson worked with NCDENR to develop a spreadsheet with that information. Ms. Bryson then prepared a letter for Richard Baker to send to Mr. Charles Wakild, Director of the North Carolina Division of Water Quality at NCDENR, advising that the name change had occurred on April 29, 2013 and requesting the universal change. Mr. Baker sent that letter to Mr. Wakild on June 10, 2013. Attached to the letter was a list of affected facilities with NPDES permits in North Carolina. (Bates Nos. EPARFI00001 - EPARFI00013)

NCDENR approved Duke Energy's request by letter from Matt Matthews, Surface Water Protection Section Chief, to Richard Baker of Duke Energy dated July 10, 2013. In the letter, Mr. Matthews stated that "A universal name chance [sic, should be 'change'] was completed to the new owner name of Duke Energy Progress for all NCDENR permits listed in the enclosed table." The table that accompanies Mr. Matthews' letter lists seven of the the "NPDES permitted facilities" identified by EPA in Question No. 1 of the RFI. (Bates Nos. EPARFI00014 - EPARFI00026). The seven facilities subject to the universal name change are as follows:

Asheville Steam Electric Generating Plant
L. Y. Sutton Electric Plant
H. F. Lee Steam Plant
Roxboro Steam Electric Generating Plant
Cape Fear Steam Electric Generating Plant
Weatherspoon Steam Electric Plant
Mayo Steam Electric Generating Plant

Duke Energy primarily consulted the following individuals in preparing this response to Question No. 1:

Richard E. Baker, Jr.

Robin Bryson

George T. Everett

Identifying information for these individuals can be found in Appendix A to these responses.

2. *Provide the following information related to the Dan River Combined Cycle Station:*
   a. *After Jan 1, 2009, when did Duke Energy identify any release of liquid from either the 48" or 36" pipe located underneath the primary ash basin at the Dan River facility? Provide dates and durations of any such release.*
   b. *Did any of these releases occur during non-storm events?*
   c. *Did Duke Energy identify the constituents and source of any such release(s)?*
   d. *Did Duke Energy seek industrial wastewater and/or stormwater permit coverage under NDPES for any such release(s)? If not, why?*
   e. *If permit coverage was sought for any such release(s) but was not issued by NCDENR, did NCDENR provide an explanation as to why? What was Duke Energy's response to not obtaining permit coverage?*

Specific Objections:

Duke Energy objects to Question No. 2 on the basis that the following terms used in the question are vague and ambiguous, rendering Question No. 2 unreasonable: "release," "any release," and "release(s)"; "non-storm events"; "constituents"; "source"; and "response."

Duke Energy further objects to Question No. 2 on the basis that the term "liquid" seeks information beyond the scope of the Clean Water Act NPDES program, which only applies to point source discharges of pollutants to navigable waters of the United States.

Response:

Notwithstanding and without waiving its General and Specific Objections, Duke Energy responds to Question No. 2 as follows:

- Response to Question No. 2(a):

There were releases of liquids from the two pipes from January 1, 2009 until the two pipes were closed off by grouting following the release of February 2-8, 2014, discussed immediately below. There was a generally continuous flow of storm water released from the 48" pipe and a relatively continuous release from the 36" pipe. Duke Energy cannot state with specificity the exact dates of these releases, although they were observed on approximately monthly intervals by plant personnel.

From February 2, 2014, there was an episodic release of coal ash and water from the 48" pipe into the Dan River. The spill was due to a failure of the integrity of the pipe at a location underneath the primary pond. The 48" stormwater pipe was permanently closed on February 8, 2014. Subsequently, following a videocamera inspection, the 36" pipe was closed on February 21, 2014.

Duke Energy primarily consulted the following individuals in preparing this response to Question No. 2(a):

Jason Allen

David Brooks

Melonie Martin

Dana Newcomb

Dulcie Phillips

Timothy Russell

Alan Stowe

George Tolbert

Robert Wylie

Identifying information for these individuals can be found in Appendix A to these responses.

- Response to Question No. 2(b):

Yes, as explained above in response to Question No. 2(a), there were releases of storm water on a relatively continuous basis from both the 48" and 36" pipes from January 1, 2009 until the pipes were closed off after the February 2-8, 2014 episodic release from the 48" pipe. During the February 2-8, 2014 period there was a release of water and coal ash from the ash basin through the 48" pipe.

Duke Energy primarily consulted the following individuals in preparing this response to Question No. 2(b):

Jason Allen

David Brooks

Melonie Martin

Dana Newcomb

Dulcie Phillips

Timothy Russell

Alan Stowe

George Tolbert

Robert Wylie

Identifying information for these individuals can be found in Appendix A to these responses.

- Response to Question No. 2(c):

In 2006, a permit application was filed by Duke Energy Carolinas LLC with NCDENR including an EPA Form 2F-NPDES Application for Permit to Discharge Storm Water associated with Industrial Activity for the Dan River Steam Station, dated October 30,

2006. The 48" and 36" storm water pipes were addressed in this application and described as "Storm Water Outfall 7" and "Storm water Outfall 8", respectively. *See* application at Supplemental Information, pp. 16-17 (Bates Nos. EPARFI00082 - EPARFI00083). The constituents of storm water discharges from the Dan River Station are generally described at page VII – I (Bates Nos. EPARFI00063 - EPARFI00066) of the Form 2F and generally in the Supplemental Information attachment to Form 2F (Bates Nos. EPARFI00067 - EPARFI00090). The specific information on sources of storm water and non-storm water to the 48" and 36" pipes are addressed at pages 16-17 and 23 of the Supplemental Information attachment (Bates Nos. EPARFI00082 - EPARFI00083 and EPARFI00089).

From January 1, 2009 until the February 2, 2014 release, facility environmental coordinators visually inspected the pipes on an approximately monthly basis to assess whether discharges from either pipe appeared turbid (it was not always possible for the coordinator to view each pipe each month depending upon high river flows or vegetative obstructions; about a year prior to February 2, 2014, the plant environmental coordinator was not able to see the outfall at the end of the 36" pipe during routine inspections due to a crack at the bottom of that pipe, but the outfall could be observed after a heavy precipitation event). The coordinators did not observe any turbidity in these discharges prior to the February 2, 2014 release.

Based on historical analysis of the ash in the ash basin and subsequent analyses of the ash by EPA and Duke Energy after February 2, Duke estimated that the release of coal ash and water from the 48" pipe from February 2-8, 2014 contained various constituents, including arsenic, selenium, cadmium, vanadium, beryllium, lead, mercury, nickel, sodium, and zinc – with each of these metals expected to be present in the form of oxides and other compounds, as opposed to the elemental metal. *See* Letters, Jason Allen, Duke Energy to Brett Burdick, VA Department of Emergency Services and Frank Perry, NC State Emergency Response Commission (Apr. 16, 2014) (Bates Nos. EPARFI00091 - EPARFI00094). *See, also* Bates Nos. EPARFI00516 - EPARFI00519.

Duke Energy has no evidence and is aware of no evidence that coal ash or wastewater from the secondary pond was released into the 36" pipe through any leaks discovered during the course of the videocamera inspection of that pipe conducted after the release of coal ash in early February, 2014 from the 48" pipe. Duke Energy found no evidence of any ash flow communication between the ash and 36" pipe under the secondary pond.

Duke Energy primarily consulted the following individuals in preparing this response to Question No. 2(c):

David Brooks

Sean DeNeale

Melonie Martin

Dana Newcomb

Dulcie Phillips

Michael Shrader

Alan Stowe

Andrew Tinsley

George Tolbert

Robert Wylie

Identifying information for these individuals can be found in Appendix A to these responses.

- Response to Question No. 2(d):

See answer to 2(c) above regarding the October 30, 2006 NPDES permit application to DENR for the Dan River Steam Station, which included information about the 48"/36" storm water pipes discharges. The release of February 2-8, 2014 was an accidental spill and thus could not be permitted.

Duke Energy primarily consulted the following individuals in preparing this response to Question No. 2(d):

David Brooks

Melonie Martin

Dana Newcomb

Dulcie Phillips

Alan Stowe

George Tolbert

Robert Wylie

Identifying information for these individuals can be found in Appendix A to these responses.

- Response to Question No. 2(e):

In the fall of 2010, Duke Energy raised with NCDENR issues regarding stormwater permitting at its generation facilities and whether stormwater would be addressed as part of NPDES permits or in separate permits. NCDENR staff responded that in most cases, stormwater and wastewater permit would be handled in individual permits as part of permit renewal. Bates Nos. EPARFI00095 - EPARFI00098. During 2011, NCDENR began to issue draft individual storm water permits for coal-fired power plants across North Carolina. The first such draft permit was for Duke Power's Marshall Steam Station. Bates Nos. EPARFI00099 - EPARFI00129. On July 20, 2011, Duke Power responded to this draft permit with a number of substantive comments. Letter from George Everett (Duke Power) to Brian Louther, NCDWQ Storm Water Permitting Union, NCDENR, Bates Nos. EPARFI00130 - EPARFI00145. NCDENR then issued draft individual storm water

permits for other Duke and CP&L plants similar to the Marshall Steam Station draft permit. Bates Nos. EPARFI00146 - EPARFI00267. Representatives of the two companies met on November 2, 2011 with NCDENR Storm Water Permitting Unit permit writers and two levels of management to discuss the NCDENR approach and the companies' concerns with the draft permits and to urge that NCDENR reconsider the draft permits on similar grounds for each permit.

NCDENR subsequently revised several draft individual storm water permits, although they were not finalized. Bates Nos. EPARFI00268 - EPARFI00337. Duke Power and CP&L representatives met with Matt Matthews (NCDENR Section Chief) on April 24, 2012 to offer a comprehensive overview of both companies' concerns about the draft individual permits and the general approach being taken by NCDENR. Based on that meeting, the companies expected that NCDENR would be issuing storm water permits for their plants. *See* Meeting Summary Letter, May 1, 2012 from Mark McGary (Duke Power) to Matt Matthews, NCDENR, Bates Nos. EPARFI00338 - EPARFI00340.

During this period of time, Duke Energy expected that NCDENR would issue an individual storm water permit for the Dan River facility on the basis of the 2006 NPDES permit application and the communications generally in 2010-2012 with NCDENR about the contents of individual storm water permits for the North Carolina power plants.

Because the 48"/36" pipes under the primary ash pond at the Dan River facility were closed off after the February 2, 2014 release from the 48" pipe, the pipes were not included in the most recent application for modification of the NPDES permit for the Dan River facility and stormwater permit application, filed with NCDENR on July 29 and July 30, 2014, respectively. Bates Nos. EPARFI00341 - EPARFI00515.

Duke Energy primarily consulted the following individuals in preparing this response to Question No. 2(e):

George Everett

Mark McGary

Robert Wylie

Identifying information for these individuals can be found in Appendix A to these responses.

Appendix A

Identifying Information for Individuals Consulted

Name	Position	Employment Address	Telephone
Jason Allen	Vice President – Carolinas West - Fossil Hydro Operations	Duke Energy 526 South Church St Charlotte, NC 28202	704-382-1520
Richard E. Baker, Jr.	Engineering & Closure Planning	Duke Energy Center 550 South Tryon St. Charlotte, NC 28202	704-382-7959
David M. Brooks, Jr.	Coordinator Procedures & Training	Dan River Steam Plant 900 S. Edgewood Rd. Eden, NC 07288	336-623-0240
Robin R. Bryson	Sr. Environmental Specialist - Water Programs	Duke Energy NC Regional Headquarters 410 S. Wilmington St. Raleigh, NC 27601	919-546-3962
Sean DeNeale	Engineer II	Duke Energy 526 S. Church St. Charlotte, NC 28202	704-382-4761
George T. Everett	Environment & Energy Policy	Duke Energy NC Regional Headquarters 410 S. Wilmington St. Raleigh, NC 27601	919-546-6744
Melonie Y. Martin	Lead EHS Professional	Belews Creek Steam Station 3195 Pine Hall Rd. Belews Creek, NC 27009	336-445-0610
Mark McGary	Lead Engineer – Water Programs	Duke Energy 526 South Church St. Charlotte, NC 28202	980-373-7898

Name	Position	Employment Address	Telephone
Dana H. Newcomb	Sr. EHS Professional	Dan River Steam Plant 900 S. Edgewood Rd. Eden, NC 07288	336-635-3186
Dulcie F. Phillips	Lead EHS Professional	Mayo Plant 10660 Boston Rd. Roxboro, NC 27574	336-597-7331
Timothy Russell	Supervisor-Engineering: Engineering & Closure Planning	Duke Energy 526 South Church St. Charlotte, NC 28202	704-382-4945
Michael L. Shrader	Manager, EHS	Duke Energy FL Regional Headquarters 6565 38th Avenue North St. Petersburg, FL 33710	727-820-5588
J. Alan Stowe Jr.	Lead Environmental Specialist	Duke Duke Energy 526 S. Church St. Charlotte, NC 28202	704-382-4309
Andrew F. Tinsley	Lead Environmental Specialist	Odena Operations Center 10011 E Hwy 98 Port St. Joe, FL 32456	850-229-5504
George B. Tolbert	Sr EHS Professional	Marshall Steam Station 8320 NC Hwy 150 E Terrell, NC 28682	828-478-7820
Robert R. Wylie	Lead Environmental Specialist	Duke Energy 526 S. Church St. Charlotte, NC 28202	704-382-4669

Certification

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, I certify that 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 fine and imprisonment for knowing violations.

Harry Sideris
Senior Vice President – Environment,
Health & Safety

Date: 9/17/14

North Carolina Department of Environment and Natural Resources
Division of Water Quality

Pat McCrory
Governor

Thomas A. Reeder,
Acting Director

John E. Skvarla, III
Secretary

July 10, 2013

Richard Baker
Director of Water & Natural Resources
Duke Energy Progress, Inc.
PO Box 1551
Raleigh, NC 27602-1551

Subject: Universal Name Change
Carolina Power & Light Co.
Division of Water Quality Permits

Mr. Baker:

Division personnel have reviewed and approved your request to transfer coverage under various permits received on June 10, 2013 (enclosed). A universal name chance was completed to the new owner name of Duke Energy Progress for all NCDENR permits listed in the enclosed table.

The name of "Progress Energy Carolinas, Inc" will remain on all active and current permits at this time until the renewal and or modification of said permits or the issue of new permits. The terms and conditions contained in the Permit remain unchanged and in full effect. This revised Certificate of Coverage is issued under the requirements of North Carolina General Statutes 143-215.1 and the Memorandum of Agreement between North Carolina and the U.S. Environmental Protection Agency.

If you have any questions, please contact me at (919) 807-6384.

Sincerely,

Matt Matthews
Surface Water Protection Section Chief

cc: Ms. Robin Bryson, Duke Energy
Jeff Poupart, DWQ
Cyndi Karoly, DWQ
Jay Zimmerman, DWQ

1617 Mail Service Center, Raleigh, North Carolina 27699-1617
Location: 512 N. Salisbury St. Raleigh, North Carolina 27604
Phone: 919-807-6300 \ FAX: 919-807-6492
Internet: www.ncwaterquality.org

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DUKE ENERGY.

Matt

Environmental Services

Duke Energy
526 South Church Street
Charlotte, NC 28202

Mailing Address:
Mail Code EC13K/ P.O. Box 1006
Charlotte, NC 28201-1006

JUN 11 2013
DIVISION OF WATER QUALITY
DIRECTOR'S OFFICE

June 10, 2013

Mr. Charles Wakild, Director
North Carolina Division of Water Quality
North Carolina Department of Environment and Natural Resources
1617 Mail Service Center
Raleigh, NC 27699-1617

Subject: Name Change of Carolina Power & Light Co. d/b/a/ Progress Energy Carolinas, Inc. to Duke Energy Progress, Inc.

Dear Mr. Wakild:

On April 29, 2013, Duke Energy Corporation (Duke Energy) changed the name of Carolina Power & Light Co. d/b/a/ Progress Energy Carolinas, Inc. to Duke Energy Progress, Inc. d/b/a/Duke Energy Progress. This is a name change only; it is not an ownership change to the legal entity nor are we intending to transfer any permits. Your agency has issued licenses, permits, registrations or environmental documents (hereinafter collectively "permits") using the former corporate name. As per the suggestion of Mr. Jeff Poupart of your staff, Duke Energy requests, by this letter, a "universal change" to the new owner name, Duke Energy Progress, Inc., for all the permits listed on the attached table.

It is our understanding that this letter, with the attachment, will be used to effect the name change for all permits as required and no additional name-change form submittals are necessary. Please forward as necessary to ensure all affected record systems are updated.

Duke Energy requests that the North Carolina Division of Water Quality provide a response letter indicating that the universal name change was accomplished as requested. We understand that the owner name on current permits will remain as issued. The new Duke Energy Progress, Inc. name should appear on renewed, modified, or newly-issued permits.

Sincerely,

Richard Baker, Director
Water & Natural Resources

REB/rb

Attachment

Permit Number	Facility Name	County Name	Permit Status	Permit Type	Program Category	Issued Date	Effective Date	Expiration Date	Combined Owner
WR0600056	Progress Energy	Robeson	Inactive	Recovery Well Construction	Ground Water	04-21-2008	04-21-2008	04-20-2009	Progress Energy Carolinas Inc
WR0800805	Brunswick Steam Electric Plant	Brunswick	Inactive	Recovery Well Construction	Ground Water	10-10-2008	10-10-2008	04-11-2009	Carolina Power and Light Company DBA Progress Energy Inc
WR0800808	Brunswick Steam Electric Plant	Brunswick	Inactive	Recovery Well Construction	Ground Water	01-05-2009	01-05-2009	07-06-2009	Carolina Power and Light Company DBA Progress Energy Inc
WS0800932	Sutton Steam Electric Plant	New Hanover	Active	Water Supply Well Construction	Ground Water	12-14-2012	12-14-2012	06-14-2013	Carolina Power and Light Company DBA Progress Energy Inc
WQ0000020	Progress Energy Ash Distribution Program	Unknown	Active	Distribution of Residual Solids (503 Exempt)	Non-discharge	02-17-2006	02-17-2006	02-28-2015	Progress Energy Carolinas Inc
WQ0000020	Progress Energy Ash Distribution Program	Unknown	Inactive	Distribution of Residual Solids (503 Exempt)	Non-discharge	07-09-1998	07-09-1998	10-31-2002	Progress Energy Carolinas Inc
WQ0013514	Brunswick Plant Visitors Center	Brunswick	Active	Gravity Sewer Extension, Pump Stations, & Pressure Sewer Extensions	Non-discharge	04-08-1997	04-08-1997		Progress Energy Carolinas Inc
WQ0023612	Asheville FGD Sewer Extension-New Line	Buncombe	Active	Gravity Sewer Extension, Pump Stations, & Pressure Sewer Extensions	Non-discharge	03-01-2004	03-01-2004		Progress Energy Carolinas Inc
WQ0031612	Mayo Sewer Line Relocation	Person	Active	Gravity Sewer Extension, Pump Stations, & Pressure Sewer Extensions	Non-discharge	05-03-2007	05-03-2007		Progress Energy Carolinas Inc
WQ0035843	NPP Temporary Office Complex	Wake	Active	Gravity Sewer Extension, Pump Stations, & Pressure Sewer Extensions	Non-discharge	03-29-2012	03-29-2012		Progress Energy Carolinas Inc
WQ0003604	Cp & L - Roxboro Steam Plant	Person	Inactive	Land Application of Residual Solids (503 Exempt)	Non-discharge	08-09-1990	03-26-1993	01-31-1998	Progress Energy Carolinas Inc
WQ0004714	Cp & L - Asheville Steam Plant	Buncombe	Inactive	Land Application of Residual Solids (503 Exempt)	Non-discharge	07-09-1986	03-26-1993	01-31-1998	Progress Energy Carolinas Inc
WQ0006109	Carolina Power & Light	New Hanover	Inactive	Land Application of Residual Solids (503 Exempt)	Non-discharge	01-01-1969	03-26-1993	01-31-1998	Progress Energy Carolinas Inc
WQ0007254	Carolina Power & Light Co	Wayne	Inactive	Land Application of Residual Solids (503 Exempt)	Non-discharge	01-01-1969	02-12-1993	01-31-1998	Progress Energy Carolinas Inc
WQ0007255	Carolina Power & Light Company	Chatham	Inactive	Land Application of Residual Solids (503 Exempt)	Non-discharge	02-12-1993	02-12-1993	01-31-1998	Progress Energy Carolinas Inc
WQ0009475	Cp&L-A Sludge/Harris Nucle	Wake	Inactive	Land Application of Residual Solids (503)	Non-discharge	12-21-1994	12-21-1994	11-30-1999	Progress Energy Carolinas Inc
WQ0019931	Harris Nuclear Plant	Wake	Inactive	Wastewater Pump and Haul	Non-discharge	05-29-2001	05-29-2001	11-30-2001	Progress Energy Carolinas Inc
WQ0030120	Shearon Harris Nuclear Power Plant	Wake	Inactive	Wastewater Pump and Haul	Non-discharge	04-17-2006	04-17-2006	05-31-2006	Carolina Power and Light Company DBA Progress Energy Inc
WQ0032281	Shearon Harris Nuclear Power Plant	Wake	Inactive	Wastewater Pump and Haul	Non-discharge	10-03-2007	10-03-2007	04-02-2008	Carolina Power and Light Company DBA Progress Energy Inc

Permit Number	Facility Name	County Name	Permit Status	Permit Type	Program Category	Issued Date	Effective Date	Expiration Date	Combined Owner
WQ0033884	Harris Nuclear Plant	Wake	Inactive	Wastewater Pump and Haul	Non-discharge	03-09-2009	03-09-2009	09-08-2009	Progress Energy Carolinas Inc
WQ0034993	Harris Nuclear Plant	Wake	Inactive	Wastewater Pump and Haul	Non-discharge	09-16-2010	09-16-2010	03-15-2011	Progress Energy Carolinas Inc
WQ0035865	Shearon Harris Nuclear Power Plant	Wake	Inactive	Wastewater Pump and Haul	Non-discharge	04-05-2012	04-05-2012	01-01-2013	Carolina Power and Light Company DBA Progress Energy Inc
WQ0036332	Shearon Harris Nuclear Power Plant	Wake	Active	Wastewater Pump and Haul	Non-discharge	01-15-2013	01-15-2013		Carolina Power and Light Company DBA Progress Energy Inc
NCR000780	Electronic Data Center	Wake	Active	Construction Stormwater	NPDES SW	03-12-2008	03-12-2008		Progress Energy Carolinas Inc
NCR002962	Ramseur 115kV Substation	Randolph	Active	Construction Stormwater	NPDES SW	09-15-2010	09-15-2010		Carolina Power and Light Company DBA Progress Energy Inc
NCG120032	CP&L-Harris Plant Sanitary Lan	Wake	Inactive	Landfill Stormwater Discharge COC	NPDES SW	09-10-1997	09-10-1997	08-31-2002	Progress Energy Carolinas Inc
NCG120032	CP&L-Harris Plant Sanitary Lan	Wake	Inactive	Landfill Stormwater Discharge COC	NPDES SW	09-01-2002	09-01-2002	08-31-2007	Progress Energy Carolinas Inc
NCG120033	CP&L-Brunswick Plant Landfill	Brunswick	Inactive	Landfill Stormwater Discharge COC	NPDES SW	09-10-1997	09-10-1997	08-31-2002	Progress Energy Carolinas Inc
NCG120033	CP&L-Brunswick Plant Landfill	Brunswick	Inactive	Landfill Stormwater Discharge COC	NPDES SW	09-01-2002	09-01-2002	08-31-2007	Progress Energy Carolinas Inc
NCS000550	Cape Fear Steam Electric Power Plant	Chatham	Withdrawn	Stormwater Discharge, Individual	NPDES SW				Carolina Power and Light Company DBA Progress Energy Inc
NCGNE0836	Weatherspoon Steam Electric Plant	Robeson	In review	Stormwater Discharge, No Exposure Certificate	NPDES SW				Carolina Power and Light Company DBA Progress Energy Inc
NC0026735	Cp&L Shearon Harris Env Ctr	Wake	Inactive	100% Domestic < 1MGD	NPDES WW	07-22-1996	07-22-1996	03-31-2001	Progress Energy Carolinas Inc
NC0045071	Cp&L Roxboro S.E. (WWTP)	Person	Inactive	100% Domestic < 1MGD	NPDES WW	04-30-1979	04-30-1979	12-31-1983	Progress Energy Carolinas Inc
NC0049280	Cp&L Shearon Harris Const. Off	Wake	Inactive	100% Domestic < 1MGD	NPDES WW	09-01-1987	09-01-1987	08-31-1992	Progress Energy Carolinas Inc
NC0061379	Cp&L Visitor/Media Center	Brunswick	Inactive	100% Domestic < 1MGD	NPDES WW	09-04-1996	09-04-1996	08-30-2001	Progress Energy Carolinas Inc
NC0083895	Brunswick Steam Electric Plant	Brunswick	Inactive	100% Domestic < 1MGD	NPDES WW	09-04-1996	10-01-1996	11-30-2001	Carolina Power and Light Company DBA Progress Energy Inc
0000396AC	Asheville Steam Electric Power Plant	Buncombe	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	08-09-1993	08-09-1993		Carolina Power and Light Company DBA Progress Energy Inc
0001422AC	Sutton Steam Electric Plant	New Hanover	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	06-15-1983	06-15-1983		Carolina Power and Light Company DBA Progress Energy Inc
0003425AC	Roxboro Steam Electric Power Plant	Person	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	08-17-1983	08-17-1983		Carolina Power and Light Company DBA Progress Energy Inc
0003433AC	Cape Fear Steam Electric Power Plant	Chatham	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	01-16-1984	01-16-1984		Carolina Power and Light Company DBA Progress Energy Inc
000396A01	Asheville Steam Electric Power Plant	Buncombe	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	12-21-2001	12-21-2001		Carolina Power and Light Company DBA Progress Energy Inc
000396A02	Asheville Steam Electric Power Plant	Buncombe	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	11-05-2004	11-05-2004		Carolina Power and Light Company DBA Progress Energy Inc
000396A03	Asheville Steam Electric Power Plant	Buncombe	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	03-29-2005	03-29-2005		Carolina Power and Light Company DBA Progress Energy Inc

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000396A04	Asheville Steam Electric Power Plant	Buncombe	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	05-18-2010	05-18-2010		Carolina Power and Light Company DBA Progress Energy Inc
000396ACA	Asheville Steam Electric Power Plant	Buncombe	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	11-21-1994	11-21-1994		Carolina Power and Light Company DBA Progress Energy Inc
000396ACB	Asheville Steam Electric Power Plant	Buncombe	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	11-21-1994	11-21-1994		Carolina Power and Light Company DBA Progress Energy Inc
000396ACC	Asheville Steam Electric Power Plant	Buncombe	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	02-15-1999	02-15-1999		Carolina Power and Light Company DBA Progress Energy Inc
000396ACD	Asheville Steam Electric Power Plant	Buncombe	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	07-23-1999	07-23-1999		Carolina Power and Light Company DBA Progress Energy Inc
0007064AC	Brunswick Steam Electric Plant	Brunswick	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	08-02-1983	08-02-1983		Carolina Power and Light Company DBA Progress Energy Inc
001422A01	Sutton Steam Electric Plant	New Hanover	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	03-25-2003	03-25-2003		Carolina Power and Light Company DBA Progress Energy Inc
001422A02	Sutton Steam Electric Plant	New Hanover	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	11-13-2006	11-13-2006		Carolina Power and Light Company DBA Progress Energy Inc
001422A03	Sutton Steam Electric Plant	New Hanover	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	06-10-2009	06-10-2009		Carolina Power and Light Company DBA Progress Energy Inc
001422A04	Sutton Steam Electric Plant	New Hanover	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	05-18-2011	05-18-2011		Carolina Power and Light Company DBA Progress Energy Inc
001422ACA	Sutton Steam Electric Plant	New Hanover	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	05-08-1984	05-08-1984		Carolina Power and Light Company DBA Progress Energy Inc
001422ACC	Sutton Steam Electric Plant	New Hanover	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	11-25-1998	11-25-1998		Carolina Power and Light Company DBA Progress Energy Inc
003417A02	Lee Steam Electric Plant	Wayne	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	03-01-2011	03-01-2011		Carolina Power and Light Company DBA Progress Energy Inc
003417A03	Lee Steam Electric Plant	Wayne	Returned	Authorization to Construct NPDES Wastewater Facility	NPDES WW				Carolina Power and Light Company DBA Progress Energy Inc
003425A01	Roxboro Steam Electric Power Plant	Person	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	10-20-2004	10-20-2004		Carolina Power and Light Company DBA Progress Energy Inc
003425A02	Roxboro Steam Electric Power Plant	Person	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	03-03-2006	03-03-2006		Carolina Power and Light Company DBA Progress Energy Inc
003425A03	Roxboro Steam Electric Power Plant	Person	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	07-05-2006	07-05-2006		Carolina Power and Light Company DBA Progress Energy Inc
003425A04	Roxboro Steam Electric Power Plant	Person	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	04-18-2008	04-18-2008		Carolina Power and Light Company DBA Progress Energy Inc
003425A05	Roxboro Steam Electric Power Plant	Person	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	05-15-2009	05-15-2009		Carolina Power and Light Company DBA Progress Energy Inc

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003425A06	Roxboro Steam Electric Power Plant	Person	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	06-15-2009	06-15-2009		Carolina Power and Light Company DBA Progress Energy Inc
003425A07	Roxboro Steam Electric Power Plant	Person	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	04-14-2010	04-14-2010		Carolina Power and Light Company DBA Progress Energy Inc
003425A08	Roxboro Steam Electric Power Plant	Person	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	06-29-2010	06-29-2010		Carolina Power and Light Company DBA Progress Energy Inc
003425ACA	Roxboro Steam Electric Power Plant	Person	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	05-08-1987	05-08-1987		Carolina Power and Light Company DBA Progress Energy Inc
003425ACB	Roxboro Steam Electric Power Plant	Person	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	08-07-1989	08-07-1989		Carolina Power and Light Company DBA Progress Energy Inc
003433A01	Cape Fear Steam Electric Power Plant	Chatham	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	07-16-2009	07-16-2009		Carolina Power and Light Company DBA Progress Energy Inc
003433A02	Cape Fear Steam Electric Power Plant	Chatham	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	07-16-2009	07-16-2009		Carolina Power and Light Company DBA Progress Energy Inc
003433ACA	Cape Fear Steam Electric Power Plant	Chatham	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	03-05-1992	03-05-1992		Carolina Power and Light Company DBA Progress Energy Inc
0039586AC	Shearon Harris Nuclear Power Plant	Wake	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	03-15-1988	03-15-1988		Carolina Power and Light Company DBA Progress Energy Inc
007064A01	Brunswick Steam Electric Plant	Brunswick	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	07-16-2009	07-16-2009		Carolina Power and Light Company DBA Progress Energy Inc
007064A02	Brunswick Steam Electric Plant	Brunswick	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	12-21-2009	12-21-2009		Carolina Power and Light Company DBA Progress Energy Inc
03425ACA1	Roxboro Steam Electric Power Plant	Person	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	03-26-1986	03-26-1986		Carolina Power and Light Company DBA Progress Energy Inc
038377A01	Mayo Steam Electric Power Plant	Person	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	11-28-2007	11-28-2007		Carolina Power and Light Company DBA Progress Energy Inc
038377A02	Mayo Steam Electric Power Plant	Person	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	05-21-2008	05-21-2008		Carolina Power and Light Company DBA Progress Energy Inc
038377A03	Mayo Steam Electric Power Plant	Person	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	02-23-2009	02-23-2009		Carolina Power and Light Company DBA Progress Energy Inc
038377A04	Mayo Steam Electric Power Plant	Person	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	09-09-2010	09-09-2010		Carolina Power and Light Company DBA Progress Energy Inc
039586A01	Shearon Harris Nuclear Power Plant	Wake	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	02-27-2004	02-27-2004		Carolina Power and Light Company DBA Progress Energy Inc
083895ACA	Brunswick Steam Electric Plant	Brunswick	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	05-13-1994	05-13-1994		Carolina Power and Light Company DBA Progress Energy Inc
NC0000396	Asheville Steam Electric Power Plant	Buncombe	Expired	Industrial Process & Commercial	NPDES WW	09-12-2007	11-01-2007	12-31-2010	Carolina Power and Light Company DBA Progress Energy Inc

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NC0000396	Asheville Steam Electric Power Plant	Buncombe	Inactive	Industrial Process & Commercial	NPDES WW	12-17-2001	02-01-2002	12-31-2005	Carolina Power and Light Company DBA Progress Energy Inc
NC0000396	Asheville Steam Electric Power Plant	Buncombe	Inactive	Industrial Process & Commercial	NPDES WW	05-28-2004	07-01-2004	12-31-2005	Carolina Power and Light Company DBA Progress Energy Inc
NC0000396	Asheville Steam Electric Power Plant	Buncombe	Inactive	Industrial Process & Commercial	NPDES WW	11-18-2005	01-01-2006	12-31-2010	Carolina Power and Light Company DBA Progress Energy Inc
NC0000396	Asheville Steam Electric Power Plant	Buncombe	In draft	Industrial Process & Commercial	NPDES WW	-			Carolina Power and Light Company DBA Progress Energy Inc
NC0001422	Sutton Steam Electric Plant	New Hanover	Active	Industrial Process & Commercial	NPDES WW	12-02-2011	01-01-2012	12-31-2016	Carolina Power and Light Company DBA Progress Energy Inc
NC0001422	Sutton Steam Electric Plant	New Hanover	Inactive	Industrial Process & Commercial	NPDES WW	07-31-1996	09-01-1996	12-31-2001	Carolina Power and Light Company DBA Progress Energy Inc
NC0001422	Sutton Steam Electric Plant	New Hanover	Inactive	Industrial Process & Commercial	NPDES WW	12-27-2002	02-01-2003	12-31-2006	Carolina Power and Light Company DBA Progress Energy Inc
NC0001422	Sutton Steam Electric Plant	New Hanover	Inactive	Industrial Process & Commercial	NPDES WW	12-14-2006	01-01-2007	12-31-2011	Carolina Power and Light Company DBA Progress Energy Inc
NC0003417	Lee Steam Electric Plant	Wayne	Active	Industrial Process & Commercial	NPDES WW	07-23-2010	09-01-2010	05-31-2013	Carolina Power and Light Company DBA Progress Energy Inc
NC0003417	Lee Steam Electric Plant	Wayne	Inactive	Industrial Process & Commercial	NPDES WW	10-23-2000	12-01-2000	02-28-2003	Carolina Power and Light Company DBA Progress Energy Inc
NC0003417	Lee Steam Electric Plant	Wayne	Inactive	Industrial Process & Commercial	NPDES WW	10-13-2004	11-01-2004	05-31-2008	Carolina Power and Light Company DBA Progress Energy Inc
NC0003417	Lee Steam Electric Plant	Wayne	Inactive	Industrial Process & Commercial	NPDES WW	03-23-2007	05-01-2007	05-31-2008	Carolina Power and Light Company DBA Progress Energy Inc
NC0003417	Lee Steam Electric Plant	Wayne	Inactive	Industrial Process & Commercial	NPDES WW	10-14-2009	11-01-2009	05-31-2013	Carolina Power and Light Company DBA Progress Energy Inc
NC0003417	Lee Steam Electric Plant	Wayne	In draft	Industrial Process & Commercial	NPDES WW				Carolina Power and Light Company DBA Progress Energy Inc
NC0003425	Roxboro Steam Electric Power Plant	Person	Expired	Industrial Process & Commercial	NPDES WW	06-10-2009	07-01-2009	03-31-2012	Carolina Power and Light Company DBA Progress Energy Inc
NC0003425	Roxboro Steam Electric Power Plant	Person	Inactive	Industrial Process & Commercial	NPDES WW	01-26-1998	03-01-1998	04-30-2002	Carolina Power and Light Company DBA Progress Energy Inc
NC0003425	Roxboro Steam Electric Power Plant	Person	Inactive	Industrial Process & Commercial	NPDES WW	12-31-2002	02-01-2003	03-31-2007	Carolina Power and Light Company DBA Progress Energy Inc
NC0003425	Roxboro Steam Electric Power Plant	Person	Inactive	Industrial Process & Commercial	NPDES WW	08-10-2005	09-01-2005	03-31-2007	Carolina Power and Light Company DBA Progress Energy Inc
NC0003425	Roxboro Steam Electric Power Plant	Person	Inactive	Industrial Process & Commercial	NPDES WW	04-09-2007	05-01-2007	03-31-2012	Carolina Power and Light Company DBA Progress Energy Inc

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NC0003425	Roxboro Steam Electric Power Plant	Person	In review	Industrial Process & Commercial	NPDES WW				Carolina Power and Light Company DBA Progress Energy Inc
NC0003433	Cape Fear Steam Electric Power Plant	Chatham	Active	Industrial Process & Commercial	NPDES WW	07-22-2011	09-01-2011	07-31-2016	Carolina Power and Light Company DBA Progress Energy Inc
NC0003433	Cape Fear Steam Electric Power Plant	Chatham	Inactive	Industrial Process & Commercial	NPDES WW	08-01-1996	08-01-1996	07-31-2001	Carolina Power and Light Company DBA Progress Energy Inc
NC0003433	Cape Fear Steam Electric Power Plant	Chatham	Inactive	Industrial Process & Commercial	NPDES WW	09-24-2003	11-01-2003	07-31-2006	Carolina Power and Light Company DBA Progress Energy Inc
NC0003433	Cape Fear Steam Electric Power Plant	Chatham	Inactive	Industrial Process & Commercial	NPDES WW	08-11-2006	09-01-2006	07-31-2011	Carolina Power and Light Company DBA Progress Energy Inc
NC0005363	Weatherspoon Steam Electric Plant	Robeson	Active	Industrial Process & Commercial	NPDES WW	11-20-2009	01-01-2010	07-31-2014	Carolina Power and Light Company DBA Progress Energy Inc
NC0005363	Weatherspoon Steam Electric Plant	Robeson	Inactive	Industrial Process & Commercial	NPDES WW	06-23-2000	08-01-2000	07-31-2004	Carolina Power and Light Company DBA Progress Energy Inc
NC0005363	Weatherspoon Steam Electric Plant	Robeson	Inactive	Industrial Process & Commercial	NPDES WW	09-27-2004	11-01-2004	07-31-2009	Carolina Power and Light Company DBA Progress Energy Inc
NC0005363	Weatherspoon Steam Electric Plant	Robeson	Inactive	Industrial Process & Commercial	NPDES WW	05-01-2005	05-01-2005	07-31-2009	Carolina Power and Light Company DBA Progress Energy Inc
NC0005363	Weatherspoon Steam Electric Plant	Robeson	Withdrawn	Industrial Process & Commercial	NPDES WW				Carolina Power and Light Company DBA Progress Energy Inc
NC0007064	Brunswick Steam Electric Plant	Brunswick	Active	Industrial Process & Commercial	NPDES WW	01-13-2012	02-01-2012	11-30-2016	Carolina Power and Light Company DBA Progress Energy Inc
NC0007064	Brunswick Steam Electric Plant	Brunswick	Inactive	Industrial Process & Commercial	NPDES WW	09-04-1996	10-01-1996	11-30-2001	Carolina Power and Light Company DBA Progress Energy Inc
NC0007064	Brunswick Steam Electric Plant	Brunswick	Inactive	Industrial Process & Commercial	NPDES WW	06-30-2003	08-01-2003	11-30-2006	Carolina Power and Light Company DBA Progress Energy Inc
NC0007064	Brunswick Steam Electric Plant	Brunswick	Inactive	Industrial Process & Commercial	NPDES WW	02-21-2008	04-01-2008	11-30-2011	Carolina Power and Light Company DBA Progress Energy Inc
NC0007064	Brunswick Steam Electric Plant	Brunswick	Inactive	Industrial Process & Commercial	NPDES WW	10-30-2009	12-01-2009	11-30-2011	Carolina Power and Light Company DBA Progress Energy Inc
NC0007064	Brunswick Steam Electric Plant	Brunswick	Inactive	Industrial Process & Commercial	NPDES WW	09-19-2011	12-01-2011	11-30-2016	Carolina Power and Light Company DBA Progress Energy Inc
NC0027511	Cp&L Walters Hydroelectric Plt	Haywood	Inactive	Industrial Process & Commercial	NPDES WW	08-12-1981	08-12-1981	07-31-1997	Progress Energy Carolinas Inc
NC0027529	Cp&L Tillery Hydroelectric Plt	Montgomery	Inactive	Industrial Process & Commercial	NPDES WW	01-29-1982	01-29-1982	07-31-1997	Progress Energy Carolinas Inc
NC0027537	Cp&L Blewett Hydroelectric Plt	Anson	Inactive	Industrial Process & Commercial	NPDES WW	01-29-1982	01-29-1982	07-31-1993	Progress Energy Carolinas Inc
NC0027545	Cp&L Marshall Hydroelectric Pl	Madison	Inactive	Industrial Process & Commercial	NPDES WW	09-16-1996	09-16-1996	10-31-2001	Progress Energy Carolinas Inc
NC0038377	Mayo Steam Electric Power Plant	Person	Expired	Industrial Process & Commercial	NPDES WW	10-14-2009	11-01-2009	03-31-2012	Carolina Power and Light Company DBA Progress Energy Inc

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NC0038377	Mayo Steam Electric Power Plant	Person	Inactive	Industrial Process & Commercial	NPDES WW	12-13-2000	02-01-2001	01-31-2006	Carolina Power and Light Company DBA Progress Energy Inc
NC0038377	Mayo Steam Electric Power Plant	Person	Inactive	Industrial Process & Commercial	NPDES WW	12-05-2005	01-01-2006	03-31-2007	Carolina Power and Light Company DBA Progress Energy Inc
NC0038377	Mayo Steam Electric Power Plant	Person	Inactive	Industrial Process & Commercial	NPDES WW	09-14-2006	10-01-2006	03-31-2007	Carolina Power and Light Company DBA Progress Energy Inc
NC0038377	Mayo Steam Electric Power Plant	Person	Inactive	Industrial Process & Commercial	NPDES WW	04-10-2007	05-01-2007	03-31-2012	Carolina Power and Light Company DBA Progress Energy Inc
NC0038377	Mayo Steam Electric Power Plant	Person	Inactive	Industrial Process & Commercial	NPDES WW	12-14-2007	01-01-2008	03-31-2012	Carolina Power and Light Company DBA Progress Energy Inc
NC0038377	Mayo Steam Electric Power Plant	Person	In draft	Industrial Process & Commercial	NPDES WW				Carolina Power and Light Company DBA Progress Energy Inc
NC0039586	Shearon Harris Nuclear Power Plant	Wake	Expired	Industrial Process & Commercial	NPDES WW	02-09-2007	03-01-2007	07-31-2011	Carolina Power and Light Company DBA Progress Energy Inc
NC0039586	Shearon Harris Nuclear Power Plant	Wake	Inactive	Industrial Process & Commercial	NPDES WW	08-01-1996	08-01-1996	07-31-2001	Carolina Power and Light Company DBA Progress Energy Inc
NC0039586	Shearon Harris Nuclear Power Plant	Wake	Inactive	Industrial Process & Commercial	NPDES WW	04-12-2002	05-01-2002	07-31-2006	Carolina Power and Light Company DBA Progress Energy Inc
NC0039586	Shearon Harris Nuclear Power Plant	Wake	In review	Industrial Process & Commercial	NPDES WW				Carolina Power and Light Company DBA Progress Energy Inc
NC0059323	Cp&L Bioassay-New Hill	Wake	Inactive	Industrial Process & Commercial	NPDES WW	03-18-1996	03-18-1996	03-31-2001	Progress Energy Carolinas Inc
NC0026808	Brunswick Steam Electric Plant	Brunswick	Inactive	Municipal, < 1MGD	NPDES WW	07-12-1982	07-12-1982	06-30-1987	Carolina Power and Light Company DBA Progress Energy Inc
NC0049450	Cape Fear Steam Electric Plant WWTP	Chatham	Inactive	Municipal, < 1MGD	NPDES WW	11-16-1981	11-16-1981	10-31-1986	Progress Energy Carolinas Inc
NC0050121	Cp&L Mayo S.E. (WWTP)	Person	Inactive	Municipal, < 1MGD	NPDES WW	11-20-1981	11-20-1981	10-31-1986	Progress Energy Carolinas Inc
NCG500188	Walters Hydroelectric Plant	Haywood	Active	Non-contact Cooling, Boiler Blowdown COC	NPDES WW	08-03-2012	08-03-2012	07-31-2015	Progress Energy Carolinas Inc
NCG500188	Walters Hydroelectric Plant	Haywood	Inactive	Non-contact Cooling, Boiler Blowdown COC	NPDES WW	07-24-1997	09-01-1997	07-31-2002	Progress Energy Carolinas Inc
NCG500188	Walters Hydroelectric Plant	Haywood	Inactive	Non-contact Cooling, Boiler Blowdown COC	NPDES WW	08-01-2002	08-01-2002	07-31-2007	Progress Energy Carolinas Inc
NCG500188	Walters Hydroelectric Plant	Haywood	Inactive	Non-contact Cooling, Boiler Blowdown COC	NPDES WW	07-23-2007	08-01-2007	07-31-2012	Progress Energy Carolinas Inc
NCG500189	Tillery Hydroelectric Plant	Montgomery	Active	Non-contact Cooling, Boiler Blowdown COC	NPDES WW	08-03-2012	08-03-2012	07-31-2015	Progress Energy Carolinas Inc
NCG500189	Tillery Hydroelectric Plant	Montgomery	Inactive	Non-contact Cooling, Boiler Blowdown COC	NPDES WW	07-24-1997	09-01-1997	07-31-2002	Progress Energy Carolinas Inc
NCG500189	Tillery Hydroelectric Plant	Montgomery	Inactive	Non-contact Cooling, Boiler Blowdown COC	NPDES WW	08-01-2002	08-01-2002	07-31-2007	Progress Energy Carolinas Inc

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NCG500189	Tillery Hydroelectric Plant	Montgomery	Inactive	Non-contact Cooling, Boiler Blowdown COC	NPDES WW	07-23-2007	08-01-2007	07-31-2012	Progress Energy Carolinas Inc
NCG500190	Blewett Falls Hydroelectric Plant	Anson	Active	Non-contact Cooling, Boiler Blowdown COC	NPDES WW	08-03-2012	08-03-2012	07-31-2015	Progress Energy Carolinas Inc
NCG500190	Blewett Falls Hydroelectric Plant	Anson	Inactive	Non-contact Cooling, Boiler Blowdown COC	NPDES WW	07-24-1997	09-01-1997	07-31-2002	Progress Energy Carolinas Inc
NCG500190	Blewett Falls Hydroelectric Plant	Anson	Inactive	Non-contact Cooling, Boiler Blowdown COC	NPDES WW	08-01-2002	08-01-2002	07-31-2007	Progress Energy Carolinas Inc
NCG500190	Blewett Falls Hydroelectric Plant	Anson	Inactive	Non-contact Cooling, Boiler Blowdown COC	NPDES WW	07-23-2007	08-01-2007	07-31-2012	Progress Energy Carolinas Inc
NCG500591	Marshall Hydroelectric Plant	Madison	Active	Non-contact Cooling, Boiler Blowdown COC	NPDES WW	08-03-2012	08-03-2012	07-31-2015	Progress Energy Carolinas Inc
NCG500591	Marshall Hydroelectric Plant	Madison	Inactive	Non-contact Cooling, Boiler Blowdown COC	NPDES WW	01-19-2001	03-01-2001	07-31-2002	Progress Energy Carolinas Inc
NCG500591	Marshall Hydroelectric Plant	Madison	Inactive	Non-contact Cooling, Boiler Blowdown COC	NPDES WW	08-01-2002	08-01-2002	07-31-2007	Progress Energy Carolinas Inc
NCG500591	Marshall Hydroelectric Plant	Madison	Inactive	Non-contact Cooling, Boiler Blowdown COC	NPDES WW	07-23-2007	08-01-2007	07-31-2012	Progress Energy Carolinas Inc
NCG500594	Richmond County Combustion Turbine Plant	Richmond	Active	Non-contact Cooling, Boiler Blowdown COC	NPDES WW	08-03-2012	08-03-2012	07-31-2015	Progress Energy Carolinas Inc
NCG500594	Richmond County Combustion Turbine Plant	Richmond	Inactive	Non-contact Cooling, Boiler Blowdown COC	NPDES WW	02-05-2001	03-01-2001	07-31-2002	Progress Energy Carolinas Inc
NCG500594	Richmond County Combustion Turbine Plant	Richmond	Inactive	Non-contact Cooling, Boiler Blowdown COC	NPDES WW	08-17-2001	08-17-2001	07-31-2002	Progress Energy Carolinas Inc
NCG500594	Richmond County Combustion Turbine Plant	Richmond	Inactive	Non-contact Cooling, Boiler Blowdown COC	NPDES WW	08-01-2002	08-01-2002	07-31-2007	Progress Energy Carolinas Inc
NCG500594	Richmond County Combustion Turbine Plant	Richmond	Inactive	Non-contact Cooling, Boiler Blowdown COC	NPDES WW	07-23-2007	08-01-2007	07-31-2012	Progress Energy Carolinas Inc
NCG500594	Richmond County Combustion Turbine Plant	Richmond	Withdrawn	Non-contact Cooling, Boiler Blowdown COC	NPDES WW				Progress Energy Carolinas Inc
NCG500597	Cp&L-Combustion Turbine Gen II	Richmond	Returned	Non-contact Cooling, Boiler Blowdown COC	NPDES WW				Progress Energy Carolinas Inc
NCG560008	Progress Energy Vegetation Control	Wake	Active	Pesticide General Permit COC	NPDES WW	03-01-2012	03-01-2012	10-31-2016	Progress Energy Carolinas Inc
SW5071101	Siler City 230 kV Substation Expansion	Chatham	Active	State Stormwater	State SW	12-14-2007	12-14-2007		Progress Energy Carolinas Inc
SW5080801	Garner I 40 230 kV Electric Substation	Wake	Active	State Stormwater	State SW	08-28-2008	08-28-2008		Carolina Power and Light Company DBA Progress Energy Inc
SW7011001	NCNG, New Bern Operations Center	Craven	Active	State Stormwater	State SW	10-16-2001	10-16-2001	10-16-2015	Progress Energy Carolinas Inc
SW7011022	NCNG, New Bern Operations Center	Craven	Active	State Stormwater	State SW	11-09-2001	11-09-2001		Progress Energy Carolinas Inc
SW7030305	Eastern NCNG - Phase 3A	Beaufort	Active	State Stormwater	State SW	04-24-2003	04-24-2003		Progress Energy Carolinas Inc

Permit Number	Facility Name	County Name	Permit Status	Permit Type	Program Category	Issued Date	Effective Date	Expiration Date	Combined Owner
SW7091123	Havelock 230kV Substation - Capacitor Bank Addition	Craven	Returned	State Stormwater	State SW				Carolina Power and Light Company DBA Progress Energy Inc
SW7100304	Havelock 230kV Substation - Install 60/ F66 MVAR-230 kV Cap	Craven	Active	State Stormwater	State SW	03-15-2010	03-15-2010		Carolina Power and Light Company DBA Progress Energy Inc
SW7950408	Cpl - Aurora Sta	Beaufort	Active	State Stormwater	State SW	05-23-1995	05-23-1995		Progress Energy Carolinas Inc
SW7971215	Cpl - New Bern Transmission Fac	Craven	Active	State Stormwater	State SW	01-16-1998	01-16-1998		Progress Energy Carolinas Inc
SW7980205	Cp&L - Final Plan Ind Site	Craven	Active	State Stormwater	State SW	10-03-2008	10-03-2008	10-03-2022	Progress Energy Carolinas Inc
SW7980205	Cp&L - Final Plan Ind Site	Craven	Inactive	State Stormwater	State SW	05-19-1998	05-19-1998	05-19-2008	Progress Energy Carolinas Inc
SW8000301	Cp&L Scotts Hill 230 Kv Tap Line	New Hanover	Active	State Stormwater	State SW	03-01-2000	03-01-2000		Progress Energy Carolinas Inc
SW8000333	Progress Energy North Wilmington Operations Complex	New Hanover	Active	State Stormwater	State SW	02-26-2010	02-26-2010	06-09-2024	Progress Energy Carolinas Inc
SW8000333	Progress Energy North Wilmington Operations Complex	New Hanover	Inactive	State Stormwater	State SW	06-09-2000	06-09-2000		Progress Energy Carolinas Inc
SW8000510	CP&L Leland Transmission Facility	Brunswick	Active	State Stormwater	State SW	05-10-2010	05-10-2010	09-07-2024	Carolina Power and Light Company DBA Progress Energy Inc
SW8000510	CP&L Leland Transmission Facility	Brunswick	Inactive	State Stormwater	State SW	09-07-2000	09-07-2000		Carolina Power and Light Company DBA Progress Energy Inc
SW8010223	Cp&L SE Regional Industrial Park Substation	Columbus	Active	State Stormwater	State SW	02-26-2001	02-26-2001		Progress Energy Carolinas Inc
SW8010428	Cp&L Whiteville SE. Regional Park Tap Line	Columbus	Active	State Stormwater	State SW	05-23-2001	05-23-2001		Progress Energy Carolinas Inc
SW8010529	Castle Hayne 230 Kv Substation-Rebuild A	New Hanover	Active	State Stormwater	State SW	07-06-2001	07-06-2001		Progress Energy Carolinas Inc
SW8020310	Murraysville 230 kV Substation	New Hanover	Active	State Stormwater	State SW	05-06-2002	05-06-2002		Progress Energy Carolinas Inc
SW8020412	CP&L Morehead-Wildwood 115kv Substation	Carteret	Active	State Stormwater	State SW	06-13-2002	06-13-2002		Progress Energy Carolinas Inc
SW8020421	Barge Unloading Facility CP & L LV Sutton Plant	New Hanover	Active	State Stormwater	State SW	04-23-2002	04-23-2002		Progress Energy Carolinas Inc
SW8020809	Progress Energy Site (Lot 5 Progress Point)	New Hanover	Active	State Stormwater	State SW	12-06-2002	12-06-2002		Progress Energy Carolinas Inc
SW8030211	Ash Pond Vertical Dike Extension	Brunswick	Active	State Stormwater	State SW	02-17-2003	02-17-2003		Progress Energy Carolinas Inc
SW8030811	Brunswick Steam Electric Plant	Brunswick	Active	State Stormwater	State SW	08-25-2003	08-25-2003		Carolina Power and Light Company DBA Progress Energy Inc
SW8040344	Progress Energy Spoil Area 4 & 6	Brunswick	Active	State Stormwater	State SW	05-13-2004	05-13-2004		Progress Energy Carolinas Inc
SW8040748	Clinton-Lee Substation	Duplin	Active	State Stormwater	State SW	10-21-2004	10-21-2004		Progress Energy Carolinas Inc
SW8041125	River Road 115kV Substation	New Hanover	Active	State Stormwater	State SW	02-11-2005	02-11-2005		Progress Energy Carolinas Inc
SW8050220	Rocky Point 230kV Substation	Pender	Active	State Stormwater	State SW	04-15-2005	04-15-2005		Progress Energy Carolinas Inc
SW8050729	Progress Energy Marion-Whiteville 230k V Line	Columbus	Active	State Stormwater	State SW	11-07-2005	11-07-2005		Progress Energy Carolinas Inc

Permit Number	Facility Name	County Name	Permit Status	Permit Type	Program Category	Issued Date	Effective Date	Expiration Date	Combined Owner
SW8060735	Transmission Line Relocation-Brunswick Nuclear Plant	Brunswick	Active	State Stormwater	State SW	07-27-2006	07-27-2006		Carolina Power and Light Company DBA Progress Energy Inc
SW8061004	Progress Energy MGP Site	New Hanover	Active	State Stormwater	State SW	10-09-2006	10-09-2006		Progress Energy Carolinas Inc
SW8081006	Progress Energy / Brunswick Unit 2 Capacitor Bank	Brunswick	Active	State Stormwater	State SW	07-13-2009	07-13-2009	05-03-2021	Progress Energy Carolinas Inc
SW8081006	Progress Energy / Brunswick Unit 2 Capacitor Bank	Brunswick	Inactive	State Stormwater	State SW	11-14-2008	11-14-2008	11-14-2018	Progress Energy Carolinas Inc
SW8081010	Independent Spent Fuel Storage Installation	Brunswick	Active	State Stormwater	State SW	11-25-2009	11-25-2009	12-19-2020	Progress Energy Carolinas Inc
SW8081010	Independent Spent Fuel Storage Installation	Brunswick	Inactive	State Stormwater	State SW	11-14-2008	11-14-2008	11-14-2018	Progress Energy Carolinas Inc
SW8090528	Progress Energy/Brunswick Unit 1 Capacitor Bank	Brunswick	Active	State Stormwater	State SW	07-23-2009	07-23-2009	12-30-2021	Progress Energy Carolinas Inc
SW8091122	Progress Energy Surry Street Site	New Hanover	Active	State Stormwater	State SW	12-14-2009	12-14-2009		Carolina Power and Light Company DBA Progress Energy Inc
SW8100225	Brunswick Nuclear Plant Stabilization Pond	Brunswick	Active	State Stormwater	State SW	05-24-2010	05-24-2010		Carolina Power and Light Company DBA Progress Energy Inc
SW8110205	Progress Energy Carolinas Folkstone 230k V Substation	Onslow	Active	State Stormwater	State SW	03-03-2011	03-03-2011		Carolina Power and Light Company DBA Progress Energy Inc
SW8110805	Barnards Creek and Town Creek 230k-V Transition Stations	New Hanover	Active	State Stormwater	State SW	08-30-2011	08-30-2011		Carolina Power and Light Company DBA Progress Energy Inc
SW8120103	Progress Energy Modular Office Trailer Project	Brunswick	Active	State Stormwater	State SW	08-15-2012	08-15-2012		Carolina Power and Light Company DBA Progress Energy Inc
SW8890602	Wilmington Ogden 230 Kv Substation	New Hanover	Active	State Stormwater	State SW	07-01-1989	07-01-1989		Carolina Power and Light Company DBA Progress Energy Inc
SW8911007	Cp&L Belvedere 230 Kv Tap	Pender	Active	State Stormwater	State SW	11-01-1991	11-01-1991		Progress Energy Carolinas Inc
SW8911203	Cp&L Office Building	Brunswick	Active	State Stormwater	State SW	05-13-1992	05-13-1992		Progress Energy Carolinas Inc
SW8920710	Cp&L Pote Yard Castle Hayne	New Hanover	Active	State Stormwater	State SW	09-23-1992	09-23-1992		Progress Energy Carolinas Inc
SW8931024	Brunswick Steam Electric Plant	Brunswick	Active	State Stormwater	State SW	12-17-1993	12-17-1993		Carolina Power and Light Company DBA Progress Energy Inc
SW8940404	Cp&L North River Substation	Carteret	Active	State Stormwater	State SW	05-03-1994	05-03-1994		Progress Energy Carolinas Inc
SW8981209	Progress Energy Wilmington South Operations Center	New Hanover	Active	State Stormwater	State SW	09-25-2008	09-25-2008	09-25-2022	Progress Energy Carolinas Inc
SW8981209	Progress Energy Wilmington South Operations Center	New Hanover	Inactive	State Stormwater	State SW	02-23-1999	02-23-1999		Progress Energy Carolinas Inc
SW8981230	Cp&L Transmission Line Camp Geiger	Onslow	Active	State Stormwater	State SW	01-28-1999	01-28-1999		Progress Energy Carolinas Inc
SW8990245	Cp&L Leland Industrial 115 Kv Substation	Brunswick	Active	State Stormwater	State SW	05-21-2003	05-21-2003		Progress Energy Carolinas Inc

Permit Number7	Facility Name	County Name	Permit Status	Permit Type	Program Category	Issued Date	Effective Date	Expiration Date	Combined Owner
SW8990245	Cp&L Leland Industrial 115 Kv Substation	Brunswick	Inactive	State Stormwater	State SW	04-15-1999	04-15-1999		Progress Energy Carolinas Inc
SW8991207	Cp&L Scotts Hill 230 Kv Substation	Pender	Active	State Stormwater	State SW	05-10-2001	05-10-2001		Progress Energy Carolinas Inc
SW8991207	Cp&L Scotts Hill 230 Kv Substation	Pender	Inactive	State Stormwater	State SW	12-17-1999	12-17-1999		Progress Energy Carolinas Inc

DUKE ENERGY.

Environmental Services

Duke Energy
526 South Church Street
Charlotte, NC 28202

Mailing Address:
Mail Code EC13K/ P.O. Box 1006
Charlotte, NC 28201-1006

June 10, 2013

Mr. Charles Wakild, Director
North Carolina Division of Water Quality
North Carolina Department of Environment and Natural Resources
1617 Mail Service Center
Raleigh, NC 27699-1617

Subject: Name Change of Carolina Power & Light Co. d/b/a/ Progress Energy Carolinas, Inc. to Duke Energy Progress, Inc.

Dear Mr. Wakild:

On April 29, 2013, Duke Energy Corporation (Duke Energy) changed the name of Carolina Power & Light Co. d/b/a/ Progress Energy Carolinas, Inc. to Duke Energy Progress, Inc. d/b/a/Duke Energy Progress. This is a name change only; it is not an ownership change to the legal entity nor are we intending to transfer any permits. Your agency has issued licenses, permits, registrations or environmental documents (hereinafter collectively "permits") using the former corporate name. As per the suggestion of Mr. Jeff Poupart of your staff, Duke Energy requests, by this letter, a "universal change" to the new owner name, Duke Energy Progress, Inc., for all the permits listed on the attached table.

It is our understanding that this letter, with the attachment, will be used to effect the name change for all permits as required and no additional name-change form submittals are necessary. Please forward as necessary to ensure all affected record systems are updated.

Duke Energy requests that the North Carolina Division of Water Quality provide a response letter indicating that the universal name change was accomplished as requested. We understand that the owner name on current permits will remain as issued. The new Duke Energy Progress, Inc. name should appear on renewed, modified, or newly-issued permits.

Sincerely,

Richard Baker, Director
Water & Natural Resources

REB/rb

Attachment

c: Ms. Robin Bryson
Mr. John Velte
Mr. Jeff Poupart, DWQ
Mr. Garry Rice

Record Type Code: 50-02
Document Number: 8-6
UPS: 1Z 212 456 01 9243 0595

Permit Number	Facility Name	County Name	Permit Status	Permit Type	Program Category	Issued Date	Effective Date	Expiration Date	Combined Owner
WR0600056	Progress Energy	Robeson	Inactive	Recovery Well Construction	Ground Water	04-21-2008	04-21-2008	04-20-2009	Progress Energy Carolinas Inc
WR0800805	Brunswick Steam Electric Plant	Brunswick	Inactive	Recovery Well Construction	Ground Water	10-10-2008	10-10-2008	04-11-2009	Carolina Power and Light Company DBA Progress Energy Inc
WR0800806	Brunswick Steam Electric Plant	Brunswick	Inactive	Recovery Well Construction	Ground Water	01-05-2009	01-05-2009	07-06-2009	Carolina Power and Light Company DBA Progress Energy Inc
WS0800932	Sutton Steam Electric Plant	New Hanover	Active	Water Supply Well Construction	Ground Water	12-14-2012	12-14-2012	06-14-2013	Carolina Power and Light Company DBA Progress Energy Inc
WQ0000020	Progress Energy Ash Distribution Program	Unknown	Active	Distribution of Residual Solids (503 Exempt)	Non-discharge	02-17-2006	02-17-2006	02-28-2015	Progress Energy Carolinas Inc
WQ0000020	Progress Energy Ash Distribution Program	Unknown	Inactive	Distribution of Residual Solids (503 Exempt)	Non-discharge	07-09-1998	07-09-1998	10-31-2002	Progress Energy Carolinas Inc
WQ0013514	Brunswick Plant Visitors Center	Brunswick	Active	Gravity Sewer Extension, Pump Stations, & Pressure Sewer Extensions	Non-discharge	04-08-1997	04-08-1997		Progress Energy Carolinas Inc
WQ0023612	Asheville FGD Sewer Extension-New Line	Buncombe	Active	Gravity Sewer Extension, Pump Stations, & Pressure Sewer Extensions	Non-discharge	03-01-2004	03-01-2004		Progress Energy Carolinas Inc
WQ0031612	Mayo Sewer Line Relocation	Person	Active	Gravity Sewer Extension, Pump Stations, & Pressure Sewer Extensions	Non-discharge	05-03-2007	05-03-2007		Progress Energy Carolinas Inc
WQ0035843	NPP Temporary Office Complex	Wake	Active	Gravity Sewer Extension, Pump Stations, & Pressure Sewer Extensions	Non-discharge	03-29-2012	03-29-2012		Progress Energy Carolinas Inc
WQ0003604	Cp & L - Roxboro Steam Plant	Person	Inactive	Land Application of Residual Solids (503 Exempt)	Non-discharge	08-09-1990	03-26-1993	01-31-1998	Progress Energy Carolinas Inc
WQ0004714	Cp & L - Asheville Steam Plant	Buncombe	Inactive	Land Application of Residual Solids (503 Exempt)	Non-discharge	07-09-1986	03-26-1993	01-31-1998	Progress Energy Carolinas Inc
WQ0006109	Carolina Power & Light	New Hanover	Inactive	Land Application of Residual Solids (503 Exempt)	Non-discharge	01-01-1969	03-26-1993	01-31-1998	Progress Energy Carolinas Inc
WQ0007254	Carolina Power & Light Co	Wayne	Inactive	Land Application of Residual Solids (503 Exempt)	Non-discharge	01-01-1969	02-12-1993	01-31-1998	Progress Energy Carolinas Inc
WQ0007255	Carolina Power & Light Company	Chatham	Inactive	Land Application of Residual Solids (503 Exempt)	Non-discharge	02-12-1993	02-12-1993	01-31-1998	Progress Energy Carolinas Inc
WQ0009475	Cp&L-A Sludge/Harris Nucle	Wake	Inactive	Land Application of Residual Solids (503)	Non-discharge	12-21-1994	12-21-1994	11-30-1999	Progress Energy Carolinas Inc
WQ0019931	Harris Nuclear Plant	Wake	Inactive	Wastewater Pump and Haul	Non-discharge	05-29-2001	05-29-2001	11-30-2001	Progress Energy Carolinas Inc
WQ0030120	Shearon Harris Nuclear Power Plant	Wake	Inactive	Wastewater Pump and Haul	Non-discharge	04-17-2006	04-17-2006	05-31-2006	Carolina Power and Light Company DBA Progress Energy Inc
WQ0032281	Shearon Harris Nuclear Power Plant	Wake	Inactive	Wastewater Pump and Haul	Non-discharge	10-03-2007	10-03-2007	04-02-2008	Carolina Power and Light Company DBA Progress Energy Inc

Permit Number	Facility Name	County Name	Permit Status	Permit Type	Program Category	Issued Date	Effective Date	Expiration Date	Combined Owner
WQ0033864	Harris Nuclear Plant	Wake	Inactive	Wastewater Pump and Haul	Non-discharge	03-09-2009	03-09-2009	09-08-2009	Progress Energy Carolinas Inc
WQ0034993	Harris Nuclear Plant	Wake	Inactive	Wastewater Pump and Haul	Non-discharge	09-16-2010	09-16-2010	03-15-2011	Progress Energy Carolinas Inc
WQ0035865	Shearon Harris Nuclear Power Plant	Wake	Inactive	Wastewater Pump and Haul	Non-discharge	04-05-2012	04-05-2012	01-01-2013	Carolina Power and Light Company DBA Progress Energy Inc
WQ0036332	Shearon Harris Nuclear Power Plant	Wake	Active	Wastewater Pump and Haul	Non-discharge	01-15-2013	01-15-2013		Carolina Power and Light Company DBA Progress Energy Inc
NCR000780	Electronic Data Center	Wake	Active	Construction Stormwater	NPDES SW	03-12-2008	03-12-2008		Progress Energy Carolinas Inc
NCR002962	Ramseur 115kV Substation	Randolph	Active	Construction Stormwater	NPDES SW	09-15-2010	09-15-2010		Carolina Power and Light Company DBA Progress Energy Inc
NCG120032	CP&L-Harris Plant Sanitary Lan	Wake	Inactive	Landfill Stormwater Discharge COC	NPDES SW	09-10-1997	09-10-1997	08-31-2002	Progress Energy Carolinas Inc
NCG120032	CP&L-Harris Plant Sanitary Lan	Wake	Inactive	Landfill Stormwater Discharge COC	NPDES SW	09-01-2002	09-01-2002	08-31-2007	Progress Energy Carolinas Inc
NCG120033	CP&L-Brunswick Plant Landfill	Brunswick	Inactive	Landfill Stormwater Discharge COC	NPDES SW	09-10-1997	09-10-1997	08-31-2002	Progress Energy Carolinas Inc
NCG120033	CP&L-Brunswick Plant Landfill	Brunswick	Inactive	Landfill Stormwater Discharge COC	NPDES SW	09-01-2002	09-01-2002	08-31-2007	Progress Energy Carolinas Inc
NCS000550	Cape Fear Steam Electric Power Plant	Chatham	Withdrawn	Stormwater Discharge, Individual	NPDES SW				Carolina Power and Light Company DBA Progress Energy Inc
NCGNE0636	Weatherspoon Steam Electric Plant	Robeson	In review	Stormwater Discharge, No Exposure Certificate	NPDES SW				Carolina Power and Light Company DBA Progress Energy Inc
NC0026735	Cp&L Shearon Harris Env Ctr	Wake	Inactive	100% Domestic < 1MGD	NPDES WW	07-22-1996	07-22-1996	03-31-2001	Progress Energy Carolinas Inc
NC0045071	Cp&L Roxboro S.E. (WWTP)	Person	Inactive	100% Domestic < 1MGD	NPDES WW	04-30-1979	04-30-1979	12-31-1983	Progress Energy Carolinas Inc
NC0049280	Cp&L Shearon Harris Const. Off	Wake	Inactive	100% Domestic < 1MGD	NPDES WW	09-01-1987	09-01-1987	08-31-1992	Progress Energy Carolinas Inc
NC0061379	Cp&L Visitor/Media Center	Brunswick	Inactive	100% Domestic < 1MGD	NPDES WW	09-04-1996	09-04-1996	06-30-2001	Progress Energy Carolinas Inc
NC0083895	Brunswick Steam Electric Plant	Brunswick	Inactive	100% Domestic < 1MGD	NPDES WW	09-04-1996	10-01-1996	11-30-2001	Carolina Power and Light Company DBA Progress Energy Inc
0000396AC	Asheville Steam Electric Power Plant	Buncombe	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	06-09-1993	06-09-1993		Carolina Power and Light Company DBA Progress Energy Inc
0001422AC	Sutton Steam Electric Plant	New Hanover	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	06-15-1983	06-15-1983		Carolina Power and Light Company DBA Progress Energy Inc
0003425AC	Roxboro Steam Electric Power Plant	Person	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	08-17-1983	08-17-1983		Carolina Power and Light Company DBA Progress Energy Inc
0003433AC	Cape Fear Steam Electric Power Plant	Chatham	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	01-16-1984	01-16-1984		Carolina Power and Light Company DBA Progress Energy Inc
000396A01	Asheville Steam Electric Power Plant	Buncombe	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	12-21-2001	12-21-2001		Carolina Power and Light Company DBA Progress Energy Inc
000396A02	Asheville Steam Electric Power Plant	Buncombe	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	11-05-2004	11-05-2004		Carolina Power and Light Company DBA Progress Energy Inc
000396A03	Asheville Steam Electric Power Plant	Buncombe	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	03-29-2005	03-29-2005		Carolina Power and Light Company DBA Progress Energy Inc

Permit Number	Facility Name	County Name	Permit Status	Permit Type	Program Category	Issued Date	Effective Date	Expiration Date	Combined Owner
000396A04	Asheville Steam Electric Power Plant	Buncombe	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	05-18-2010	05-18-2010		Carolina Power and Light Company DBA Progress Energy Inc
000396ACA	Asheville Steam Electric Power Plant	Buncombe	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	11-21-1994	11-21-1994		Carolina Power and Light Company DBA Progress Energy Inc
000396ACB	Asheville Steam Electric Power Plant	Buncombe	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	11-21-1994	11-21-1994		Carolina Power and Light Company DBA Progress Energy Inc
000396ACC	Asheville Steam Electric Power Plant	Buncombe	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	02-15-1999	02-15-1999		Carolina Power and Light Company DBA Progress Energy Inc
000396ACD	Asheville Steam Electric Power Plant	Buncombe	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	07-23-1999	07-23-1999		Carolina Power and Light Company DBA Progress Energy Inc
0007064AC	Brunswick Steam Electric Plant	Brunswick	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	08-02-1983	08-02-1983		Carolina Power and Light Company DBA Progress Energy Inc
001422A01	Sutton Steam Electric Plant	New Hanover	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	03-25-2003	03-25-2003		Carolina Power and Light Company DBA Progress Energy Inc
001422A02	Sutton Steam Electric Plant	New Hanover	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	11-13-2006	11-13-2006		Carolina Power and Light Company DBA Progress Energy Inc
001422A03	Sutton Steam Electric Plant	New Hanover	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	06-10-2009	06-10-2009		Carolina Power and Light Company DBA Progress Energy Inc
001422A04	Sutton Steam Electric Plant	New Hanover	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	05-18-2011	05-18-2011		Carolina Power and Light Company DBA Progress Energy Inc
001422ACA	Sutton Steam Electric Plant	New Hanover	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	05-08-1984	05-08-1984		Carolina Power and Light Company DBA Progress Energy Inc
001422ACC	Sutton Steam Electric Plant	New Hanover	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	11-25-1998	11-25-1998		Carolina Power and Light Company DBA Progress Energy Inc
003417A02	Lee Steam Electric Plant	Wayne	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	03-01-2011	03-01-2011		Carolina Power and Light Company DBA Progress Energy Inc
003417A03	Lee Steam Electric Plant	Wayne	Returned	Authorization to Construct NPDES Wastewater Facility	NPDES WW				Carolina Power and Light Company DBA Progress Energy Inc
003425A01	Roxboro Steam Electric Power Plant	Person	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	10-20-2004	10-20-2004		Carolina Power and Light Company DBA Progress Energy Inc
003425A02	Roxboro Steam Electric Power Plant	Person	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	03-03-2006	03-03-2006		Carolina Power and Light Company DBA Progress Energy Inc
003425A03	Roxboro Steam Electric Power Plant	Person	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	07-05-2006	07-05-2006		Carolina Power and Light Company DBA Progress Energy Inc
003425A04	Roxboro Steam Electric Power Plant	Person	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	04-18-2008	04-18-2008		Carolina Power and Light Company DBA Progress Energy Inc
003425A05	Roxboro Steam Electric Power Plant	Person	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	05-15-2009	05-15-2009		Carolina Power and Light Company DBA Progress Energy Inc

Permit Number	Facility Name	County Name	Permit Status	Permit Type	Program Category	Issued Date	Effective Date	Expiration Date	Combined Owner
003425A06	Roxboro Steam Electric Power Plant	Person	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	06-15-2009	06-15-2009		Carolina Power and Light Company DBA Progress Energy Inc
003425A07	Roxboro Steam Electric Power Plant	Person	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	04-14-2010	04-14-2010		Carolina Power and Light Company DBA Progress Energy Inc
003425A08	Roxboro Steam Electric Power Plant	Person	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	06-29-2010	06-29-2010		Carolina Power and Light Company DBA Progress Energy Inc
003425ACA	Roxboro Steam Electric Power Plant	Person	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	05-08-1987	05-08-1987		Carolina Power and Light Company DBA Progress Energy Inc
003425ACB	Roxboro Steam Electric Power Plant	Person	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	08-07-1989	08-07-1989		Carolina Power and Light Company DBA Progress Energy Inc
003433A01	Cape Fear Steam Electric Power Plant	Chatham	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	07-16-2009	07-16-2009		Carolina Power and Light Company DBA Progress Energy Inc
003433A02	Cape Fear Steam Electric Power Plant	Chatham	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	07-16-2009	07-16-2009		Carolina Power and Light Company DBA Progress Energy Inc
003433ACA	Cape Fear Steam Electric Power Plant	Chatham	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	03-05-1992	03-05-1992		Carolina Power and Light Company DBA Progress Energy Inc
0039586AC	Shearon Harris Nuclear Power Plant	Wake	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	03-15-1988	03-15-1988		Carolina Power and Light Company DBA Progress Energy Inc
007064A01	Brunswick Steam Electric Plant	Brunswick	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	07-16-2009	07-16-2009		Carolina Power and Light Company DBA Progress Energy Inc
007064A02	Brunswick Steam Electric Plant	Brunswick	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	12-21-2009	12-21-2009		Carolina Power and Light Company DBA Progress Energy Inc
03425ACA1	Roxboro Steam Electric Power Plant	Person	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	03-26-1986	03-26-1986		Carolina Power and Light Company DBA Progress Energy Inc
038377A01	Mayo Steam Electric Power Plant	Person	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	11-28-2007	11-28-2007		Carolina Power and Light Company DBA Progress Energy Inc
038377A02	Mayo Steam Electric Power Plant	Person	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	05-21-2008	05-21-2008		Carolina Power and Light Company DBA Progress Energy Inc
038377A03	Mayo Steam Electric Power Plant	Person	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	02-23-2009	02-23-2009		Carolina Power and Light Company DBA Progress Energy Inc
038377A04	Mayo Steam Electric Power Plant	Person	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	09-09-2010	09-09-2010		Carolina Power and Light Company DBA Progress Energy Inc
039586A01	Shearon Harris Nuclear Power Plant	Wake	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	02-27-2004	02-27-2004		Carolina Power and Light Company DBA Progress Energy Inc
083895ACA	Brunswick Steam Electric Plant	Brunswick	Active	Authorization to Construct NPDES Wastewater Facility	NPDES WW	05-13-1994	05-13-1994		Carolina Power and Light Company DBA Progress Energy Inc
NC0000396	Asheville Steam Electric Power Plant	Buncombe	Expired	Industrial Process & Commercial	NPDES WW	09-12-2007	11-01-2007	12-31-2010	Carolina Power and Light Company DBA Progress Energy Inc

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NC0000396	Asheville Steam Electric Power Plant	Buncombe	Inactive	Industrial Process & Commercial	NPDES WW	12-17-2001	02-01-2002	12-31-2005	Carolina Power and Light Company DBA Progress Energy Inc
NC0000396	Asheville Steam Electric Power Plant	Buncombe	Inactive	Industrial Process & Commercial	NPDES WW	05-28-2004	07-01-2004	12-31-2005	Carolina Power and Light Company DBA Progress Energy Inc
NC0000396	Asheville Steam Electric Power Plant	Buncombe	Inactive	Industrial Process & Commercial	NPDES WW	11-16-2005	01-01-2006	12-31-2010	Carolina Power and Light Company DBA Progress Energy Inc
NC0000396	Asheville Steam Electric Power Plant	Buncombe	In draft	Industrial Process & Commercial	NPDES WW				Carolina Power and Light Company DBA Progress Energy Inc
NC0001422	Sutton Steam Electric Plant	New Hanover	Active	Industrial Process & Commercial	NPDES WW	12-02-2011	01-01-2012	12-31-2016	Carolina Power and Light Company DBA Progress Energy Inc
NC0001422	Sutton Steam Electric Plant	New Hanover	Inactive	Industrial Process & Commercial	NPDES WW	07-31-1996	09-01-1996	12-31-2001	Carolina Power and Light Company DBA Progress Energy Inc
NC0001422	Sutton Steam Electric Plant	New Hanover	Inactive	Industrial Process & Commercial	NPDES WW	12-27-2002	02-01-2003	12-31-2006	Carolina Power and Light Company DBA Progress Energy Inc
NC0001422	Sutton Steam Electric Plant	New Hanover	Inactive	Industrial Process & Commercial	NPDES WW	12-14-2006	01-01-2007	12-31-2011	Carolina Power and Light Company DBA Progress Energy Inc
NC0003417	Lee Steam Electric Plant	Wayne	Active	Industrial Process & Commercial	NPDES WW	07-23-2010	09-01-2010	05-31-2013	Carolina Power and Light Company DBA Progress Energy Inc
NC0003417	Lee Steam Electric Plant	Wayne	Inactive	Industrial Process & Commercial	NPDES WW	10-23-2000	12-01-2000	02-28-2003	Carolina Power and Light Company DBA Progress Energy Inc
NC0003417	Lee Steam Electric Plant	Wayne	Inactive	Industrial Process & Commercial	NPDES WW	10-13-2004	11-01-2004	05-31-2008	Carolina Power and Light Company DBA Progress Energy Inc
NC0003417	Lee Steam Electric Plant	Wayne	Inactive	Industrial Process & Commercial	NPDES WW	03-23-2007	05-01-2007	05-31-2008	Carolina Power and Light Company DBA Progress Energy Inc
NC0003417	Lee Steam Electric Plant	Wayne	Inactive	Industrial Process & Commercial	NPDES WW	10-14-2009	11-01-2009	05-31-2013	Carolina Power and Light Company DBA Progress Energy Inc
NC0003417	Lee Steam Electric Plant	Wayne	In draft	Industrial Process & Commercial	NPDES WW				Carolina Power and Light Company DBA Progress Energy Inc
NC0003425	Roxboro Steam Electric Power Plant	Person	Expired	Industrial Process & Commercial	NPDES WW	06-10-2009	07-01-2009	03-31-2012	Carolina Power and Light Company DBA Progress Energy Inc
NC0003425	Roxboro Steam Electric Power Plant	Person	Inactive	Industrial Process & Commercial	NPDES WW	01-26-1998	03-01-1998	04-30-2002	Carolina Power and Light Company DBA Progress Energy Inc
NC0003425	Roxboro Steam Electric Power Plant	Person	Inactive	Industrial Process & Commercial	NPDES WW	12-31-2002	02-01-2003	03-31-2007	Carolina Power and Light Company DBA Progress Energy Inc
NC0003425	Roxboro Steam Electric Power Plant	Person	Inactive	Industrial Process & Commercial	NPDES WW	08-10-2005	09-01-2005	03-31-2007	Carolina Power and Light Company DBA Progress Energy Inc
NC0003425	Roxboro Steam Electric Power Plant	Person	Inactive	Industrial Process & Commercial	NPDES WW	04-09-2007	05-01-2007	03-31-2012	Carolina Power and Light Company DBA Progress Energy Inc

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NC0003425	Roxboro Steam Electric Power Plant	Person	In review	Industrial Process & Commercial	NPDES WW				Carolina Power and Light Company DBA Progress Energy Inc
NC0003433	Cape Fear Steam Electric Power Plant	Chatham	Active	Industrial Process & Commercial	NPDES WW	07-22-2011	09-01-2011	07-31-2016	Carolina Power and Light Company DBA Progress Energy Inc
NC0003433	Cape Fear Steam Electric Power Plant	Chatham	Inactive	Industrial Process & Commercial	NPDES WW	08-01-1996	08-01-1996	07-31-2001	Carolina Power and Light Company DBA Progress Energy Inc
NC0003433	Cape Fear Steam Electric Power Plant	Chatham	Inactive	Industrial Process & Commercial	NPDES WW	09-24-2003	11-01-2003	07-31-2006	Carolina Power and Light Company DBA Progress Energy Inc
NC0003433	Cape Fear Steam Electric Power Plant	Chatham	Inactive	Industrial Process & Commercial	NPDES WW	08-11-2006	09-01-2006	07-31-2011	Carolina Power and Light Company DBA Progress Energy Inc
NC0005363	Weatherspoon Steam Electric Plant	Robeson	Active	Industrial Process & Commercial	NPDES WW	11-20-2009	01-01-2010	07-31-2014	Carolina Power and Light Company DBA Progress Energy Inc
NC0005363	Weatherspoon Steam Electric Plant	Robeson	Inactive	Industrial Process & Commercial	NPDES WW	06-23-2000	08-01-2000	07-31-2004	Carolina Power and Light Company DBA Progress Energy Inc
NC0005363	Weatherspoon Steam Electric Plant	Robeson	Inactive	Industrial Process & Commercial	NPDES WW	09-27-2004	11-01-2004	07-31-2009	Carolina Power and Light Company DBA Progress Energy Inc
NC0005363	Weatherspoon Steam Electric Plant	Robeson	Inactive	Industrial Process & Commercial	NPDES WW	05-01-2005	05-01-2005	07-31-2009	Carolina Power and Light Company DBA Progress Energy Inc
NC0005363	Weatherspoon Steam Electric Plant	Robeson	Withdrawn	Industrial Process & Commercial	NPDES WW				Carolina Power and Light Company DBA Progress Energy Inc
NC0007064	Brunswick Steam Electric Plant	Brunswick	Active	Industrial Process & Commercial	NPDES WW	01-13-2012	02-01-2012	11-30-2016	Carolina Power and Light Company DBA Progress Energy Inc
NC0007064	Brunswick Steam Electric Plant	Brunswick	Inactive	Industrial Process & Commercial	NPDES WW	09-04-1996	10-01-1996	11-30-2001	Carolina Power and Light Company DBA Progress Energy Inc
NC0007064	Brunswick Steam Electric Plant	Brunswick	Inactive	Industrial Process & Commercial	NPDES WW	06-30-2003	08-01-2003	11-30-2006	Carolina Power and Light Company DBA Progress Energy Inc
NC0007064	Brunswick Steam Electric Plant	Brunswick	Inactive	Industrial Process & Commercial	NPDES WW	02-21-2008	04-01-2008	11-30-2011	Carolina Power and Light Company DBA Progress Energy Inc
NC0007064	Brunswick Steam Electric Plant	Brunswick	Inactive	Industrial Process & Commercial	NPDES WW	10-30-2009	12-01-2009	11-30-2011	Carolina Power and Light Company DBA Progress Energy Inc
NC0007064	Brunswick Steam Electric Plant	Brunswick	Inactive	Industrial Process & Commercial	NPDES WW	09-19-2011	12-01-2011	11-30-2016	Carolina Power and Light Company DBA Progress Energy Inc
NC0027511	Cp&L Walters Hydroelectric Plt	Haywood	Inactive	Industrial Process & Commercial	NPDES WW	08-12-1981	08-12-1981	07-31-1997	Progress Energy Carolinas Inc
NC0027529	Cp&L Tillery Hydroelectric Plt	Montgomery	Inactive	Industrial Process & Commercial	NPDES WW	01-29-1982	01-29-1982	07-31-1997	Progress Energy Carolinas Inc
NC0027537	Cp&L Blewett Hydroelectric Plt	Anson	Inactive	Industrial Process & Commercial	NPDES WW	01-29-1982	01-29-1982	07-31-1993	Progress Energy Carolinas Inc
NC0027545	Cp&L Marshall Hydroelectric Pt	Madison	Inactive	Industrial Process & Commercial	NPDES WW	09-16-1996	09-16-1996	10-31-2001	Progress Energy Carolinas Inc
NC0038377	Mayo Steam Electric Power Plant	Person	Expired	Industrial Process & Commercial	NPDES WW	10-14-2009	11-01-2009	03-31-2012	Carolina Power and Light Company DBA Progress Energy Inc

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NC0038377	Mayo Steam Electric Power Plant	Person	Inactive	Industrial Process & Commercial	NPDES WW	12-13-2000	02-01-2001	01-31-2006	Carolina Power and Light Company DBA Progress Energy Inc
NC0038377	Mayo Steam Electric Power Plant	Person	Inactive	Industrial Process & Commercial	NPDES WW	12-05-2005	01-01-2006	03-31-2007	Carolina Power and Light Company DBA Progress Energy Inc
NC0038377	Mayo Steam Electric Power Plant	Person	Inactive	Industrial Process & Commercial	NPDES WW	09-14-2006	10-01-2006	03-31-2007	Carolina Power and Light Company DBA Progress Energy Inc
NC0038377	Mayo Steam Electric Power Plant	Person	Inactive	Industrial Process & Commercial	NPDES WW	04-10-2007	05-01-2007	03-31-2012	Carolina Power and Light Company DBA Progress Energy Inc
NC0038377	Mayo Steam Electric Power Plant	Person	Inactive	Industrial Process & Commercial	NPDES WW	12-14-2007	01-01-2008	03-31-2012	Carolina Power and Light Company DBA Progress Energy Inc
NC0038377	Mayo Steam Electric Power Plant	Person	In draft	Industrial Process & Commercial	NPDES WW				Carolina Power and Light Company DBA Progress Energy Inc
NC0039586	Shearon Harris Nuclear Power Plant	Wake	Expired	Industrial Process & Commercial	NPDES WW	02-09-2007	03-01-2007	07-31-2011	Carolina Power and Light Company DBA Progress Energy Inc
NC0039586	Shearon Harris Nuclear Power Plant	Wake	Inactive	Industrial Process & Commercial	NPDES WW	08-01-1996	08-01-1996	07-31-2001	Carolina Power and Light Company DBA Progress Energy Inc
NC0039586	Shearon Harris Nuclear Power Plant	Wake	Inactive	Industrial Process & Commercial	NPDES WW	04-12-2002	05-01-2002	07-31-2006	Carolina Power and Light Company DBA Progress Energy Inc
NC0039586	Shearon Harris Nuclear Power Plant	Wake	In review	Industrial Process & Commercial	NPDES WW				Carolina Power and Light Company DBA Progress Energy Inc
NC0059323	Cp&L Bioassay-New Hill	Wake	Inactive	Industrial Process & Commercial	NPDES WW	03-18-1996	03-18-1996	03-31-2001	Progress Energy Carolinas Inc
NC0026808	Brunswick Steam Electric Plant	Brunswick	Inactive	Municipal, < 1MGD	NPDES WW	07-12-1982	07-12-1982	06-30-1987	Carolina Power and Light Company DBA Progress Energy Inc
NC0049450	Cape Fear Steam Electric Plant WWTP	Chatham	Inactive	Municipal, < 1MGD	NPDES WW	11-16-1981	11-16-1981	10-31-1986	Progress Energy Carolinas Inc
NC0050121	Cp&L Mayo S.E. (WWTP)	Person	Inactive	Municipal, < 1MGD	NPDES WW	11-20-1981	11-20-1981	10-31-1986	Progress Energy Carolinas Inc
NCG500188	Walters Hydroelectric Plant	Haywood	Active	Non-contact Cooling, Boiler Blowdown COC	NPDES WW	08-03-2012	08-03-2012	07-31-2015	Progress Energy Carolinas Inc
NCG500188	Walters Hydroelectric Plant	Haywood	Inactive	Non-contact Cooling, Boiler Blowdown COC	NPDES WW	07-24-1997	09-01-1997	07-31-2002	Progress Energy Carolinas Inc
NCG500188	Walters Hydroelectric Plant	Haywood	Inactive	Non-contact Cooling, Boiler Blowdown COC	NPDES WW	08-01-2002	08-01-2002	07-31-2007	Progress Energy Carolinas Inc
NCG500188	Walters Hydroelectric Plant	Haywood	Inactive	Non-contact Cooling, Boiler Blowdown COC	NPDES WW	07-23-2007	08-01-2007	07-31-2012	Progress Energy Carolinas Inc
NCG500189	Tillery Hydroelectric Plant	Montgomery	Active	Non-contact Cooling, Boiler Blowdown COC	NPDES WW	08-03-2012	08-03-2012	07-31-2015	Progress Energy Carolinas Inc
NCG500189	Tillery Hydroelectric Plant	Montgomery	Inactive	Non-contact Cooling, Boiler Blowdown COC	NPDES WW	07-24-1997	09-01-1997	07-31-2002	Progress Energy Carolinas Inc
NCG500189	Tillery Hydroelectric Plant	Montgomery	Inactive	Non-contact Cooling, Boiler Blowdown COC	NPDES WW	08-01-2002	08-01-2002	07-31-2007	Progress Energy Carolinas Inc

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NCG500189	Tillery Hydroelectric Plant	Montgomery	Inactive	Non-contact Cooling, Boiler Blowdown COC	NPDES WW	07-23-2007	08-01-2007	07-31-2012	Progress Energy Carolinas Inc
NCG500190	Blewett Falls Hydroelectric Plant	Anson	Active	Non-contact Cooling, Boiler Blowdown COC	NPDES WW	08-03-2012	08-03-2012	07-31-2015	Progress Energy Carolinas Inc
NCG500190	Blewett Falls Hydroelectric Plant	Anson	Inactive	Non-contact Cooling, Boiler Blowdown COC	NPDES WW	07-24-1997	09-01-1997	07-31-2002	Progress Energy Carolinas Inc
NCG500190	Blewett Falls Hydroelectric Plant	Anson	Inactive	Non-contact Cooling, Boiler Blowdown COC	NPDES WW	08-01-2002	08-01-2002	07-31-2007	Progress Energy Carolinas Inc
NCG500190	Blewett Falls Hydroelectric Plant	Anson	Inactive	Non-contact Cooling, Boiler Blowdown COC	NPDES WW	07-23-2007	08-01-2007	07-31-2012	Progress Energy Carolinas Inc
NCG500591	Marshall Hydroelectric Plant	Madison	Active	Non-contact Cooling, Boiler Blowdown COC	NPDES WW	08-03-2012	08-03-2012	07-31-2015	Progress Energy Carolinas Inc
NCG500591	Marshall Hydroelectric Plant	Madison	Inactive	Non-contact Cooling, Boiler Blowdown COC	NPDES WW	01-19-2001	03-01-2001	07-31-2002	Progress Energy Carolinas Inc
NCG500591	Marshall Hydroelectric Plant	Madison	Inactive	Non-contact Cooling, Boiler Blowdown COC	NPDES WW	08-01-2002	08-01-2002	07-31-2007	Progress Energy Carolinas Inc
NCG500591	Marshall Hydroelectric Plant	Madison	Inactive	Non-contact Cooling, Boiler Blowdown COC	NPDES WW	07-23-2007	08-01-2007	07-31-2012	Progress Energy Carolinas Inc
NCG500594	Richmond County Combustion Turbine Plant	Richmond	Active	Non-contact Cooling, Boiler Blowdown COC	NPDES WW	08-03-2012	08-03-2012	07-31-2015	Progress Energy Carolinas Inc
NCG500594	Richmond County Combustion Turbine Plant	Richmond	Inactive	Non-contact Cooling, Boiler Blowdown COC	NPDES WW	02-05-2001	03-01-2001	07-31-2002	Progress Energy Carolinas Inc
NCG500594	Richmond County Combustion Turbine Plant	Richmond	Inactive	Non-contact Cooling, Boiler Blowdown COC	NPDES WW	08-17-2001	08-17-2001	07-31-2002	Progress Energy Carolinas Inc
NCG500594	Richmond County Combustion Turbine Plant	Richmond	Inactive	Non-contact Cooling, Boiler Blowdown COC	NPDES WW	08-01-2002	08-01-2002	07-31-2007	Progress Energy Carolinas Inc
NCG500594	Richmond County Combustion Turbine Plant	Richmond	Inactive	Non-contact Cooling, Boiler Blowdown COC	NPDES WW	07-23-2007	08-01-2007	07-31-2012	Progress Energy Carolinas Inc
NCG500594	Richmond County Combustion Turbine Plant	Richmond	Withdrawn	Non-contact Cooling, Boiler Blowdown COC	NPDES WW				Progress Energy Carolinas Inc
NCG500597	Cp&L Combustion Turbine Gen II	Richmond	Returned	Non-contact Cooling, Boiler Blowdown COC	NPDES WW				Progress Energy Carolinas Inc
NCG560006	Progress Energy Vegetation Control	Wake	Active	Pesticide General Permit COC	NPDES WW	03-01-2012	03-01-2012	10-31-2016	Progress Energy Carolinas Inc
SW5071101	Siler City 230 kV Substation Expansion	Chatham	Active	State Stormwater	State SW	12-14-2007	12-14-2007		Progress Energy Carolinas Inc
SW5080801	Garner I 40 230 kV Electric Substation	Wake	Active	State Stormwater	State SW	08-28-2008	08-28-2008		Carolina Power and Light Company DBA Progress Energy Inc
SW7011001	NCNG, New Bern Operations Center	Craven	Active	State Stormwater	State SW	10-16-2001	10-16-2001	10-16-2015	Progress Energy Carolinas Inc
SW7011022	NCNG, New Bern Operations Center	Craven	Active	State Stormwater	State SW	11-09-2001	11-09-2001		Progress Energy Carolinas Inc
SW7030305	Eastern NCNG - Phase 3A	Beaufort	Active	State Stormwater	State SW	04-24-2003	04-24-2003		Progress Energy Carolinas Inc

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SW7091123	Havelock 230kV Substation - Capacitor Bank Addition	Craven	Returned	State Stormwater	State SW				Carolina Power and Light Company DBA Progress Energy Inc
SW7100304	Havelock 230kV Substation - Install 60/ F66 MVAR-230 kV Cap	Craven	Active	State Stormwater	State SW	03-15-2010	03-15-2010		Carolina Power and Light Company DBA Progress Energy Inc
SW7950408	Cpl - Aurora Sta	Beaufort	Active	State Stormwater	State SW	05-23-1995	05-23-1995		Progress Energy Carolinas Inc
SW7971215	Cpl - New Bern Transmission Fac	Craven	Active	State Stormwater	State SW	01-16-1998	01-16-1998		Progress Energy Carolinas Inc
SW7980205	Cp&L - Final Plan Ind Site	Craven	Active	State Stormwater	State SW	10-03-2008	10-03-2008	10-03-2022	Progress Energy Carolinas Inc
SW7980205	Cp&L - Final Plan Ind Site	Craven	Inactive	State Stormwater	State SW	05-19-1998	05-19-1998	05-19-2008	Progress Energy Carolinas Inc
SW8000301	Cp&L Scotts Hill 230 Kv Tap Line	New Hanover	Active	State Stormwater	State SW	03-01-2000	03-01-2000		Progress Energy Carolinas Inc
SW8000333	Progress Energy North Wilmington Operations Complex	New Hanover	Active	State Stormwater	State SW	02-26-2010	02-26-2010	06-09-2024	Progress Energy Carolinas Inc
SW8000333	Progress Energy North Wilmington Operations Complex	New Hanover	Inactive	State Stormwater	State SW	06-09-2000	06-09-2000		Progress Energy Carolinas Inc
SW8000510	CP&L Leland Transmission Facility	Brunswick	Active	State Stormwater	State SW	05-10-2010	05-10-2010	09-07-2024	Carolina Power and Light Company DBA Progress Energy Inc
SW8000510	CP&L Leland Transmission Facility	Brunswick	Inactive	State Stormwater	State SW	09-07-2000	09-07-2000		Carolina Power and Light Company DBA Progress Energy Inc
SW8010223	Cp&L SE Regional Industrial Park Substation	Columbus	Active	State Stormwater	State SW	02-26-2001	02-26-2001		Progress Energy Carolinas Inc
SW8010428	Cp&L Whiteville SE. Regional Park Tap Line	Columbus	Active	State Stormwater	State SW	05-23-2001	05-23-2001		Progress Energy Carolinas Inc
SW8010529	Castle Hayne 230 Kv Substation-Rebuild A	New Hanover	Active	State Stormwater	State SW	07-06-2001	07-06-2001		Progress Energy Carolinas Inc
SW8020310	Murraysville 230 kV Substation	New Hanover	Active	State Stormwater	State SW	05-06-2002	05-06-2002		Progress Energy Carolinas Inc
SW8020412	CP&L Morehead-Wildwood 115kv Substation	Carteret	Active	State Stormwater	State SW	06-13-2002	06-13-2002		Progress Energy Carolinas Inc
SW8020421	Barge Unloading Facility CP & L LV Sutton Plant	New Hanover	Active	State Stormwater	State SW	04-23-2002	04-23-2002		Progress Energy Carolinas Inc
SW8020809	Progress Energy Site (Lot 5 Progress Point)	New Hanover	Active	State Stormwater	State SW	12-06-2002	12-06-2002		Progress Energy Carolinas Inc
SW8030211	Ash Pond Vertical Dike Extension	Brunswick	Active	State Stormwater	State SW	02-17-2003	02-17-2003		Progress Energy Carolinas Inc
SW8030811	Brunswick Steam Electric Plant	Brunswick	Active	State Stormwater	State SW	08-25-2003	08-25-2003		Carolina Power and Light Company DBA Progress Energy Inc
SW8040344	Progress Energy Spoil Area 4 & 6	Brunswick	Active	State Stormwater	State SW	05-13-2004	05-13-2004		Progress Energy Carolinas Inc
SW8040748	Clinton-Lee Substation	Duplin	Active	State Stormwater	State SW	10-21-2004	10-21-2004		Progress Energy Carolinas Inc
SW8041125	River Road 115kV Substation	New Hanover	Active	State Stormwater	State SW	02-11-2005	02-11-2005		Progress Energy Carolinas Inc
SW8050220	Rocky Point 230kV Substation	Pender	Active	State Stormwater	State SW	04-15-2005	04-15-2005		Progress Energy Carolinas Inc
SW8050729	Progress Energy Marion-Whiteville 230k V Line	Columbus	Active	State Stormwater	State SW	11-07-2005	11-07-2005		Progress Energy Carolinas Inc

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SW8060735	Transmission Line Relocation-Brunswick Nuclear Plant	Brunswick	Active	State Stormwater	State SW	07-27-2006	07-27-2006		Carolina Power and Light Company DBA Progress Energy Inc
SW8061004	Progress Energy MGP Site	New Hanover	Active	State Stormwater	State SW	10-09-2006	10-09-2006		Progress Energy Carolinas Inc
SW8081006	Progress Energy / Brunswick Unit 2 Capacitor Bank	Brunswick	Active	State Stormwater	State SW	07-13-2009	07-13-2009	05-03-2021	Progress Energy Carolinas Inc
SW8081006	Progress Energy / Brunswick Unit 2 Capacitor Bank	Brunswick	Inactive	State Stormwater	State SW	11-14-2008	11-14-2008	11-14-2018	Progress Energy Carolinas Inc
SW8081010	Independent Spent Fuel Storage Installation	Brunswick	Active	State Stormwater	State SW	11-25-2009	11-25-2009	12-19-2020	Progress Energy Carolinas Inc
SW8081010	Independent Spent Fuel Storage Installation	Brunswick	Inactive	State Stormwater	State SW	11-14-2008	11-14-2008	11-14-2018	Progress Energy Carolinas Inc
SW8090528	Progress Energy/Brunswick Unit 1 Capacitor Bank	Brunswick	Active	State Stormwater	State SW	07-23-2009	07-23-2009	12-30-2021	Progress Energy Carolinas Inc
SW8091122	Progress Energy Surry Street Site	New Hanover	Active	State Stormwater	State SW	12-14-2009	12-14-2009		Carolina Power and Light Company DBA Progress Energy Inc
SW8100225	Brunswick Nuclear Plant Stabilization Pond	Brunswick	Active	State Stormwater	State SW	05-24-2010	05-24-2010		Carolina Power and Light Company DBA Progress Energy Inc
SW8110205	Progress Energy Carolinas Folkstone 230k V Substation	Onslow	Active	State Stormwater	State SW	03-03-2011	03-03-2011		Carolina Power and Light Company DBA Progress Energy Inc
SW8110805	Barnards Creek and Town Creek 230k-V Transition Stations	New Hanover	Active	State Stormwater	State SW	08-30-2011	08-30-2011		Carolina Power and Light Company DBA Progress Energy Inc
SW8120103	Progress Energy Modular Office Trailer Project	Brunswick	Active	State Stormwater	State SW	08-15-2012	08-15-2012		Carolina Power and Light Company DBA Progress Energy Inc
SW8890602	Wilmington Ogden 230 Kv Substation	New Hanover	Active	State Stormwater	State SW	07-01-1989	07-01-1989		Carolina Power and Light Company DBA Progress Energy Inc
SW8911007	Cp&L Belvedere 230 Kv Tap	Pender	Active	State Stormwater	State SW	11-01-1991	11-01-1991		Progress Energy Carolinas Inc
SW8911203	Cp&L Office Building	Brunswick	Active	State Stormwater	State SW	05-13-1992	05-13-1992		Progress Energy Carolinas Inc
SW8920710	Cp&L Pole Yard Castle Hayne	New Hanover	Active	State Stormwater	State SW	09-23-1992	09-23-1992		Progress Energy Carolinas Inc
SW8931024	Brunswick Steam Electric Plant	Brunswick	Active	State Stormwater	State SW	12-17-1993	12-17-1993		Carolina Power and Light Company DBA Progress Energy Inc
SW8940404	Cp&L North River Substation	Carteret	Active	State Stormwater	State SW	05-03-1994	05-03-1994		Progress Energy Carolinas Inc
SW8981209	Progress Energy Wilmington South Operations Center	New Hanover	Active	State Stormwater	State SW	09-25-2008	09-25-2008	09-25-2022	Progress Energy Carolinas Inc
SW8981209	Progress Energy Wilmington South Operations Center	New Hanover	Inactive	State Stormwater	State SW	02-23-1999	02-23-1999		Progress Energy Carolinas Inc
SW8981230	Cp&L Transmission Line Camp Geiger	Onslow	Active	State Stormwater	State SW	01-28-1999	01-28-1999		Progress Energy Carolinas Inc
SW8990245	Cp&L Leland Industrial 115 Kv Substation	Brunswick	Active	State Stormwater	State SW	05-21-2003	05-21-2003		Progress Energy Carolinas Inc

Permit Number	Facility Name	County Name	Permit Status	Permit Type	Program Category	Issued Date	Effective Date	Expiration Date	Combined Owner
SW8990245	Cp&L Leland Industrial 115 Kv Substation	Brunswick	Inactive	State Stormwater	State SW	04-15-1999	04-15-1999		Progress Energy Carolinas Inc
SW8991207	Cp&L Scotts Hill 230 Kv Substation	Pender	Active	State Stormwater	State SW	05-10-2001	05-10-2001		Progress Energy Carolinas Inc
SW8991207	Cp&L Scotts Hill 230 Kv Substation	Pender	Inactive	State Stormwater	State SW	12-17-1999	12-17-1999		Progress Energy Carolinas Inc

Duke Energy Corporation
526 South Church St.
Charlotte, NC 28202
Mailing Address:
PO Box 1006
Charlotte, NC 28201-1006

October 30, 2006

Mrs. Carolyn Bryant
State of North Carolina
Department of Environment and Natural Resources
Division of Water Quality
Point Source Branch
1617 Mail Service Center
Raleigh, North Carolina 27699-1617

Subject: Duke Energy Carolinas LLC – NPDES Permit Application
Dan River Steam Station - #NC0003468

Dear Mrs. Bryant:

Duke Energy requests the subject permit be renewed and reissued. The above referenced permit expires April 30, 2007. As mandated by North Carolina Administrative Code 15A NCAC 2H.0105 (e), this permit application for renewal is being submitted at least 180 days prior to expiration of the current permit.

Please find enclosed in triplicate, the renewal application, which includes the following items:

EPA Form 1
EPA Form 2C
EPA Form 2E
EPA Form 2F
Site Map
Water Flow Diagram
Supplemental Information

Duke Energy requests notification that this application is complete.

Additionally, the attached report, "Assessment of Balanced and Indigenous Populations in the Dan River near Dan River Steam Station," continues to indicate recovery of aquatic populations and supports renewal of the current thermal monitoring requirements for outfall #001. Duke Energy requests that all temperature limits for outfall #001 be expressed solely in degrees Fahrenheit or Celcius to eliminate confusion.

Duke Energy requests that the quarterly monitoring requirement for Total Iron at outfall #001 be removed. Comparison of outfall #001 and intake results demonstrate no iron contribution from the Condenser Cooling Water System.

The following monitoring reductions at outfall #002 are requested based on historical monitoring data, which are attached. The suggested methodology changes are based on the Steam Effluent Guideline in 40 CFR 423.12.

- Reduction of monitoring of Total Copper and Iron from monthly to quarterly.
- Reduction of Oil and Grease from quarterly to once/year.
- Reduction of Total Suspended Solids from monthly to quarterly.
- Reduction of Total Nitrogen from quarterly to once/per year.
- Reduction of Total Phosphorous from quarterly to once/per year.

Thank you in advance for your assistance on this matter. Should you have questions regarding this application, please contact me at (704) 382-4309.

Sincerely,

Allen Stowe

Allen Stowe
Scientist, Water Management

Attachments

cc w/: Mr. David Russell - NCDENR Winston-Salem R.O.
Ms. Trish MacPherson – NCDENR, Raleigh, N.C. (BIP Report 3 copies)

Allen Stowe/drsscovperappl2006

bc w/attachments: Larry Evans – Dan River Steam Station
Penny Stafford

bc w/o attachments: Ron Lewis
Pat McCabe
Debbie Nispel
Gary Taylor
Robert Wylie

Record Number: 855404
Certified Mail: 7003 2260 0001 3487 4140

Please print or type in the unshaded areas only.

Form Approved. OMB No. 2040-0086.

FORM 1 GENERAL

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY
GENERAL INFORMATION
Consolidated Permits Program
(Read the "General Instructions" before starting.)

I. EPA I.D. NUMBER: F NC0003468 D

LABEL ITEMS

I. EPA I.D. NUMBER
III. FACILITY NAME
V. FACILITY MAILING ADDRESS
VI. FACILITY LOCATION

PLEASE PLACE LABEL IN THIS SPACE

GENERAL INSTRUCTIONS

If a preprinted label has been provided, affix it in the designated space. Review the information carefully; if any of it is incorrect, cross through it and enter the correct data in the appropriate fill-in area below. Also, if any of the preprinted data is absent *(the area to the left of the label space lists the information that should appear)*, please provide it in the proper fill-in area(s) below. If the label is complete and correct, you need not complete Items I, III, V, and VI *(except VI-B which must be completed regardless)*. Complete all items if no label has been provided. Refer to the instructions for detailed item descriptions and for the legal authorizations under which this data is collected.

II. POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of **bold-faced terms**.

SPECIFIC QUESTIONS	Mark "X" YES	NO	FORM ATTACHED	SPECIFIC QUESTIONS	Mark "X" YES	NO	FORM ATTACHED
A. Is this facility a **publicly owned treatment works** which results in a **discharge to waters of the U.S.**? (FORM 2A)		X		B. Does or will this facility *(either existing or proposed)* include a **concentrated animal feeding operation** or **aquatic animal production facility** which results in a **discharge to waters of the U.S.**? (FORM 2B)		X	
C. Is this a facility which currently results in **discharges to waters of the U.S.** other than those described in A or B above? (FORM 2C)	X			D. Is this a proposed facility *(other than those described in A or B above)* which will result in a **discharge to waters of the U.S.**? (FORM 2D)		X	
E. Does or will this facility treat, store, or dispose of **hazardous wastes**? (FORM 3)		X		F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)		X	
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)		X		H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)		X	
I. Is this facility a **proposed stationary source** which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X		J. Is this facility a **proposed stationary source** which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X	

III. NAME OF FACILITY

SKIP: Dan River Steam Station

IV. FACILITY CONTACT

A. NAME & TITLE *(last, first, & title)*: Stowe, Allen

B. PHONE *(area code & no.)*: (704) 382-4309

V. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX: 526 South Church Street Interoffice EC13K

B. CITY OR TOWN: Charlotte

C. STATE: NC

D. ZIP CODE: 28202

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER: 900 South Edgewood Road

B. COUNTY NAME: Rockingham

C. CITY OR TOWN: Eden

D. STATE: NC

E. ZIP CODE: 27288

F. COUNTY CODE *(if known)*: 079

CONTINUED FROM THE FRONT

VII. SIC CODES *(4-digit, in order of priority)*

A. FIRST	B. SECOND
4911 *(specify)* Electric Services	*(specify)*
C. THIRD	**D. FOURTH**
(specify)	*(specify)*

VIII. OPERATOR INFORMATION

A. NAME: Duke Energy Carolinas LLC

B. Is the name listed in Item VIII-A also the owner? ☑ YES ☐ NO

C. STATUS OF OPERATOR *(Enter the appropriate letter into the answer box: if "Other," specify.)*

F = FEDERAL
S = STATE
P = PRIVATE
M = PUBLIC *(other than federal or state)*
O = OTHER *(specify)*

P *(specify)*

D. PHONE *(area code & no.)*: A (704) 382-4309

E. STREET OR P.O. BOX: 422 South Church Street

F. CITY OR TOWN: Charlotte

G. STATE: NC

H. ZIP CODE: 28242

IX. INDIAN LAND

Is the facility located on Indian lands? ☐ YES ☑ NO

X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES *(Discharges to Surface Water)*	NC0003468	D. PSD *(Air Emissions from Proposed Sources)*	03455T23 Title V Air
B. UIC *(Underground Injection of Fluids)*		E. OTHER *(specify)*	790015R02 *(specify)* Phase II Acid Rain Permit
C. RCRA *(Hazardous Wastes)*	NCD024668535	E. OTHER *(specify)*	*(specify)*

XI. MAP

Attach to this application a topographic map of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers, and other surface water bodies in the map area. See instructions for precise requirements.

XII. NATURE OF BUSINESS *(provide a brief description)*

Coal Fired Electric Generation

XIII. CERTIFICATION *(see instructions)*

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

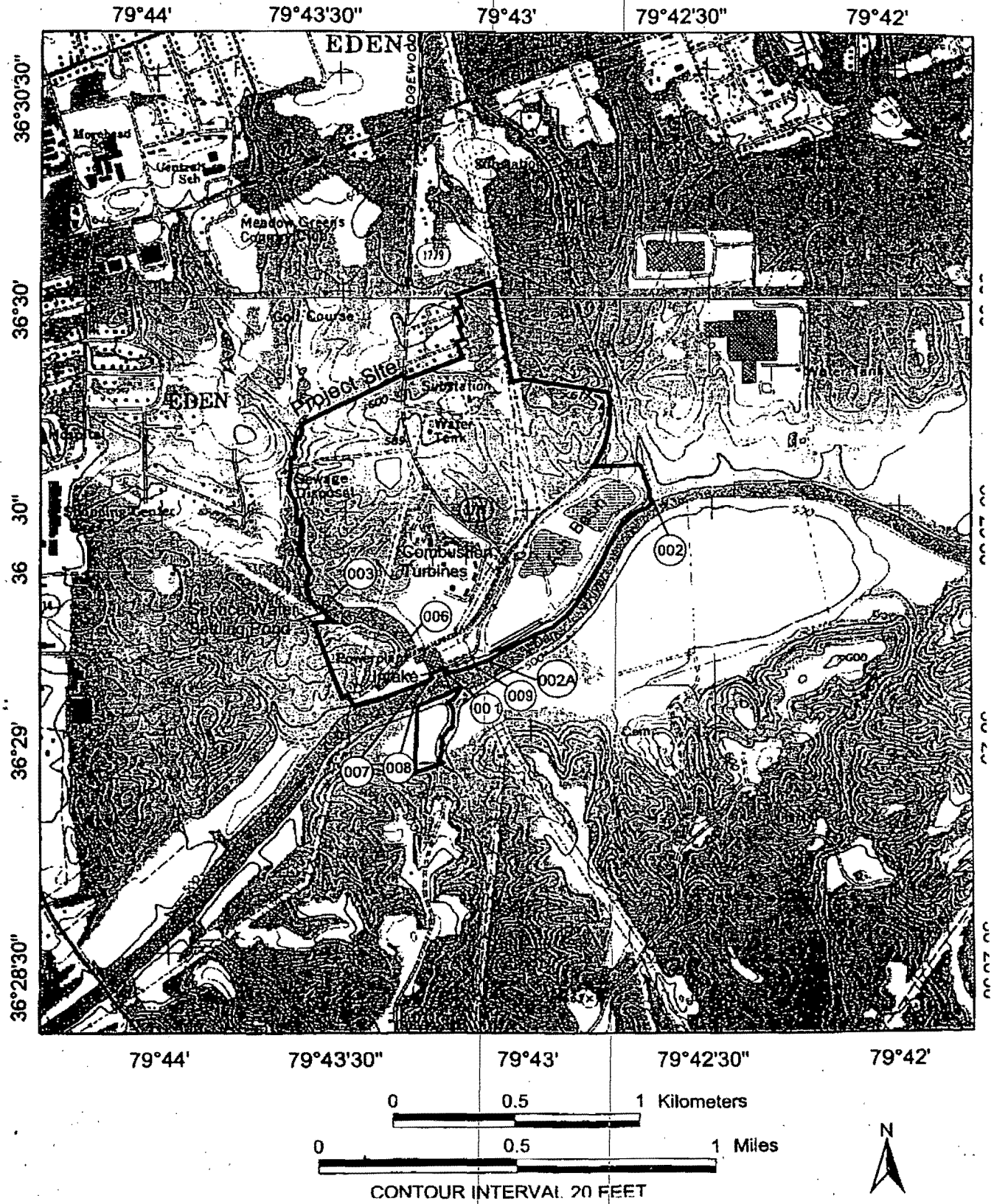
A. NAME & OFFICIAL TITLE *(type or print)*	B. SIGNATURE	C. DATE SIGNED
Gary D. Taylor GM II Reg. Fossil Stations		10/30/2006

COMMENTS FOR OFFICIAL USE ONLY

C

EPA Form 3510-1 (8-90)

FIGURE 1 USGS TOPOGRAPHIC MAP OF THE AREA AROUND DAN RIVER STEAM STATION



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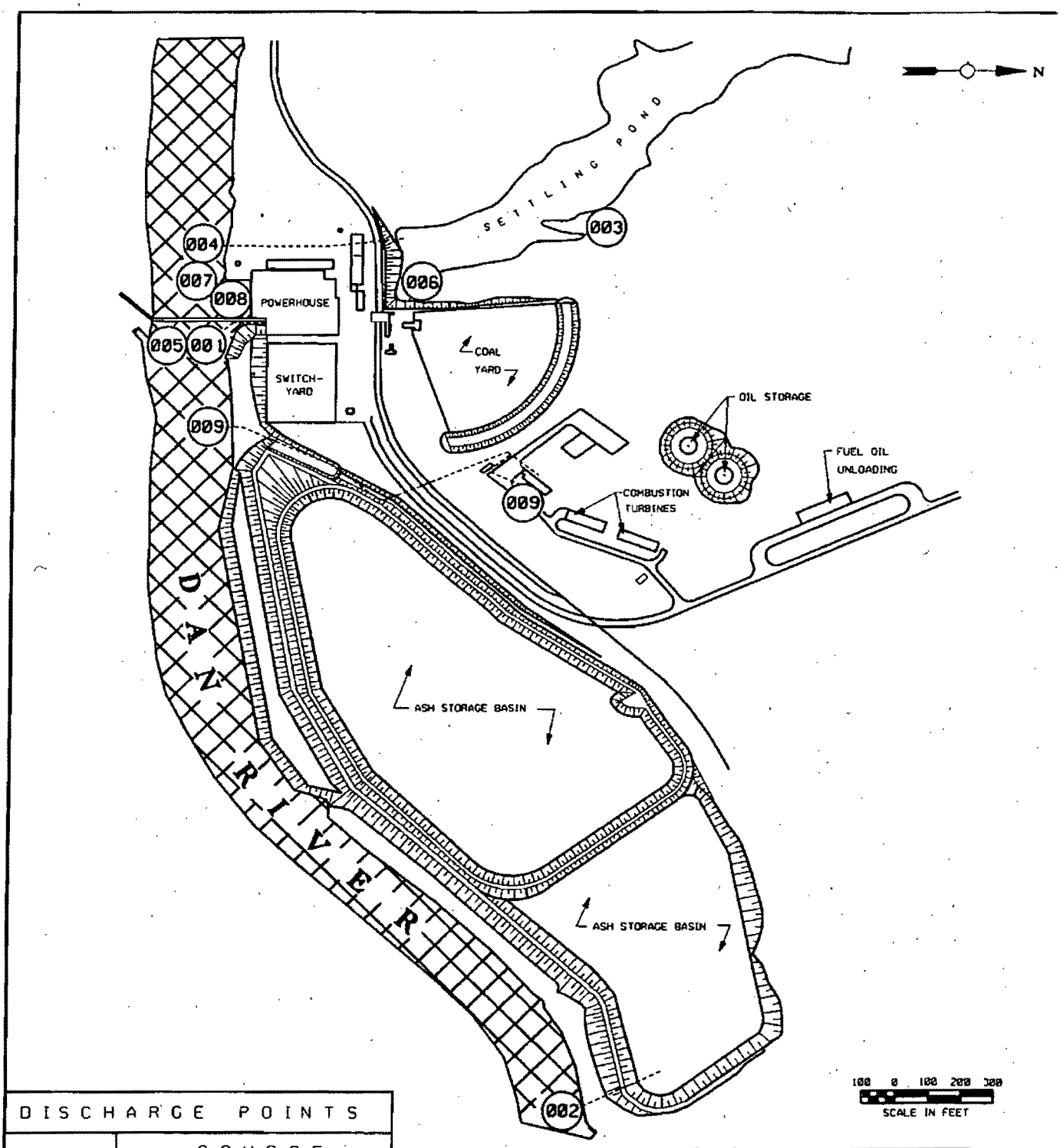


DISCHARGE POINTS	
DISCHARGE NO.	SOURCE
001	CONDENSER COOLING WATER
002	ASH BASIN DISCHARGE
003	COMBUSTION TURBINE COOLING WATER
004	SETTLING POND OVERFLOW
005	UNIT #1 & #2 EQUIPMENT COOLING WATER
006	UNIT #3 EQUIPMENT COOLING WATER
007	DREDGE EQUIPMENT COOLING WATER
008	INTAKE DE-ICING DISCHARGE
009	CT COMPRESSOR COOLING WATER

LEGEND

------ PLANT DRAINAGE DISCHARGE POINTS

DUKE POWER COMPANY

DAN RIVER STEAM STATION

NPDES DISCHARGE POINTS

k:\DANRIVER\DR-NPDES.DGN 10/17/2006 9:13:16 AM

EPA I.D. NUMBER (*copy from Item 1 of Form 1*)
NC0003468

Please print or type in the unshaded areas only.

Form Approved.
OMB No. 2040-0086.
Approval expires 3-31-98.

FORM 2C NPDES

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY
APPLICATION FOR PERMIT TO DISCHARGE WASTEWATER
EXISTING MANUFACTURING, COMMERCIAL, MINING AND SILVICULTURE OPERATIONS
Consolidated Permits Program

I. OUTFALL LOCATION

For each outfall, list the latitude and longitude of its location to the nearest 15 seconds and the name of the receiving water.

A. OUTFALL NUMBER (*list*)	B. LATITUDE			C. LONGITUDE			D. RECEIVING WATER (*name*)
	1. DEG.	2. MIN.	3. SEC.	1. DEG.	2. MIN.	3. SEC.	
001	36	29	7.9	79	43	13.9	Dan River
002	36	29	30.1	79	42	39.6	Dan River
003	36	29	18.4	79	43	32.2	Dan River
006	36	29	13.0	79	43	19.5	Settling Pond to Dan River
007	36	29	6.3	79	43	18.6	Dan River

II. FLOWS, SOURCES OF POLLUTION, AND TREATMENT TECHNOLOGIES

A. Attach a line drawing showing the water flow through the facility. Indicate sources of intake water, operations contributing wastewater to the effluent, and treatment units labeled to correspond to the more detailed descriptions in Item B. Construct a water balance on the line drawing by showing average flows between intakes, operations, treatment units, and outfalls. If a water balance cannot be determined (*e.g., for certain mining activities*), provide a pictorial description of the nature and amount of any sources of water and any collection or treatment measures.

B. For each outfall, provide a description of: (1) All operations contributing wastewater to the effluent, including process wastewater, sanitary wastewater, cooling water, and storm water runoff; (2) The average flow contributed by each operation; and (3) The treatment received by the wastewater. Continue on additional sheets if necessary.

1. OUTFALL NO. (*list*)	2. OPERATION(S) CONTRIBUTING FLOW		3. TREATMENT		
	a. OPERATION (*list*)	b. AVERAGE FLOW (*include units*)	a. DESCRIPTION	b. LIST CODES FROM TABLE 2C-1	
001	Condenser Cooling Water Includes	200 MGD	Screening-Discharge to surface water	1T	
	Once Thru Non-Contact. Includes			4A	
	intake screen backwash				
002	Ash Basin Discharge	2.1 MGD	Chemical Coagulation, Settling, Neutralization,	2D	2K
			Ion Exchange, Discahrge to Surface Water	1U	
				2J	
				4A	
003	Combustion Turbine Cooling Water	1.3 MGD Variable	Discharge to Surface Water	4A	
	(Once Thru Non-Contact)				
004	Settling Pond Overflow	0.064 MGD	Settling	1D	
			Discharge to surface water	4A	
005	Unit 1&3 Equipment Cooling	0.4 MGD	Discharge to surface water	4A	
	(Once Thru Non-Contact)				
006	Unit 3 Equipment Cooling	0.6 MGD	Discharge to Surface Water	4A	
	(Once Thru Non-Contact)				

OFFICIAL USE ONLY (*effluent guidelines sub-categories*)

EPARFI00034

Please print or type in the unshaded areas only.

EPA I.D. NUMBER (*copy from Item I of Form I*)
NC0003468

Form Approved.
OMB No. 2040-0086.
Approval expires 3-31-98.

FORM **2C** NPDES

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY
APPLICATION FOR PERMIT TO DISCHARGE WASTEWATER
EXISTING MANUFACTURING, COMMERCIAL, MINING AND SILVICULTURE OPERATIONS
Consolidated Permits Program

I. OUTFALL LOCATION

For each outfall, list the latitude and longitude of its location to the nearest 15 seconds and the name of the receiving water.

A. OUTFALL NUMBER (*list*)	B. LATITUDE			C. LONGITUDE			D. RECEIVING WATER (*name*)
	1. DEG.	2. MIN.	3. SEC.	1. DEG.	2. MIN.	3. SEC.	
008	36	29	7.7	79	43	15.9	Dan River
002A	36	29	9.6	79	43	6.9	Dan River
009	36	29	8.9	79	43	8.9	Storm Drain to Dan River
004	36	29	18.5	79	43	19.5	Settling Pond to Dan River
005	36	29	7.91	79	43	13.9	Dan River

II. FLOWS, SOURCES OF POLLUTION, AND TREATMENT TECHNOLOGIES

A. Attach a line drawing showing the water flow through the facility. Indicate sources of intake water, operations contributing wastewater to the effluent, and treatment units labeled to correspond to the more detailed descriptions in Item B. Construct a water balance on the line drawing by showing average flows between intakes, operations, treatment units, and outfalls. If a water balance cannot be determined (*e.g., for certain mining activities*), provide a pictorial description of the nature and amount of any sources of water and any collection or treatment measures.

B. For each outfall, provide a description of: (1) All operations contributing wastewater to the effluent, including process wastewater, sanitary wastewater, cooling water, and storm water runoff; (2) The average flow contributed by each operation; and (3) The treatment received by the wastewater. Continue on additional sheets if necessary.

1. OUTFALL NO. (*list*)	2. OPERATION(S) CONTRIBUTING FLOW		3. TREATMENT		
	a. OPERATION (*list*)	b. AVERAGE FLOW (*include units*)	a. DESCRIPTION	b. LIST CODES FROM TABLE 2C-1	
007	Dredge Equipment Cooling (Once Thru	0.014 MGD Variable	Discharge to Surface Water	4A	
	Non-Contact)				
008	Intake De-Icing (Once Thru Non-	57.6 MGD Variable	Discharge to Surface Water	4A	
	Contact)				
009	CT Compressor Cooling (Once Thru	0.02 MGD Variable	Discharge to Surface Water	4A	
	Non-Contact)				
002A	Sump Overflow Discharge	Variable	See Supplemental Information	4A	

OFFICIAL USE ONLY (*effluent guidelines sub-categories*)

EPARFI00035

CONTINUED FROM THE FRONT

C. Except for storm runoff, leaks, or spills, are any of the discharges described in Items II-A or B intermittent or seasonal?

☑ YES (*complete the following table*) ☐ NO (*go to Section III*)

1. OUTFALL NUMBER (*list*)	2. OPERATION(s) CONTRIBUTING FLOW (*list*)	3. FREQUENCY		4. FLOW				
		a. DAYS PER WEEK (*specify average*)	b. MONTHS PER YEAR (*specify average*)	a. FLOW RATE (*in mgd*)		B. TOTAL VOLUME (*specify with units*)		C. DURATION (*in days*)
				1. LONG TERM AVERAGE	2. MAXIMUM DAILY	1. LONG TERM AVERAGE	2. MAXIMUM DAILY	
	See Supplemental Information							

III. PRODUCTION

A. Does an effluent guideline limitation promulgated by EPA under Section 304 of the Clean Water Act apply to your facility?

☑ YES (*complete Item III-B*) ☐ NO (*go to Section IV*)

B. Are the limitations in the applicable effluent guideline expressed in terms of production (*or other measure of operation*)?

☐ YES (*complete Item III-C*) ☑ NO (*go to Section IV*)

C. If you answered "yes" to Item III-B, list the quantity which represents an actual measurement of your level of production, expressed in the terms and units used in the applicable effluent guideline, and indicate the affected outfalls.

1. AVERAGE DAILY PRODUCTION			2. AFFECTED OUTFALLS (*list outfall numbers*)
a. QUANTITY PER DAY	b. UNITS OF MEASURE	c. OPERATION, PRODUCT, MATERIAL, ETC. (*specify*)	
NA	NA	NA	NA

IV. IMPROVEMENTS

A. Are you now required by any Federal, State or local authority to meet any implementation schedule for the construction, upgrading or operations of wastewater treatment equipment or practices or any other environmental programs which may affect the discharges described in this application? This includes, but is not limited to, permit conditions, administrative or enforcement orders, enforcement compliance schedule letters, stipulations, court orders, and grant or loan conditions.

☐ YES (*complete the following table*) ☑ NO (*go to Item IV-B*)

1. IDENTIFICATION OF CONDITION, AGREEMENT, ETC.	2. AFFECTED OUTFALLS		3. BRIEF DESCRIPTION OF PROJECT	4. FINAL COMPLIANCE DATE	
	a. NO.	b. SOURCE OF DISCHARGE		a. REQUIRED	b. PROJECTED
NA	NA	NA	NA	NA	NA

B. OPTIONAL: You may attach additional sheets describing any additional water pollution control programs (*or other environmental projects which may affect your discharges*) you now have underway or which you plan. Indicate whether each program is now underway or planned, and indicate your actual or planned schedules for construction.

☐ MARK "X" IF DESCRIPTION OF ADDITIONAL CONTROL PROGRAMS IS ATTACHED

 CONTINUE ON PAGE 3

EPA I.D. NUMBER (*copy from Item 1 of Form 1*)
NC0003468

CONTINUED FROM PAGE 2

V. INTAKE AND EFFLUENT CHARACTERISTICS

A, B, & C: See instructions before proceeding – Complete one set of tables for each outfall – Annotate the outfall number in the space provided.
NOTE: Tables V-A, V-B, and V-C are included on separate sheets numbered V-1 through V-9.

D. Use the space below to list any of the pollutants listed in Table 2c-3 of the instructions, which you know or have reason to believe is discharged or may be discharged from any outfall. For every pollutant you list, briefly describe the reasons you believe it to be present and report any analytical data in your possession.

1. POLLUTANT	2. SOURCE	1. POLLUTANT	2. SOURCE
Asbestos	Cleanup of containment areas of asbestos stripping/handling operations. Trace amounts may be discharged to the ash basin.		
Hazardous and Toxic Substances	See Supplemental Information		

VI. POTENTIAL DISCHARGES NOT COVERED BY ANALYSIS

Is any pollutant listed in Item V-C a substance or a component of a substance which you currently use or manufacture as an intermediate or final product or byproduct?

☐ YES (*list all such pollutants below*) ☑ NO (*go to Item VI-B*)

NA

CONTINUED FROM THE FRONT

VII. BIOLOGICAL TOXICITY TESTING DATA

Do you have any knowledge or reason to believe that any biological test for acute or chronic toxicity has been made on any of your discharges or on a receiving water in relation to your discharge within the last 3 years?

☑ YES (*identify the test(s) and describe their purposes below*) ☐ NO (*go to Section VIII*)

Quarterly chronic toxicity analysis of Ceriodaphnia per current requirements on Outfall 002.

VIII. CONTRACT ANALYSIS INFORMATION

Were any of the analyses reported in Item V performed by a contract laboratory or consulting firm?

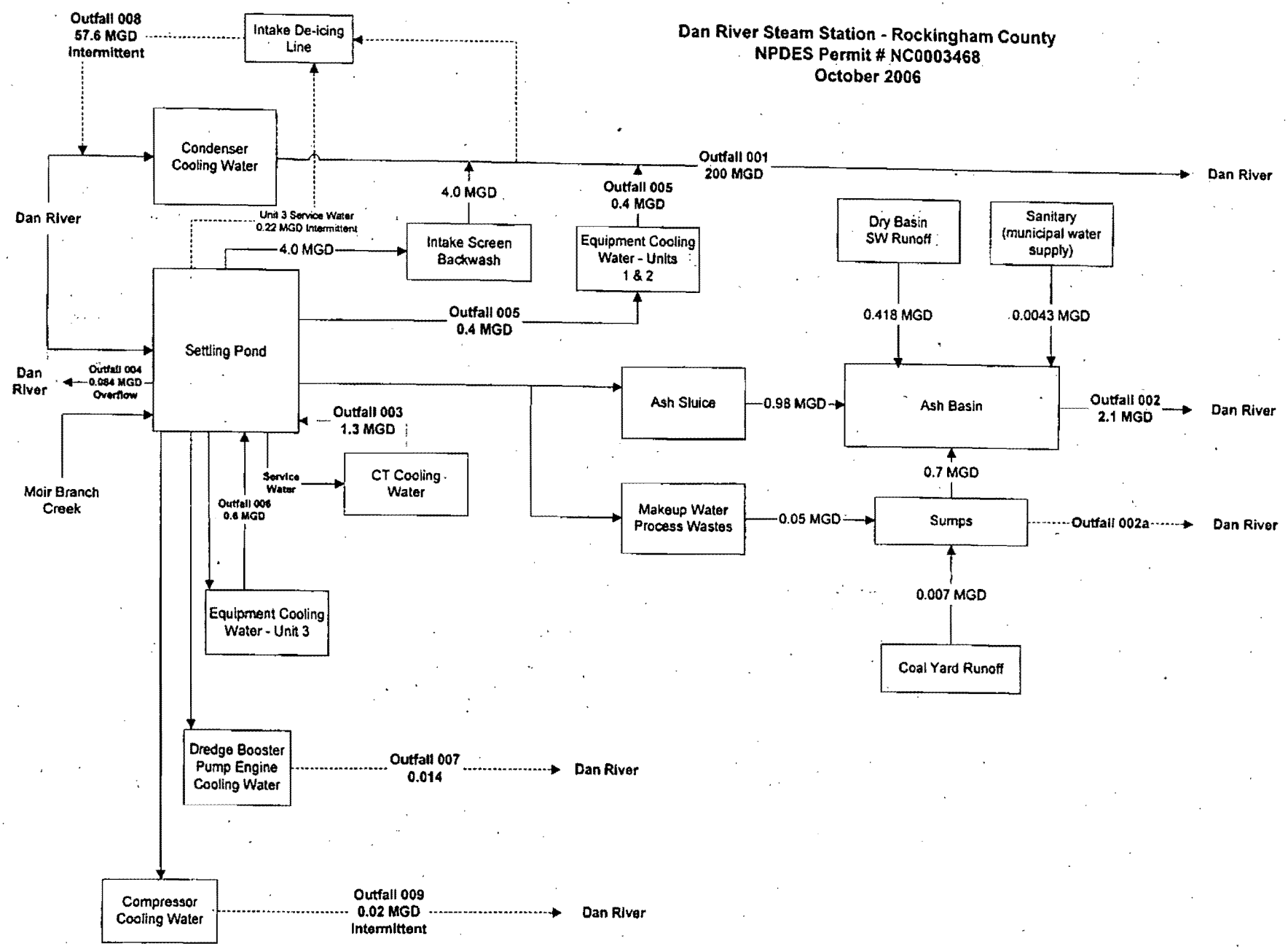
☑ YES (*list the name, address, and telephone number of, and pollutants analyzed by, each such laboratory or firm below*) ☐ NO (*go to Section IX*)

A. NAME	B. ADDRESS	C. TELEPHONE (*area code & no.*)	D. POLLUTANTS ANALYZED (*list*)
Prism Laboratory	449 Springbrook Road P.O. Box 240543 Charlotte, NC 28224-0543	(704) 529-6364	BOD, COD

IX. CERTIFICATION

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 fine and imprisonment for knowing violations.

A. NAME & OFFICIAL TITLE (*type or print*)	B. PHONE NO. (*area code & no.*)
Gary D. Taylor - General Manager II Regulated Fossil Stations	(704) 263-3204
C. SIGNATURE	D. DATE SIGNED
	10/30/2006



EPARFI00039

PLEASE PRINT OR TYPE IN THE UNSHADED AREAS ONLY. You may report some or all of this information on separate sheets (use the same format) instead of completing these pages.
SEE INSTRUCTIONS

EPA I.D. NUMBER (copy from item 1 of Form 1)
NC0003468

OUTFALL NO. 001

V. INTAKE AND EFFLUENT CHARACTERISTICS (continued from page 3 of Form 2-C)

PART A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

1. POLLUTANT	2. EFFLUENT a. MAXIMUM DAILY VALUE (1) Concentration	(2) Mass	b. MAXIMUM 30 DAY VALUE (if available) (1) Concentration	(2) Mass	c. LONG TERM AVG. VALUE (if available) (1) Concentration	(2) Mass	d. NO. OF ANALYSES	3. UNITS a. Concentration	b. Mass	4. INTAKE (optional) a. LONG TERM AVG. VALUE (1) Concentration	(2) Mass	b. NO. OF ANALYSES
a. Biochemical Oxygen Demand (BOD)	< 2.2	< 3888.0					1	mg/l	lb/Day	2	3534	1
b. Chemical Oxygen Demand (COD)	< 25	< 44182.0					1	mg/l	lb/Day	< 25	< 44181	1
c. Total Organic Carbon (TOC)	1.96	3463.0					1	mg/l	lb/Day	2.2	3888	1
d. Total Suspended Solids (TSS)	< 2.8	< 4948.0					1	mg/l	lb/Day	< 2	< 3534	1
e. Ammonia (as N)	< 0.02	< 35.3					1	mg/l	lb/Day	0.032	56.6	1
f. Flow	VALUE 265.4		VALUE 265.4		VALUE 211.9		365	MGD	X	VALUE		
g. Temperature (winter)	VALUE 17		VALUE 12		VALUE 12		365	DEGREES CELSIUS		VALUE 6.3		365
h. Temperature (summer)	VALUE 36		VALUE 32		VALUE 30.7		365	DEGREES CELSIUS		VALUE 24.3		365
i. pH	MINIMUM 7.79	MAXIMUM	MINIMUM	MAXIMUM			1	STANDARD UNITS		7.01		

PART B - Mark "X" in column 2a for each pollutant you know or have reason to believe is present. Mark "X" in column 2b for each pollutant you believe to be absent. If you mark column 2a for any pollutant which is limited either directly or indirectly but expressly in an effluent limitations guideline, you must provide the results of at least one analysis for that pollutant. For other pollutants for which you mark column 2a, you must provide quantitative data or an explanation of their presence in your discharge. Complete one table for each outfall. See the instructions for additional details and requirements.

1. POLLUTANT AND CAS NO. (if available)	2. MARK "X" a. present	b. absent	2. EFFLUENT a. MAXIMUM DAILY VALUE (1) Concentration	(2) Mass	b. MAXIMUM 30 DAY VALUE (if available) (1) Concentration	(2) Mass	c. LONG TERM AVG. VALUE (if available) (1) Concentration	(2) Mass	d. NO. OF ANALYSES	3. UNITS a. Concentration	b. Mass	4. INTAKE (optional) a. LONG TERM AVG. VALUE (1) Concentration	(2) Mass	b. NO. OF ANALYSES
a. Bromide (24959-67-9)	X		< 0.051	< 90.0					1	mg/l	lb/Day	< 0.051	< 90	1
b. Chlorine, Total Residual	X		< 0.2	< 353.0					1	mg/l	lb/Day	< 0.2	< 353	1
c. Color	X		17	X		X		X	1	Std. Units	X	25	X	1
d. Fecal Coliform	X		80	X		X		X	1	Colonies /100 ml	X	130	X	1
e. Flouride (16984-48-8)	X		< 0.1	< 177.0					1	mg/l	lb/Day	< 0.1	< 177	1
f. Nitrate-Nitrite (as N)	X		0.27	477.0					1	mg/l	lb/Day	0.38	672	1

CONTINUE ON PAGE V-2

EPARFI00040

ITEM V-B CONTINUED FROM FRONT

EPA I.D. NUMBER (copy from Item 1 of Form 1)	OUTFALL NUMBER
NC0003468	001

1. POLLUTANT AND CAS NO. (if available)	2. MARK "X"		3. EFFLUENT							3. UNITS		4. INTAKE (optional)		
	a. pre-sent	b. ab-sent	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVG. VALUE (if available)		d. NO. OF ANALYSES	a. Concen-tration	b. Mass	a. LONG TERM AVG. VALUE		b. NO. OF ANALYSES
			(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass				(1) Concentration	(2) Mass	
g. Nitrogen, Total Organic (as N)	X		0.48	848.0					1	mg/l	lb/Day	0.67	1184	1
h. Oil and Grease	X		< 5	< 8836.0					1	mg/l	lb/Day	< 5	< 8836	1
i. Phosphorous (as P), Total (7723-14-0)	X		0.025	44.2					1	mg/l	lb/Day	0.059	104.3	1
j. Radioactivity														
(1) Alpha, Total	X		< -1.10E-01	X					1	pCi/l	X	< 3.50E-01	X	1
(2) Beta, Total	X		1.87E+00	X					1	pCi/l	X	2.24E+00	X	1
(3) Radium, Total	X		0.0279+/-0.307	X					1	pCi/l	X	0.170+/-0.208	X	1
(4) Radium 226, Total	X		0.038+/-0.307	X					1	pCi/l	X	0.217+/-0.249	X	1
k. Sulfate (as SO4) (14808-79-8)	X		5.39	9525.0					1	mg/l	lb/Day	6.74	11911	1
l. Sulfide (as S)	X		< 0.05	< 88.4					1	mg/l	lb/Day	< 0.05	< 88.4	1
m. Sulfite (as SO3) (14265-45-3)	X		< 2	< 3534.0					1	mg/l	lb/Day	< 2	< 3534	1
n. Surfactants	X		0.335	592.0					1	mg/l	lb/Day	< 0.1	< 177	1
o. Aluminum, Total (7429-90-5)	X		0.0956	169.0					1	mg/l	lb/Day	0.211	373	1
p. Barium, Total (7440-39-3)	X		0.016	28.3					1	mg/l	lb/Day	0.02	35.3	1
q. Boron, Total (7440-42-8)	X		< 0.1	< 177.0					1	mg/l	lb/Day	< 0.1	< 177	1
r. Cobalt, Total (7440-48-4)	X		< 1	< 1767.0					1	mg/l	lb/Day	< 1	< 1767	1
s. Iron, Total (7439-89-6)	X		29.44	52028.0	29.44	52028.0	6.7	12371.0	5	mg/l	lb/Day	0.535	945	1
t. Magnesium, Total (7439-95-4)	X		2.248	3973.0					1	mg/l	lb/Day	2.436	4305	1
u. Molybdenum, Total (7439-98-7)	X		< 0.001	< 1.8					1	mg/l	lb/Day	< 1	< 1767	1
v. Manganese, Total (7439-96-5)	X		0.029	51.3					1	mg/l	lb/Day	0.048	84.8	1
w. Tin, Total (7440-31-5)	X		< 0.05	< 88.4					1	mg/l	lb/Day	0.05	88.4	1
x. Titanium, Total (7440-32-6)	X		< 0.01	< 17.7					1	mg/l	lb/Day	0.012	21.2	1

EPARFI00041

EPA I.D. NUMBER (copy from Item 1 of Form 1)	OUTFALL NUMBER
NC0003468	001

CONTINUED FROM PAGE 3 OF FORM 2-C

PART C - If you are a primary industry and this outfall contains process wastewater, refer to Table 2c-2 in the instructions to determine which of the GC/MS fractions you must test for. Mark "X" in column 2-a for all such GC/MS fractions that apply to your industry and for ALL toxic metals, cyanides, and total phenols. If you are not required to mark column 2-a (secondary industries, nonprocess wastewater outfalls, and nonrequired GC/MS fractions), mark "X" in column 2-b for each pollutant you know or have reason to believe is present. Mark "X" in column 2-c for each pollutant you believe is absent. If you mark column 2a for any pollutant, you must provide the results of at least one analysis for that pollutant. If you mark column 2b for any pollutant, you must provide the results of at least one analysis for that pollutant if you know or have reason to believe it will be discharged in concentrations of 10 ppb or greater. If you mark column 2b for acrolein, acrylonitrile, 2, 4 dinitrophenol, or 2-methyl-4, 6 dinitrophenol, you must provide the results of at least one analysis for each of these pollutants which you know or have reason to believe that you discharge in concentrations of 100 ppb or greater. Otherwise, for pollutants for which you mark column 2b, you must either submit at least one analysis or briefly describe the reasons the pollutant is expected to be discharged. Note that there are 7 pages to this part; please review each carefully. Complete one table (all 7 pages) for each outfall. See instructions for additional details and requirements.

1. POLLUTANT AND CAS NO. (if available)	2. MARK "X" a. required	b. present	c. absent	3. EFFLUENT a. MAXIMUM DAILY VALUE (if available) (1) Concentration	(2) Mass	b. MAXIMUM 30 DAY VALUE (if available) (1) Concentration	(2) Mass	c. LONG TERM AVG. VALUE (if available) (1) Concentration	(2) Mass	d. NO. OF ANALYSES	4. UNITS a. Concentration	b. Mass	5. INTAKE (optional) a. LONG TERM AVG. VALUE (1) Concentration	(2) Mass	d. NO. OF ANALYSES
METALS, CYANIDE, AND TOTAL PHENOLS															
1M. Antimony, Total (7440-36-0)	X			< 3	< 5.30					1	ug/l	lb/Day	< 3	< 5.30	1
2M. Arsenic, Total (7440-38-2)	X			< 2	< 3.53					1	ug/l	lb/Day	< 2	< 3.53	1
3M. Beryllium, Total (7440-41-7)	X			< 0.5	< 0.88					1	ug/l	lb/Day	< 0.5	< 0.88	1
4M. Cadmium, Total (7440-43-9)	X			< 0.5	< 0.88					1	ug/l	lb/Day	< 0.5	< 0.88	1
5M. Chromium, Total (7440-47-3)	X			< 1	< 1.77					1	ug/l	lb/Day	1.18	2.09	1
6M. Copper, Total (7440-50-8)	X			< 0.005	< 8.84					1	mg/l	lb/Day	< 0.005	< 8.84	1
7M. Lead, Total (7439-92-1)	X			< 2	< 3.53					1	ug/l	lb/Day	< 2	< 3.53	1
8M. Mercury, Total (7439-97-6)	X			< 0.1	< 0.18					1	ug/l	lb/Day	< 0.1	< 0.18	1
9M. Nickel, Total (7440-02-0)	X			< 2	< 3.53					1	ug/l	lb/Day	< 2	< 3.53	1
10M. Selenium, Total (7782-49-2)	X			< 2	< 3.53					1	ug/l	lb/Day	< 2	< 3.53	1
11M. Silver, Total (7440-22-4)	X			< 0.5	< 0.88					1	ug/l	lb/Day	< 0.5	< 0.88	1
12M. Thallium, Total (7440-28-0)	X			< 2	< 3534.0					1	mg/l	lb/Day	< 0.002	< 3.53	1
13M. Zinc, Total (7440-66-6)	X			< 0.005	< 8.84					1	mg/l	lb/Day	0.012	21.20	1
14M. Cyanide, Total (57-12-5)	X			< 0.005	< 8.84					1	mg/l	lb/Day	< 0.005	< 8.84	1
15M. Phenols, Total	X			< 0.01	< 17.7					1	mg/l	lb/Day	< 0.01	< 17.70	1
DIOXIN															
2,3,7,8 Tetrachlorodibenzo P Dioxin (1764-01-6)			X	DESCRIBE RESULTS									NOT DETECTED		

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EPARFI00042

EPA I.D. NUMBER (copy from Item 1 of Form 1)	OUTFALL NUMBER
NC0003468	001

CONTINUED FROM PAGE V-3

1. POLLUTANT AND CAS NO. (if available)	2. MARK "X" a. required	b. present	c. absent	3. EFFLUENT a. MAXIMUM DAILY VALUE (if available) (1) Concentration	(2) Mass	b. MAXIMUM 30 DAY VALUE (if available) (1) Concentration	(2) Mass	c. LONG TERM AVG. VALUE (if available) (1) Concentration	(2) Mass	d. NO. OF ANALYSES	4. UNITS a. Concentration	b. Mass	5. INTAKE (optional) a. LONG TERM AVG. VALUE (1) Concentration	(2) Mass	d. NO. OF ANALYSES
GC/MS FRACTION - VOLATILE COMPOUNDS															
1V. Acrolein (107-02-8)	X			< 20	< 35.30					1	ug/l	lb/Day	< 20	< 35.30	
2V. Acrylonitrile (107-13-1)	X			< 20	< 35.30					1	ug/l	lb/Day	< 20	< 35.30	
3V. Benzene (71-43-2)	X			< 0.5	< 0.88					1	ug/l	lb/Day	< 0.5	< 0.88	
4V. Bis (Chloromethyl) Ether (542-88-1)			X		X		X		X		ug/l	lb/Day		X	
5V. Bromoform (75-25-2)	X			< 1	< 1.77					1	ug/l	lb/Day	< 1	< 1.77	
6V. Carbon Tetrachloride (56-23-5)	X			< 2	< 3.53					1	ug/l	lb/Day	< 2	< 3.53	
7V. Chlorobenzene (108-90-7)	X			< 1	< 1.77					1	ug/l	lb/Day	< 1	< 1.77	
8V. Chlorodibromomethane (124-48-1)	X			< 1	< 1.77					1	ug/l	lb/Day	< 1	< 1.77	
9V. Chloroethane (75-00-3)	X			< 5	< 8.84					1	ug/l	lb/Day	< 5	< 8.84	
10V. 2-Chloroethylvinyl Ether (110-75-8)	X			< 2	< 3.53					1	ug/l	lb/Day	< 2	< 3.53	
11V. Chloroform (67-66-3)	X			< 1	< 1.77					1	ug/l	lb/Day	< 1	< 1.77	
12V. Dichlorobromomethane (75-27-4)	X			< 1	< 1.77					1	ug/l	lb/Day	< 1	< 1.77	
13V. Dichlorodifluoromethane (75-61-8)	X			< 1	< 1.77					1	ug/l	lb/Day	< 2	< 3.53	
14V. 1,1-Dichloroethane (75-34-3)	X			< 2	< 3.53					1	ug/l	lb/Day	< 1	< 1.77	
15V. 1,2-Dichloroethane (107-06-2)	X			< 1	< 1.77					1	ug/l	lb/Day	< 1	< 1.77	
16V. 1,1-Dichloroethylene (75-35-4)	X			< 1	< 1.77					1	ug/l	lb/Day	< 1	< 1.77	
17V. 1,2-Dichloropropane (78-87-5)	X			< 1	< 1.77					1	ug/l	lb/Day	< 1	< 1.77	
18V. 1,3-Dichloropropylene (542-75-6)	X			< 2	< 3.53					1	ug/l	lb/Day	< 2	< 3.53	
19V. Ethylbenzene (100-41-4)	X			< 1	< 1.77					1	ug/l	lb/Day	< 1	< 1.77	
20V. Methyl Bromide (74-83-9)	X			< 3	< 5.30					1	ug/l	lb/Day	< 3	< 5.30	
21V. Methyl Chloride (74-87-3)	X			< 2	< 3.53					1	ug/l	lb/Day	< 2	< 3.53	

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EPARFI00043

CONTINUED FROM PAGE V-4

EPA I.D. NUMBER (copy from Item 1 of Form 1)	OUTFALL NUMBER
NC0003468	001

1. POLLUTANT AND CAS NO. (if available)	2. MARK "X" a. required	b. present	c. absent	3. EFFLUENT a. MAXIMUM DAILY VALUE (if available) (1) Concentration	(2) Mass	b. MAXIMUM 30 DAY VALUE (if available) (1) Concentration	(2) Mass	c. LONG TERM AVG. VALUE (if available) (1) Concentration	(2) Mass	d. NO. OF ANALYSES	4. UNITS a. Concentration	b. Mass	5. INTAKE (optional) a. LONG TERM AVG. VALUE (1) Concentration	(2) Mass	d. NO. OF ANALYSES
GC/MS FRACTION - VOLATILE COMPOUNDS (continued)															
22V. Methylene Chloride (75-09-2)	X			< 2	< 3.53					1	ug/l	lb/Day	< 2	< 3.53	1
23V. 1,1,2,2-Tetrachloroethane (79-34-5)	X			< 1	< 1.77					1	ug/l	lb/Day	< 1	< 1.77	1
24V. Tetrachloroethylene (127-18-4)	X			< 1	< 1.77					1	ug/l	lb/Day	< 1	< 1.77	1
25V. Toluene (108-88-3)	X			< 1	< 1.77					1	ug/l	lb/Day	< 1	< 1.77	1
26V. 1,2-Trans-Dichloroethylene (156-60-5)	X			< 2	< 3.53					1	ug/l	lb/Day	< 2	< 3.53	1
27V. 1,1,1-Trichloroethane (71-55-6)	X			< 1	< 1.77					1	ug/l	lb/Day	< 1	< 1.77	1
28V. 1,1,2-Trichloroethane (79-00-5)	X			< 1	< 1.77					1	ug/l	lb/Day	< 1	< 1.77	1
29V. Trichloroethylene (79-01-6)	X			< 2	< 3.53					1	ug/l	lb/Day	< 2	< 3.53	1
30V. Trichlorofluoromethane (75-69-4)	X			< 2	< 3.53					1	ug/l	lb/Day	< 2	< 3.53	1
31V. Vinyl Chloride (75-01-4)	X			< 2	< 3.53					1	ug/l	lb/Day	< 2	< 3.53	1
GC/MS FRACTION - ACID COMPOUNDS															
1A. 2-Chlorophenol (95-57-8)	X			< 10	< 17.70					1	ug/l	lb/Day	< 10	< 17.70	1
2A. 2,4-Dichlorophenol (120-83-2)	X			< 10	< 17.70					1	ug/l	lb/Day	< 10	< 17.70	1
3A. 2,4-Dimethylphenol (105-67-9)	X			< 10	< 17.70					1	ug/l	lb/Day	< 10	< 17.70	1
4A. 4,6-Dinitro-O-Cresol (534-52-1)	X			< 50	< 88.40					1	ug/l	lb/Day	< 52	< 91.90	1
5A. 2,4-Dinitrophenol (51-28-5)	X			< 50	< 88.40					1	ug/l	lb/Day	< 52	< 91.90	1
6A. 2-Nitrophenol (88-75-5)	X			< 50	< 88.40					1	ug/l	lb/Day	< 10	< 17.70	1
7A. 4-Nitrophenol (100-02-7)	X			< 50	< 88.40					1	ug/l	lb/Day	< 52	< 91.90	1
8A. P-Chloro-M-Cresol (59-50-7)	X			< 20	< 35.30					1	ug/l	lb/Day	< 21	< 37.10	1
9A. Pentachlorophenol (87-86-5)	X			< 50	< 88.40					1	ug/l	lb/Day	< 52	< 91.90	1
10A. Phenol (108-95-2)	X			< 10	< 17.70					1	ug/l	lb/Day	< 10	< 17.70	1
11A. 2,4,6-Trichlorophenol (88-06-2)	X			< 10	< 17.70					1	ug/l	lb/Day	< 10	< 17.70	1

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EPARFI00044

CONTINUED FROM PAGE V-5

EPA I.D. NUMBER (copy from item 1 of Form 1)	OUTFALL NUMBER
NC0000396	001

1. POLLUTANT AND CAS NO. (if available)	2. MARK "X" a. required	b. present	c. absent	3. EFFLUENT a. MAXIMUM DAILY VALUE (if available) (1) Concentration	(2) Mass	b. MAXIMUM 30 DAY VALUE (if available) (1) Concentration	(2) Mass	c. LONG TERM AVG. VALUE (if available) (1) Concentration	(2) Mass	d. NO. OF ANALYSES	4. UNITS a. Concentration	b. Mass	5. INTAKE (optional) a. LONG TERM AVG. VALUE (1) Concentration	(2) Mass	d. NO. OF ANALYSES
GC/MS FRACTION - BASE NEUTRAL COMPOUNDS															
1B. Acenaphthene (83-32-9)	X			< 10	< 17.70					1	ug/l	lb/Day	< 10	< 17.70	1
2B. Acenaphtylene (208-96-8)	X			< 10	< 17.70					1	ug/l	lb/Day	< 10	< 17.70	1
3B. Anthracene (120-12-7)	X			< 10	< 17.70					1	ug/l	lb/Day	< 10	< 17.70	1
4B. Benzidine (92-87-5)	X			< 50	< 88.40					1	ug/l	lb/Day	< 52	< 91.90	1
5B. Benzo (a) Anthracene (56-55-3)	X			< 10	< 17.70					1	ug/l	lb/Day	< 10	< 17.70	1
6B. Benzo (a) Pyrene (50-32-8)	X			< 10	< 17.70					1	ug/l	lb/Day	< 10	< 17.70	1
7B. 3,4-Benzo-fluoranthene (205-99-2)	X			< 10	< 17.70					1	ug/l	lb/Day	< 10	< 17.70	1
8B. Benzo (ghi) Perylene (191-24-2)	X			< 10	< 17.70					1	ug/l	lb/Day	< 10	< 17.70	1
9B. Benzo (k) Fluoranthene (207-08-9)	X			< 10	< 17.70					1	ug/l	lb/Day	< 10	< 17.70	1
10B. Bis (2-Chloro-ethoxyl) Methane (111-91-1)	X			< 10	< 17.70					1	ug/l	lb/Day	< 10	< 17.70	1
11B. Bis (2-Chloro-ethyl) Ether (111-44-4)	X			< 10	< 17.70					1	ug/l	lb/Day	< 10	< 17.70	1
12B. Bis (2-Chloroiso-propyl) Ether (108-60-1)	X			< 10	< 17.70					1	ug/l	lb/Day	< 10	< 17.70	1
13B. Bis (2-Ethyl-hexyl) Phthalate (117-81-7)	X			< 10	< 17.70					1	ug/l	lb/Day	< 10	< 17.70	1
14B. 4-Bromo-phenyl Phenyl Ether (101-55-3)	X			< 10	< 17.70					1	ug/l	lb/Day	< 10	< 17.70	1
15B. Butyl Benzyl Phthalate (85-68-7)	X			< 10	< 17.70					1	ug/l	lb/Day	< 10	< 17.70	1
16B. 2-Chloro-naphthalene (91-58-7)	X			< 10	< 17.70					1	ug/l	lb/Day	< 10	< 17.70	1
17B. 4-Chloro-phenyl Phenyl Ether (7005-72-3)	X			< 10	< 17.70					1	ug/l	lb/Day	< 10	< 17.70	1
18B. Chrysene (218-01-9)	X			< 10	< 17.70					1	ug/l	lb/Day	< 10	< 17.70	1
19B. Dibenzo (a,h) Anthracene (53-70-3)	X			< 10	< 17.70					1	ug/l	lb/Day	< 10	< 17.70	1
20B. 1,2-Dichloro-benzene (95-50-1)	X			< 10	< 17.70					1	ug/l	lb/Day	< 10	< 17.70	1
21B. 1,3-Dichloro-benzene (541-73-1)	X			< 10	< 17.70					1	ug/l	lb/Day	< 10	< 17.70	1

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EPARF100045

CONTINUED FROM PAGE V-6

EPA I.D. NUMBER (copy from Item 1 of Form 1)	OUTFALL NUMBER
NC0003468	001

1. POLLUTANT AND CAS NO. (if available)	2. MARK "X" a. required	b. present	c. absent	3. EFFLUENT a. MAXIMUM DAILY VALUE (if available) (1) Concentration	(2) Mass	b. MAXIMUM 30 DAY VALUE (if available) (1) Concentration	(2) Mass	c. LONG TERM AVG. VALUE (if available) (1) Concentration	(2) Mass	d. NO. OF ANALYSES	4. UNITS a. Concentration	b. Mass	5. INTAKE (optional) a. LONG TERM AVG. VALUE (1) Concentration	(2) Mass	d. NO. OF ANALYSES
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS (continued)															
22B. 1,4-Dichlorobenzene (106-46-7)	X			< 10	< 17.70					1	ug/l	lb/Day	< 10	< 17.70	1
23B. 3,3-Dichlorobenzidine (91-94-1)	X			< 20	< 35.30					1	ug/l	lb/Day	< 21	< 37.10	1
24B. Diethyl Phthalate (84-66-2)	X			< 10	< 17.70					1	ug/l	lb/Day	< 10	< 17.70	1
25B. Dimethyl Phthalate (131-11-3)	X			< 10	< 17.70					1	ug/l	lb/Day	< 10	< 17.70	1
26B. Di-N-Butyl Phthalate (84-74-2)	X			< 10	< 17.70					1	ug/l	lb/Day	< 10	< 17.70	1
27B. 2,4-Dinitrotoluene (121-14-2)	X			< 10	< 17.70					1	ug/l	lb/Day	< 10	< 17.70	1
28B. 2,6-Dinitrotoluene (606-20-2)	X			< 10	< 17.70					1	ug/l	lb/Day	< 10	< 17.70	1
29B. Di-N-Octyl Phthalate (117-84-0)	X			< 10	< 17.70					1	ug/l	lb/Day	< 10	< 17.70	1
30B. 1,2-Diphenylhydrazine (as Azobenzene) (122-66-7)	X			< 20	< 17.70					1	ug/l	lb/Day	< 21	< 37.10	1
31B. Fluoranthene (206-44-0)	X			< 10	< 17.70					1	ug/l	lb/Day	< 10	< 17.70	1
32B. Fluorene (86-73-7)	X			< 10	< 17.70					1	ug/l	lb/Day	< 10	< 17.70	1
33B. Hexachlorobenzene (118-74-1)	X			< 10	< 17.70					1	ug/l	lb/Day	< 10	< 17.70	1
34B. Hexachlorobutadiene (87-68-3)	X			< 10	< 17.70					1	ug/l	lb/Day	< 10	< 17.70	1
35B. Hexachlorocyclopentadiene (77-47-4)	X			< 10	< 17.70					1	ug/l	lb/Day	< 10	< 17.70	1
36B. Hexachloroethane (67-72-1)	X			< 10	< 17.70					1	ug/l	lb/Day	< 10	< 17.70	1
37B. Indeno (1,2,3-cd) Pyrene (193-39-5)	X			< 10	< 17.70					1	ug/l	lb/Day	< 10	< 17.70	1
38B. Isophorone (78-59-1)	X			< 10	< 17.70					1	ug/l	lb/Day	< 10	< 17.70	1
39B. Naphthalene (91-20-3)	X			< 10	< 17.70					1	ug/l	lb/Day	< 10	< 17.70	1
40B. Nitrobenzene (98-95-3)	X			< 10	< 17.70					1	ug/l	lb/Day	< 10	< 17.70	1
41B. N-Nitrosodimethylamine (62-75-9)	X			< 10	< 17.70					1	ug/l	lb/Day	< 10	< 17.70	1
42B. N-Nitrosodi-N-Propylamine (621-64-7)	X			< 10	< 17.70					1	ug/l	lb/Day	< 10	< 17.70	1

CONTINUE ON PAGE V-8

EPARFI00046

EPA I.D. NUMBER (copy from Item 1 of Form 1)	OUTFALL NUMBER
NC0003468	001

CONTINUED FROM PAGE V-7

1. POLLUTANT AND CAS NO. (if available)	2. MARK "X" a. required	b. present	c. absent	3. EFFLUENT a. MAXIMUM DAILY VALUE (if available) (1) Concentration	(2) Mass	b. MAXIMUM 30 DAY VALUE (if available) (1) Concentration	(2) Mass	c. LONG TERM AVG. VALUE (if available) (1) Concentration	(2) Mass	d. NO. OF ANALYSES	4. UNITS a. Concentration	b. Mass	5. INTAKE (optional) a. LONG TERM AVG. VALUE (1) Concentration	(2) Mass	d. NO. OF ANALYSES
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS (continued)															
43B. N-Nitrosodiphenylamine (86-30-6)	X			< 10	< 17.70					1	ug/l	lb/Day	< 10	< 17.70	1
44B. Phenanthrene (85-01-8)	X			< 10	< 17.70					1	ug/l	lb/Day	< 10	< 17.70	1
45B. Pyrene (129-00-0)	X			< 10	< 17.70					1	ug/l	lb/Day	< 10	< 17.70	1
46B. 1,2,4-Trichlorobenzene (120-82-1)	X			< 10	< 17.70					1	ug/l	lb/Day	< 10	< 17.70	1
GC/MS FRACTION - PESTICIDES															
1P. Aldrin (309-00-2)			X								ug/l	lb/Day			
2P. alpha-BHC (319-84-6)			X								ug/l	lb/Day			
3P. beta-BHC (315-85-7)			X								ug/l	lb/Day			
4P. gamma-BHC (58-89-9)			X								ug/l	lb/Day			
5P. delta-BHC (319-86-8)			X								ug/l	lb/Day			
6P. Chlordane (57-74-9)			X								ug/l	lb/Day			
7P. 4,4'-DDT (50-29-3)			X								ug/l	lb/Day			
8P. 4,4'-DDE (72-55-9)			X								ug/l	lb/Day			
9P. 4,4'-DDD (72-54-8)			X								ug/l	lb/Day			
10P. Dieldrin (60-57-1)			X								ug/l	lb/Day			
11P.alpha-Endosulfan (115-29-7)			X								ug/l	lb/Day			
12P. beta-Endosulfan (115-29-7)			X								ug/l	lb/Day			
13P. Endosulfan Sulfate (1031-07-8)			X								ug/l				
14P. Endrin (72-20-8)			X								ug/l	lb/Day			
15P. Endrin Aldehyde (7421-93-4)			X								ug/l				
16P. Heptachlor (76-44-8)			X								ug/l	lb/Day			

CONTINUE ON PAGE V-9

EPARFI00047

EPA I.D. NUMBER (copy from Item 1 of Form 1)	OUTFALL NUMBER
NC0003468	001

CONTINUED FROM PAGE V-8

1. POLLUTANT AND CAS NO. (if available)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. required	b. present	c. absent	a. MAXIMUM DAILY VALUE (if available)		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVG. VALUE (if available)		d. NO. OF ANALYSES	a. Concentration	b. Mass	a. LONG TERM AVG. VALUE		d. NO. OF ANALYSES
				(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass				(1) Concentration	(2) Mass	
GC/MS FRACTION - PESTICIDES (continued)															
17P. Heptachlor Epoxide (1024-57-3)			X								ug/l	lb/Day			
18P. PCB-1242 (53469-21-9)			X								ug/l	lb/Day			
19P. PCB-1254 (11097-69-1)			X								ug/l	lb/Day			
20P. PCB-1221 (11104-28-2)			X								ug/l	lb/Day			
21P. PCB-1232 (11141-16-5)			X								ug/l	lb/Day			
22P. PCB-1248 (12672-29-6)			X								ug/l	lb/Day			
23P. PCB-1260 (11096-82-5)			X								ug/l	lb/Day			
24P. PCB-1016 (12674-11-2)			X								ug/l	lb/Day			
25P. Toxaphene (8001-35-2)			X								ug/l	lb/Day			

EPARFI00048

PLEASE PRINT OR TYPE IN THE UNSHADED AREAS ONLY. You may report some or all of this information on separate sheets (use the same format) instead of completing these pages.
SEE INSTRUCTIONS

EPA I.D. NUMBER (copy from Item 1 of Form 1): NC0003468

V. INTAKE AND EFFLUENT CHARACTERISTICS (continued from page 3 of Form 2-C)

OUTFALL NO. 002

PART A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

1. POLLUTANT	2. EFFLUENT a. MAXIMUM DAILY VALUE (1) Concentration	(2) Mass	b. MAXIMUM 30 DAY VALUE (if available) (1) Concentration	(2) Mass	c. LONG TERM AVG. VALUE (if available) (1) Concentration	(2) Mass	d. NO. OF ANALYSES	3. UNITS a. Concentration	b. Mass	4. INTAKE (optional) a. LONG TERM AVG. VALUE (1) Concentration	(2) Mass	b. NO. OF ANALYSES
a. Biochemical Oxygen Demand (BOD)	< 2	< 13.3					1	mg/l	lb/Day	2	3534	1
b. Chemical Oxygen Demand (COD)	< 25	< 167.0					1	mg/l	lb/Day	< 25	< 44181	1
c. Total Organic Carbon (TOC)	1.98	13.2					1	mg/l	lb/Day	2.2	3888	1
d. Total Suspended Solids (TSS)	< 8	< 53.4	8	53.4	3.7	24.7	12	mg/l	lb/Day	< 2	< 3524	1
e. Ammonia (as N)	0.048	0.3					1	mg/l	lb/Day	0.032	56.6	1
f. Flow	VALUE 1.6		VALUE 1.6		VALUE 0.8		12	MGD	X	VALUE		
g. Temperature (winter)	VALUE 8.33		VALUE		VALUE		1	DEGREES CELSIUS		VALUE 6.3		365
h. Temperature (summer)	VALUE		VALUE		VALUE			DEGREES CELSIUS		VALUE 24.3		365
i. pH	MINIMUM 7.3	MAXIMUM 7.7	MINIMUM 7.3	MAXIMUM 7.7			12	STANDARD UNITS				

PART B - Mark "X" in column 2a for each pollutant you know or have reason to believe is present. Mark "X" in column 2b for each pollutant you believe to be absent. If you mark column 2a for any pollutant which is limited either directly or indirectly but expressly in an effluent limitations guideline, you must provide the results of at least one analysis for that pollutant. For other pollutants for which you mark column 2a, you must provide quantitative data or an explanation of their presence in your discharge. Complete one table for each outfall. See the instructions for additional details and requirements.

1. POLLUTANT AND CAS NO. (if available)	2. MARK "X" a. present	b. absent	2. EFFLUENT a. MAXIMUM DAILY VALUE (1) Concentration	(2) Mass	b. MAXIMUM 30 DAY VALUE (if available) (1) Concentration	(2) Mass	c. LONG TERM AVG. VALUE (if available) (1) Concentration	(2) Mass	d. NO. OF ANALYSES	3. UNITS a. Concentration	b. Mass	4. INTAKE (optional) a. LONG TERM AVG. VALUE (1) Concentration	(2) Mass	b. NO. OF ANALYSES
a. Bromide (24959-67-9)	X		< 0.125	< 0.8					1	mg/l	lb/Day	< 0.051	< 90	1
b. Chlorine, Total Residual	X		< 0.2	< 1.3					1	mg/l	lb/Day	< 0.2	< 353	1
c. Color	X		16	X		X		X	1	Std. Units	X	25	X	1
d. Fecal Coliform	X		11	X		X		X	1	Colonies /100 ml	X	130	X	1
e. Flouride (16984-48-8)	X		0.12	0.8					1	mg/l	lb/Day	< 0.1	< 177	1
f. Nitrate-Nitrite (as N)	X		0.09	0.6					1	mg/l	lb/Day	0.38	672	1

CONTINUE ON PAGE V-2

EPARFI00049

ITEM V-B CONTINUED FROM FRONT

EPA I.D. NUMBER (copy from Item 1 of Form 1)	OUTFALL NUMBER
NC0003468	002

1. POLLUTANT AND CAS NO. (if available)	2. MARK "X" a. pre-sent	b. ab-sent	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) Concentration	(2) Mass	b. MAXIMUM 30 DAY VALUE (if available) (1) Concentration	(2) Mass	c. LONG TERM AVG. VALUE (if available) (1) Concentration	(2) Mass	d. NO. OF ANALYSES	3. UNITS a. Concentration	b. Mass	4. INTAKE (optional) a. LONG TERM AVG. VALUE (1) Concentration	(2) Mass	b. NO. OF ANALYSES
g. Nitrogen, Total Organic (as N)	X		2.30	15.4	2.3	15.4	0.88	5.8	4	mg/l	lb/Day	0.67	1184	1
h. Oil and Grease	X		< 5.00	< 33.4	< 5	< 33.4	< 5	< 33.4	4	mg/l	lb/Day	< 5	< 8836	1
i. Phosphorous (as P), Total (7723-14-0)	X		0.04	0.3	0.042	0.3	0.022	0.1	4	mg/l	lb/Day	0.059	104.3	1
j. Radioactivity														
(1) Alpha, Total	X		1.17E+00	X		X		X	1	pCi/l	X	< 3.50E-01	X	1
(2) Beta, Total	X		7.00E+00	X		X		X	1	pCi/l	X	2.24E+00	X	1
(3) Radium, Total	X		0.132+/-0.088	X		X		X	1	pCi/l	X	0.17+/-0.208	X	1
(4) Radium 226, Total	X		.0307+/-0.373	X		X		X	1	pCi/l	X	0.217+/-0.249	X	1
k. Sulfate (as SO4) (14808-79-8)	X		54.55	383.6	54.5	383.6	39.6	264.2	4	mg/l	lb/Day	6.74	11911	1
l. Sulfide (as S)	X		< 0.05	< 0.3					1	mg/l	lb/Day	< 0.05	< 88.4	1
m. Sulfite (as SO3) (14265-45-3)	X		< 2.00	< 13.3					1	mg/l	lb/Day	< 2	< 3534	1
n. Surfactants	X		0.55	3.7					1	mg/l	lb/Day	< 0.1	< 177	1
o. Aluminum, Total (7429-90-5)	X		0.11	0.7					1	mg/l	lb/Day	< 0.211	< 373	1
p. Barium, Total (7440-39-3)	X		0.24	1.6					1	mg/l	lb/Day	< 0.02	< 35.3	1
q. Boron, Total (7440-42-8)	X		0.15	1.0					1	mg/l	lb/Day	< 0.1	< 177	1
r. Cobalt, Total (7440-48-4)	X		< 0.002	< 0.013					1	mg/l	lb/Day	< 1	< 1767	1
s. Iron, Total (7439-89-6)	X		0.42	2.8	0.42	2.8	0.18	1.2	12	mg/l	lb/Day	0.535	945	1
t. Magnesium, Total (7439-95-4)	X		4.22	28.2					1	mg/l	lb/Day	2.438	4305	1
u. Molybdenum, Total (7439-98-7)	X		0.03	0.2					1	mg/l	lb/Day	< 1	< 1767	1
v. Manganese, Total (7439-96-5)	X		0.06	0.4					1	mg/l	lb/Day	0.048	84.8	1
w. Tin, Total (7440-31-5)	X		< 0.05	< 0.3					1	mg/l	lb/Day	0.05	88.4	1
x. Titanium, Total (7440-32-6)	X		0.01	0.067					1	mg/l	lb/Day	0.012	21.2	1

EPARF100050

EPA I.D. NUMBER (copy from Item 1 of Form 1)	OUTFALL NUMBER
NC0003468	002

CONTINUED FROM PAGE 3 OF FORM 2-C

PART C - If you are a primary industry and this outfall contains process wastewater, refer to Table 2c-2 in the instructions to determine which of the GC/MS fractions you must test for. Mark "X" in column 2-a for all such GC/MS fractions that apply to your industry and for ALL toxic metals, cyanides, and total phenols. If you are not required to mark column 2-a (secondary industries, nonprocess wastewater outfalls, and nonrequired GC/MS fractions), mark "X" in column 2-b for each pollutant you know or have reason to believe is present. Mark "X" in column 2-c for each pollutant you believe is absent. If you mark column 2a for any pollutant, you must provide the results of at least one analysis for that pollutant. If you mark column 2b for any pollutant, you must provide the results of at least one analysis for that pollutant if you know or have reason to believe it will be discharged in concentrations of 10 ppb or greater. If you mark column 2b for acrolein, acrylonitrile, 2, 4 dinitrophenol, or 2-methyl-4, 6 dinitrophenol, you must provide the results of at least one analysis for each of these pollutants which you know or have reason to believe that you discharge in concentrations of 100 ppb or greater. Otherwise, for pollutants for which you mark column 2b, you must either submit at least one analysis or briefly describe the reasons the pollutant is expected to be discharged. Note that there are 7 pages to this part; please review each carefully. Complete one table (all 7 pages) for each outfall. See instructions for additional details and requirements.

1. POLLUTANT AND CAS NO. (if available)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. required	b. present	c. absent	a. MAXIMUM DAILY VALUE (if available)		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVG. VALUE (if available)		d. NO. OF ANALYSES	a. Concentration	b. Mass	a. LONG TERM AVG. VALUE		d. NO. OF ANALYSES
				(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass				(1) Concentration	(2) Mass	
METALS, CYANIDE, AND TOTAL PHENOLS															
1M. Antimony, Total (7440-36-0)	X			6.30	0.04					1	ug/l	lb/Day	< 3	< 5.30	1
2M. Arsenic, Total (7440-38-2)	X			66.20	0.44	66.2	0.44	35.8	0.24	12	ug/l	lb/Day	< 2	< 3.53	1
3M. Beryllium, Total (7440-41-7)	X			< 0.50	< 0.0033					1	ug/l	lb/Day	< 0.5	< 0.88	1
4M. Cadmium, Total (7440-43-9)	X			< 0.50	< 0.0033					1	ug/l	lb/Day	< 0.5	< 0.88	1
5M. Chromium, Total (7440-47-3)	X			< 1.00	< 0.007					1	ug/l	lb/Day	1.18	2.09	1
6M. Copper, Total (7440-50-8)	X			< 0.04	< 0.28	0.042	0.28	< 0.005	< 0.03	12	mg/l	lb/Day	< 0.005	< 8.84	1
7M. Lead, Total (7439-92-1)	X			< 2.00	< 0.01					1	ug/l	lb/Day	< 2	< 3.53	1
8M. Mercury, Total (7439-97-6)	X			< 0.10	< 0.0007					1	ug/l	lb/Day	< 0.1	< 0.18	1
9M. Nickel, Total (7440-02-0)	X			9.46	0.06					1	ug/l	lb/Day	< 2	< 3.53	1
10M. Selenium, Total (7782-49-2)	X			43.30	0.29	43.3	0.29	14.1	0.09	12	ug/l	lb/Day	< 2	< 3.53	1
11M. Silver, Total (7440-22-4)	X			< 5.00	< 0.03					1	ug/l	lb/Day	< 0.5	< 0.88	1
12M. Thallium, Total (7440-28-0)	X			< 2.00	< 13.3					1	mg/l	lb/Day	< 0.002	< 3.53	1
13M. Zinc, Total (7440-66-6)	X			0.02	0.13					1	mg/l	lb/Day	0.12	21.20	1
14M. Cyanide, Total (57-12-5)	X			< 0.01	< 0.067					1	mg/l	lb/Day	< 0.005	< 8.84	1
15M. Phenols, Total	X			< 0.01	< 0.067					1	mg/l	lb/Day	< 0.01	< 17.70	1
DIOXIN															
2,3,7,8 Tetrachlorodibenzo P Dioxin (1764-01-6)			X	DESCRIBE RESULTS									NOT DETECTED		

CONTINUE ON PAGE V-4

EPARFI00051

EPA I.D. NUMBER (copy from Item 1 of Form 1)	OUTFALL NUMBER
NC0003468	002

CONTINUED FROM PAGE V-3

1. POLLUTANT AND CAS NO. (if available)	2. MARK "X"			3. EFFLUENT						4. UNITS			5. INTAKE (optional)		
	a. required	b. present	c. absent	a. MAXIMUM DAILY VALUE (if available)		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVG. VALUE (if available)		d. NO. OF ANALYSES	a. Concentration	b. Mass	a. LONG TERM AVG. VALUE		d. NO. OF ANALYSES
				(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass				(1) Concentration	(2) Mass	
GC/MS FRACTION - VOLATILE COMPOUNDS															
1V. Acrolein (107-02-8)	X			< 20	< 0.133					1	ug/l	lb/Day	< 20	< 35.30	1
2V. Acrylonitrile (107-13-1)	X			< 20	< 0.130					1	ug/l	lb/Day	< 20	< 35.30	1
3V. Benzene (71-43-2)	X			< 2	< 0.013					1	ug/l	lb/Day	< 0.5	< 0.88	1
4V. Bis (Chloromethyl) Ether (542-88-1)			X		X		X		X		ug/l	lb/Day		X	
5V. Bromoform (75-25-2)	X			< 2	< 0.013					1	ug/l	lb/Day	< 1	< 1.77	1
6V. Carbon Tetrachloride (56-23-5)	X			< 2	< 0.013					1	ug/l	lb/Day	< 2	< 3.53	1
7V. Chlorobenzene (108-90-7)	X			< 2	< 0.013					1	ug/l	lb/Day	< 1	< 1.77	1
8V. Chlorodibromomethane (124-48-1)	X			< 2	< 0.013					1	ug/l	lb/Day	< 1	< 1.77	1
9V. Chloroethane (75-00-3)	X			< 2	< 0.013					1	ug/l	lb/Day	< 5	< 8.84	1
10V. 2-Chloroethylvinyl Ether (110-75-8)	X			< 2	< 0.013					1	ug/l	lb/Day	< 2	< 3.53	1
11V. Chloroform (67-66-3)	X			< 2	< 0.013					1	ug/l	lb/Day	< 1	< 1.77	1
12V. Dichlorobromomethane (75-27-4)	X			< 2	< 0.013					1	ug/l	lb/Day	< 1	< 1.77	1
13V. Dichlorodifluoromethane (75-51-8)	X			< 2	< 0.013					1	ug/l	lb/Day	< 2	< 3.53	1
14V. 1,1-Dichloroethane (75-34-3)	X			< 2	< 0.013					1	ug/l	lb/Day	< 1	< 1.77	1
15V. 1,2-Dichloroethane (107-06-2)	X			< 2	< 0.013					1	ug/l	lb/Day	< 1	< 1.77	1
16V. 1,1-Dichloroethylene (75-35-4)	X			< 2	< 0.013					1	ug/l	lb/Day	< 1	< 1.77	1
17V. 1,2-Dichloropropane (78-87-5)	X			< 2	< 0.013					1	ug/l	lb/Day	< 1	< 1.77	1
18V. 1,3-Dichloropropylene (542-75-6)	X			< 4	< 0.027					1	ug/l	lb/Day	< 2	< 3.53	1
19V. Ethylbenzene (100-41-4)	X			< 2	< 0.013					1	ug/l	lb/Day	< 1	< 1.77	1
20V. Methyl Bromide (74-83-9)	X			< 5	< 0.034					1	ug/l	lb/Day	< 3	< 5.30	1
21V. Methyl Chloride (74-87-3)	X			< 2	< 0.013					1	ug/l	lb/Day	< 2	< 3.53	1

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EPARFI00052

EPA I.D. NUMBER (copy from Item 1 of Form 1)	OUTFALL NUMBER
NC0003468	002

CONTINUED FROM PAGE V-4

1. POLLUTANT AND CAS NO. (if available)	2. MARK "X" a. required	b. present	c. absent	3. EFFLUENT a. MAXIMUM DAILY VALUE (if available) (1) Concentration	(2) Mass	b. MAXIMUM 30 DAY VALUE (if available) (1) Concentration	(2) Mass	c. LONG TERM AVG. VALUE (if available) (1) Concentration	(2) Mass	d. NO. OF ANALYSES	4. UNITS a. Concentration	b. Mass	5. INTAKE (optional) a. LONG TERM AVG. VALUE (1) Concentration	(2) Mass	d. NO. OF ANALYSES
GC/MS FRACTION - VOLATILE COMPOUNDS (continued)															
22V. Methylene Chloride (75-09-2)	X			< 2	< 0.013					1	ug/l	lb/Day	< 2	< 3.53	1
23V. 1,1,2,2-Tetrachloroethane (79-34-5)	X			< 2	< 0.013					1	ug/l	lb/Day	< 1	< 1.77	1
24V. Tetrachloroethylene (127-18-4)	X			< 2	< 0.013					1	ug/l	lb/Day	< 1	< 1.77	1
25V. Toluene (108-88-3)	X			< 2	< 0.013					1	ug/l	lb/Day	< 1	< 1.77	1
26V. 1,2-Trans-Dichloroethylene (156-60-5)	X			< 2	< 0.013					1	ug/l	lb/Day	< 2	< 3.53	1
27V. 1,1,1-Trichloroethane (71-55-6)	X			< 2	< 0.013					1	ug/l	lb/Day	< 1	< 1.77	1
28V. 1,1,2-Trichloroethane (79-00-5)	X			< 2	< 0.013					1	ug/l	lb/Day	< 1	< 1.77	1
29V. Trichloroethylene (79-01-6)	X			< 2	< 0.013					1	ug/l	lb/Day	< 2	< 3.53	1
30V. Trichlorofluoromethane (75-69-4)	X			< 2	< 0.013					1	ug/l	lb/Day	< 2	< 3.53	1
31V. Vinyl Chloride (75-01-4)	X			< 2	< 0.013					1	ug/l	lb/Day	< 2	< 3.53	1
GC/MS FRACTION - ACID COMPOUNDS															
1A. 2-Chlorophenol (95-57-8)	X			< 12	< 0.08					1	ug/l	lb/Day	< 10	< 17.70	1
2A. 2,4-Dichlorophenol (120-83-2)	X			< 12	< 0.08					1	ug/l	lb/Day	< 10	< 17.70	1
3A. 2,4-Dimethylphenol (105-67-9)	X			< 12	< 0.08					1	ug/l	lb/Day	< 10	< 17.70	1
4A. 4,6-Dinitro-O-Cresol (534-52-1)	X			< 12	< 0.08					1	ug/l	lb/Day	< 52	< 91.90	1
5A. 2,4-Dinitrophenol (51-28-5)	X			< 12	< 0.08					1	ug/l	lb/Day	< 52	< 91.90	1
6A. 2-Nitrophenol (88-75-5)	X			< 12	< 0.08					1	ug/l	lb/Day	< 10	< 17.70	1
7A. 4-Nitrophenol (100-02-7)	X			< 58	< 0.39					1	ug/l	lb/Day	< 52	< 91.90	1
8A. P-Chloro-M-Cresol (59-50-7)	X			< 23	< 0.15					1	ug/l	lb/Day	< 21	< 37.10	1
9A. Pentachlorophenol (87-86-5)	X			< 58	< 0.39					1	ug/l	lb/Day	< 52	< 91.90	1
10A. Phenol (108-95-2)	X			< 12	< 0.08					1	ug/l	lb/Day	< 10	< 17.70	1
11A. 2,4,6-Trichlorophenol (88-06-2)	X			< 12	< 0.08					1	ug/l	lb/Day	< 10	< 17.70	1

CONTINUE ON PAGE V-6

EPARFI00053

CONTINUED FROM PAGE V-5

EPA I.D. NUMBER (copy from Item 1 of Form 1)	OUTFALL NUMBER
NC0000345B	002

1. POLLUTANT AND CAS NO. (if available)	2. MARK "X" a. required	b. present	c. absent	3. EFFLUENT a. MAXIMUM DAILY VALUE (if available) (1) Concentration	(2) Mass	b. MAXIMUM 30 DAY VALUE (if available) (1) Concentration	(2) Mass	c. LONG TERM AVG. VALUE (if available) (1) Concentration	(2) Mass	d. NO. OF ANALYSES	4. UNITS a. Concentration	b. Mass	5. INTAKE (optional) a. LONG TERM AVG. VALUE (1) Concentration	(2) Mass	d. NO. OF ANALYSES
GC/MS FRACTION - BASE NEUTRAL COMPOUNDS															
1B. Acenaphthene (83-32-9)	X			< 12	< 0.08					1	ug/l	lb/Day	< 10	< 17.70	1
2B. Acenaphtylene (208-96-8)	X			< 12	< 0.08					1	ug/l	lb/Day	< 10	< 17.70	1
3B. Anthracene (120-12-7)	X			< 12	< 0.08					1	ug/l	lb/Day	< 10	< 17.70	1
4B. Benzidine (92-87-5)	X			< 58	< 0.39					1	ug/l	lb/Day	< 52	< 91.90	1
5B. Benzo (a) Anthracene (56-55-3)	X			< 12	< 0.08					1	ug/l	lb/Day	< 10	< 17.70	1
6B. Benzo (a) Pyrene (50-32-8)	X			< 12	< 0.08					1	ug/l	lb/Day	< 10	< 17.70	1
7B. 3,4-Benzo-fluoranthene (205-99-2)	X			< 12	< 0.08					1	ug/l	lb/Day	< 10	< 17.70	1
8B. Benzo (ghi) Perylene (191-24-2)	X			< 12	< 0.08					1	ug/l	lb/Day	< 10	< 17.70	1
9B. Benzo (k) Fluoranthene (207-08-9)	X			< 12	< 0.08					1	ug/l	lb/Day	< 10	< 17.70	1
10B. Bis (2-Chloro-ethoxyl) Methane (111-91-1)	X			< 12	< 0.08					1	ug/l	lb/Day	< 10	< 17.70	1
11B. Bis (2-Chloro-ethyl) Ether (111-44-4)	X			< 12	< 0.08					1	ug/l	lb/Day	< 10	< 17.70	1
12B.Bis (2-Chloroiso-propyl) Ether (108-60-1)	X			< 12	< 0.08					1	ug/l	lb/Day	< 10	< 17.70	1
13B. Bis (2-Ethyl-hexyl) Phthalate (117-81-7)	X			< 12	< 0.08					1	ug/l	lb/Day	< 10	< 17.70	1
14B. 4-Bromo-phenyl Phenyl Ether (101-55-3)	X			< 12	< 0.08					1	ug/l	lb/Day	< 10	< 17.70	1
15B. Butyl Benzyl Phthalate (85-68-7)	X			< 12	< 0.08					1	ug/l	lb/Day	< 10	< 17.70	1
16B. 2-Chloro-naphthalene (91-58-7)	X			< 12	< 0.08					1	ug/l	lb/Day	< 10	< 17.70	1
17B. 4-Chloro-phenyl Phenyl Ether (7005-72-3)	X			< 12	< 0.08					1	ug/l	lb/Day	< 10	< 17.70	1
18B. Chrysene (218-01-9)	X			< 12	< 0.08					1	ug/l	lb/Day	< 10	< 17.70	1
19B. Dibenzo (a,h) Anthracene (53-70-3)	X			< 12	< 0.08					1	ug/l	lb/Day	< 10	< 17.70	1
20B. 1,2-Dichloro-benzene (95-50-1)	X			< 12	< 0.08					1	ug/l	lb/Day	< 10	< 17.70	1
21B. 1,3-Dichloro-benzene (541-73-1)	X			< 12	< 0.08					1	ug/l	lb/Day	< 10	< 17.70	1

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EPARFI00054

CONTINUED FROM PAGE V-6

EPA I.D. NUMBER (copy from Item 1 of Form 1)	OUTFALL NUMBER
NC0003468	002

1. POLLUTANT AND CAS NO. (if available)	2. MARK "X" a. required	b. present	c. absent	3. EFFLUENT a. MAXIMUM DAILY VALUE (if available) (1) Concentration	(2) Mass	b. MAXIMUM 30 DAY VALUE (if available) (1) Concentration	(2) Mass	c. LONG TERM AVG. VALUE (if available) (1) Concentration	(2) Mass	d. NO. OF ANALYSES	4. UNITS a. Concentration	b. Mass	5. INTAKE (optional) a. LONG TERM AVG. VALUE (1) Concentration	(2) Mass	d. NO. OF ANALYSES
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS (continued)															
22B. 1,4-Dichlorobenzene (106-46-7)	X			< 12	< 0.08					1	ug/l	lb/Day	< 10	< 17.70	1
23B. 3,3-Dichlorobenzidine (91-94-1)	X			< 23	< 0.15					1	ug/l	lb/Day	< 21	< 37.10	1
24B. Diethyl Phthalate (84-66-2)	X			< 12	< 0.08					1	ug/l	lb/Day	< 10	< 17.70	1
25B. Dimethyl Phthalate (131-11-3)	X			< 12	< 0.08					1	ug/l	lb/Day	< 10	< 17.70	1
26B. Di-N-Butyl Phthalate (84-74-2)	X			< 12	< 0.08					1	ug/l	lb/Day	< 10	< 17.70	1
27B. 2,4-Dinitrotoluene (121-14-2)	X			< 12	< 0.08					1	ug/l	lb/Day	< 10	< 17.70	1
28B. 2,6-Dinitrotoluene (606-20-2)	X			< 12	< 0.08					1	ug/l	lb/Day	< 10	< 17.70	1
29B. Di-N-Octyl Phthalate (117-84-0)	X			< 12	< 0.08					1	ug/l	lb/Day	< 10	< 17.70	1
30B. 1,2-Diphenylhydrazine (as Azobenzene) (122-66-7)	X			< 23	< 0.15					1	ug/l	lb/Day	< 21	< 37.10	1
31B. Fluoranthene (206-44-0)	X			< 12	< 0.08					1	ug/l	lb/Day	< 10	< 17.70	1
32B. Fluorene (86-73-7)	X			< 12	< 0.08					1	ug/l	lb/Day	< 10	< 17.70	1
33B. Hexachlorobenzene (118-74-1)	X			< 12	< 0.08					1	ug/l	lb/Day	< 10	< 17.70	1
34B. Hexachlorobutadiene (87-68-3)	X			< 12	< 0.08					1	ug/l	lb/Day	< 10	< 17.70	1
35B. Hexachlorocyclopentadiene (77-47-4)	X			< 12	< 0.08					1	ug/l	lb/Day	< 10	< 17.70	1
36B. Hexachloroethane (67-72-1)	X			< 12	< 0.08					1	ug/l	lb/Day	< 10	< 17.70	1
37B. Indeno (1,2,3-cd) Pyrene (193-39-5)	X			< 12	< 0.08					1	ug/l	lb/Day	< 10	< 17.70	1
38B. Isophorone (78-59-1)	X			< 12	< 0.08					1	ug/l	lb/Day	< 10	< 17.70	1
39B. Naphthalene (91-20-3)	X			< 12	< 0.08					1	ug/l	lb/Day	< 10	< 17.70	1
40B. Nitrobenzene (98-95-3)	X			< 12	< 0.08					1	ug/l	lb/Day	< 10	< 17.70	1
41B. N-Nitrosodimethylamine (62-75-9)	X			< 12	< 0.08					1	ug/l	lb/Day	< 10	< 17.70	1
42B. N-Nitrosodi-N-Propylamine (621-64-7)	X			< 12	< 0.08					1	ug/l	lb/Day	< 10	< 17.70	1

CONTINUE ON PAGE V-8
EPARF100055

EPA I.D. NUMBER (copy from Item 1 of Form 1)	OUTFALL NUMBER
NC0003468	002

CONTINUED FROM PAGE V-7

1. POLLUTANT AND CAS NO. (if available)	2. MARK "X" a. required	b. present	c. absent	3. EFFLUENT a. MAXIMUM DAILY VALUE (if available) (1) Concentration	(2) Mass	b. MAXIMUM 30 DAY VALUE (if available) (1) Concentration	(2) Mass	c. LONG TERM AVG. VALUE (if available) (1) Concentration	(2) Mass	d. NO. OF ANALYSES	4. UNITS a. Concentration	b. Mass	5. INTAKE (optional) a. LONG TERM AVG. VALUE (1) Concentration	(2) Mass	d. NO. OF ANALYSES
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS (continued)															
43B. N-Nitrosodiphenylamine (86-30-6)	X			< 12	< 0.08					1	ug/l	lb/Day	< 10	< 17.70	1
44B. Phenanthrene (85-01-8)	X			< 12	< 0.08					1	ug/l	lb/Day	< 10	< 17.70	1
45B. Pyrene (129-00-0)	X			< 12	< 0.08					1	ug/l	lb/Day	< 10	< 17.70	1
46B. 1,2,4-Trichlorobenzene (120-82-1)	X			< 12	< 0.08					1	ug/l	lb/Day	< 10	< 17.70	1
GC/MS FRACTION - PESTICIDES															
1P. Aldrin (309-00-2)			X								ug/l	lb/Day			
2P. alpha-BHC (319-84-6)			X								ug/l	lb/Day			
3P. beta-BHC (315-85-7)			X								ug/l	lb/Day			
4P. gamma-BHC (58-89-9)			X								ug/l	lb/Day			
5P. delta-BHC (319-86-8)			X								ug/l	lb/Day			
6P. Chlordane (57-74-9)			X								ug/l	lb/Day			
7P. 4,4'-DDT (50-29-3)			X								ug/l	lb/Day			
8P. 4,4'-DDE (72-55-9)			X								ug/l	lb/Day			
9P. 4,4'-DDD (72-54-8)			X								ug/l	lb/Day			
10P. Dieldrin (60-57-1)			X								ug/l	lb/Day			
11P.alpha-Endosulfan (115-29-7)			X								ug/l	lb/Day			
12P. beta-Endosulfan (115-29-7)			X								ug/l	lb/Day			
13P. Endosulfan Sulfate (1031-07-8)			X								ug/l				
14P. Endrin (72-20-8)			X								ug/l	lb/Day			
15P. Endrin Aldehyde (7421-93-4)			X								ug/l				
16P. Heptachlor (76-44-8)			X								ug/l	lb/Day			

CONTINUE ON PAGE V-9

EPARFI00056

EPA I.D. NUMBER (copy from Item 1 of Form 1)	OUTFALL NUMBER
NC0003468	002

CONTINUED FROM PAGE V-8

1. POLLUTANT AND CAS NO. (if available)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. required	b. present	c. absent	a. MAXIMUM DAILY VALUE (if available)		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVG. VALUE (if available)		d. NO. OF ANALYSES	a. Concentration	b. Mass	a. LONG TERM AVG. VALUE		d. NO. OF ANALYSES
				(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass				(1) Concentration	(2) Mass	
GC/MS FRACTION - PESTICIDES (continued)															
17P. Heptachlor Epoxide (1024-57-3)			X								ug/l	lb/Day			
18P. PCB-1242 (53469-21-9)			X								ug/l	lb/Day			
19P. PCB-1254 (11097-69-1)			X								ug/l	lb/Day			
20P. PCB-1221 (11104-28-2)			X								ug/l	lb/Day			
21P. PCB-1232 (11141-16-5)			X								ug/l	lb/Day			
22P. PCB-1248 (12672-29-6)			X								ug/l	lb/Day			
23P. PCB-1260 (11096-82-5)			X								ug/l	lb/Day			
24P. PCB-1016 (12674-11-2)			X								ug/l	lb/Day			
25P. Toxaphene (8001-35-2)			X								ug/l	lb/Day			

EPARFI00057

Please print or type in unshaded areas only

EPA ID Number (copy from Item 1 Form 1) NC0003468

Form Approved. OMB No. 2040-0086

Form 2E NPDES

EPA Facilities Which Do Not Discharge Process Wastewater

Receiving Waters

For this outfall, list the latitude and longitude, and name of the receiving water(s).

Outfall Number (list)	Latitude Deg	Min	Sec	Longitude Deg	Min	Sec	Receiving Water (name)
006	36	29	13	79	43	19.5	Dan River

II. Discharge Date (If a new discharger, the date you expect to begin discharging)

Type of Waste

Check the box(es) indicating the general type(s) of wastes discharged.

___ Sanitary Wastes ___ Restaurant or Cafeteria Wastes _X_ Noncontact Cooling Water ___ Other Nonprocess Wastewater (Identify)

If any cooling water additives are used, list them here. Briefly describe the composition if this information is available.

Effluent Charteristics

A. Existing Sources – Provide measurements for the parameters listed in the left-hand column below, unless waived by the permitting authority (see instructions)

B. New Dischargers – Provide estimates for the parameters listed in the left-hand column below, unless waived by the permitting authority. Instead of the number of measurements taken, provide the source of estimated values (see instructions).

Pollutant or Parameter	(1) Maximum Daily Value (include units) Mass		Concentration		(2) Average Daily Value (last year) (include units) Mass		Concentration		(3) Number of Measurements Taken (last year)	(or) (4) Source of Estimate (if new discharger)
Biochemical Oxygen Demand (BOD)	2.00	lb/day	0.40	mg/l		lb/day		mg/l	1	
Total Suspended Solids (TSS)	3.20	lb/day	0.64	mg/l		lb/day		mg/l	1	
Fecal coliform (if believed present or if sanitary waste is discharged)	50.00			col/100ml				col/100ml	1	
Total Residual Chlorine (if Chlorine is used)	< 2.00	lb/day	< 0.40	mg/l		lb/day		mg/l	1	
Oil and Grease	5.00	lb/day	1.00	mg/l		lb/day		mg/l	1	
*Chemical oxygen demand (COD)	< 25.00	lb/day	< 5.00	mg/l		lb/day		mg/l	1	
*Total organic carbon (TOC)	2.36	lb/day	0.47	mg/l		lb/day		mg/l	1	
Ammonia (as N)	0.11	lb/day	0.02	mg/l		lb/day		mg/l	1	
Discharge Flow	Value		0.6	MGD	Value			MGD	12	
pH (give range)	Value 7.56			STD Units	Value			STD Units	1	
Temperature (Winter)	17.2			Deg. C				Deg. C	1	
Temperature (Summer)				Deg. C				Deg. C		

* If noncontact cooling water is discharged

EPARFI00058

V. Except for leaks or spills, will the discharge described in this form be intermittent or seasonal? If yes, briefly describe the frequency of flow and duration.	☐ Yes ☑ No

VI. TREATMENT SYSTEM *(Describe briefly any treatment system(s) used or to be used)*

NA

VII. OTHER INFORMATION *(Optional)*

Use the space below to expand upon any of the above questions or to bring to the attention of the reviewer any other information you feel should be considered in establishing permit limitations. Attach additional sheets, if necessary.

NA

VIII. CERTIFICATION

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 fine and imprisonment for knowing violations.

A. Name & Official Title	B. Phone No. *(area code & no.)*
Gary D. Taylor / General Manager II Regulated Fossil Stations	(704) 263-3204
C. Signature	D. Date Signed
	10/30/2006

Please print or type in the unshaded areas	EPA ID Number *(copy from item I of Form 1)* NC0003468	Form Approved. OMB No. 2040-0086 Approval expires 5-31-92

Form 2F NPDES

EPA

United States Environmental Protection Agency
Washington, DC 20460

Application for Permit to Discharge Storm Water Discharges Associated with Industrial Activity

Paperwork Reduction Act Notice

Public reporting burden for this application is estimated to average 28.6 hours per application, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate, any other aspect of this collection of information or suggestions for improving this form, including suggestions which may increase or reduce this burden to: Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M St. SW, Washington, DC 20460, or Director, Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

I. Outfall Location

For each outfall, list the latitude and longitude of its location to the nearest 15 seconds and the name of the receiving water.

A. Outfall Number *(list)*	B. Latitude			C. Longitude			D. Receiving Water *(name)*
SW005	36	29	17	79	43	13	Dan River
SW009	36	29	13	79	43	25	Dan River

II. Improvements

A. Are you now required by any Federal, State, or local authority to meet any implementation schedule for the construction, upgrading or operation of wastewater treatment equipment or practices or any other environmental programs which may affect the discharges described in this application? This includes, but is not limited to, permit conditions, administrative or enforcement orders, enforcement compliance schedule letters, stipulations, court orders, and grant or loan conditions.

1. Identification of Conditions, Agreements, Etc.	2. Affected Outfalls		3. Brief Description of Project	4. Final Compliance Date	
	number	source of discharge		a. req.	b. proj.
NA					

B. You may attach additional sheets describing any additional water pollution (or other environmental projects which may affect your discharges) you now have under way or which you plan. Indicate whether each program is now under way or planned, and idicate your actual or planned schedules for construction.

III. Site Drainage Map

Attach a site map showing topography (or indicating the outline of drainage areas served by the outfall(s) covered in the application if a topographic map is unavailable) depicting the facility including: each of its intake and discharge structures; the drainage area of each storm water outfall; paved areas and buildings within the drainage area of each storm water outfall, each known past or present areas used for outdoor storage or disposal of significant materials, each existing structure control measure to reduce pollutants in storm water runoff, materials loading and access areas, areas where pesticides, herbicides, soil conditioners and fertilizers are applied; each of its hazardous waste treatment, storage or disposal units (including each are not required to have a RCRA permit which is used for accumulating hazardous waste under 40 CFR 262.34); each well where fluids from the facility are injected underground; springs, and other surface water bodies which receive storm water discharges from the facility.

 Continued on Page 2

Continued from the Front

IV. Narrative Description of Pollutant Sources

A. For each outfall, provide an estimate of the area (include units) of impervious surfaces (including paved areas and building roofs) drained to the outfall, and an estimate of the total surface area drained by the outfall.

Outfall Number	Area of Impervious Surface (provide units)	Total Area Drained (provide units)	Outfall Number	Area of Impervious Surface (provide units)	Total Area Drained (provide units)
SW001 Thru SW021	**See attached supplemental information.**				

B. Provide a narrative description of significant materials that are currently or in the past three years have been treated, stored or disposed in a manner to allow exposure to storm water; method of treatment, storage, or disposal; past and present materials management practices employed to minimize contact by these materials with storm water runoff; materials loading and access areas; and the location, manner, and frequency in which pesticides, herbicides, soil conditioners, and fertilizers are applied.

See attached supplemental information.

C. For each outfall, provide the location and a description of existing structural and nonstructural control measures to reduce pollutants in storm water runoff; and a description of the treatment the storm water receives, including the schedule and type of maintenance for control and treatment measures and the ultimate disposal of any solid or fluid wastes other than by discharge.

Outfall Number	Treatment	List Codes from Table 2F-1
SW001 thru SW018	**See attached supplemental information.**	

V. Non Stormwater Discharges

A. I certify under penalty of law that the outfall(s) covered by this application have been tested or evaluated for the presence of nonstormwater discharges, and that all nonstormwater discharges from these outfall(s) are identified in either an accompanying Form 2C or Form 2E application for the outfall.

Name of Official Title *(type or print)*	Signature	Date Signed
Gary Taylor , General Manager of Regulated Fossil Stations		10/30/06

B. provide a description of the method used, the date of any testing, and the onsite drainage points that were directly observed during a test.

Visual inspections were performed during October 2006 of the outfalls to verify that either non-stormwater discharges were not occurring or that they were appropriately identified in the NPDES permit application.

VI. Significant Leaks or Spills

Provide existing information regarding the history of significant leaks or spills of toxic or hazardous pollutants at the facility in the last three years, including the approximate date and location of the spill or leak, and the type and amount of material released.

1. **On September 5, 2006 approximately 0.1 gallons of was released to the station intake area on the Dan River. The release was contained by an oil boom and cleaned up.**
2. **On July 21, 2006 approximately 0.25 gallons of oil was released from a hydraulic motor in the station intake area on the Dan River. The release was contained and cleaned up.**
3. **On February 27, 2006 approximately 10 gallons of diesel fuel released near Unit 3 onto rip rap. The area was cleaned up.**
4. **On October 8, 2005 approximately 5 gallons of oil was released to the station intake area on the Dan River when the dredge machine sunk. The oil was contained and cleaned up.**

 Continued on Page 3

Continued from Page 2

EPA ID Number *(copy from Item I of Form 1)*
NC0003468

VII. Discharge Information

A,B,C, & D: See instruction before proceeding. Complete one set of tables for each outfall. Annotate the outfall number in the space provided. Tables VII-A, VII-B, and VII-C are included on separate sheets numbered VII-1 and VII-2.

E. Potential discharges not covered by analysis - is any toxic pollutant listed in table 2F-2, 2F-3, or 2F-4, a substance or a component of a substance which you currently use or manufacture as an intermediate or final product or byproduct?

☐ Yes *(list all such pollutants below)* ☒ No *(go to Section IX)*

VIII. Biological Toxicity Testing Data

Do you have any knowledge or reason to believe that any biological test for acute or chronic toxicity has been made on any of your discharges or on a receiving water in relation to your discharge within the last 3 years?

☐ Yes *(list all such pollutants below)* ☒ No *(go to Section IX)*

IX. Contact analysis Information

Were any of the analysis reported in item VII performed by a contact laboratory or consulting firm?

☒ Yes *(list the name, address, and telephone number of, and pollutants analyzed by, each such laboratory or firm below)* ☐ No *(go to Section X)*

A. Name	B. Address	C. Area Code & Phone No.	D. Pollutants Analyzed
Prism Laboratory	**449 Springbrook Road PO Box 240543 Charlotte, NC 28221-0543**	**(704) 529-6364**	**BOD, COD, O&G, Metals, Nitrite+Nitrate, Flouride, Selenium, TKN, P, Sulfate and TSS**

X. Certification

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 fine and imprisonment for knowing violations.

A. Name & Official Title *(type or print)*	B. Area Code and Phone No.
Gary Taylor, General Manager, Regulated Fossil Stations	**704 263-3204**
C. Signature	D. Date Signed 10/30/06

SW005

EPA ID Number *(copy from Item I of Form 1)*
NC0003468

Form Approved. OMB No. 2040-0086
Approval expires 5-31-92

VII. Discharge Information *(Continued from page 3 of Form 2F)*

Part A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

Pollutant And CAS Number *(if available)*	Maximum Values *(include units)*		Average Values *(include units)*		Number Of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 30 Minutes	Flow-weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-weighted Composite		
Oil & Grease		N/A				
Biological Oxygen Demand (BOD5)	*15 mg/L*	*14 mg/L*			1	
Chemical Oxygen Demand (COD)	*< 50 mg/L*	*< 50 mg/L*			1	
Total Suspended Solids (TSS)	*62 mg/L*	*38.0 mg/L*			1	
Total Organic Nitrogen	*NA*	*NA*			1	
Total Phosphorus	*0.684 mg-P/L*	*0.637 mg-P/L*			1	
pH	Minimum	Maximum	Minimum	Maximum		

Part B - List each pollutant that is limited in an effluent guideline which the facility is subject to or any pollutant listed in the facility's NPDES permit for its process wastewater (if the facility is operating under an existing NPDES permit). Complete one table for each outfall. See the instructions for additional details and requirements.

Pollutant And CAS Number *(if available)*	Maximum Values *(include units)*		Average Values *(include units)*		Number Of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 30 Minutes	Flow-weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-weighted Composite		
Arsenic, Total 01002	*5.12 ug/L*	*3.44 ug/L*			1	
Copper, Total 01042	*0.381 mg/L*	*0.93 mg/L*			1	
Iron, Total 014045	*4.524 mg/L*	*3.459 mg/L*			1	
Selenium, total 01147	*23.55 ug/L*	*18.53 ug/L*			1	
TKN 00625	*2.8 mg-N/L*	*2.2 mg-N/L*			1	
Nitrite + Nitrate	*2.24 mg-N/L*	*2.47 mg-N/L*			1	
Sulfate	*22.58 mg/L*	*21.93 mg/L*			1	

SW005

Continued from the Front

Part C - List each pollutant shown in Tables 2F-2, 2F-3, and 2F-4 that you know or have reason to believe is present. See the instructions for additional details and requirements. Complete one table for each outfall.

Pollutant And CAS Number *(if available)*	Maximum Values *(include units)*		Average Values *(include units)*		Number Of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 30 Minutes	Flow-weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-weighted Composite		
NA						

Part D - Provide data for the storm event(s) which resulted in the maximum values for the flow weighted composite sample.

1. Date of Storm Event	2. Duration of Storm Event *(in minutes)*	3. Total rainfall during storm event *(in inches)*	4. Number of hours between beginning of storm measured and end of previous measurable rain event	5. Total flow from rain event *(gallons or specify units)*
5-14-06	***5***	***0.66***	***155 hours***	240151.5 gallons

7. Provide a description of the method of flow measurement or estimate.

Theoretical flow calculations were used to estimate total flow from rain event.

EPARFI00064

Outfall SW009

EPA ID Number *(copy from Item I of Form 1)*
NC0003468

Form Approved. OMB No. 2040-0086
Approval expires 5-31-92

VII. Discharge Information *(Continued from page 3 of Form 2F)*

Part A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

Pollutant And CAS Number *(if available)*	Maximum Values *(include units)*		Average Values *(include units)*		Number Of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 30 Minutes	Flow-weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-weighted Composite		
Oil & Grease	*< 6.9*	N/A			1	
Biological Oxygen Demand (BOD5)	*< 2.4 mg/L*	*14 mg/L*			1	
Chemical Oxygen Demand (COD)	*69 mg/L*	*69 mg/L*			1	
Total Suspended Solids (TSS)	*61.0 mg/L*	*90.0 mg/L*			1	
Total Organic Nitrogen	*NA*	*NA*				
Total Phosphorus	*00.130 mg-P/L*	*0.176 mg-P/L*			1	
pH	Minimum	Maximum	Minimum	Maximum		

Part B - List each pollutant that is limited in an effluent guideline which the facility is subject to or any pollutant listed in the facility's NPDES permit for its process wastewater (if the facility is operating under an existing NPDES permit). Complete one table for each outfall. See the instructions for additional details and requirements.

Pollutant And CAS Number *(if available)*	Maximum Values *(include units)*		Average Values *(include units)*		Number Of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 30 Minutes	Flow-weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-weighted Composite		
Arsenic, Total 01002	*9.57 ug/L*	*24.56 ug/L*			1	
Copper, Total 01042	*0.161 mg/L*	*0.156 mg/L*			1	
Iron, Total 014045	*5.252 mg/L*	*3.322 mg/L*			1	
Selenium, total 01147	*37.77 ug/L*	*122.50 ug/L*			1	
TKN 00625	*1.1 mg-N/L*	*2.1 mg-N/L*			1	
Nitrite + Nitrate	*0.74 mg-N/L*	*0.82 mg-N/L*			1	
Sulfate	*11.65 mg/L*	*37.42 mg/L*			1	

 Continue on Reverse

SW009

Continued from the Front

Part C - List each pollutant shown in Tables 2F-2, 2F-3, and 2F-4 that you know or have reason to believe is present. See the instructions for additional details and requirements. Complete one table for each outfall.

Pollutant And CAS Number *(if available)*	Maximum Values *(include units)*		Average Values *(include units)*		Number Of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 30 Minutes	Flow-weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-weighted Composite		
NA						

Part D - Provide data for the storm event(s) which resulted in the maximum values for the flow weighted composite sample.

1. Date of Storm Event	2. Duration of Storm Event *(in minutes)*	3. Total rainfall during storm event *(in inches)*	4. Number of hours between beginning of storm measured and end of previous measurable rain event	5. Total flow from rain event *(gallons or specify units)*
4-18-2006	***120***	***.27***	***192 hours***	**5865.3**

7. Provide a description of the method of flow measurement or estimate.

Theoretical flow calculations were used to estimate total flow from rain event.

NPDES Supplemental Information
For
Dan River Steam Station
NPDES Permit # NC0003468

General Information

Dan River (DR) Steam Station pumps water from the Dan River for condenser cooling and service water requirements. The condenser cooling water is once through non-contact. Service water is pumped to a settling pond to remove sand and silt before entering the station. A schematic flow diagram of water use and discharges indicating typical (average) flow rates for individual waste streams at DR is attached. A brief discussion of each discharge follows.

Discharge 001 - Condenser Cooling Water (CCW)

The CCW system is a once through non-contact cooling water system that removes heat rejected from the condensers and other selected heat exchangers. Each of the 3 DR units has two condenser cooling pumps. The capacities of these pumps are:

Unit 1	1 pump - 37,600 GPM	2 pumps - 56,200 GPM
Unit 2	1 pump - 37,600 GPM	2 pumps - 56,200 GPM
Unit 3	1 pump - 54,000 GPM	2 pumps - 82,000 GPM

The operational schedule for these pumps is dependent on the intake temperature and on the unit loads. Depending on the electrical demand, pumps are operated to maximize efficiency and to assure balanced and indigenous populations are maintained in the Dan River.

Condenser cleaning is accomplished either mechanically by backwashing or by manually forcing metal scrapers through the tubes under air pressure to remove mud and slime. The condenser tubes are cleaned in this manner approximately once per year.

The intake screens are backwashed with raw water taken from the settling pond. The combined flow rate from the pumps is 5000 gpm. These pumps are operated on an on/off basis for a total operating time of 6 hours per day. Debris collected on the screens consists mainly of twigs, leaves, and other material indigenous to the river and is flushed back without adverse environmental consequences.

Discharge 002 - Ash Basin

Storm Water

The DR ash basin accommodates flows from the yard drainage sump, ash removal lines, and rainfall run-off from the basin watershed area. The average rainfall run-off flows are based on 44 inches of rain per year with 100% run-off from the pond surfaces and 50% run-off from other areas. The average run-off for the ash basin watershed area is 0.418 MGD. The coal yard drainage drains to the yard sump and is then pumped to the ash basin. The coal yard has an average run-off of 0.007 MGD. This run-off is based on 44 inches of rain per year with 50% run-off.

Fuel Oil Storage Run-Off:

DR has two large fuel oil storage tanks (each 500,000 gallons), with only one tank in service at a time. Each tank is surrounded by a dirt dike to contain the contents in the event of an accidental rupture. Any stormwater collected in the fuel oil storage tank containment area is verified to be free of oil prior to being pumped into a drain that discharges into the Dan River. In addition to this precaution, two 20,000 gallon oil trap tanks have been installed to collect any spilled oil before the runoff reaches the river, including runoff from the fuel unloading area. Any storm water runoff and any oil spillage around and inside of the combustion turbine buildings are routed to the oil trap tanks prior to release to the Dan River.

All oil storage facilities are presently covered under the Spill Prevention Control and Countermeasure Plan.

Floor Drains

The powerhouse floor drains connect to sumps where the waste is then pumped to the ash basin. These drains can receive inputs from spillage or leakage, floor wash water, as well as flows from water treatment processes. The following are examples of materials that are stored inside the powerhouse:

sulfuric acid
gasoline
hydrazine
asbestos
sulfur
soda ash

ethylene glycol (recycled)
oil, lube oil (recycled)
sodium hydroxide
water treatment chemicals
ammonium hydroxide
industrial cleaning products

Make-Up Water Process Wastes

The water treatment wastes are made up of sedimentation, filter backwash, demineralizer regeneration wastes and boiler blowdown. Make-up water is fed to the boilers to generate steam to turn the turbines. The current primary make-up water treatment system is comprised of activated carbon filters, a reverse osmosis filter unit and a demineralizer with two cells with water supplied from the City of Eden. The back-up make-up water treatment system consists of a clarifier, pressure filter, activated carbon filters, a reverse osmosis filter unit and a demineralizer with two cells with water supplied from the service water system (Note: In the future, this back-up system could be re-designated as the primary make-up water system):

Clarifier:

The clarifier utilizes a continuous feed of Nalco 8105 cationic water treatment polymer, Calgon CA-25 clay and chlorine in order to maintain an average of 3 ppm, 30 ppm and 3 ppm, respectively. The solids in the clarifier are desludged continuously to the floor drains and then pumped to the ash basin.

Pressure Filters:

Two pressure filters used for removal of colloidal material are backwashed on an as needed basis dependent upon the level of solids in the intake water, but no more than twice per week. The filter medium, which is composed of gravel, sand, garnet and anthracite (coal), is replaced approximately once every ten years and is sluiced to the ash basin.

Activated Carbon Filters:

Two activated carbon filters remove organics and the chlorine that is injected in the clarifier. These filters are backwashed approximately twice per month to the ash basin. Approximately 80 ft^3 of activated carbon is replaced as required (typically every two or three years) and the spent carbon is discharged to the ash basin .

Reverse Osmosis (RO) Unit:

The RO unit is used to decrease the conductivity in the make-up water, thereby increasing the efficiency of the demineralizers and reducing the amount of chemicals needed for demineralizer regeneration. Sulfuric acid is injected continuously at a rate of approximately 4 - 5 gal/day to control pH. During operation, the unit has a continual concentrate reject of 50 gal/min, which is discharged to the ash basin. Small amounts of detergents are used approximately every three months to clean the RO unit per manufacturers recommendations.

Demineralizers:

Each of the two mixed bed ionic exchange demineralizer cells has a capacity of 90 gpm each, and one cell is regenerated approximately every five days. A regeneration demands 20 gallons of 66 Be' sulfuric acid (93%), 80 gallons of 50% sodium hydroxide, and approximately 11,000 gallons of water. The demineralizer ion exchange resin is replaced approximately once every 5 to 8 years and the spent resin ($\approx$190 ft^3) is discharged to the ash basin. The quantities of regeneration chemicals that are specified by the manufacturer are such that they are effectively neutralized prior to discharge.

Boiler Blowdown:

The total average blowdown for units 1, 2, and 3 is 2000 lbs. of steam per hour. The boiler blowdown is allowed to flash back to steam in a flash tank so that the steam can be recovered. Hydrazine is injected into the condensate system as an oxygen scavenger. Most of the hydrazine is utilized and converted to ammonia and water which is used for pH control. However, trace amounts of hydrazine (< 10 ppb) may be found in the boiler blowdown which discharges to the floor drains and is pumped to the ash basin. Ammonium hydroxide is used for pH control.

Boiler Cleaning

Boilers #1, #2 and #3 at DR are cleaned on an as needed basis, but no more than once every three years. The wastes produced from a boiler cleaning are sluiced to the ash basin. The chemicals and approximate amounts for each cleaning follow:

Chemical	Range of Amount used per Unit
*Ammonium Bifluoride	1000 lbs - 1300 lbs
Ammonium Bicarbonate	1000 lbs
*Ammonium Hydroxide, 26° Be'	800 gals - 900 gals
Citric Acid	200 lbs - 300 lbs
Copper complexer	1630 lbs - 1770 lbs
*Hydrochloric Acid, 20° Be' (31.5%)	3400 gals - 4200 gals
Sodium Bromate	550 lbs
Sodium Carbonate	2200 lbs - 2600 lbs
Sodium Hydroxide, 25%	3400 gals – 4200 gals
Corrosion Inhibitors	(as necessary)

* These chemicals are present in amounts greater than the reportable quantity as identified under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).. If a spill of any these chemicals were to occur, in most cases, the spill would be routed to the ash basin for treatment. These chemicals are being identified to qualify for the spill reportability exemption provided under 40 CFR 117 and CERCLA.

The volume of diluted waste chemicals and water discharged from unit 1 or 2 during a cleaning is approximately 340,000 gallons. The volume of diluted waste chemicals and water drained from Unit 3 is approximately 275,000 gallons. Prior to the beginning of a boiler chemical cleaning procedure, additional stoplogs are added to the ash basin discharge structure to stop the discharge. This arrangement assures longer retention time of the chemical wastes for proper treatment through neutralization, chemical reaction, and precipitation as documented in the Ash Basin Equivalency Demonstration (October 1976). The discharge is held up a minimum of 96 hours following the first chemical drain and additional pH and metals sampling is performed for three consecutive days once discharge begins.

Sanitary Wastes

DR uses municipal water for its sanitary and potable water needs. The estimated annual average flow is 0.003 MGD, based on 70 permanent employees. The effluent from the package aeration sewage treatment plant is discharged to the ash basin for secondary treatment. No chemicals are added to the sanitary effluent prior to discharge to the ash basin.

Miscellaneous

Ash Disposal:

Electrostatic precipitators are used at DR for air pollution control. Sulfur and anhydrous ammonia is used for flue gas treatment. Fly ash removed from the precipitators and bottom ash removed from the boilers is sluiced to the ash basin. Approximately 1.0 MGD of water are required for the ash removal from the precipitators. In order to maintain adequate retention time in the ash basin, ash is removed from the primary cell on an as needed basis, and the wet ash sludge is deposited in the dry basin. Cover is then placed over the sludge and the area is reseeded. Excess water and stormwater from the dry basin drain back to the ash basin secondary cell.

Closed Cooling Systems:

Several plant cooling systems are recirculating systems and therefore require the addition of microbiocides and corrosion inhibitors to prevent biofouling and piping corrosion. While these are closed systems, they are drained on a non-routine basis, as necessary for maintenance, to the turbine building sump and pumped to the ash basin.

Lab Wastes:

The chemistry lab on site performs a variety of water analyses and routine sample collection. Therefore several chemicals are used in the lab in small quantities for sample preservation, bottle rinsing, equipment calibration, analytical chemistry, etc. The wastes are poured down the sink and discharge into the building sump and then pumped to the ash basin.

Heat Exchanger Cleaning:

Heat exchangers are physically cleaned of mud fouling on an as needed basis.

Dredge Material:

Because silt settles constantly in front of the plant intakes, it is necessary to dredge routinely to assure a clear intake. In order to monitor the discharge of the return water from the dredging activity, all dredge material (raw water and brown micaceous silty sand) is pumped to the ash basin. Water quality standards can then be assured through routine TSS sampling of the ash basin. DR has 404 approval from the Corps of Engineers for this activity.

Turbine Non-destructive Testing:

Approximately once every 3 – 4 years, one turbine is tested for cracks in the generator shaft using an ultrasonic nondestructive test. During the process, one hundred gallons of demineralized water mixed with 1 gallon of corrosion inhibitor is used and discharged to the ash basin.

Chemical Additions to the Ash Basin

Small volumes of aluminium sulfate (alum), ferric sulfate, and miscellaneous polymers are infrequently added directly to the ash basin to encourage coagulation and flocculation, thus controlling suspended solids.

Discharge 003 - Combustion Turbine (CT) Cooling Water

DR has 3 oil/natural gas fired combustion turbines which are used to provide electricity during peak demand. These units use once through non-contact cooling water for the turbine lube oil coolers at a maximum flow of 900 gpm (with all 3 units in operation) when the CTs are in operation. The cooling water discharges to the settling pond. Due to the fact that the CTs are only operated a few days out of the year, normally there is no flow from this discharge.

Discharge 004 - Settling Pond Overflow

Water is withdrawn from the Dan River and pumped to the settling pond for use in the plant. The settling pond is also fed by area drainage and Moir Branch Creek and has an overflow discharge back to the river when pond levels get too high.

Discharge 005 & 006 - Equipment Cooling Water

Once through non-contact cooling water is used to cool the following equipment:

- Unit 1 & 2 preheaters and fans (005 discharges to the Dan River)
- Unit 3 preheaters and fans (006 discharges to the settling pond).

No chemicals are added to these systems.

Discharge 007 - Dredge Booster Pump Cooling Water

The intake of the plant is dredged twice per year on average to prevent the buildup of silt. When this occurs, a booster pump is necessary to facilitate dredging. The booster pump engine requires once through non-contact cooling water which has a maximum flow rate of 10 gpm. The booster pump is adjacent to the river behind the powerhouse and the cooling water is discharged to a ditch which flows to the river. The dredge is operated approximately 3 – 4 weeks annually.

Discharge 008 - Intake De-Icing

During extremely cold weather, ice can build up in the intake and make withdrawal of water difficult. When this situation occurs, a portion of the warm condenser cooling flow is diverted back to the intake to melt the ice. However, de-icing is done on a very limited basis. The maximum flow is 40,000 gpm when used. Because this discharge is used only when the units are operating, the warm discharge is immediately pulled back into the plant through the CCW system. The Intake De-Icing System has not been operated in the last thirteen years. When Unit #3 is operational; flow from the Unit #3 Lube Oil Cooler is discharged via this outfall.

Discharge 009 - Combustion Turbine Compressor Cooling

CT Unit 6C uses an air compressor that requires once through non-contact cooling water. The maximum flow when in operation is 14 gpm and discharges to a storm drain near the unit and eventually flows to the Dan River. CT Unit 6C is only operated a few days per year. Typically there is cooling water flow even when the CT is not in operation.

Hazardous and Toxic Substances Table 2c- 3:

At DR Steam Station, the potential for toxic and hazardous substances being discharged is very low. In reference to Item V-D of Form 2-C, the substances identified under Table 2c-3 that may be in the ash basin discharge are as follows:

Asbestos, Stryrene, Cyclohexane, Xylene, EDTA, Acetaldehyde, Naphthalene,Triethanolamine and also products such as commercial cleaners and laboratory reagents may be purchased which contain very low levels of a substance found in Table 2c-3. It is not anticipated that these products will impact the ash basin's capacity to comply with its toxicity limits, since their concentrations are extremely low.

40 CFR 117 and CERCLA Hazardous Substances:

The table below identifies hazardous substances located on-site that may be released to the ash basin during a spill in quantities equal to or greater than the reportable quantity (RQ) levels as referenced in 40 CFR 117, 302 and 355. This list is being provided in order to qualify for the spill reportability exemption provided under 40 CFR 117 and the Comprehensive Environmental Response Compensation and Liability Act (CERCLA). These values below represent the maximum quantities on-site that could be released at one time and sent to the ash basin. They do not reflect quantities that are discharged through typical use.

CHEMICAL	AMOUNT (lbs)	SOURCE
Dicofol	24	Pesticide storage.
Hydrazine	513	Power house
Sodium Hydroxide	9,538	Power house
Sulfuric Acid	19,333	Outside above ground tank
Xylene	308	Outside gasoline tank.

Dan River Steam Station Balanced Indigenous Population

Duke Energy's operating experience during the past five years under the thermal limitations imposed in NPDES Permit No.#NC0003468 has ensured that the "thermal component of the discharge assures the protection and propagation of shellfish, fish and wildlife in and on the receiving body of water."

Ash Basin Capacity

DAN RIVER STEAM STATION - Ash Basin Forecasting
Free Water Volume

Determination of Free Water Volume (FWV): FWV is the sum of the runoff accumulated in the ash basin which results from a 10-yr 24-hr storm (must assume 100% runoff) + the maximum 24-hr dry weather waste stream (DWW) which discharges to the Ash Basin (refer to Section A.9 - Special Condition of NPDES permit NC0003468).

I. Estimate Runoff to Ash Basin from 10-yr 24-hr Storm:

1. Natural Drainage Area of Ash Basin = 130.1 Acres
   Station Yard Area Pumped to Ash Basin = 17.0
   Total = 147.1 Acres

2. Precipitation from 10-yr 24-hr storm = 5.2 inches

3. Total Stormwater Runoff to Ash Basin = 63.74 Ac-ft

II. Estimate Maximum 24-hr Dry Weather Waste Stream Discharging to Ash Basin:

1. From station records, maximum recorded Ash Basin discharge = 7.10 x10^6 gallons / day

2. Convert max recorded Ash Basin discharge discharge to units of Ac-ft: 23.97 Ac-ft

III. Free Water Volume = Sum of (I.) and (II.) above = 87.71 Ac-ft

IV. Estimate Quantity of Solids (Ash) to be Discharged to Ash Basin During Life of Permit:
(Refer to PROSYM 1Q 2006 Update)
Note: Use 12/31/2012 as permit's end date.

Time Period	Actual / Projected Coal Consumption (1000's tons)	Actual / Projected Ash %	Estimated Ash Production (1000's tons)	Estimated Ash Production (Ac-ft)	Cumulative DWW & Solids to Ash Basin (Ac-ft)
8/25/05 - 12/31/05	82.7	9.3	7.7	6.4	94.1
1/1/06 - 9/30/06	373.1	10.2	38.1	31.8	125.9
10/1/06 - 12/31/06	114.2	12.0	13.7	11.4	137.3
2007	610.5	13.3	80.9	67.5	204.9
2008	612.4	13.3	81.1	67.7	272.6
2009	593.7	13.3	78.7	65.7	338.3
2010	673.1	13.3	89.2	74.5	412.7
2011	546.3	13.3	72.4	60.4	473.2
2012	483.2	13.3	64.0	53.4	526.6

Totals	4,089.2		525.7	438.9

V. Estimate Total Storage Volume Required = Sum of (III.) and (IV.) above:

Free Water Volume =	87.7	Ac-ft
Estimated Solids to Ash Basin =	438.9	
Total =	**527**	**Ac-ft**

VI. Results (Using date of most recent survey, 8/25/05, as a reference):

Required Storage (thru 12/31/2012) = **527 acre-ft.**

Available Storage in Primary and Secondary Cells of Ash Basin = **109 + 93.2 = 202 acre-ft.**
(See attached stage - storage graphs for Dan River Ash Basin Primary and Secondary Cells.)

A project involving the removal of approximately **350,000 cubic yards** of ash from the Primary Cell is planned for 2006 / 2
350,000 cubic yards = 217 acre-ft.

Therefore, projected storage to be made available = **202 + 217 = 419 acre-ft.** < required storage of **527 acre-ft.**

Accordingly, future periodic Ash Basin Capacity certifications will be required and additional ash removal project(s) may b

Storm Water

3.1 Site Description

The site covers approximately 380 acres, most of which forms an undeveloped buffer around the station. In the developed areas, the powerhouse and the plant yard behind the powerhouse cover about 2½ acres. The Units 1 and 2 switchyard and the Unit 3 switchyard cover a total of about 1½ acres. There is a 2½ acre material laydown area west of the powerhouse. The station parking lot covers about ¾ of an acre. The coal pile is located north of the powerhouse and encompasses 3½ acres. The combustion turbine units (CT's) are located upgradient, behind the coal pile, and the total area for these units is about 3 acres. The bulk fuel oil storage tanks and the earthen containment berms around them cover approximately 1 acre. The ¾ acre fuel oil unloading area is located along the plant access road. The primary and secondary ash settling basins have a surface area of approximately 35 acres. About 20 acres are designated for dry ash storage. There are approximately 2¼ miles of rail access and 1¾ miles of paved roadways on-site.

The *Soil Survey of Rockingham County, North Carolina* lists soils at Dan River Steam Station as loamy Udorthents which is a classification used for topography that has been altered. Undisturbed soil in areas adjacent to the station indicate that the original site soils

along the riverfront were from the Chewacla and Congaree loam series while soils in upgradient areas were from the Mayodan sandy loam series. The Chewacla and Congaree series are classified as sandy clay loam typically found on floodplains. The Mayodan series are a combination of red, yellow, and gray sandy clay loam. The site topography is generally flat with rolling hills in outlying, undeveloped areas.

In developed areas, runoff flows overland to ditches and catch basins which are connected to a buried network of corrugated metal pipes (CMP). Rainfall runoff from the coal pile and coal handling areas and portions of the plant yard and powerhouse roof goes to the yard sump which discharges to the ash basin. Storm water runoff from other areas of the site is discharged to the Dan River. Rainfall runoff from the switchyards, CT area, fuel oil tank area, and fuel oil unloading area is routed through oil trap tanks prior to being discharged.

3.2 Facility Drainage and Inventory of Significant Materials and Controls

This section details the drainage basin characteristics of the site's storm water outfalls to the Dan River. To provide a complete description of the storm water drainage system, the yard sump system is also characterized. Note the outfalls are not numbered consecutively because some outfalls have been abandoned or because the intermediate outfall numbers were previously assigned to non-storm water outfalls.

A description of the drainage area, significant materials, and material control measures is presented for each drainage basin. In addition to the significant materials particular to each drainage basin, herbicides are applied annually to selected areas throughout the Dan River site to eliminate undesirable vegetation along railways, fuel oil and ash pipelines, and fences. Rip-rap areas at the ash basin dikes, river bank, settling pond, and ditches are also sprayed. Herbicides are spot applied where required in parking areas, switchyards, parts laydown areas, along walkways, and around various fixtures and buildings. All herbicides used at Dan River Steam Station are approved by the company as environmentally safe and are applied in an environmentally safe manner and quantity. Records are retained at the site which document information such as: the areas treated, the herbicide used and the amounts of herbicide used.

- **Storm Water Outfalls**

Characteristics for 14 individual outfalls are presented as follows.

- **Storm Water Outfall 2 / NPDES 004**

Discharge Structure:	36 inch (") diameter (ϕ) CMP
Location:	West of powerhouse from Service Water Settling Pond to Dan River, outlet is submerged
Drainage Area:	147 acres on-site + ~ 600 acres off-site

Area Description

This outfall conveys overflow from the Service Water Settling Pond. The Service Water Settling Pond was formed by constructing an embankment across a small stream. The pond has a surface area of 9 acres. On-site, the drainage basin for the pond is undeveloped wooded areas, and there are no paved or roofed areas. Off-site, the drainage area for the Service Water Settling Pond includes undeveloped wooded areas and some developed urban and residential areas. In addition to the natural stream flow and storm water runoff, raw river water is pumped from the Dan River to the Service Water Settling Pond to provide service water for the station. Also, NPDES Discharges 003 and 006 are pumped to the Service Water Settling Pond; both are non-contact cooling water. Overflow from the Settling Pond to the Dan River is NPDES Discharge 004.

Significant Materials / Controls

Oil: On-site, fuel oil pipelines run aboveground through this drainage area.

- **Storm Water Outfall 5 / NPDES 002a and 009**

Discharge Structure:	2' Concrete Ditch
Location:	In a ravine, east of powerhouse and west of ash basin
Drainage Area:	13.4 acres
Control Structures:	20,000 gallon oil trap tank #4 for Units 1 and 2 switchyard 22,000 gallon oil trap tank #2 for Unit 6C Combustion Turbine

Area Description

Runoff from most of the Units 1 and 2 switchyard is processed through oil trap tank #4 and discharged to Storm Water Outfall 5. The Units 1 and 2 switchyard covers about 1 1/3 acres. Runoff from the Unit 6C CT area is processed through oil trap tank #2 and discharged to this outfall. The portion of the CT area within this basin is about 1 2/3 acres. A 500 foot portion of multiple, parallel rail lines passes through this drainage area along with 500 feet of the paved plant access road. Approximately 20 percent of the drainage area is paved or roofed. The basin includes open grassy areas between the CT area and bulk fuel oil tanks, between the CT's and railroad tracks, between the switchyard and yard sump, and a portion of the ash basin dike. Runoff from these areas is not routed through the oil trap tanks.

Yard sump overflow could be conveyed to the Dan River by this outfall. Sump overflow is NPDES permitted discharge 002a. Sump overflow is non-standard operation. Non-contact cooling water from the Unit 6C air compressor is conveyed by this outfall, and this discharge is NPDES permitted discharge 009. Other non-storm water discharges at this outfall include seepage from the toe drains at the ash basin embankments and groundwater flow from a spring at the CT's.

Significant Materials / Controls

Oil: Fuel oil pipelines to CT Unit 6C run aboveground through this area. The fuel oil return tank for the CT's has a maximum capacity of 500 gallons. The main lube oil tank for CT Unit 6C has a maximum capacity of 1,500 gallons. The CT Unit 6C transformer contains 4,880 gallons of mineral oil. All runoff from these source areas is processed through oil trap tank #2 which has a capacity of 22,000 gallons.

The yard sump transformer contains 156 gallons of mineral oil. A transformer associated with the new coal unloader contains 207 gallons of mineral oil. Both of these transformers are located on small concrete pads with low curbs. Neither of these tanks is located within the areas protected by oil trap tanks.

Switchgear in the Units 1 and 2 switchyard contains about 86,500 gallons of mineral oil, and 95 percent of the equipment is located within drainage area 5. The largest volume contained by any single component is 7,800 gallons. There is an empty, out of service, 16,000 gallon transfer tank adjacent to the switchyard. During transformer maintenance, oil from the piece of equipment being worked on was drained to the transfer tank and then transferred back after the maintenance was complete. Now, an 8,000 gallon tanker truck is used to hold the oil during maintenance. Runoff from most of the switchyard is processed through a 20,000 gallon oil trap tank, and runoff from the other small portion of the switchyard goes to the yard sump.

Ash:

Ash pipelines run through this drainage area, going to the ash basin.

Coal:

Coal is transported by rail lines through this area.

Wastewater:

Yard sump pipelines run through this drainage area, to the ash basin.

Laydown Area:

Spare equipment, parts, steel, iron, cable, and miscellaneous supplies are stored on covered racks adjacent to the CT warehouse on the northeast side and on the concrete pad on the northwest side. The equipment and supplies generally do not contain liquids.

- **Storm Water Outfall 7**

Discharge Structure:	4' Reinforced Concrete Pipe (RCP)
Location:	From CT area, beneath the ash basin, to Dan River
Drainage Area:	49.9 acres onsite + roadway drainage from offsite
Control Structures:	20,000 gallon oil trap tank #1 for Units 4C & 5C CT's Earthen berms around bulk fuel oil tanks

Area Description

This culvert begins in a low lying area downgradient of the CT's and runs beneath the ash basin to the Dan River. It was originally installed to pass flow from a small stream beneath the railroad tracks. Runoff from most of the Units 4C and 5C CT area, the fuel oil unloading area, and the bulk fuel oil tank area is routed through oil trap tank #1 and then discharged to the low lying area where the 4' RCP begins. The Units 4C and 5C CT's cover about 1 1/3 acres. The bulk fuel oil tanks and the earthen berms around them cover approximately 1 acre, and the fuel oil unloading area contains about 3/4 of an acre. The area also includes open grassy areas between the CT area and railroad tracks and between the CT's and fuel oil tanks and fuel oil unloading area. A large portion of this drainage area is an undeveloped tract north and east of the CT's. Runoff from the undeveloped areas is routed to the low lying area where the 4' RCP begins, and it is not processed through the oil trap tank. An 850 foot portion of multiple, parallel rail lines passes through this drainage area along with about ¾ mile (onsite) of the paved plant access road. Roadway drainage from an offsite portion of the plant access road would flow to this outfall. Approximately 8 percent of the drainage area is paved or roofed.

Non-storm water discharges at this outfall include seepage from the toe drains at the ash basin embankments and flow from a small stream between the CT's and the plant access road. These flows are not processed through the oil trap tank.

Significant Materials / Controls

Oil: Fuel oil pipelines run aboveground through this area. Inside the purifier house, the CT purifier tank contains 1,000 gallons of lube oil. The main lube oil tanks for CT Units 4C and 5C have a maximum capacity of 1,500 gallons each. The CT Units 4C and 5C transformers each contain 5,463 and 4,473 gallons of mineral oil, respectively. All runoff from these source areas is processed through oil trap tank #1 which has a capacity of 20,000 gallons.

The fuel oil bulk storage tanks are aboveground, galvanized steel cylinders surrounded by earthen berms sufficient in height to contain a total spill plus rainfall. Each tank has a total tank capacity of 500,000 gallons. Only one tank is ever in service at any given time, and the other is considered permanently closed. Whenever tank inspections are required, oil from the in-use tank is transferred to the other tank. There are catch basins inside the berms. The outlet for these catch basins has a

valve which is normally closed. There is a manual siphon that can be used to drain the accumulated rainfall from within the berms if there is significant standing water. The water is inspected for the presence of oil prior to siphoning. Water drained from within the berms is routed to oil trap tank #1.

In the fuel oil unloading area, fuel is transferred from an 8,000 gallon tanker truck to the bulk storage tank via pipelines. DOT unloading procedures are followed. The fuel oil unloading area is paved and surrounded by a concrete curb. The two unloading bays are covered and enclosed on three sides. Spill clean-up supplies are located nearby. Runoff from the fuel oil unloading area is routed through oil trap tank #1.

Coal: Coal is transported by rail lines through this area.

- **Storm Water Outfall 8**

Discharge Structure: 3' ϕ RCP
Location: From undeveloped area between dry ash storage area and ash basins, beneath the ash basin, to Dan River
Drainage Area: 2.9 acres

Area Description

This outfall conveys runoff from an undeveloped area between the dry ash storage area and the ash basins. This culvert begins in a low lying area downgradient of the dry ash storage area and runs beneath the ash basin to the Dan River. An 850 foot portion of multiple, parallel rail lines passes through this drainage area. There are no paved or roofed areas in this drainage area.

Non-storm water discharges at this outfall include seepage from the toe drains at the ash basin embankments and groundwater flow from a spring.

Significant Materials / Controls

Coal: Coal is transported by rail lines through this area.

- **Storm Water Outfall 9**

Discharge Structure: 12" ϕ CMP
Location: West of the powerhouse, beside the battery house
Drainage Area: 0.8 acres
Control Structure: 6,000 gallon oil trap tank #3

Area Description

This outfall conveys runoff from the Unit 3 switchyard and from the Unit 3 boiler and turbine room roofs: The Unit 3 transformers are elevated above the yard area on a 4,400 ft^2 concrete platform with drains that flow to the pipe network that feeds the oil trap tank #3.

The Unit 3 roof covers about ½ acre, and the roof drainage goes through the oil trap tank. Approximately 75 percent of the drainage area is paved or roofed.

Significant Materials / Controls

Oil: The Unit 3 transformers contain a total of 18,362 gallons of mineral oil. The largest volume contained by any single component is 4,960 gallons. There is an empty, out of service, 8,000 gallon transfer tank located adjacent to the switchyard. This tank was formerly used to hold mineral oil drained from switchgear equipment during transformer maintenance. Now, an 8,000 gallon tanker truck is used to hold the oil during maintenance. All runoff from these source areas is processed through a 6,000 gallon oil trap tank.

The fuel tank for the supplemental air compressor can hold 80 gallons of diesel fuel. The supply tank for the compressor has a capacity of 550 gallons. The supply tank is a double-wall steel tank. Both the compressor and the supply tank are located on a curbed concrete pad at the front corner of the powerhouse. The catch basin inside the curbed area is routed to oil trap tank #3.

- **Storm Water Outfall 12 / NPDES 007**

Discharge Structure: 8" ϕ CMP
Location: West of powerhouse, between the battery house and the booster pump house
Drainage Area: 0.2 acres

Area Description

This outfall conveys runoff from a small, flat area around the battery and booster pump houses. The roofs of those buildings cover 600 ft^2, so 8 percent of the drainage area is roofed.

NPDES discharge 007 is conveyed through this outfall. NPDES discharge 007 is non-contact cooling water from the booster pump engine for the intake dredge machine. The intake is dredged annually for about 2-3 weeks.

Significant Materials / Controls

There are no significant materials exposed to storm water within this area.

- **Storm Water Outfall 14**

Discharge Structure: 12"ϕ CMP
Location: West of powerhouse, between the maintenance storage building and the storage racks
Drainage Area: 1.8 acres

Area Description

This outfall conveys runoff from the large laydown area west of the powerhouse and from areas adjacent to the oil storage house. The laydown area covers most of this drainage basin. The laydown yard is extremely flat and covered with gravel. The oil storage house sits atop an embankment, and a catch basin in front of the oil storage house drains to an outlet at the base of the embankment. All other flow in this drainage area is overland to ditches that lead to the outfall. About 15 percent of this drainage area is paved or roofed.

Significant Materials / Controls

Laydown Area:

Spare equipment, parts, steel, iron, cable, and miscellaneous supplies are stored in a large flat, gravel laydown yard west of the powerhouse. The equipment and supplies generally do not contain liquids.

Oil: Various types of new oil and lubricants are stored in 55- and 25- gallons drums under cover in the oil storage house. The total amount of oil in the oil storage house is approximately 3,500 gallons. The storage area is enclosed on three sides. The floor is sloped to drain to a small trench at the back side of the shed. The trench drains to a small sump with an estimated capacity of 200 gallons.

Chemicals:

Drums of new solvents and cleaners are stored under cover in the oil storage house. The total amount of cleaners and solvents stored in the oil storage house is approximately 300 gallons. The storage area is enclosed on three sides. The floor is sloped to drain to a small trench at the back side of the shed. The trench drains to a small sump with an estimated capacity of 200 gallons.

Waste Storage and Collection Areas:

Various waste products and batteries are stored under cover in the oil storage house. The storage area is enclosed on three sides, and the floor is sloped to drain to a small trench at the back side of the shed. The trench drains to a small sump with an estimated capacity of 200 gallons. Paint wastes and used solvents are stored separately in Polyspill Pallet Cover containers adjacent to the northeast corner of the oil storage house.

- **Storm Water Outfall 15**

Discharge Structure: Three 6"ϕ steel pipes
Location: West of powerhouse, beside the storage racks
Drainage Area: 0.8 acres

Area Description

This outfall conveys runoff from the large laydown area west of the powerhouse. The laydown yard is extremely flat and covered with gravel. All flow in this drainage area is overland to a ditch that leads to the outfall. None of this drainage area is paved or roofed.

Significant Materials / Controls
Laydown Area:

Spare equipment, parts, steel, iron, cable, and miscellaneous supplies are stored in a large flat, gravel laydown yard west of the powerhouse. The equipment and supplies generally do not contain liquids.

- **Storm Water Outfall 16**

Discharge Structure: 4" ϕ Steel Pipe
Location: Exterior Wall of Unit 3 Screen Room
Drainage Area: 575 ft^2

Area Description
This outfall conveys roof drainage from the western half of the Unit 3 screen room roof. 100 percent of the drainage area is roofed.

Significant Materials / Controls
Significant materials are not stored on the roof.

- **Storm Water Outfall 17**

Discharge Structure: 4" ϕ Steel Pipe
Location: Exterior Wall of Unit 3 Screen Room
Drainage Area: 575 ft^2

Area Description
This outfall conveys roof drainage from the eastern half of the Unit 3 screen room roof. 100 percent of the drainage area is roofed.

Significant Materials / Controls
Significant materials are not stored on the roof.

- **Storm Water Outfall 18**

Discharge Structure: 4" ϕ Steel Pipe
Location: Exterior Wall of Old Chlorinating Room
Drainage Area: 600 ft^2

Area Description
This outfall conveys roof drainage from the roof of the chlorinating room. 100 percent of the drainage area is roofed.

Significant Materials / Controls
Significant materials are not stored on the roof.

- **Storm Water Outfall 19**

Discharge Structure: 4" ϕ Steel Pipe
Location: Exterior Wall of Units 1 and 2 Screen Room
Drainage Area: 750 ft^2

Area Description
This outfall conveys roof drainage from the western half of the Units 1 and 2 screen room roof. 100 percent of the drainage area is roofed.

Significant Materials / Controls
Significant materials are not stored on the roof.

- **Storm Water Outfall 20**

Discharge Structure: 4" ϕ Steel Pipe
Location: Exterior Wall of Units 1 and 2 Screen Room
Drainage Area: 750 ft^2

Area Description
This outfall conveys roof drainage from the eastern half of the Units 1 and 2 screen room roof. 100 percent of the drainage area is roofed.

Significant Materials / Controls
Significant materials are not stored on the roof.

- **Storm Water Outfall 21 / NPDES 005**

Discharge Structure: 8" ϕ Steel Pipe
Location: Exterior Wall of Units 1 and 2 Turbine Room
Drainage Area: 0.3 acres

Area Description
This outfall conveys roof drainage from the Units 1 and 2 turbine room roof. 100 percent of this drainage area is roofed.

NPDES discharge 005 is non-contact cooling water from the Units 1 and 2 fans and preheaters, and it is discharged through Storm Water Outfall 21.

Significant Materials / Controls
Significant materials are not stored on the roof.

- **Yard Sump**

The yard holding basin is located northeast of the Units 1 and 2 switchyard. The drainage area for the yard sump is about 11.9 acres. Effluent from the yard holding sump is pumped to the ash basin. Overflow from the yard sump could reach the Dan River via Storm Water Outfall 5. Overflow from the yard sump is permitted as NPDES discharge 002A. Overflow from the yard sump is not standard operating procedure.

Area Description

Industrial wastewater from the powerhouse and coal handling sumps flows to the yard sump. Storm water runoff from a portion of the powerhouse roof, a portion of the Units 1 and 2 switchyard, the plant yard, the parking lot, and the coal pile and coal handling facilities goes to the yard sump. The total roofed area in this drainage basin is ¾ acres and includes the Units 1 and 2 boiler room roof, the warehouse roof, the tractor shed, and the roofs of the coal handling facilities. The station parking lot covers about ¾ of an acre between the railroad tracks and the Units 1 and 2 switchyard. Approximately ¼ mile of the plant access road passes through this drainage area. About 20 percent of this drainage basin is paved or roofed. The coal pile encompasses 30 percent of this drainage area. A 1,250 foot portion of multiple, parallel rail lines passes through this drainage area.

Significant Materials / Controls

Oil: The 11 transformers for the precipitators contain a total of 1,806 gallons of mineral oil. The maximum oil content of any single component is 176 gallons. These transformers are located overhead, and a spill would fall to the roof and/or pavement. A transformer at the old coal handling facility contains 400 gallons of mineral oil. A transformer at the dozer maintenance shed contains 220 gallons of mineral oil.

Used oil is stored in a 1,200 gallon steel tank located west of the coal sampling building. The tank is surrounded by a concrete dike about 2 feet tall. Rainfall that accumulates inside the dike can be drained by opening a valve that drains to a catch basin which leads to the yard sump. The valve is normally closed. When the used oil tank is full, the product is removed from site by tanker truck.

Drums of new and used oil in the dozer maintenance shed contain a total of approximately 440 gallons of product. Drainage from the tractor shed and from the concrete pad at the tractor shed fuel oil dispenser is routed to a 1,000 gallon oil trap tank that discharges onto the coal pile.

A fuel oil dispenser for the locomotives is located at the northwest corner of the coal sampling building. A fuel oil line runs overhead from this dispenser to the dozer refueling area inside the coal pile retaining wall.

Laydown Area:

Spare equipment, parts, steel, iron, cable, and miscellaneous supplies are stored in racks under cover outside the locomotive shelter. The supplies generally do not contain liquids.

Gasoline:

There is a 500-gallon aboveground, carbon steel gasoline tent tank and dispenser across from the warehouse. The tank is completely enclosed within a steel tent enclosure, and any leaks would be self contained. The enclosure can be drained by opening a valve, and that valve remains closed at any other time. The tank is filled by a 1,500 gallon tanker truck. Clean up supplies are located nearby.

Wastewater: Plant wastewater from equipment discharges, floor drains, sumps, etc. is routed to the yard sump. This wastewater may include oil, chemical, and hazardous waste spills.

Parking:

There is a ¾ acre parking lot between the railroad tracks and the Units 1 and 2 switchyard.

Coal: Coal dust is present along the railroad tracks and coal handling areas.

Chemicals:

There is a 5,000 gallon tank of sulfuric acid located in the northwest corner of the parking lot. The tank is surrounded by a concrete dike.

3.3 Identification of Non-Storm Water Discharges

Non-storm water discharge is conveyed through Storm Water Outfalls 2, 5, 7, 8, 12, and 21. The non-storm water discharge at Storm Water Outfall 2 is NPDES discharge 004, and the non-storm water discharge consists of raw river water pumped from the Dan River to the settling pond for use as station service water, stream flow from the branch that feeds the pond, and NPDES discharges 003 and 006 to the Service Water Settling Pond. The non-storm water discharge at Storm Water Outfall 5 consists of NPDES discharges 002A and 009, seepage from the toe drains at the ash basin dikes, and flow from a groundwater spring at the CT's. Non-storm water discharge at Storm Water Outfall 7 includes seepage from the toe drains at the ash basin dikes and flow from a small stream between the CT's and the plant access road. Non-storm water discharge at Storm Water Outfall 8 includes seepage from the toe drains at the ash basin dikes and flow from a groundwater spring between the ash basins and the dry ash storage project. The non-storm water discharge at Storm Water Outfall 12 is NPDES discharge 007. The non-storm water discharge at Strom Water Outfall 21 is NPDES discharge 005.

Visual assessments for non-storm water discharges have also been conducted. Each outfall was observed for outflow after a period of at least 3 (three) days of dry weather.

3.4 Monitoring and Sampling Data

There are 14 storm water outfalls at Dan River Steam Station. Monitoring all of the storm water outfalls at Dan River Steam Station should not be necessary since many of the outfalls convey storm water from areas of substantially identical activities and materials. There are seven land use categories: roof drainage, switchyards, plant yard, open grass or wooded undeveloped areas, material laydown areas, the combustion turbine area, and the fuel oil tank area and fuel oil unloading area. Most drainage areas have more than one land use. Storm Water Outfalls 5 and 9 are recommended for sampling. Samples from these outfalls should be characteristic of all the land uses, significant materials, and activities. Drainage areas and, thus, outflows vary among the outfalls.

Storm water samples have been collected and analyzed for Storm Water Outfalls SW005 and SW009.

JASON M. ALLEN
Senior Vice President

Environmental, Health & Safety
526 South Church Street, EC3XP
Charlotte, NC 28202

704-382-1520

704-382-0084 fax

jason.allen@duke-energy.com

April 16, 2014

Mr. Brett Burdick
Acting State Coordinator/ Chairman, Virginia Emergency Response Council
Virginia Department of Emergency Services
10501 Trade Court Road
North Chesterfield, VA 23136

Subject: Dan River Release Follow Up Notice

Dear Mr. Burdick:

In accordance with the requirements contained in 40 CFR 355.40(b), this letter provides the written follow-up emergency notice updating the verbal notification provided on Feb. 4, 2014. (NRC Report # 1073040) covering a release of ash to the Dan River caused by a failure of a storm water pipe beneath the primary coal ash basin at the inactive Duke Energy Dan River Steam Station.

Based on an survey of the coal ash basin, Duke Energy estimates that approximately 30,000 to 39,000 tons of ash were released to the Dan River beginning on February 2, 2014. Due to engineering challenges and weather impacts, the discharge was not completely eliminated and the pipe permanently plugged until February 8th, 2014. Initial calculations based on historical ash analysis and very preliminary release quantity estimates showed that the Reportable Quantity (RQ) threshold had likely been exceeded for arsenic, selenium, cadmium and vanadium. Since the initial notification, numerous analyses of the ash contained in the ash basin have been performed by Duke Energy and the United States Environmental Protection Agency (USEPA). Based on those analyses, Duke Energy now believes that the RQ reporting threshold was also potentially exceeded for beryllium, lead, mercury, nickel, sodium and zinc. Cadmium did not exceed the threshold.

It is important to note that while the metal constituents in the ash are expected to be present in the form of oxides and other compounds (many of which do not have reportable quantities), the laboratory analyses performed do not distinguish between the parent metal and the compound. For the sake of reporting, Duke Energy has taken a conservative approach and treated all constituents as if they were present as the parent metal.

Duke Energy has been working in coordination with USEPA Region 3 and Region 4 On Scene Coordinators , North Carolina Department of Environment and Natural Resources, the US Fish and Wildlife Service, the Virginia Department of Environmental Quality, and several local emergency response agencies to manage the incident as well as to conduct follow-up assessments to support river recovery. An extensive survey of the Dan River is being performed with teams from Duke Energy, USEPA and other agencies. Deposits of ash have been removed adjacent to the discharge point at the Dan River Station with future removal efforts to occur upstream of the Schoolfield Dam in Danville, VA and at the confluence of Town Creek near the plant site in North Carolina. Crews will also be removing material accumulated at the drinking water plants serving the City of Danville and the Town of South Boston.

As a precautionary measure, the EPA has recommended that people avoid direct contact with the ash, including contact with submerged or floating ash. While wet coal ash is unlikely to become airborne, in instances where the ash is dry, it can become airborne and pose a potential health hazard as a result of prolonged exposure.

To date, no adverse health effects have been identified as a result of the release or material deposition. Environmental analysis continues by the governmental agencies and Duke. As has been confirmed by ongoing analyses, no concerns for downstream drinking water supplies have been identified, and water quality has returned to pre-event conditions. The Commonwealth of Virginia has advised that no restrictions on use of water from the Dan River are indicated and a companion assessment of the North Carolina portion of the Dan River prepared by North Carolina State University is scheduled to be issued shortly.

If you have any questions, please contact Allen Stowe at (704) 382-4309 or the undersigned at (704) 382-1520.

Sincerely,

Jason M. Allen

Jason M. Allen
Senior Vice President
Environment, Safety & Health

cc:

U.S. EPA

NCDENR

Va DEQ

U.S.FSW

DUKE ENERGY.

JASON M. ALLEN
Senior Vice President

Environmental, Health & Safety
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Charlotte, NC 28202

704-382-1520

704-382-0084 fax

jason.allen@duke-energy.com

April 16, 2014

Frank L. Perry, Chairman
NC State Emergency Response Commission
4236 Mail Service Center
Raleigh, NC 27699-4236

Subject: Dan River Release Follow Up Notice

Dear Mr. Perry:

In accordance with the requirements contained in 40 CFR 355.40(b), this letter provides the written follow-up emergency notice updating the verbal notification provided on Feb. 4, 2014. (NRC Report # 1073040) covering a release of ash to the Dan River caused by a failure of a storm water pipe beneath the primary coal ash basin at the inactive Duke Energy Dan River Steam Station.

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It is important to note that while the metal constituents in the ash are expected to be present in the form of oxides and other compounds (many of which do not have reportable quantities), the laboratory analyses performed do not distinguish between the parent metal and the compound. For the sake of reporting, Duke Energy has taken a conservative approach and treated all constituents as if they were present as the parent metal.

Duke Energy has been working in coordination with USEPA Region 3 and Region 4 On Scene Coordinators , North Carolina Department of Environment and Natural Resources, the US Fish and Wildlife Service, the Virginia Department of Environmental Quality, and several local emergency response agencies to manage the incident as well as to conduct follow-up assessments to support river recovery. An extensive survey of the Dan River is being performed with teams from Duke Energy, USEPA and other agencies. Deposits of ash have been removed adjacent to the discharge point at the Dan River Station with future removal efforts to occur upstream of the Schoolfield Dam in Danville, VA and at the confluence of Town Creek near the plant site in North Carolina. Crews will also be removing material accumulated at the drinking water plants serving the City of Danville and the Town of South Boston.

As a precautionary measure, the EPA has recommended that people avoid direct contact with the ash, including contact with submerged or floating ash. While wet coal ash is unlikely to become airborne, in instances where the ash is dry, it can become airborne and pose a potential health hazard as a result of prolonged exposure.

To date, no adverse health effects have been identified as a result of the release or material deposition. Environmental analysis continues by the governmental agencies and Duke. As has been confirmed by ongoing analyses, no concerns for downstream drinking water supplies have been identified, and water quality has returned to pre-event conditions. The Commonwealth of Virginia has advised that no restrictions on use of water from the Dan River are indicated and a companion assessment of the North Carolina portion of the Dan River prepared by North Carolina State University is scheduled to be issued shortly.

If you have any questions, please contact Allen Stowe at (704) 382-4309 or the undersigned at (704) 382-1520.

Sincerely,

Jason M. Allen

Jason M. Allen
Senior Vice President
Environment, Safety & Health

cc:

U.S. EPA

NCDENR

Va DEQ

U.S.FSW

From:	Wakild, Chuck <chuck.wakild@ncdenr.gov>
Sent:	Tuesday, October 5, 2010 11:08 AM
To:	Everett, George T <George.Everett@duke-energy.com>; Choi, Caroline <caroline.choi@pgnmail.com>
Cc:	Matthews, Matt <matt.matthews@ncdenr.gov>; Manning, Jeff <jeff.manning@ncdenr.gov>; Belnick, Tom <tom.belnick@ncdenr.gov>; Chernikov, Sergei <sergei.chernikov@ncdenr.gov>; Karoly, Cyndi <cyndi.karoly@ncdenr.gov>; Bennett, Bradley <bradley.bennett@ncdenr.gov>
Subject:	Power Plant NPDES Permits
Attach:	Power Plant Response (18.1 KB).msg

George and Caroline,
We plan to separate stormwater and wastewater permitting into individual permits in most cases during the permit renewal time. Attached is a more complete answer to your questions. If you believe it would be helpful for a face to face discussion of why we're doing it or the process, I'll set up a meeting - let me know.

From: Everett, George T [mailto:George.Everett@duke-energy.com]
Sent: Thursday, September 23, 2010 1:37 PM
To: Wakild, Chuck
Cc: Choi, Caroline
Subject: Stormwater permits

Chuck – In follow-up to our concerns about how to proceed with stormwater issues at our generation sites in the Catawba basin and elsewhere, a number of issue have come up. Given the current schedule for reissuance of our NPDES permits, we may need to proceed on separate paths in the short term, but we are confused by the apparent proposal to have separate or individual stormwater permits for our sites and no longer address them as part of the NPDES permit. Utilities have previously provided data related to the stormwater outfalls and channels on our site as part of the application process for our NPDES permits. We are unaware of any problems related to the way we have hadled our stormwater at our sites. We understood it was appropriate to characterize (Substantially Identical) the stormwater generally and therefore avoid expensive and repetitive sampling for a long list of parameters that seem to have little potential impact on any receiving waters. The most recent request from DWQ staff points to a significant change in direction, an unrealistic time frame for action, and the new costs and time associated with such efforts appear to lack any clear justification. Can the Division meet with Progress and Duke Energy to help us understand what the goals are going forward:

Why do we need separate individual stormwater permits?

Can we provide sample data that will characterize our stormwater generally and therefore avoid an extensive sampling protocol that will provide data with limited value to you or our companies?

Can someone explain the need to continue to sample for all parameters is there is an exceedance of one parameter?

Is there some data to suggest an impact from stormwater in the receiving waters at our facilities?

There needs to be an integration of the potential impacts of the NPDES discharge with the relative impacts of any stormwater discharges from our facilities.

Duke Energy and Progress Energy would like to request a meeting to work through these issues as soon as practicable.

George T. Everett, Ph.D.
Director Environmental and Legislative Affairs
Duke Energy Carolinas, LLC
3700 Glenwood Avenue, Suite 330
Raleigh, NC 27612
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919.828.5240 (fax)
george.everett@duke-energy.com

From: Matthews, Matt <matt.matthews@ncdenr.gov>
Sent: Tuesday, October 5, 2010 10:39 AM
To: Wakild, Chuck <chuck.wakild@ncdenr.gov>
Cc: Bennett, Bradley <bradley.bennett@ncdenr.gov>; Pickle, Ken <ken.pickle@ncdenr.gov>; Chernikov, Sergei <sergei.chernikov@ncdenr.gov>
Subject: Power Plant Response

It is important to note that Duke Energy facilities have not had combined wastewater/stormwater permits previously. Some of their stormwater discharges were listed in the NPDES wastewater permits because they were treated in the ash ponds. Some other Duke stormwater discharges were neither covered by a wastewater nor stormwater permit. This was our error and we are now correcting that.

Progress Energy previously had some combined stormwater/wastewater permits. We are moving away from that strategy now due to the increasing complexity of power plant regulation in general, increased complexity of stormwater permits, and other reasons presented below.

Answers to specific questions are below:

Why do we need separate individual stormwater permits?

a. Separate stormwater permits makes the most sense because the NPDES wastewater permitting process has become burdened with interconnections with, and required inputs from, several other DWQ units. This slows down DWQ's work in both stormwater and wastewater. Permits in other industries are routinely separated into stormwater discharge permits and wastewater discharge permits, with little interdependence. While there are some notable exceptions, there are comparatively few industries with combined permits.

b. Given the current local and national scrutiny given coal burning facilities, it is our judgment that separate stormwater permits will provide more straightforward regulation and greater transparency to the public.

Can we provide sample data that will characterize our stormwater generally and therefore avoid an extensive sampling protocol that will provide data with limited value to you or our companies?

a. Representative Outfall Status (ROS) is available for any individual permit to reduce costs.

b. The tiered monitoring strategy allows the permittee to eliminate pollutant sources before any extra sampling costs are incurred.

c. DWQ can make mid-term sampling reductions in individual permits if the collected data supports that decision.

Can someone explain the need to continue to sample for all parameters if there is an exceedance of one parameter?

The provision to increase sampling frequency is a feature of Tier 2 of the permit text. Tier 2 is implemented following two consecutive semi-annual benchmark exceedances of the same parameter.

a. Having values for all the pollutants can help identify the source of the specific exceedance, as well as what response measures may be successful.

b. We believe an additional benefit is reduced potential confusion over what to sample for.

c. The Tiered approach is relatively new (instituted in 2007), and we believe that adjustments to it may be appropriate as we gain more experience.

Is there some data to suggest an impact from stormwater in the receiving waters at our facilities?

The requirement to control the discharge of stormwater pollutants is established in federal rule and North Carolina law; it is not based on establishing impact. This is consistent with the Division's other programs.

There needs to be an integration of the potential impacts of the NPDES discharge with the relative impacts of any stormwater discharges from our facilities.

We are not quite sure exactly what this question means. If it means that the stormwater discharge should be considered insignificant when compared to the wastewater discharge at the same site, this would be inconsistent with State and Federal law as well as our other programs.

Matt Matthews
NC DENR/Division of Water Quality
Surface Water Protection Section
1617 Mail Service Center
Raleigh, North Carolina 27699-1617

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Matt.Matthews@ncdenr.gov
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E-mail correspondence to and from this address may be subject to the North Carolina Public Records Law and may be disclosed to third parties.

NCDENR
North Carolina Department of Environment and Natural Resources
Division of Water Quality

Beverly Eaves Perdue
Governor

Coleen H. Sullins
Director

Dee Freeman
Secretary

June 20, 2011

Mr. Mark McGary, PE
Duke Energy Carolinas, LLC
8320 East NC Highway 150
Terrell, North Carolina 28682

Subject: Draft NPDES Stormwater Permit
Permit No. NCS000548
Marshall Steam Station
Catawba County

Dear Mr. McGary:

Enclosed with this letter is a copy of the draft stormwater permit for your facility. Your request for representative outfall status is being reviewed and our response will be included with the final permit. Please review the draft very carefully to ensure thorough understanding of the conditions and requirements it contains.

The draft permit contains the following significant items that should be noted about analytical monitoring:

1. Analytical monitoring parameters including 15 metals, sulfate, and oil & grease have been added to this permit as an effort to investigate the pollution potential of stormwater discharges.
2. pH has been added to the analytical monitoring requirements.
3. All analytical monitoring has been set to semi-annually during a representative storm event as defined in Part II Section B. The permittee must also document the total precipitation for each event. If no discharge occurs during the sampling period, the permittee must submit a monitoring report indicating "No Flow" within 30 days of the end of the six-month sampling period. Additionally, samples must be taken a minimum of 60 days apart, as specified in Table 2.
4. Benchmarks for analytical monitoring have been added to this draft permit. Exceedances of benchmark values require the permittee to increase monitoring, increase management actions, increase record keeping, and/or install stormwater Best Management Practices (BMPs) in a tiered program. If the sampling results are above a benchmark value, or outside of the benchmark range, for any parameter at any outfall then the facility shall follow the Tier 1 guidelines which require a facility inspection within two weeks and implementation of a mitigation plan within two months. If during the term of this permit, the sampling results are above the benchmark values, or outside of the benchmark range, for any specific parameter at a specific discharge outfall two times in a row (consecutive), then the facility shall follow the Tier 2 guidelines which require a repetition of the steps listed for Tier 1 and also immediately institute monthly monitoring for all parameters at every outfall where a sampling result exceeded the benchmark value for two consecutive samples.
5. You are required to collect all of the analytical and qualitative monitoring samples during representative storm events as defined in Part II Section B. Qualitative monitoring is required regardless of representative outfall status.
6. You are responsible for all monitoring until the renewal permit is issued. See Footnote 1 of Tables 1, 4, and 5.

Wetlands and Stormwater Branch
1617 Mail Service Center, Raleigh, North Carolina 27699-1617
Location: 512 N. Salisbury St. Raleigh, North Carolina 27604
Phone: 919-807-6300 \ FAX: 919-807-6494 \ Customer Service: 1-877-623-6748
Internet: www.ncwaterquality.org
An Equal Opportunity \ Affirmative Action Employer

One NorthCarolina Naturally

Please submit any comments to me no later than thirty (30) days following your receipt of the draft. Comments should be sent to the address listed at the bottom of this page. If no adverse comments are received from the public or from you, this permit will likely be issued in about two months.

If you have any questions or comments concerning this draft permit, contact me at (919) 807-6368 or brian.lowther@ncdenr.gov

Sincerely,

Brian Lowther
Environmental Engineer
Stormwater Permitting Unit

cc: Mooresville Regional Office
Stormwater Permitting Unit

Attachments

EPARFI00100

ROS should not be strictly analytical based

NCS000548

STATE OF NORTH CAROLINA
DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
DIVISION OF WATER QUALITY

PERMIT

TO DISCHARGE STORMWATER UNDER THE

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

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

Duke Energy Carolinas, LLC

is hereby authorized to discharge stormwater from a facility located at

Comment process is a problem

Marshall Steam Station
8320 East NC Highway 150
Terrell, NC
Catawba County

to receiving waters designated as the Catawba River, a class WS-IV,B; CA stream in the Catawba River Basin, in accordance with the discharge limitations, monitoring requirements, and other conditions set forth in Parts I, II, III, IV, V and VI hereof.

Note: Draft Permit Dates are Approximate

This permit shall become effective September 1, 2011.

This permit and the authorization to discharge shall expire at midnight on August 31, 2016.

Signed this day August 13, 2011.

for Coleen H. Sullins, Director
Division of Water Quality
By the Authority of the Environmental Management Commission

have George Greenette sign letter

George to request extension based on a. issues not defined in draft permit b. basis for analytical list and benchmark values c. requirements for analyzing parameters not in wastewater permit d. req. burden e. more time to establish

Need extension due to presedence

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draft

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Draft

PART I INTRODUCTION

SECTION A: INDIVIDUAL PERMIT COVERAGE

During the period beginning on the effective date of the permit and lasting until expiration, the permittee is authorized to discharge stormwater associated with industrial activity. Such discharges shall be controlled, limited and monitored as specified in this permit.

If industrial materials and activities are not exposed to precipitation or runoff as described in 40 CFR §122.26(g), the facility may qualify for a No Exposure Exclusion from NPDES stormwater discharge permit requirements. Any owner or operator wishing to obtain a No Exposure Certification must submit a No Exposure Certification NOI form to the Division; must receive approval by the Division; must maintain no exposure conditions unless authorized to discharge under a valid NPDES stormwater permit; and must reapply for the No Exposure Exclusion once every five (5) years.

SECTION B: PERMITTED ACTIVITIES

Until this permit expires or is modified or revoked, the permittee is authorized to discharge stormwater to the surface waters of North Carolina or separate storm sewer system that has been adequately treated and managed in accordance with the terms and conditions of this individual permit. All stormwater discharges shall be in accordance with the conditions of this permit.

Any other point source discharge to surface waters of the state is prohibited unless it is an allowable non-stormwater discharge or is covered by another permit, authorization, or approval. The stormwater discharges allowed by this individual permit shall not cause or contribute to violations of Water Quality Standards.

This permit does not relieve the permittee from responsibility for compliance with any other applicable federal, state, or local law, rule, standard, ordinance, order, judgment, or decree.

EPARFI00104

SECTION C: LOCATION MAP

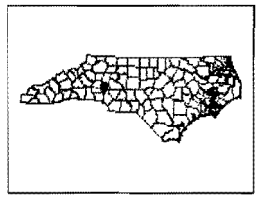
Permit No. NCS000548

NCS000548

Map Scale 1:24,000

Duke Energy Carolinas, LLC
Marshall Steam Station

Latitude: 35° 35' 50" N
Longitude: 80° 57' 55" W
County: Catawba
Receiving Stream: Catawba River (Lake Norman)
Stream Class: SW-IV,B; CA
Sub-basin: 03-08-32 (Catawba River Basin)



Facility Location

PART II MONITORING, CONTROLS, AND LIMITATIONS FOR PERMITTED DISCHARGES

SECTION A: STORMWATER POLLUTION PREVENTION PLAN

The Permittee shall develop a Stormwater Pollution Prevention Plan, herein after referred to as the Plan. This Plan shall be considered public information in accordance with Part III, Standard Conditions, Section E, Paragraph 3 of this individual permit. The Plan shall include, at a minimum, the following items:

1. Site Plan. The site plan shall provide a description of the physical facility and the potential pollutant sources which may be expected to contribute to contamination of stormwater discharges. The site plan shall contain the following:

   (a) A general location map (USGS quadrangle map or appropriately drafted equivalent map), showing the facility's location in relation to transportation routes and surface waters, the name of the receiving water(s) to which the stormwater outfall(s) discharges, or if the discharge is to a municipal separate storm sewer system, the name of the municipality and the ultimate receiving waters, and accurate latitude and longitude of the point(s) of discharge. The general location map (or alternatively the site map) shall identify whether each receiving water is impaired (on the state's 303(d) list of impaired waters) or is located in a **watershed for which a TMDL has been established,** and what the parameter(s) of concern are.
   North Carolina's 303(d) List can be found here:
   http://h2o.enr.state.nc.us/tmdl/General_303d.htm#Downloads
   North Carolina TMDL documents can be found here:
   http://h2o.enr.state.nc.us/tmdl/TMDL_list.htm#Final_TMDLs.

   (b) A narrative description of storage practices, loading and unloading activities, outdoor process areas, dust or particulate generating or control processes, and waste disposal practices. A narrative description of the potential pollutants which could be expected to be present in the stormwater discharge from each outfall.

   (c) A site map drawn to scale (including a distance legend) showing: the site property boundary, the stormwater discharge outfalls, all on-site and adjacent surface waters and wetlands, industrial activity areas (including storage of materials, disposal areas, process areas, loading and unloading areas, and haul roads), site topography, all drainage features and structures, drainage areas for each outfall, direction of flow in each drainage area, industrial activities occurring in each drainage area, buildings, existing BMPs, and impervious surfaces. The site map must indicate the percentage of each drainage area that is impervious.

   (d) A list of significant spills or leaks of pollutants that have occurred at the facility during the three (3) previous years and any corrective actions taken to mitigate spill impacts.

(c) Certification that the stormwater outfalls have been evaluated for the presence of non-stormwater discharges. The certification statement will be signed in accordance with the requirements found in Part III, Standard Conditions, Section B, Paragraph 3. The permittee shall re-certify annually that the stormwater outfalls have been evaluated for the presence of non-stormwater discharges.

2. Stormwater Management Plan. The stormwater management plan shall contain a narrative description of the materials management practices employed which control or minimize the exposure of significant materials to stormwater, including structural and nonstructural measures. The stormwater management plan, at a minimum, shall incorporate the following:

(a) Feasibility Study. A review of the technical and economic feasibility of changing the methods of operations and/or storage practices to eliminate or reduce exposure of materials and processes to stormwater. Wherever practical, the permittee shall prevent exposure of all storage areas, material handling operations, and manufacturing or fueling operations. In areas where elimination of exposure is not practical, the stormwater management plan shall document the feasibility of diverting the stormwater runoff away from areas of potential contamination.

(b) Secondary Containment Requirements and Records. Secondary containment is required for: bulk storage of liquid materials; storage in any amount of Section 313 of Title III of the Superfund Amendments and Reauthorization Act (SARA) water priority chemicals; and storage in any amount of hazardous substances, in order to prevent leaks and spills from contaminating stormwater runoff. A table or summary of all such tanks and stored materials and their associated secondary containment areas shall be maintained. If the secondary containment devices are connected directly to stormwater conveyance systems, the connection shall be controlled by manually activated valves or other similar devices (which shall be secured closed with a locking mechanism), and any stormwater that accumulates in the containment area shall be at a minimum visually observed for color, foam, outfall staining, visible sheens and dry weather flow, prior to release of the accumulated stormwater. Accumulated stormwater shall be released if found to be uncontaminated by the material stored within the containment area. Records documenting the individual making the observation, the description of the accumulated stormwater, and the date and time of the release shall be kept for a period of five years.

(c) BMP Summary. A listing of site structural and non-structural Best Management Practices (BMP) shall be provided. The installation and implementation of BMPs shall be based on the assessment of the potential for sources to contribute significant quantities of pollutants to stormwater discharges and data collected through monitoring of stormwater discharges. The BMP Summary shall include a written record of the specific rationale for installation and implementation of the selected site BMPs. The BMP Summary shall be reviewed and updated annually.

3. Spill Prevention and Response Plan. The Spill Prevention and Response Plan (SPRP) shall incorporate an assessment of potential pollutant sources based on a materials inventory of the facility. Facility personnel (or the team) responsible for implementing the SPRP shall be identified in a written list incorporated into the SPRP and signed and dated by each individual acknowledging their responsibilities for the plan. A responsible person shall be on-site at all times during facility operations that have the potential to contaminate stormwater runoff through spills or exposure of materials associated with the facility operations. The SPRP must be site stormwater specific. Therefore, an oil Spill Prevention Control and Countermeasure plan (SPCC) may be a component of the SPRP, but may not be sufficient to completely address the stormwater aspects of the SPRP. The common elements of the SPCC with the SPRP may be incorporated by reference into the SPRP.

4. Preventative Maintenance and Good Housekeeping Program. A preventative maintenance and good housekeeping program shall be developed. The program shall list all stormwater control systems, stormwater discharge outfalls, all on-site and adjacent surface waters and wetlands, industrial activity areas (including material storage areas, material handling areas, disposal areas, process areas, loading and unloading areas, and haul roads), all drainage features and structures, and existing structural BMPs. The program shall establish schedules of inspections, maintenance, and housekeeping activities of stormwater control systems, as well as facility equipment, facility areas, and facility systems that present a potential for stormwater exposure or stormwater pollution. Inspection of material handling areas and regular cleaning schedules of these areas shall be incorporated into the program. Timely compliance with the established schedules for inspections, maintenance, and housekeeping shall be recorded in writing and maintained in the SPPP.

5. Employee Training. Training programs shall be developed and training provided at a minimum on an annual basis for facility personnel with responsibilities for: spill response and cleanup, preventative maintenance activities, and for any of the facility's operations that have the potential to contaminate stormwater runoff. Facility personnel (or team) responsible for implementing the training shall be identified, and their annual training shall be documented by the signature of each employee trained.

6. Responsible Party. The Stormwater Pollution Prevention Plan shall identify a specific position(s) responsible for the overall coordination, development, implementation, and revision to the Plan. Responsibilities for all components of the Plan shall be documented and position assignments provided.

7. Plan Amendment. The permittee shall amend the Plan whenever there is a change in design, construction, operation, or maintenance which has a significant effect on the potential for the discharge of pollutants to surface waters. All aspects of the Stormwater Pollution Prevention Plan shall be reviewed and updated on an annual basis. The annual update shall include an updated list of significant spills or leaks of pollutants for the previous three years, or the notation that no spills have occurred. The annual update shall include re-certification that the stormwater outfalls have been evaluated for the presence of non-stormwater discharges. Each annual update shall include a re-evaluation of the

EPARFI00108

effectiveness of the BMPs listed in the BMP Summary of the Stormwater Management Plan.

The Director may notify the permittee when the Plan does not meet one or more of the minimum requirements of the permit. Within 30 days of such notice, the permittee shall submit a time schedule to the Director for modifying the Plan to meet minimum requirements. The permittee shall provide certification in writing (in accordance with Part III, Standard Conditions, Section B, Paragraph 5) to the Director that the changes have been made.

8. Facility Inspections. Inspections of the facility and all stormwater systems shall occur as part of the Preventative Maintenance and Good Housekeeping Program at a minimum on a semi-annual schedule, once during the first half of the year (January to June), and once during the second half (July to December), with at least 60 days separating inspection dates (unless performed more frequently than semi-annually). These facility inspections are different from, and in addition to, the stormwater discharge characteristic monitoring required in Part II B, C and D of this permit.

9. Implementation. The permittee shall implement the Plan. Implementation of the Plan shall include documentation of all monitoring, measurements, inspections, maintenance activities, and training provided to employees including the log of the sampling data and of actions taken to implement BMPs associated with the industrial activities, including vehicle maintenance activities. Such documentation shall be kept on-site for a period of five years and made available to the Director or the Director's authorized representative immediately upon request.

SECTION B: ANALYTICAL MONITORING REQUIREMENTS

Analytical monitoring of stormwater discharges shall be performed as specified in **Table 1**. All analytical monitoring shall be performed during a representative storm event. The required monitoring will result in a minimum of ten analytical samplings being conducted over the term of the permit at each stormwater discharge outfall (SDO).

A **representative storm event** is a storm event that measures greater than 0.1 inches of rainfall. The time between this storm event and the previous storm event measuring greater than 0.1 inches must be at least 72 hours. A single storm event may have a period of no precipitation of up to 10 hours. For example, if it rains but stops before producing any collectable discharge, a sample may be collected if the next rain producing a discharge begins within 10 hours.

Allen comments

Table 1. Analytical Monitoring Requirements

Discharge Characteristics	Units	Measurement Frequency[1]	Sample Type[2]	Sample Location[3]
40 CFR Part 423 Appendix A: 13 Priority Pollutant Metals (Ag, As, Be, Cd, Cr, Cu, Hg, Ni, Pb, Sb, Se, Tl, Zn)[4]	µg/l	semi-annual	Grab	SDO
Al	mg/l	semi-annual	Grab	SDO
B	µg/l	semi-annual	Grab	SDO
COD	mg/l	semi-annual	Grab	SDO
TSS	mg/l	semi-annual	Grab	SDO
Sulfate	mg/l	semi-annual	Grab	SDO
Oil and Grease (O&G)	mg/l	semi-annual	Grab	SDO
pH	standard	semi-annual	Grab	SDO
Total Rainfall[5]	inches	semi-annual	Rain Gauge	-

Footnotes:

1 Measurement Frequency: Twice per year during a representative storm event, for each year until either another permit is issued for this facility or until this permit is revoked or rescinded. If at the end of this permitting cycle the permittee has submitted the appropriate paperwork for a renewal permit before the submittal deadline, the permittee will be considered for a renewal application. The applicant must continue semi-annual monitoring until the renewed permit is issued. See **Table 2** for schedule of monitoring periods through the end of this permitting cycle.

2 If the stormwater runoff is controlled by a stormwater detention pond, a grab sample of the discharge from the pond shall be collected within the first 30 minutes of discharge.

3 Sample Location: Samples shall be collected at each stormwater discharge outfall (SDO) unless representative outfall status has been granted. NOTE: SDO SW009 at this plant site (which also serve as outfalls 003 NPDES wastewater permit NC0004987) should be sampled for these parameters and must be reported in accordance with Part III, Section E.4. (Reporting Requirements – Non-Stormwater Discharges).

4 Mercury shall be analyzed by EPA Low-level detection method 1631E. This method also requires a field blank be analyzed. A benchmark does not apply; however, **values above 0.012 µg/l should be noted on annual SDO DMR reports to the Regional Office.**

5 For each sampled representative storm event the total precipitation must be recorded. An on-site rain gauge or local rain gauge reading must be recorded.

The permittee shall complete the minimum ten analytical samplings in accordance with the schedule specified below in **Table 2**. A **minimum of 60 days must separate each sample date** unless monthly monitoring has been instituted under a Tier Two response.

Table 2. Monitoring Schedule

Monitoring period[1,2]	Sample Number	Start	End
Year 1 – Period 1	1	September 1, 2011	February 29, 2012
Year 1 – Period 2	2	March 1, 2012	August 31, 2012
Year 2 – Period 1	3	September 1, 2012	February 28, 2013
Year 2 – Period 2	4	March 1, 2013	August 31, 2013
Year 3 – Period 1	5	September 1, 2013	February 28, 2014
Year 3 – Period 2	6	March 1, 2014	August 31, 2014
Year 4 – Period 1	7	September 1, 2014	February 28, 2015
Year 4 – Period 2	8	March 1, 2015	August 31, 2015
Year 5 – Period 1	9	September 1, 2015	February 28, 2016
Year 5 – Period 2	10	March 1, 2016	August 31, 2016

Footnotes:

1 Maintain semi-annual monitoring during permit renewal process. The applicant must continue semi-annual monitoring until the renewed permit is issued.

2 If no discharge occurs during the sampling period, the permittee must submit a monitoring report indicating "No Flow" within 30 days of the end of the six-month sampling period.

The permittee shall report the analytical results from the first sample with valid results within the monitoring period. **In addition, a separate signed Annual Summary DMR copy shall be submitted to the local DWQ Regional Office (RO) by March 1 of each year.** The permittee shall compare monitoring results to the benchmark values in **Table 3**. The benchmark values in **Table 3** are **not permit limits** but should be used as guidelines for the permittee's Stormwater Pollution Prevention Plan (SPPP). Exceedences of benchmark values require the permittee to increase monitoring, increase management actions, increase record keeping, and/or install stormwater Best Management Practices (BMPs) in a tiered program. See below the descriptions of Tier One and Tier Two.

Table 3. Benchmark Values for Analytical Monitoring

Discharge Characteristics	Units	Benchmark
Aluminum	mg/l	0.75
Antimony	mg/l	0.09
Arsenic	mg/l	0.36
Beryllium	mg/l	0.07
Boron	mg/l	N/A
Cadmium	mg/l	0.001
Chromium	mg/l	1
Copper	mg/l	0.007
Lead	mg/l	0.03
Mercury	µg/l	N/A
Nickel	mg/l	0.26
Selenium	mg/l	0.056
Silver	mg/l	0.001
Thallium	mg/l	N/A
Zinc	mg/l	0.067
COD	mg/l	120
TSS	mg/l	100
Sulfate	mg/l	500
O&G	mg/l	30
pH (*see footnote 1*)	standard	6 - 9[1]

Footnotes:

1 If pH values outside this range are recorded in sampled stormwater discharges, **but ambient rainfall data indicate precipitation pH levels are within ± 0.1 standard units of the measured discharge values or lower**, then the lower threshold of this benchmark range does not apply. Readings from an on-site or local rain gauge (or local precipitation data) must be documented to demonstrate background concentrations were below the benchmark pH range.

Tier One
If: The first valid sampling results are above a benchmark value, or outside of the benchmark range, for any parameter at any outfall;
Then: The permittee shall: 1. Conduct a stormwater management inspection of the facility **within two weeks of receiving sampling results.** 2. Identify and evaluate possible causes of the benchmark value exceedence. 3. Identify potential, and select the specific: source controls, operational controls, or physical improvements to reduce concentrations of the parameters of concern, or to bring concentrations to within the benchmark range. 4. Implement the selected actions **within two months of the inspection.** 5. Record each instance of a Tier One response in the Stormwater Pollution Prevention Plan. Include the date and value of the benchmark exceedence, the inspection date, the personnel conducting the inspection, the selected actions, and the date the selected actions were implemented.

Tier Two
If: During the term of this permit, the first valid sampling results **from two consecutive monitoring periods** are above the benchmark values, or outside of the benchmark range, for any specific parameter at a specific discharge outfall;
Then: The permittee shall: 1. Repeat all the required actions outlined above in Tier One. 2. Immediately institute monthly monitoring for all parameters (**except mercury**) at every outfall where a sampling result exceeded the benchmark value for two consecutive samples. Monthly (analytical and qualitative) monitoring shall continue **until three consecutive sample results** are below the benchmark values, or within the benchmark range, for all parameters at that outfall. 3. If no discharge occurs during the sampling period, the permittee is required to submit a monthly monitoring report indicating "No Flow." 4. Maintain a record of the Tier Two response in the Stormwater Pollution Prevention Plan.

During the term of this permit, if the valid sampling results required for the permit monitoring periods exceed the benchmark value, or are outside the benchmark range, for any specific parameter at any specific outfall on **four occasions**, the permittee shall notify the DWQ Mooresville Regional Office Supervisor in writing **within 30 days of receipt** of the fourth analytical results. DWQ may, but is not limited to:

- Require that the permittee increase or decrease the monitoring frequency for the remainder of the permit;
- Work with the permittee to develop alternative response strategies;
- Require the permittee to install structural stormwater controls;
- Require the permittee to implement other stormwater control measures; or
- Require that the permittee implement site modifications to qualify for the No Exposure Exclusion.

SECTION C: QUALITATIVE MONITORING REQUIREMENTS

Qualitative monitoring requires a visual inspection of each stormwater outfall regardless of representative outfall status and shall be performed as specified in **Table 4**, during the analytical monitoring event. [If analytical monitoring is not required, the permittee still must conduct semi-annual qualitative monitoring.] Qualitative monitoring is for the purpose of evaluating the effectiveness of the Stormwater Pollution Prevention Plan (SPPP) and assessing new sources of stormwater pollution.

In the event an atypical condition is noted at a stormwater discharge outfall, the permittee shall document the suspected cause of the condition and any actions taken in response to the discovery. This documentation will be maintained with the SPPP.

Table 4. Qualitative Monitoring Requirements

Discharge Characteristics	Frequency[1]	Monitoring Location[2]
Color	semi-annual	SDO
Odor	semi-annual	SDO
Clarity	semi-annual	SDO
Floating Solids	semi-annual	SDO
Suspended Solids	semi-annual	SDO
Foam	semi-annual	SDO
Oil Sheen	semi-annual	SDO
Erosion or deposition at the outfall	semi-annual	SDO
Other obvious indicators of stormwater pollution	semi-annual	SDO

Footnotes:

1 Measurement Frequency: Twice per year during a representative storm event, for each year until either another permit is issued for this facility or until this permit is revoked or rescinded. If at the end of this permitting cycle the permittee has submitted the appropriate paperwork for a renewal permit before the submittal deadline, the permittee will be considered for a renewal application. The applicant must continue semi-annual monitoring until the renewed permit is issued. See **Table 2** for schedule of monitoring periods through the end of this permitting cycle.

2 Monitoring Location: Qualitative monitoring shall be performed at each stormwater discharge outfall (SDO) regardless of representative outfall status.

SECTION D: ON-SITE VEHICLE MAINTENANCE MONITORING REQUIREMENTS

Facilities which have any vehicle maintenance activity occurring on-site which uses more than 55 gallons of new motor oil per month when averaged over the calendar year shall perform analytical monitoring as specified below in **Table 5**. This monitoring shall be performed at all stormwater discharge outfalls which discharge stormwater runoff from vehicle maintenance areas and in accordance with the schedule presented in **Table 2** (Section B). All analytical monitoring shall be performed during a representative storm event.

Table 5. Analytical Monitoring Requirements for On-Site Vehicle Maintenance

Discharge Characteristics	Units	Measurement Frequency[1]	Sample Type[2]	Sample Location[3]
pH	standard	semi-annual	Grab	SDO
Total Petroleum Hydrocarbons *EPA Method 1664 (SGT-HEM)*	mg/l	semi-annual	Grab	SDO
Total Suspended Solids	mg/l	semi-annual	Grab	SDO
Total Rainfall[4]	inches	semi-annual	Rain gauge	-
New Motor Oil Usage	gallons/month	semi-annual	Estimate	-

Footnotes:

1 Measurement Frequency: Twice per year during a representative storm event, for each year until either another permit is issued for this facility or until this permit is revoked or rescinded. If at the end of this permitting cycle the permittee has submitted the appropriate paperwork for a renewal permit before the submittal deadline, the permittee will be considered for a renewal application. The applicant must continue semi-annual monitoring until the renewed permit is issued. See **Table 2** for schedule of monitoring periods through the end of this permitting cycle.

2 If the stormwater runoff is controlled by a stormwater detention pond a grab sample of the discharge from the pond shall be collected within the first 30 minutes of discharge from the pond.

3 Sample Location: Samples shall be collected at each stormwater discharge outfall (SDO) that discharges stormwater runoff from area(s) where vehicle maintenance activities occur.

4 For each sampled representative storm event the total precipitation must be recorded. An on-site or local rain gauge reading must be recorded.

Monitoring results shall be compared to the benchmark values in **Table 6**. The benchmark values in **Table 6** are not permit limits but should be used as guidelines for the permittee's Stormwater Pollution Prevention Plan (SPPP). Exceedences of benchmark values require the permittee to increase monitoring, increase management actions, increase record keeping, and/or install stormwater Best Management Practices (BMPs), as provided in Part II Section B.

Table 6. Benchmark Values for Vehicle Maintenance Analytical Monitoring

Discharge Characteristics	Units	Benchmark
pH (*see footnote 1*)	standard	6 - 9[1]
Total Petroleum Hydrocarbons (TPH)	mg/L	15
Total Suspended Solids	mg/L	100

Footnotes:

1 If pH values outside this range are recorded in sampled stormwater discharges, **but ambient rainfall data indicate precipitation pH levels are within ± 0.1 standard units of the measured values or lower**, then the lower threshold of this benchmark range does not apply. Readings from an on-site or local rain gauge (or local precipitation data) must be documented to demonstrate background concentrations were below the normal pH range.

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PART III STANDARD CONDITIONS FOR NPDES STORMWATER INDIVIDUAL PERMITS

SECTION A: COMPLIANCE AND LIABILITY

1. Compliance Schedule

The permittee shall comply with Limitations and Controls specified for stormwater discharges in accordance with the following schedule:

Existing Facilities already operating but applying for permit coverage for the first time: The Stormwater Pollution Prevention Plan shall be developed and implemented within 12 months of the effective date of the initial permit and updated thereafter on an annual basis. Secondary containment, as specified in Part II, Section A, Paragraph 2(b) of this permit, shall be accomplished within 12 months of the effective date of the initial permit issuance.

New Facilities applying for coverage for the first time and existing facilities previously permitted and applying for renewal under this permit: The Stormwater Pollution Prevention Plan shall be developed and implemented prior to the beginning of discharges from the operation of the industrial activity and be updated thereafter on an annual basis. Secondary containment, as specified in Part II, Section A, Paragraph 2(b) of this permit shall be accomplished prior to the beginning of discharges from the operation of the industrial activity.

2. Duty to Comply

The permittee must comply with all conditions of this individual permit. Any permit noncompliance constitutes a violation of the Clean Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit upon renewal application.

a. The permittee shall comply with standards or prohibitions established under section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

b. The Clean Water Act provides that any person who violates a permit condition is subject to a civil penalty not to exceed $25,000 per day for each violation. Any person who negligently violates any permit condition is subject to criminal penalties of $2,500 to 25,000 per day of violation, or imprisonment for not more than 1 year, or both. Any person who knowingly violates permit conditions is subject to criminal penalties of $5,000 to $50,000 per day of violation, or imprisonment for not more than 3 years, or both. Also, any person who violates a permit condition may be assessed an administrative penalty not to exceed $10,000 per violation with the maximum amount not to exceed $125,000. [Ref: Section 309 of the Federal Act 33 USC 1319 and 40 CFR 122.41(a).]

c. Under state law, a daily civil penalty of not more than ten thousand dollars ($10,000) per violation may be assessed against any person who violates or fails to act in accordance with the terms, conditions, or requirements of a permit. [Ref: NC General Statutes 143-215.6A].

d. Any person may be assessed an administrative penalty by the Director for violating section 301, 302, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of the Act. Administrative penalties for Class I violations are not to exceed $10,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed $25,000. Penalties for Class II violations are not to exceed

$10,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed $125,000.

3. Duty to Mitigate

The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this individual permit which has a reasonable likelihood of adversely affecting human health or the environment.

4. Civil and Criminal Liability

Except as provided in Part III, Section C of this permit regarding bypassing of stormwater control facilities, nothing in this individual permit shall be construed to relieve the permittee from any responsibilities, liabilities, or penalties for noncompliance pursuant to NCGS 143-215.3, 143-215.6A, 143-215.6B, 143-215.6C or Section 309 of the Federal Act, 33 USC 1319. Furthermore, the permittee is responsible for consequential damages, such as fish kills, even though the responsibility for effective compliance may be temporarily suspended.

5. Oil and Hazardous Substance Liability

Nothing in this individual permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject to under NCGS 143-215.75 et seq. or Section 311 of the Federal Act, 33 USC 1321.

6. Property Rights

The issuance of this individual permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

7. Severability

The provisions of this individual permit are severable, and if any provision of this individual permit, or the application of any provision of this individual permit to any circumstances, is held invalid, the application of such provision to other circumstances, and the remainder of this individual permit, shall not be affected thereby.

8. Duty to Provide Information

The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit issued pursuant to this individual permit or to determine compliance with this individual permit. The permittee shall also furnish to the Director upon request, copies of records required to be kept by this individual permit.

9. Penalties for Tampering

The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate, any monitoring device or method required to be maintained under this individual permit shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than two years per violation, or by both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more that $20,000 per day of violation, or by imprisonment of not more than 4 years, or both.

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10. Penalties for Falsification of Reports

The Clean Water Act provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this individual permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than two years per violation, or by both.

SECTION B: GENERAL CONDITIONS

1. Individual Permit Expiration

The permittee is not authorized to discharge after the expiration date. In order to receive automatic authorization to discharge beyond the expiration date, the permittee shall submit forms and fees as are required by the agency authorized to issue permits no later than 180 days prior to the expiration date. Any permittee that has not requested renewal at least 180 days prior to expiration, or any permittee that does not have a permit after the expiration and has not requested renewal at least 180 days prior to expiration, will be subjected to enforcement procedures as provided in NCGS §143-215.6 and 33 USC 1251 et. seq.

2. Transfers

This permit is not transferable to any person except after notice to and approval by the Director. The Director may require modification or revocation and reissuance of the permit to change the name and incorporate such other requirements as may be necessary under the Clean Water Act. **The Permittee is required to notify the Division in writing in the event the permitted facility is sold or closed.**

3. Signatory Requirements

All applications, reports, or information submitted to the Director shall be signed and certified.

a. All applications to be covered under this individual permit shall be signed as follows:

(1) In the case of a corporation: by a principal executive officer of at least the level of vice-president, or his duly authorized representative, if such representative is responsible for the overall operation of the facility from which the discharge described in the permit application form originates;

(2) In the case of a partnership or limited partnership: by a general partner;

(3) In the case of a sole proprietorship: by the proprietor;

(4) In the case of a municipal, state, or other public entity: by a principal executive officer, ranking elected official, or other duly authorized employee.

b. All reports required by the individual permit and other information requested by the Director shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

(1) The authorization is made in writing by a person described above;

(2) The authorization specified either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or well field, superintendent, a position of equivalent

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responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.); and

(3) The written authorization is submitted to the Director;

c. Any person signing a document under paragraphs a. or b. of this section shall make the following certification:

"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."

4. Individual Permit Modification, Revocation and Reissuance, or Termination

The issuance of this individual permit does not prohibit the Director from reopening and modifying the individual permit, revoking and reissuing the individual permit, or terminating the individual permit as allowed by the laws, rules, and regulations contained in Title 40, Code of Federal Regulations, Parts 122 and 123; Title 15A of the North Carolina Administrative Code, Subchapter 2H .0100; and North Carolina General Statute 143-215.1 et al.

5. Permit Actions

The permit may be modified, revoked and reissued, or terminated for cause. The notification of planned changes or anticipated noncompliance does not stay any individual permit condition.

SECTION C: OPERATION AND MAINTENANCE OF POLLUTION CONTROLS

1. Proper Operation and Maintenance

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this individual permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of this individual permit.

2. Need to Halt or Reduce Not a Defense

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the condition of this individual permit.

3. Bypassing of Stormwater Control Facilities

Bypass is prohibited and the Director may take enforcement action against a permittee for bypass unless:

a. Bypass was unavoidable to prevent loss of life, personal injury or severe property damage; and

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b. There were no feasible alternatives to the bypass, such as the use of auxiliary control facilities, retention of stormwater or maintenance during normal periods of equipment downtime or dry weather. This condition is not satisfied if adequate backup controls should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and

c. The permittee submitted notices as required under, Part III, Section E of this permit.

If the Director determines that it will meet the three conditions listed above, the Director may approve an anticipated bypass after considering its adverse effects.

SECTION D: MONITORING AND RECORDS

1. Representative Sampling

Samples collected and measurements taken, as required herein, shall be characteristic of the volume and nature of the permitted discharge. Analytical sampling shall be performed during a representative storm event. Samples shall be taken on a day and time that is characteristic of the discharge. All samples shall be taken before the discharge joins or is diluted by any other waste stream, body of water, or substance. Monitoring points as specified in this permit shall not be changed without notification to and approval of the Director.

2. Recording Results

For each measurement, sample, inspection or maintenance activity performed or collected pursuant to the requirements of this individual permit, the permittee shall record the following information:

a. The date, exact place, and time of sampling, measurements, inspection or maintenance activity;

b. The individual(s) who performed the sampling, measurements, inspection or maintenance activity;

c. The date(s) analyses were performed;

d. The individual(s) who performed the analyses;

e. The analytical techniques or methods used; and

f. The results of such analyses.

3. Flow Measurements

Where required, appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges.

4. Test Procedures

Test procedures for the analysis of pollutants shall conform to the EMC regulations published pursuant to NCGS 143-215.63 et. seq, the Water and Air Quality Reporting Acts, and to regulations published pursuant to Section 304(g), 33 USC 1314, of the Federal Water Pollution Control Act, as Amended, and Regulation 40 CFR 136.

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To meet the intent of the monitoring required by this individual permit, all test procedures must produce minimum detection and reporting levels and all data generated must be reported down to the minimum detection or lower reporting level of the procedure.

5. Representative Outfall

If a facility has multiple discharge locations with substantially identical stormwater discharges that are required to be sampled, the permittee may petition the Director for representative outfall status. If it is established that the stormwater discharges are substantially identical and the permittee is granted representative outfall status, then sampling requirements may be performed at a reduced number of outfalls.

6. Records Retention

Visual monitoring shall be documented and records maintained at the facility along with the Stormwater Pollution Prevention Plan. Copies of analytical monitoring results shall also be maintained on-site. The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, and copies of all reports required by this individual permit for a period of at least 5 years from the date of the sample, measurement, report or application. This period may be extended by request of the Director at any time.

7. Inspection and Entry

The permittee shall allow the Director, or an authorized representative (including an authorized contractor acting as a representative of the Director), or in the case of a facility which discharges through a municipal separate storm sewer system, an authorized representative of a municipal operator or the separate storm sewer system receiving the discharge, upon the presentation of credentials and other documents as may be required by law, to;

a. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this individual permit;

b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this individual permit;

c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this individual permit; and

d. Sample or monitor at reasonable times, for the purposes of assuring individual permit compliance or as otherwise authorized by the Clean Water Act, any substances or parameters at any location.

SECTION E: REPORTING REQUIREMENTS

1. Discharge Monitoring Reports

Samples analyzed in accordance with the terms of this permit shall be submitted to the Division on Discharge Monitoring Report (DMR) forms provided by the Director. Submittals shall be delivered to the Division no later than 30 days from the date the facility receives the sampling results from the laboratory.

When no discharge has occurred from the facility during the report period, the permittee is required to submit a discharge monitoring report within 30 days of the end of the three-month sampling period, giving all required information and indicating "NO FLOW" as per NCAC T15A 02B .0506.

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The permittee shall record the required qualitative monitoring observations on the SDO Qualitative Monitoring Report (QMR) form provided by the Division, and shall retain the completed forms on site. Qualitative monitoring results should not be submitted to the Division, except upon DWQ's specific requirement to do so.

2. Submitting Reports

Duplicate signed copies of all reports required herein, shall be submitted to the following address:

Division of Water Quality
Surface Water Protection Section
ATTENTION: Central Files
1617 Mail Service Center
Raleigh, North Carolina 27699-1617

In addition, a separate signed Annual Summary DMR copy shall be submitted to the permittee's DWQ Regional Office (RO) by March 1 of each year.

3. Availability of Reports

Except for data determined to be confidential under NCGS 143-215.3(a)(2) or Section 308 of the Federal Act, 33 USC 1318, all reports prepared in accordance with the terms shall be available for public inspection at the offices of the Division of Water Quality. As required by the Act, analytical data shall not be considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal penalties as provided for in NCGS 143-215.6B or in Section 309 of the Federal Act.

4. Non-Stormwater Discharges

If the storm event monitored in accordance with this individual permit coincides with a non-stormwater discharge, the permittee shall separately monitor all parameters as required under the non-stormwater discharge permit and provide this information with the stormwater discharge monitoring report.

5. Planned Changes

The permittee shall give notice to the Director as soon as possible of any planned changes at the permitted facility which could significantly alter the nature or quantity of pollutants discharged. This notification requirement includes pollutants which are not specifically listed in the individual permit or subject to notification requirements under 40 CFR Part 122.42 (a).

6. Anticipated Noncompliance

The permittee shall give notice to the Director as soon as possible of any planned changes at the permitted facility which may result in noncompliance with the individual permit requirements.

7. Bypass

a. Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten days before the date of the bypass; including an evaluation of the anticipated quality and affect of the bypass.

b. Unanticipated bypass. The permittee shall submit notice within 24 hours of becoming aware of an unanticipated bypass.

8. Twenty-four Hour Reporting

The permittee shall report to the central office or the appropriate regional office any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee became aware of the circumstances. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances.

The written submission shall contain a description of the noncompliance, and its causes; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time compliance is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

The Director may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.

9. Other Noncompliance

The permittee shall report all instances of noncompliance not reported under 24 hour reporting at the time monitoring reports are submitted.

10. Other Information

Where the permittee becomes aware that it failed to submit any relevant facts in an application for an individual permit or in any report to the Director, shall promptly submit such facts or information.

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PART IV LIMITATIONS REOPENER

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

a. Contains different conditions or is otherwise more stringent than any effluent limitation in the individual permit; or

b. Controls any pollutant not limited in the individual permit.

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

PART V ADMINISTERING AND COMPLIANCE MONITORING FEE REQUIREMENTS

The permittee must pay the administering and compliance monitoring fee within 30 (thirty) days after being billed by the Division. Failure to pay the fee in timely manner in accordance with 15A NCAC 2H .0105(b)(4) may cause this Division to initiate action to revoke the individual permit.

PART VI DEFINITIONS

1. Act

   See Clean Water Act.

2. Arithmetic Mean

   The arithmetic mean of any set of values is the summation of the individual values divided by the number of individual values.

3. Allowable Non-Stormwater Discharges

   This permit regulates stormwater discharges. Non-stormwater discharges which shall be allowed in the stormwater conveyance system are:

   (a) All other discharges that are authorized by a non-stormwater NPDES permit.

   (b) Uncontaminated groundwater, foundation drains, air-conditioner condensate without added chemicals, springs, discharges of uncontaminated potable water, waterline and fire hydrant flushings, water from footing drains, flows from riparian habitats and wetlands.

   (c) Discharges resulting from fire-fighting or fire-fighting training.

4. Best Management Practices (BMPs)

   Measures or practices used to reduce the amount of pollution entering surface waters. BMPs may take the form of a process, activity, or physical structure.

5. Bypass

A bypass is the known diversion of stormwater from any portion of a stormwater control facility including the collection system, which is not a designed or established operating mode for the facility.

6. Bulk Storage of Liquid Products

Liquid raw materials, manufactured products, waste materials or by-products with a single above ground storage container having a capacity of greater than 660 gallons or with multiple above ground storage containers located in close proximity to each other having a total combined storage capacity of greater than 1,320 gallons.

7. Clean Water Act

The Federal Water Pollution Control Act, also known as the Clean Water Act (CWA), as amended, 33 USC 1251, et. seq.

8. Division or DWQ

The Division of Water Quality, Department of Environment and Natural Resources.

9. Director

The Director of the Division of Water Quality, the permit issuing authority.

10. EMC

The North Carolina Environmental Management Commission.

11. Grab Sample

An individual sample collected instantaneously. Grab samples that will be directly analyzed or qualitatively monitored must be taken within the first 30 minutes of discharge.

12. Hazardous Substance

Any substance designated under 40 CFR Part 116 pursuant to Section 311 of the Clean Water Act.

13. Landfill

A disposal facility or part of a disposal facility where waste is placed in or on land and which is not a land treatment facility, a surface impoundment, an injection well, a hazardous waste long-term storage facility or a surface storage facility.

14. Municipal Separate Storm Sewer System

A stormwater collection system within an incorporated area of local self-government such as a city or town.

15. No Exposure

A condition of no exposure means that all industrial materials and activities are protected by a storm resistant shelter or acceptable storage containers to prevent exposure to rain, snow, snowmelt, or runoff. Industrial materials or activities include, but are not limited to, material handling equipment or activities,

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industrial machinery, raw materials, intermediate products, by-products, final products, or waste products. DWQ may grant a No Exposure Exclusion from NPDES Stormwater Permitting requirements only if a facility complies with the terms and conditions described in 40 CFR §122.26(g).

16. Overburden

Any material of any nature, consolidated or unconsolidated, that overlies a mineral deposit, excluding topsoil or similar naturally-occurring surface materials that are not disturbed by mining operations.

17. Permittee

The owner or operator issued a permit pursuant to this individual permit.

18. Point Source Discharge of Stormwater

Any discernible, confined and discrete conveyance including, but not specifically limited to, any pipe, ditch, channel, tunnel, conduit, well, or discrete fissure from which stormwater is or may be discharged to waters of the state.

19. Representative Storm Event

A storm event that measures greater than 0.1 inches of rainfall and that is preceded by at least 72 hours in which no storm event measuring greater than 0.1 inches has occurred. A single storm event may contain up to 10 consecutive hours of no precipitation. For example, if it rains for 2 hours without producing any collectable discharge, and then stops, a sample may be collected if a rain producing a discharge begins again within the next 10 hours.

20. Representative Outfall Status

When it is established that the discharge of stormwater runoff from a single outfall is representative of the discharges at multiple outfalls, the DWQ may grant representative outfall status. Representative outfall status allows the permittee to perform analytical monitoring at a reduced number of outfalls.

21. Rinse Water Discharge

The discharge of rinse water from equipment cleaning areas associated with industrial activity. Rinse waters from vehicle and equipment cleaning areas are process wastewaters and do not include washwaters utilizing any type of detergent or cleaning agent.

22. Secondary Containment

Spill containment for the contents of the single largest tank within the containment structure plus sufficient freeboard to allow for the 25-year, 24-hour storm event.

23. Section 313 Water Priority Chemical

A chemical or chemical category which:

a. Is listed in 40 CFR 372.65 pursuant to Section 313 of Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986, also titled the Emergency Planning and Community Right-to-Know Act of 1986;

b. Is present at or above threshold levels at a facility subject to SARA Title III, Section 313 reporting requirements; and

c. That meets at least one of the following criteria:

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(1) Is listed in Appendix D of 40 CFR part 122 on Table II (organic priority pollutants), Table III (certain metals, cyanides, and phenols), or Table IV (certain toxic pollutants and hazardous substances);

(2) Is listed as a hazardous substance pursuant to section 311(b)(2)(A) of the CWA at 40 CFR 116.4; or

(3) Is a pollutant for which EPA has published acute or chronic water quality criteria.

24. Severe Property Damage

Means substantial physical damage to property, damage to the control facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

25. Significant Materials

Includes, but is not limited to: raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under section 101(14) of CERCLA; any chemical the facility is required to report pursuant to section 313 of Title III of SARA; fertilizers; pesticides; and waste products such as ashes, slag and sludge that have the potential to be released with stormwater discharges.

26. Significant Spills

Includes, but is not limited to: releases of oil or hazardous substances in excess of reportable quantities under section 311 of the Clean Water Act (Ref: 40 CFR 110.10 and CFR 117.21) or section 102 of CERCLA (Ref: 40 CFR 302.4).

27. Stormwater Runoff

The flow of water which results from precipitation and which occurs immediately following rainfall or as a result of snowmelt.

28. Stormwater Associated with Industrial Activity

The discharge from any point source which is used for collecting and conveying stormwater and which is directly related to manufacturing, processing or raw material storage areas at an industrial site. Facilities considered to be engaged in "industrial activities" include those activities defined in 40 CFR 122.26(b)(14). The term does not include discharges from facilities or activities excluded from the NPDES program.

29. Stormwater Pollution Prevention Plan

A comprehensive site-specific plan which details measures and practices to reduce stormwater pollution and is based on an evaluation of the pollution potential of the site.

30. Ten Year Design Storm

The maximum 24 hour precipitation event expected to be equaled or exceeded on the average once in ten years. Design storm information can be found in the State of North Carolina Erosion and Sediment Control Planning and Design Manual.

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31. Total Flow

The flow corresponding to the time period over which the entire storm event occurs. Total flow shall be either; (a) measured continuously, (b) calculated based on the amount of area draining to the outfall, the amount of built-upon (impervious) area, and the total amount of rainfall, or (c) estimated by the measurement of flow at 20 minute intervals during the rainfall event.

32. Total Maximum Daily Load (TMDL)

A TMDL is a calculation of the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards, and an allocation of that amount to the pollutant's sources. A TMDL is a detailed water quality assessment that provides the scientific foundation for an implementation plan. The implementation plan outlines the steps necessary to reduce pollutant loads in a certain body of water to restore and maintain water quality standards in all seasons. The Clean Water Act, Section 303, establishes the water quality standards and TMDL programs.

33. Toxic Pollutant

Any pollutant listed as toxic under Section 307(a)(1) of the Clean Water Act.

34. Upset

Means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment or control facilities, inadequate treatment or control facilities, lack of preventive maintenance, or careless or improper operation.

35. Vehicle Maintenance Activity

Vehicle rehabilitation, mechanical repairs, painting, fueling, lubrication, vehicle cleaning operations, or airport deicing operations.

36. Visible Sedimentation

Solid particulate matter, both mineral and organic, that has been or is being transported by water, air, gravity, or ice from its site of origin which can be seen with the unaided eye.

37. 25-year, 24 hour storm event

The maximum 24-hour precipitation event expected to be equaled or exceeded, on the average, once in 25 years.

EPARFI00129

Duke Energy.
Carolinas

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July 20, 2011

Mr. Brian Lowther
Division of Water Quality
Stormwater Permitting Unit
North Carolina Department of Environment
and Natural Resources
1617 Mail Service Center
Raleigh, NC 27699-1617

Subject: Duke Energy Carolinas, LLC
Draft NPDES Stormwater Permit Comments
Marshall Steam Station
Permit No. NCS000548

Dear Mr. Lowther:

Duke Energy Carolinas, LLC (Duke Energy) recognizes the need to be protective of surface waters receiving stormwater runoff from our facilities; however, these efforts must be reasonable and cost effective. Duke Energy maintains that many of the requirements mandated by this permit are of little or marginal value in terms of environmental protection and therefore significant revisions are warranted.

We have reviewed the subject draft stormwater permit for the Marshall Steam Station and submit the following comments:

a. Duke Energy is concerned that our request for representative outfall status (ROS) was not addressed adequately in the draft permit or in the permit cover letter. In a series of discussions prior to the issuance of this draft permit, Duke Energy clearly outlined the rationale for representative outfall status as the fundamental issue at these types of facilities that have numerous individual stormwater outfalls. The permit draft cover letter (first paragraph) states that representative outfall status is being "reviewed" by DWQ and the associated response will be included in the final permit. This practice runs counter to normal permitting processes in that Duke Energy is unable to comment on any decisions regarding ROS before the permit is finalized. Stormwater outfall SW007 is adequately representative of those drainage areas surrounding the station powerhouse where industrial activities are concentrated. SW007 represents the greatest risk to stormwater within this group based on the relative size of the contributing drainage area, and the higher level of industrial activity occurring within the contributing drainage area. Stormwater outfall SW003 is adequately representative of those more innocuous outlying drainage areas at the station. SW003 represents the greatest risk to stormwater within this group based on a higher level of vehicle traffic, greater area of gravel surfacing, and occasional use of the drainage area for storage of inert materials. Consequently, we maintain that outfalls SW007 and SW003 are representative stormwater outfalls at the station and that representative outfall status be granted per our original request

b. Most of the stormwater outfalls at Marshall Steam Station are currently inaccessible (reference attached supporting information). Providing safe and secure access to these outfalls for sampling and monitoring will be difficult and costly. Currently, only outfalls SW001, SW003 and SW004 can be safely accessed. Furthermore, four stormwater outfalls (SW001, SW002, SW004 and SW008) have such limited and/or undefined contributing drainage areas that the likelihood of collecting a stormwater sample is remote (reference attached supporting information). Considering this, Duke Energy proposes that qualitative monitoring requirements also be limited to identified representative outfalls SW007 and SW003. We believe the difficulty and expense of providing safe and secure access to all inaccessible outfalls for qualitative monitoring purposes is unreasonable, and is not justified from a stormwater protection standpoint. Should this not be acceptable to NCDENR, we propose that qualitative monitoring be conducted at the nearest, safely accessible, location occurring upstream of each stormwater outfall. These locations may be at the inlet to the discharging culvert, within the nearest upstream catch basin or manhole, or at the nearest accessible location along the concentrated flow channel.

c. Part II, Section B, Table 1, Footnote 3 of the draft permit requires us to sample Outfall SW009 (NPDES Wastewater Outfall #003), and to report the results separately as a non-stormwater discharge. Duke Energy is not required to sample this outfall under the current NPDES permit because chlorine is not added to the waste stream. Per item (a) above, we believe that Outfall SW007 is adequately and conservatively representative of SW009. Therefore, we request that the requirements for monitoring of SW009 be removed from the permit.

d. Part II, Section B of the draft permit mandates analytical and qualitative monitoring for a host of parameters, including 15 metals, O&G, and sulfate. Based on historical stormwater and lake monitoring data, there is no scientific basis for inclusion of these parameters. Many of these parameters have never been detected in historical stormwater samples collected from Outfall SW007. This data has been submitted to DWQ as part of the NPDES permit renewals. In addition, most of these parameters are excluded from monitoring requirements at the ash basin discharge outfall in the NPDES permit based on reasonable potential analyses to exceed state water quality standards. Our NPDES permit does not mandate sampling for Ag, Be, Cd, Cr, Pb, Sb, Tl, Al, B, COD, nor SO4 at the ash basin discharge. Certainly this discharge represents the worst case impacts to surface waters in terms of mass loading associated with the facility. The DWQ permit cover letter states that these parameters have been added to the permit "to investigate the pollution potential of storm water discharges." We submit that using the stormwater permit as a scientific investigation tool is inappropriate considering that no water quality impairments exist to support the need for data collection and monitoring. Therefore, these additional parameters should be removed from the permit monitoring requirements.

e. There is no scientific justification for many of the benchmark values listed in Part II, Section B, Table 3. There should be a significant water quality issue, such as a 303 (d) listing, to justify the requirements for monitoring of any benchmark values in the permit. These drivers do not exist for the receiving water body at Marshall Steam Station. Furthermore, exceeding a benchmark value gives the appearance to third parties that a water quality standard has been exceeded. We believe this is inappropriate and will cause more public concern than is intended. Therefore, we request that all benchmark values be removed from the permit that do not relate to actual existing water quality issues in the receiving water body.

f. The requirement for EPA method 1631 E low level mercury analysis stated in Part II, Section B, Table 1, Footnote 4 should be removed. The quality control measures necessary for ensuring quality data cannot be easily met in the conditions expected during "wet weather" sampling. Wet deposition has long been understood as a mode of transport for Hg in the atmosphere. Sampling during a storm event, in which rain is actively falling, could pose contamination issues for field blanks (also required by Footnote 4) collected in this environment. Contaminated field blanks would call into question samples collected alongside those blanks. Considering the likelihood of collecting storm water samples during active rainfall, it is very likely contaminated blanks would confound the interpretation of the mercury data and compromise the integrity of the data. Should mercury analysis be required, Duke Energy advocates the Cold Vapor Mercury Analytical Method 245.1.

g. Part II, Section B, Table 2 comments of the draft permit requires a separate signed Annual Summary DMR copy to be submitted to the local DWQ Regional Office by March 1 of each year. Part III, Section E, Item 1 indicates that sampling results must also be submitted on the DMR forms within 30 days of obtaining the analytical results. Requiring this separate Annual Summary DMR submittal is redundant and time consuming. Therefore, we request that the requirement for submittal of the Annual Summary DMR be removed from the permit.

h. Part III, Section E, Item 1 of the draft permit states that, in the event of no discharges occurring during the reporting period, Duke Energy is required to submit a DMR "within 30 days of the end of the three month sampling period". This sentence should read "within 30 days of the end of the six month sampling period".

i. Part II, Section A, Paragraph 7 states that "The permittee shall provide certification in writing in accordance with Part III, Standard Conditions, Section B, Paragraph 5". This sentence should read "in accordance with Part III, Standard Conditions, Section B, Paragraph 3".

j. Part II, Section B, Table 2, "Year 5 – Period 1" date of "February 28, 2016" should be changed to "February 29, 2016" to reflect the leap year.

Please contact Mark.McGary@duke-energy.com or at 704-634-7098 if you have any questions or need any additional information.

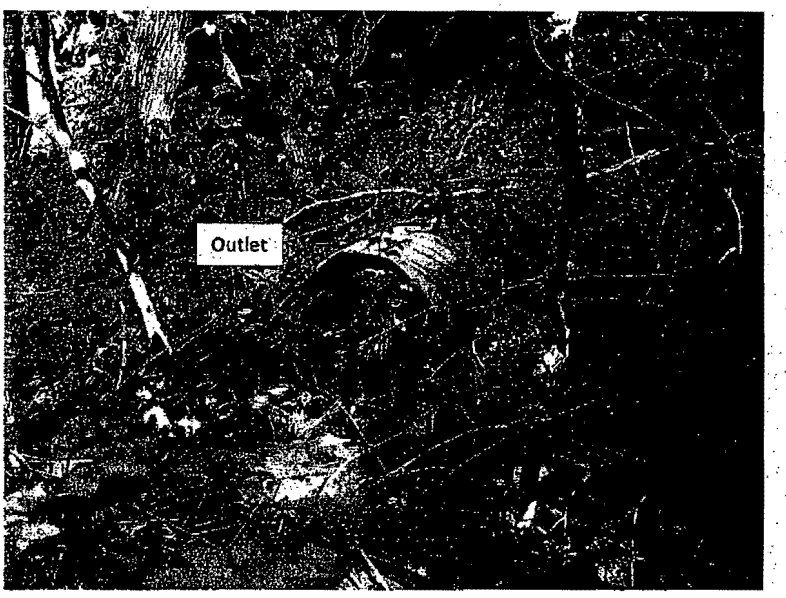
Sincerely,

George T. Everett

George T. Everett, PhD.
Director, Environmental & Legislative Affairs

Attachment

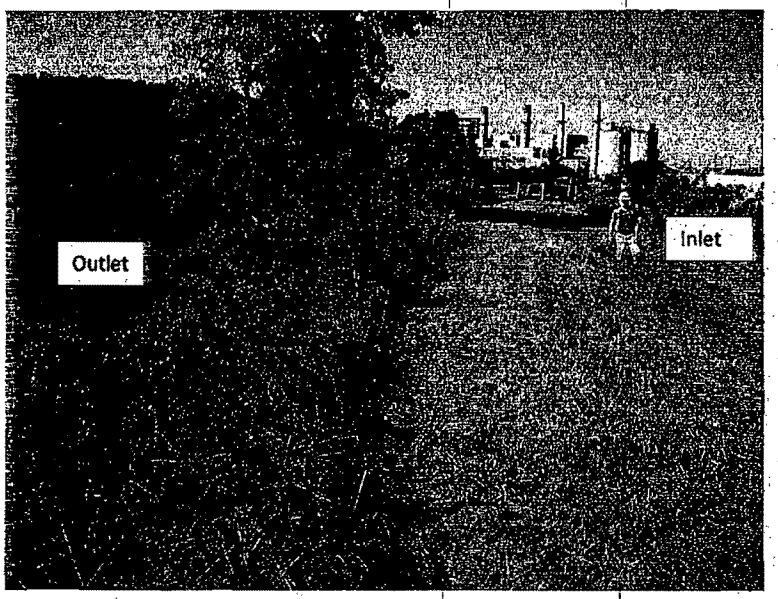
Cc w/att: Mr. Bradley Bennett, NCDENR
Mr. Michael Parker, NCDENR MRO
Donna Burrell
Dayna Herrick
John Velte
Josh Quinn
Mark McGary



Outfall SW001
CMP

Current accessibility for sampling/monitoring: Accessible.

Sample collection probability: Unlikely due to limited extent of drainage area and clogging of outlet.



Outfall SW002
CMP

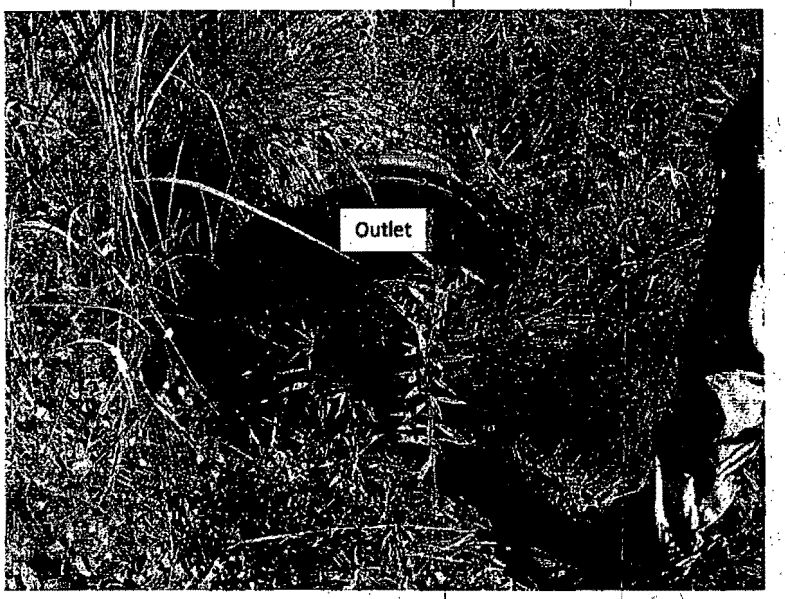
Current accessibility for sampling/monitoring: Inaccessible due to steepness of embankment and dense vegetation.

Sample collection probability: Unlikely due to limited extent of drainage area, and only if a safe means of access is provided.

Outfall SW003
Riprap channel

Current accessibility for sampling/monitoring: Accessible.

Sample collection probability: Currently impossible due to voids in existing rip rap channel. Sample collection possible if detention basin installed within channel to allow for stormwater retention.



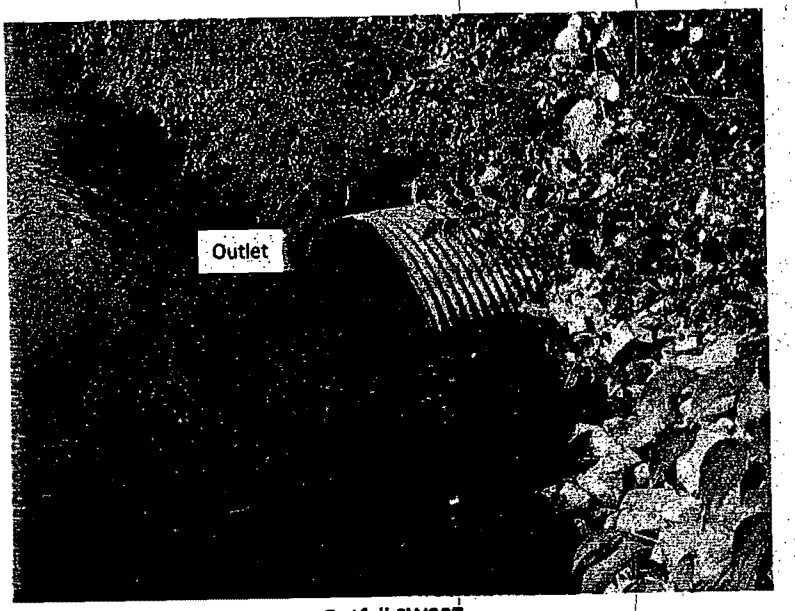
Outfall SW004
HDPE Pipe

Current accessibility for sampling/monitoring: Accessible.

Sample collection probability: Unlikely due to limited extent of drainage area.

Outfall SW006
CMP

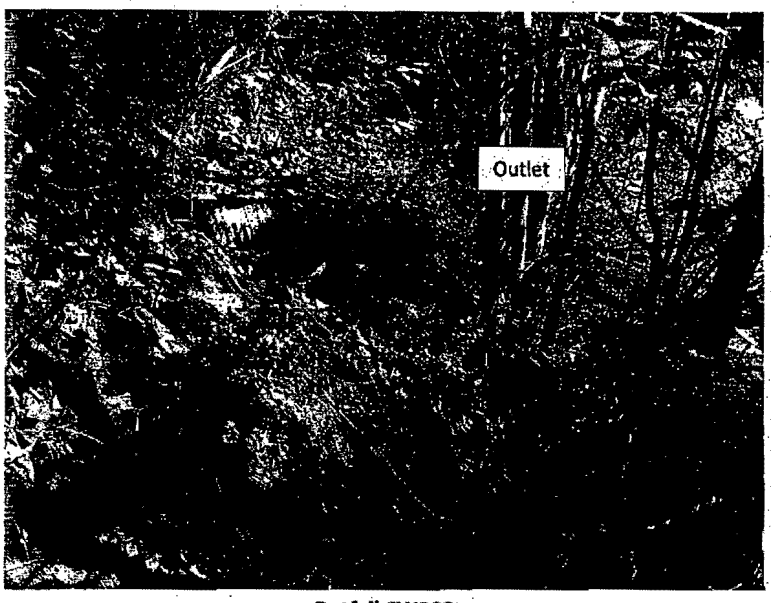
Current accessibility for sampling/monitoring:	Inaccessible due to steepness of embankment and dense vegetation.
Sample collection probability:	Possible only if a safe means of access is provided.



Outfall SW007
CMP

Current accessibility for sampling/monitoring: Inaccessible due to submerged outlet.

Sample collection probability: Possible, but must be performed at an upstream manhole.

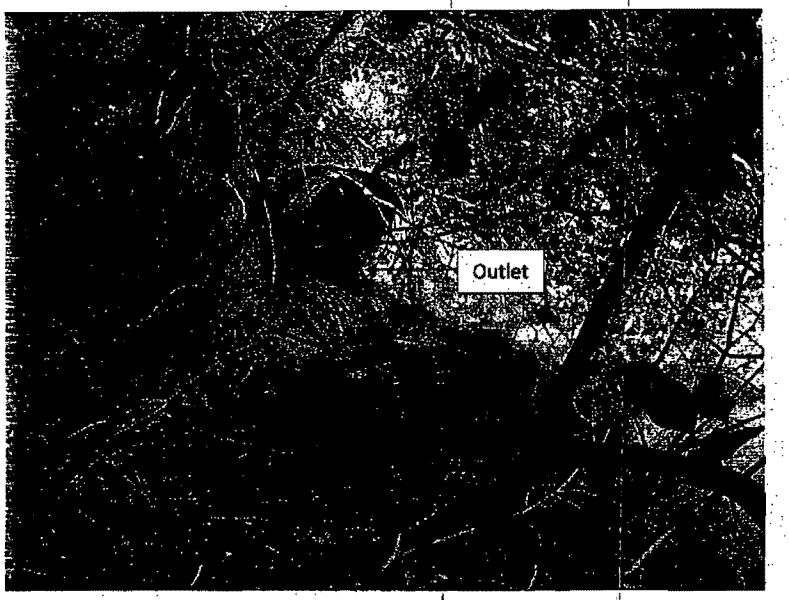


Outfall SW008

CMP

Current accessibility for sampling/monitoring: Inaccessible due to steepness of embankment and dense vegetation.

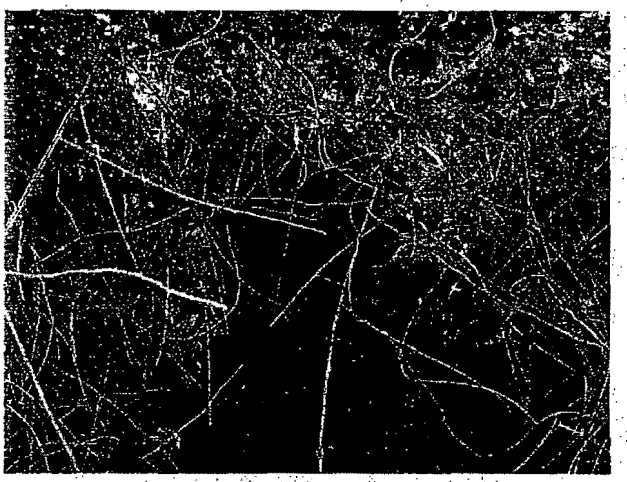
Sample collection probability: Unlikely due to limited extent of drainage area, and only if a safe means of access is provided.

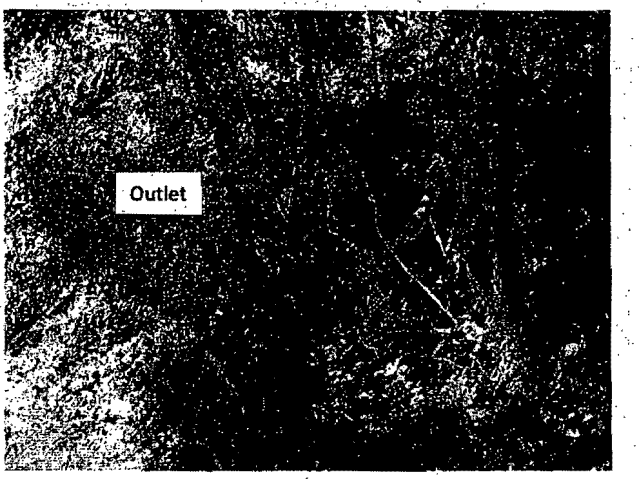


Outfall SW009
CMP

Current accessibility for sampling/monitoring: Inaccessible due to steepness of embankment and dense vegetation.

Sample collection probability: Possible only if a safe means of access is provided; otherwise sampling would be performed at an upstream manhole. Stormwater at this outfall is co-mingled with a continuous non-contact cooling water discharge.

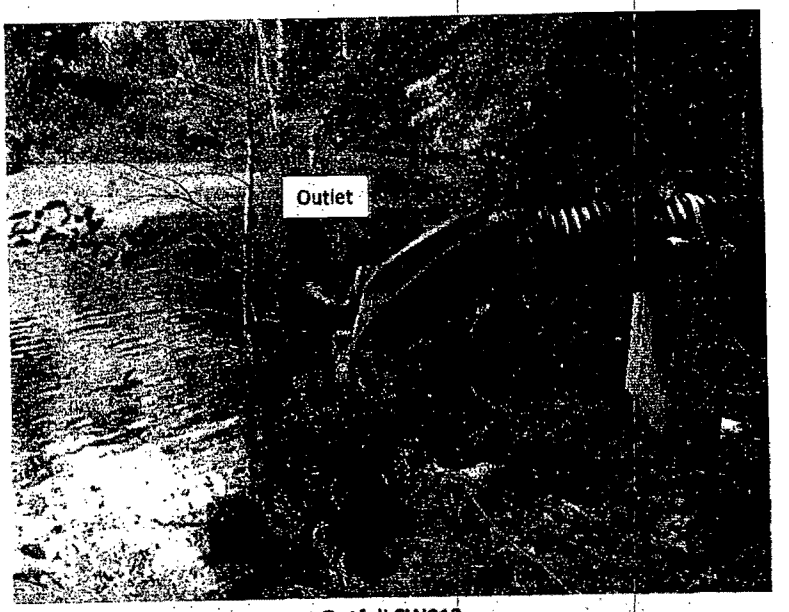




Outfall SW011
HDPE Pipe

Current accessibility for sampling/monitoring: Inaccessible due to steepness of embankment and dense vegetation.

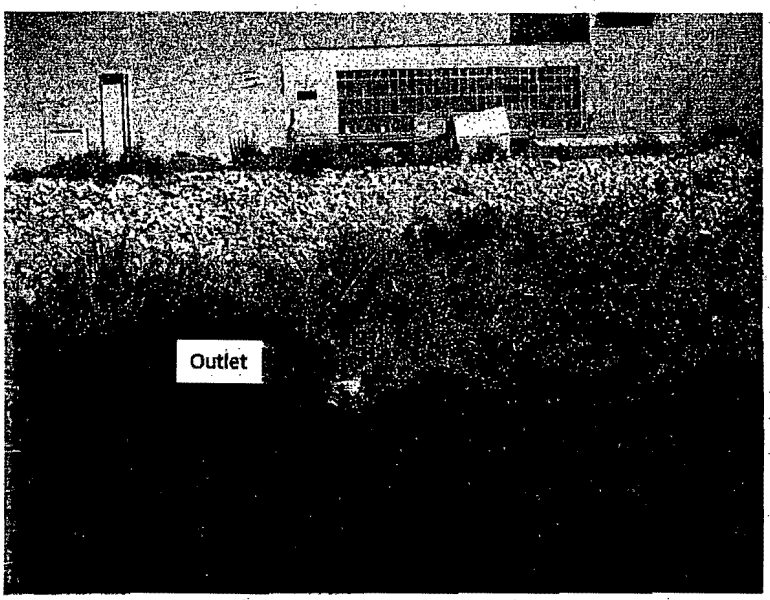
Sample collection probability: Possible only if a safe means of access is provided.



Outfall SW012
HDPE Pipe

Current accessibility for sampling/monitoring: Inaccessible due to steepness of embankment.

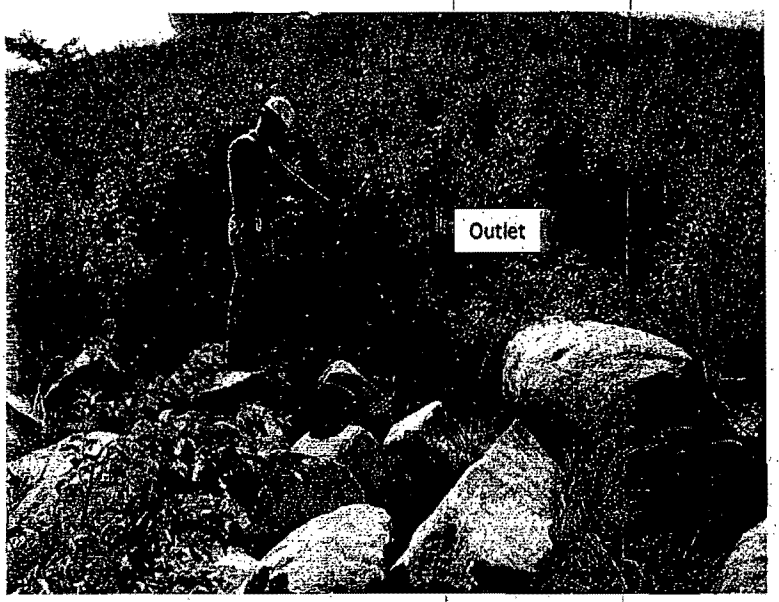
Sample collection probability: Possible only if a safe means of access is provided.



Outfall SW022
HDPE Pipe

Current accessibility for sampling/monitoring: Inaccessible due to steepness of riprap embankment.

Sample collection probability: Possible only if a safe means of access is provided.



Outfall SW023
HDPE Pipe

Current accessibility for sampling/monitoring:	Inaccessible due to unstable riprap and dense vegetation.
Sample collection probability:	Possible only if vegetation is cleared, and a safe means of access is provided.

NCDENR
North Carolina Department of Environment and Natural Resources
Division of Water Quality
Coleen H. Sullins
Director

Beverly Eaves Perdue
Governor

Dee Freeman
Secretary

July 19, 2011

Mr. Mark McGary
Senior Engineer
Duke Energy Carolinas, LLC
P.O. Box 1006, Mail Code EC13K
Charlotte, North Carolina 28201

Subject: Draft NPDES Stormwater Permit
Permit No. NCS000549
Duke Energy Carolinas, LLC – Riverbend
Steam Station
Gaston County

Dear Mr. McGary:

Enclosed with this letter is a copy of the draft NPDES stormwater permit for your facility. Please review the draft permit very carefully to ensure thorough understanding of the conditions and requirements it contains.

Please submit any comments to me no later than thirty (30) days following your receipt of the draft. Comments should be sent to the address listed at the bottom of this page. If no adverse comments are received from the public or from you, this permit will likely be issued in about two months.

With its application, the company requested representative outfall status (ROS) for two stormwater discharge outfalls. The Mooresville Regional Office has recommended approval with some modifications as discussed with you at the site visit on June 22, 2011. The recommendations include approval of ROS for SW001, SW002, and SW006 (instead of SW004). Based on the site visit, outfalls SW004, SW010, SW011, and SW012 will not be monitored since they are not part of the industrial activities that occur on the site.

The draft permit reflects the Region's recommendations and acknowledges that a change in ROS may result depending on results. Since ROS is typically handled outside of the permit, changes may not require a permit modification. The Division will also document final ROS approval in the cover letter of the issued permit.

If you have any questions or comments concerning this draft permit, please contact me at (919) 807-6375 or robert.patterson@ncdenr.gov.

Wetlands and Stormwater Branch
1617 Mail Service Center, Raleigh, North Carolina 27699-1617
Location: 512 N. Salisbury St. Raleigh, North Carolina 27604
Phone: 919-807-6300 \ FAX: 919-807-6494 \ Customer Service: 1-877-623-6748
Internet: www.ncwaterquality.org

An Equal Opportunity \ Affirmative Action Employer

One NorthCarolina Naturally

Sincerely,

Robert D. Patterson, PE
Environmental Engineer
Stormwater Permitting Unit

cc: Mooresville Regional Office, Water Quality Section (w/attachment)/ M. Parker
Stormwater Permitting Unit

Attachments

EPARFI00147

Permit No. NCS000549

STATE OF NORTH CAROLINA
DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
DIVISION OF WATER QUALITY

PERMIT

TO DISCHARGE STORMWATER UNDER THE

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

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

Duke Energy Carolinas, LLC

is hereby authorized to discharge stormwater from a facility located at

Riverbend Steam Station
175 Steam Plant Road
Mount Holly, NC
Gaston County

to receiving waters designated as the Catawba River (Mountain Island Lake), class WS-IV, B; CA class stream in the Catawba River Basin, in accordance with the discharge limitations, monitoring requirements, and other conditions set forth in Parts I, II, III, IV, V and VI hereof.

Note: Draft Permit Dates are Approximate

This permit shall become effective October 1, 2011.

This permit and the authorization to discharge shall expire at midnight on September 30, 2016.

Signed this the 12th day of September, 2011.

for Coleen H. Sullins, Director
Division of Water Quality
By the Authority of the Environmental Management Commission

draft

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draft

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Draft

PART I INTRODUCTION

SECTION A: INDIVIDUAL PERMIT COVERAGE

During the period beginning on the effective date of the permit and lasting until expiration, the permittee is authorized to discharge stormwater associated with industrial activity. Such discharges shall be controlled, limited and monitored as specified in this permit.

If industrial materials and activities are not exposed to precipitation or runoff as described in 40 CFR §122.26(g), the facility may qualify for a No Exposure Exclusion from NPDES stormwater discharge permit requirements. Any owner or operator wishing to obtain a No Exposure Certification must submit a No Exposure Certification (NOEC) form to the Division; must receive approval by the Division; must maintain no exposure conditions unless authorized to discharge under a valid NPDES stormwater permit; and must reapply for the No Exposure Exclusion once every five (5) years.

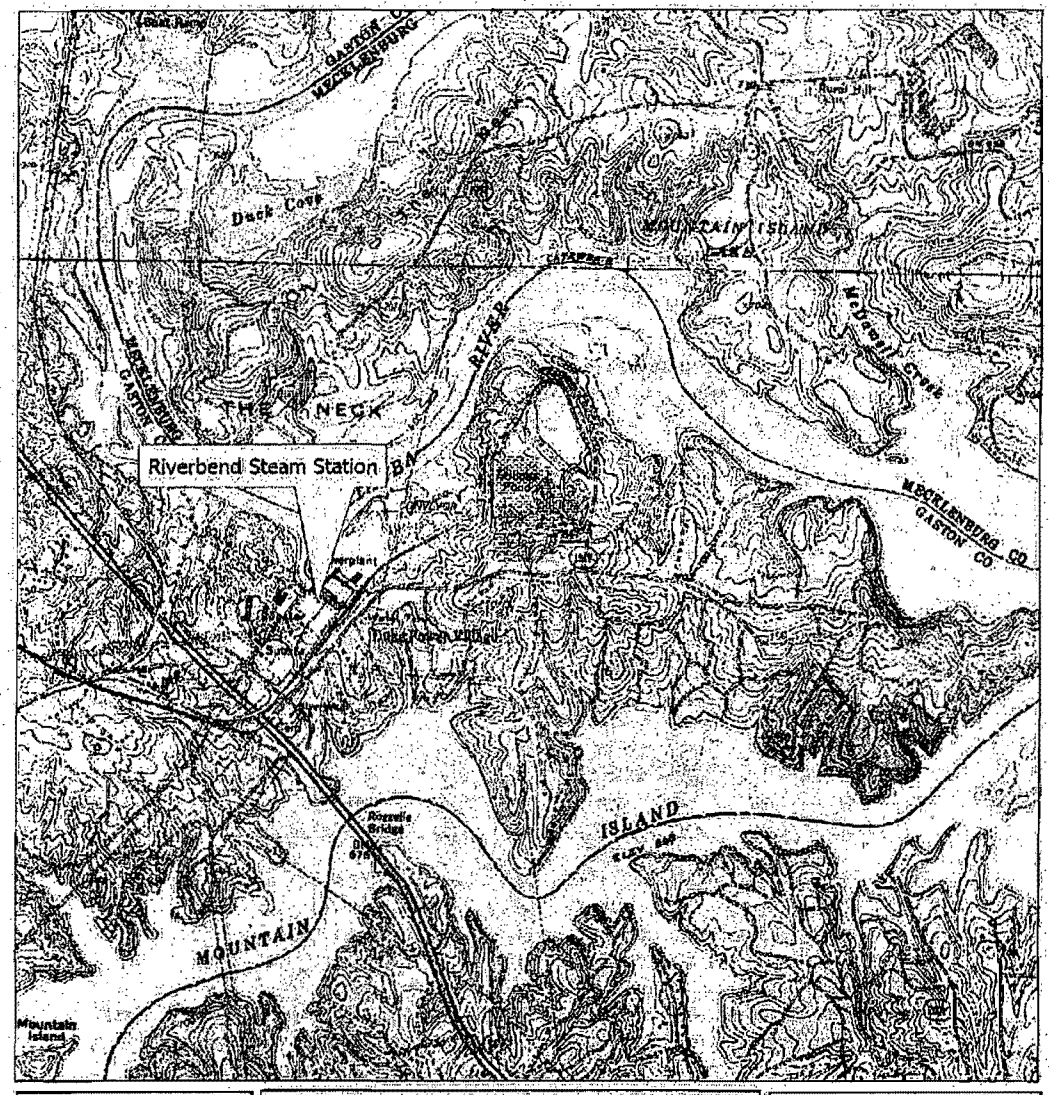
SECTION B: PERMITTED ACTIVITIES

Until this permit expires or is modified or revoked, the permittee is authorized to discharge stormwater to the surface waters of North Carolina or separate storm sewer system that has been adequately treated and managed in accordance with the terms and conditions of this individual permit. All stormwater discharges shall be in accordance with the conditions of this permit.

Any other point source discharge to surface waters of the state is prohibited unless it is an allowable non-stormwater discharge or is covered by another permit, authorization, or approval. The stormwater discharges allowed by this individual permit shall not cause or contribute to violations of Water Quality Standards.

This permit does not relieve the permittee from responsibility for compliance with any other applicable federal, state, or local law, rule, standard, ordinance, order, judgment, or decree.

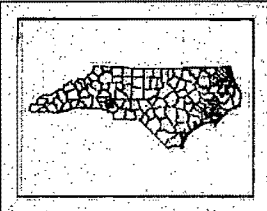
EPARFI00151



NCS000549

Duke Energy Carolinas, LLC
Riverbend Steam Station

Latitude: 35° 21' 40" N
Longitude: 80° 58' 32" W
County: Gaston
Receiving Stream: Catawba River (Mountain Island Lake)
Stream Class: WS-IV, B; CA
Index No.: 11-(114)
Sub-basin: 03-08-33 (Catawba River Basin)



Facility Location

PART II MONITORING, CONTROLS, AND LIMITATIONS FOR PERMITTED DISCHARGES

SECTION A: STORMWATER POLLUTION PREVENTION PLAN

The Permittee shall develop a Stormwater Pollution Prevention Plan, herein after referred to as the Plan. This Plan shall be considered public information in accordance with Part III, Standard Conditions, Section E, Paragraph 3 of this individual permit. The Plan shall include, at a minimum, the following items:

1. Site Plan. The site plan shall provide a description of the physical facility and the potential pollutant sources which may be expected to contribute to contamination of stormwater discharges. The site plan shall contain the following:

   (a) A general location map (USGS quadrangle map or appropriately drafted equivalent map), showing the facility's location in relation to transportation routes and surface waters, the name of the receiving water(s) to which the stormwater outfall(s) discharges, or if the discharge is to a municipal separate storm sewer system, the name of the municipality and the ultimate receiving waters, and accurate latitude and longitude of the point(s) of discharge. The general location map (or alternatively the site map) shall identify whether each receiving water is impaired (on the state's 303(d) list of impaired waters) or is located in a **watershed for which a TMDL has been established,** and what the parameter(s) of concern are.
   North Carolina's 303(d) List can be found here:
   http://h2o.enr.state.nc.us/tmdl/General_303d.htm#Downloads
   North Carolina TMDL documents can be found here:
   http://h2o.enr.state.nc.us/tmdl/TMDL_list.htm#Final_TMDLs.

   (b) A narrative description of storage practices, loading and unloading activities, outdoor process areas, dust or particulate generating or control processes, and waste disposal practices. A narrative description of the potential pollutants which could be expected to be present in the stormwater discharge from each outfall.

   (c) A site map drawn to scale (including a distance legend) showing: the site property boundary, the stormwater discharge outfalls, all on-site and adjacent surface waters and wetlands, industrial activity areas (including storage of materials, disposal areas, process areas, loading and unloading areas, and haul roads), site topography, all drainage features and structures, drainage areas for each outfall, direction of flow in each drainage area, industrial activities occurring in each drainage area, buildings, existing BMPs, and impervious surfaces. The site map must indicate the percentage of each drainage area that is impervious.

   (d) A list of significant spills or leaks of pollutants that have occurred at the facility during the three (3) previous years and any corrective actions taken to mitigate spill impacts.

EPARFI00153

(e) Certification that the stormwater outfalls have been evaluated for the presence of non-stormwater discharges. The certification statement will be signed in accordance with the requirements found in Part III, Standard Conditions, Section B, Paragraph 3. The permittee shall re-certify annually that the stormwater outfalls have been evaluated for the presence of non-stormwater discharges.

2. Stormwater Management Plan. The stormwater management plan shall contain a narrative description of the materials management practices employed which control or minimize the exposure of significant materials to stormwater, including structural and nonstructural measures. The stormwater management plan, at a minimum, shall incorporate the following:

(a) Feasibility Study. A review of the technical and economic feasibility of changing the methods of operations and/or storage practices to eliminate or reduce exposure of materials and processes to stormwater. Wherever practical, the permittee shall prevent exposure of all storage areas, material handling operations, and manufacturing or fueling operations. In areas where elimination of exposure is not practical, the stormwater management plan shall document the feasibility of diverting the stormwater runoff away from areas of potential contamination.

(b) Secondary Containment Requirements and Records. Secondary containment is required for: bulk storage of liquid materials; storage in any amount of Section 313 of Title III of the Superfund Amendments and Reauthorization Act (SARA) water priority chemicals; and storage in any amount of hazardous substances, in order to prevent leaks and spills from contaminating stormwater runoff. A table or summary of all such tanks and stored materials and their associated secondary containment areas shall be maintained. If the secondary containment devices are connected directly to stormwater conveyance systems, the connection shall be controlled by manually activated valves or other similar devices (which shall be secured closed with a locking mechanism), and any stormwater that accumulates in the containment area shall be at a minimum visually observed for color, foam, outfall staining, visible sheens and dry weather flow, prior to release of the accumulated stormwater. Accumulated stormwater shall be released if found to be uncontaminated by the material stored within the containment area. Records documenting the individual making the observation, the description of the accumulated stormwater, and the date and time of the release shall be kept for a period of five years.

(c) BMP Summary. A listing of site structural and non-structural Best Management Practices (BMP) shall be provided. The installation and implementation of BMPs shall be based on the assessment of the potential for sources to contribute significant quantities of pollutants to stormwater discharges and data collected through monitoring of stormwater discharges. The BMP Summary shall include a written record of the specific rationale for installation and implementation of the selected site BMPs. The BMP Summary shall be reviewed and updated annually.

3. Spill Prevention and Response Plan. The Spill Prevention and Response Plan (SPRP) shall incorporate an assessment of potential pollutant sources based on a materials inventory of the facility. Facility personnel (or the team) responsible for implementing the SPRP shall be identified in a written list incorporated into the SPRP and signed and dated by each individual acknowledging their responsibilities for the plan. A responsible person shall be on-site at all times during facility operations that have the potential to contaminate stormwater runoff through spills or exposure of materials associated with the facility operations. The SPRP must be site stormwater specific. Therefore, an oil Spill Prevention Control and Countermeasure plan (SPCC) may be a component of the SPRP, but may not be sufficient to completely address the stormwater aspects of the SPRP. The common elements of the SPCC with the SPRP may be incorporated by reference into the SPRP.

4. Preventative Maintenance and Good Housekeeping Program. A preventative maintenance and good housekeeping program shall be developed. The program shall list all stormwater control systems, stormwater discharge outfalls, all on-site and adjacent surface waters and wetlands, industrial activity areas (including material storage areas, material handling areas, disposal areas, process areas, loading and unloading areas, and haul roads), all drainage features and structures and existing structural BMPs. The program shall establish schedules of inspections, maintenance, and housekeeping activities of stormwater control systems as well as facility equipment, facility areas, and facility systems that present a potential for stormwater exposure or stormwater pollution. Inspection of material handling areas and regular cleaning schedules of these areas shall be incorporated into the program. Timely compliance with the established schedules for inspections, maintenance, and housekeeping shall be recorded in writing and maintained in the SPPP.

5. Employee Training. Training programs shall be developed and training provided at a minimum on an annual basis for facility personnel with responsibilities for: spill response and cleanup, preventative maintenance activities, and for any of the facility's operations that have the potential to contaminate stormwater runoff. Facility personnel (or team) responsible for implementing the training shall be identified, and their annual training shall be documented by the signature of each employee trained.

6. Responsible Party. The Stormwater Pollution Prevention Plan shall identify a specific position(s) responsible for the overall coordination, development, implementation, and revision to the Plan. Responsibilities for all components of the Plan shall be documented and position assignments provided.

7. Plan Amendment. The permittee shall amend the Plan whenever there is a change in design, construction, operation, or maintenance which has a significant effect on the potential for the discharge of pollutants to surface waters. All aspects of the Stormwater Pollution Prevention Plan shall be reviewed and updated on an annual basis. The annual update shall include an updated list of significant spills or leaks of pollutants for the previous three years, or the notation that no spills have occurred. The annual update shall include re-certification that the stormwater outfalls have been evaluated for the presence of non-stormwater discharges. Each annual update shall include a re-evaluation of the

effectiveness of the BMPs listed in the BMP Summary of the Stormwater Management Plan.

The Director may notify the permittee when the Plan does not meet one or more of the minimum requirements of the permit. Within 30 days of such notice, the permittee shall submit a time schedule to the Director for modifying the Plan to meet minimum requirements. The permittee shall provide certification in writing (in accordance with Part III, Standard Conditions, Section B, Paragraph 5) to the Director that the changes have been made.

8. Facility Inspections. Inspections of the facility and all stormwater systems shall occur as part of the Preventative Maintenance and Good Housekeeping Program at a minimum on a semi-annual schedule, once during the first half of the year (January to June), and once during the second half (July to December), without less than 60 days separating inspection dates (unless performed more frequently than semi-annually). These facility inspections are different from, and in addition to, the stormwater discharge characteristic monitoring required in Part II B, C and D of this permit.

9. Implementation. The permittee shall implement the Plan. Implementation of the Plan shall include documentation of all monitoring, measurements, inspections, maintenance activities, and training provided to employees including the log of the sampling data and of actions taken to implement BMPs associated with the industrial activities, including vehicle maintenance activities. Such documentation shall be kept on-site for a period of five years and made available to the Director or the Director's authorized representative immediately upon request.

SECTION B: ANALYTICAL MONITORING REQUIREMENTS

Analytical monitoring of stormwater discharges shall be performed as specified in **Table 1**. All analytical monitoring shall be performed during a representative storm event. The required monitoring will result in a minimum of ten analytical samplings being conducted over the term of the permit at each stormwater discharge outfall (SDO).

A **representative storm event** is a storm event that measures greater than 0.1 inches of rainfall. The time between this storm event and the previous storm event measuring greater than 0.1 inches must be at least 72 hours. A single storm event may have a period of no precipitation of up to 10 hours. For example, if it rains but stops before producing any collectable discharge, a sample may be collected if the next rain producing a discharge begins within 10 hours.

Table 1. Analytical Monitoring Requirements

Discharge Characteristics	Units	Measurement Frequency[1]	Sample Type[2]	Sample Location[3]
40 CFR Part 423 Appendix A: 13 Priority Pollutant Metals (Ag, As, Be, Cd, Cr, Cu, Hg, Ni, Pb, Sb, Se, Tl, Zn)[4]	µg/l	semi-annual	Grab	SDO
Al	mg/l	semi-annual	Grab	SDO
B	mg/l	semi-annual	Grab	SDO
COD	mg/l	semi-annual	Grab	SDO
TSS	mg/l	semi-annual	Grab	SDO
Sulfate	mg/l	semi-annual	Grab	SDO
Oil and Grease (O&G)	mg/l	semi-annual	Grab	SDO
pH	standard	semi-annual	Grab	SDO
Total Rainfall[5]	inches	semi-annual	Rain Gauge	-

Footnotes:

1. Measurement Frequency: Twice per year during a representative storm event, for each year until either another permit is issued for this facility or until this permit is revoked or rescinded. If at the end of this permitting cycle the permittee has submitted the appropriate paperwork for a renewal permit before the submittal deadline, the permittee will be considered for a renewal application. The applicant must continue semi-annual monitoring until the renewed permit is issued. See **Table 2** for schedule of monitoring periods through the end of this permitting cycle.
2. If the stormwater runoff is controlled by a stormwater detention pond, a grab sample of the discharge from the pond shall be collected within the first 30 minutes of discharge.
3. Sample Location: Samples shall be collected at each stormwater discharge outfall (SDO) unless representative outfall status has been granted.
4. Mercury shall be analyzed by EPA Low-level detection method 1631E. This method also requires a field blank be analyzed. A benchmark does not apply; however, **values above 0.012 µg/l should be noted on annual SDO DMR reports to the Regional Office.**
5. For each sampled representative storm event the total precipitation must be recorded. An on-site rain gauge or local rain gauge reading must be recorded.

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The permittee shall complete the minimum ten analytical samplings in accordance with the schedule specified below in **Table 2.** A **minimum of 60 days must separate each sample date** unless monthly monitoring has been instituted under a Tier Two response.

Table 2. Monitoring Schedule

Monitoring period[1]	Sample Number	Start	End
Year 1 – Period 1	1	October 1, 2011	December 31, 2011
Year 1 – Period 2	2	January 1, 2012	June 30, 2012
Year 2 – Period 1	3	July 1, 2012	December 31, 2012
Year 2 – Period 2	4	January 1, 2013	June 30, 2013
Year 3 – Period 1	5	July 1, 2013	December 31, 2013
Year 3 – Period 2	6	January 1, 2014	June 30, 2014
Year 4 – Period 1	7	July 1, 2014	December 31, 2014
Year 4 – Period 2	8	January 1, 2015	June 30, 2015
Year 5 – Period 1	9	July 1, 2015	December 31, 2015
Year 5 – Period 2	10	January 1, 2016	June 30, 2016

Footnotes:

1 Maintain semi-annual monitoring during permit renewal process. The applicant must continue semi-annual monitoring until the renewed permit is issued.

2 If no discharge occurs during the sampling period, the permittee must submit a monitoring report indicating "No Flow" within 30 days of the end of the six-month sampling period.

The permittee shall report the analytical results from the first sample with valid results within the monitoring period. **In addition, a separate signed Annual Summary DMR copy shall be submitted to the local DWQ Regional Office (RO) by March 1 of each year.** The permittee shall compare monitoring results to the benchmark values in **Table 3**. The benchmark values in **Table 3** are **not permit limits** but should be used as guidelines for the permittee's Stormwater Pollution Prevention Plan (SPPP). Exceedences of benchmark values require the permittee to increase monitoring, increase management actions, increase record keeping, and/or install stormwater Best Management Practices (BMPs) in a tiered program. See below the descriptions of Tier One and Tier Two.

Table 3. Benchmark Values for Analytical Monitoring

Parameter	Units	Benchmark
Aluminum	mg/l	0.75
Antimony	mg/l	0.09
Arsenic	mg/l	0.36
Beryllium	mg/l	0.07
Boron	mg/l	N/A
Cadmium	mg/l	0.001
Chromium	mg/l	[illegible]
Copper	mg/l	[illegible]007
Lead	mg/l	[illegible]
Mercury	µg/l	N/A
Nickel	mg/l	0.26
Selenium	mg/l	0.056
Silver	mg/l	0.001
Thallium	mg/l	N/A
Zinc	mg/l	0.067
COD	mg/l	120
TSS	mg/l	100
Sulfate	mg/l	500
O&G	mg/l	30
pH (*see footnote 1*)	standard	6 - 9[1]

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Footnotes:

1 If pH values outside this range are recorded in sampled stormwater discharges, **but ambient rainfall data indicate precipitation pH levels are within ± 0.1 standard units of the measured discharge values or lower**, then the lower threshold of this benchmark range does not apply. Readings from an on-site or local rain gauge (or local precipitation data) must be documented to demonstrate background concentrations were below the benchmark pH range.

Tier One
If: The first valid sampling results are above a benchmark value, or outside of the benchmark range, for any parameter at any outfall;
Then: The permittee shall: 1. Conduct a stormwater management inspection of the facility **within two weeks of receiving sampling results.** 2. Identify and evaluate possible causes of the benchmark value exceedence. 3. Identify potential, and select the specific: source controls, operational controls, or physical improvements to reduce concentrations of the parameters of concern, or to bring concentrations to within the benchmark range. 4. Implement the selected actions **within two months of the inspection.** 5. Record each instance of a Tier One response in the Stormwater Pollution Prevention Plan. Include the date and value of the benchmark exceedence, the inspection date, the personnel conducting the inspection, the selected actions, and the date the selected actions were implemented.

Tier Two
If: During the term of this permit, the first valid sampling results **from two consecutive monitoring periods** are above the benchmark values, or outside of the benchmark range, for any specific parameter at a specific discharge outfall;
Then: The permittee shall: 1. Repeat all the required actions outlined above in Tier One. 2. Immediately institute monthly monitoring for all parameters (**except mercury**) at every outfall where a sampling result exceeded the benchmark value for two consecutive samples. Monthly (analytical and qualitative) monitoring shall continue **until three consecutive sample results** are below the benchmark values, or within the benchmark range, for all parameters at that outfall. 3. If no discharge occurs during the sampling period, the permittee is required to submit a monthly monitoring report indicating "No Flow." 4. Maintain a record of the Tier Two response in the Stormwater Pollution Prevention Plan.

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During the term of this permit, if the valid sampling results required for the permit monitoring periods exceed the benchmark value, or are outside the benchmark range, for any specific parameter at any specific outfall on **four occasions**, the permittee shall notify the DWQ Mooresville Regional Office Supervisor in writing **within 30 days of receipt** of the fourth analytical results. DWQ may, but is not limited to:

- Require that the permittee increase or decrease the monitoring frequency for the remainder of the permit;
- Work with the permittee to develop alternative response strategies;
- Require the permittee to install structural stormwater controls;
- Require the permittee to implement other stormwater control measures; or
- Require that the permittee implement site modifications to qualify for the No Exposure Exclusion.

This site discharges to the Catawba River, which is **impaired for low pH**. If a Total Maximum Daily Load (TMDL) is approved for this segment of the river, the Division may require additional monitoring for this metal (currently part of the permit) or consider routine sample results in determining whether additional BMPs are needed to control the pollutant(s) of concern to the maximum extent practicable.

If additional BMPs are needed to achieve the required level of control, the permittee will be required to (1) develop a strategy for implementing appropriate BMPs, and (2) submit a timetable for incorporation of those BMPs into the permitted Stormwater Pollution Prevention Plan.

SECTION C: QUALITATIVE MONITORING REQUIREMENTS

Qualitative monitoring requires a visual inspection of each stormwater outfall regardless of representative outfall status and shall be performed as specified in **Table 4**, during the analytical monitoring event. [If analytical monitoring is not required, the permittee still must conduct semi-annual qualitative monitoring.] Qualitative monitoring is for the purpose of evaluating the effectiveness of the Stormwater Pollution Prevention Plan (SPPP) and assessing new sources of stormwater pollution.

In the event an atypical condition is noted at a stormwater discharge outfall, the permittee shall document the suspected cause of the condition and any actions taken in response to the discovery. This documentation will be maintained with the SPPP.

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Table 4. Qualitative Monitoring Requirements

Discharge Characteristics	Frequency[1]	Monitoring Location[2]
Color	semi-annual	SDO
Odor	semi-annual	SDO
Clarity	semi-annual	SDO
Floating Solids	semi-annual	SDO
Suspended Solids	semi-annual	SDO
Foam	semi-annual	SDO
Oil Sheen	semi-annual	SDO
Erosion or deposition at the outfall	semi-annual	SDO
Other obvious indicators of stormwater pollution	semi-annual	SDO

Footnotes:

1 Measurement Frequency: Twice per year during a representative storm event, for each year until either another permit is issued for this facility or until this permit is revoked or rescinded. If at the end of this permitting cycle the permittee has submitted the appropriate paperwork for renewal permit before the submittal deadline, the permittee will be considered for a renewal application. The applicant must continue semi-annual monitoring until the renewed permit is issued. See Table for schedule of monitoring periods through the end of this permitting cycle.

2 Monitoring Location: Qualitative monitoring shall be performed at each stormwater discharge outfall (SDO) regardless of representative outfall status.

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SECTION D: ON-SITE VEHICLE MAINTENANCE MONITORING REQUIREMENTS

Facilities which have any vehicle maintenance activity occurring on-site which uses more than 55 gallons of new motor oil per month when averaged over the calendar year shall perform analytical monitoring as specified below in **Table 5**. This monitoring shall be performed at all stormwater discharge outfalls which discharge stormwater runoff from vehicle maintenance areas and in accordance with the schedule presented in **Table 2** (Section B). All analytical monitoring shall be performed during a representative storm event.

Table 5. Analytical Monitoring Requirements for On-Site Vehicle Maintenance

Discharge Characteristics	Units	Measurement Frequency[1]	Sample Type	Sample Location[3]
pH	standard	semi-annual	Grab	SDO
Total Petroleum Hydrocarbons *EPA Method 1664 (SGT-HEM)*	mg/l	semi-annual	Grab	SDO
Total Suspended Solids	mg/l	semi-annual	Grab	SDO
Total Rainfall[4]	inches	semi-annual	Rain gauge	-
New Motor Oil Usage	gallons/month	semi-annual	Estimate	-

Footnotes:

1 Measurement Frequency: Twice per year during a representative storm event, for each year until either another permit is issued for this facility or until this permit is revoked or rescinded. If at the end of this permitting cycle the permittee has submitted the appropriate paperwork for a renewal permit before the submittal deadline, the permittee will be considered for a renewal application. The applicant must continue semi-annual monitoring until the renewed permit is issued. See **Table 2** for schedule of monitoring periods through the end of this permitting cycle.

2 If the stormwater runoff is controlled by a stormwater detention pond a grab sample of the discharge from the pond shall be collected within the first 30 minutes of discharge from the pond.

3 Sample Location: Samples shall be collected at each stormwater discharge outfall (SDO) that discharges stormwater runoff from area(s) where vehicle maintenance activities occur.

4 For each sampled representative storm event the total precipitation must be recorded. An on-site or local rain gauge reading must be recorded.

Monitoring results shall be compared to the benchmark values in **Table 6**. The benchmark values in **Table 6** are not permit limits but should be used as guidelines for the permittee's Stormwater Pollution Prevention Plan (SPPP). Exceedences of benchmark values require the permittee to increase monitoring, increase management actions, increase record keeping, and/or install stormwater Best Management Practices (BMPs), as provided in Part II Section B.

Table 6. Benchmark Values for Vehicle Maintenance Analytical Monitoring

Discharge Characteristics	Units	Benchmark
pH (*see footnote 1*)	standard	6 - 9[1]
Total Petroleum Hydrocarbons (TPH)	mg/L	15
Total Suspended Solids	mg/L	100

Footnotes:

1 If pH values outside this range are recorded in sampled stormwater discharges, **but ambient rainfall data indicate precipitation pH levels are within ± 0.1 standard units of the measured values or lower,** then the lower threshold of this benchmark range does not apply. Readings from an on-site or local rain gauge (or local precipitation data) must be documented to demonstrate background concentrations were below the normal pH range.

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PART III STANDARD CONDITIONS FOR NPDES STORMWATER INDIVIDUAL PERMITS

SECTION A: COMPLIANCE AND LIABILITY

1. Compliance Schedule

The permittee shall comply with Limitations and Controls specified for stormwater discharges in accordance with the following schedule:

Existing Facilities already operating but applying for permit coverage for the first time: The Stormwater Pollution Prevention Plan shall be developed and implemented within 12 months of the effective date of the initial permit and updated thereafter on an annual basis. Secondary containment, as specified in Part II, Section A, Paragraph 2(b) of this permit, shall be accomplished within 12 months of the effective date of the initial permit issuance.

New Facilities applying for coverage for the first time and existing facilities previously permitted and applying for renewal under this permit: The Stormwater Pollution Prevention Plan shall be developed and implemented prior to the beginning of discharges from the operation of the industrial activity and be updated thereafter on an annual basis. Secondary containment, as specified in Part II, Section A, Paragraph 2(b) of this permit shall be accomplished prior to the beginning of discharges from the operation of the industrial activity.

2. Duty to Comply

The permittee must comply with all conditions of this individual permit. Any permit noncompliance constitutes a violation of the Clean Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit upon renewal application.

a. The permittee shall comply with standards or prohibitions established under section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

b. The Clean Water Act provides that any person who violates a permit condition is subject to a civil penalty not to exceed $25,000 per day for each violation. Any person who negligently violates any permit condition is subject to criminal penalties of $2,500 to 25,000 per day of violation, or imprisonment for not more than 1 year, or both. Any person who knowingly violates permit conditions is subject to criminal penalties of $5,000 to $50,000 per day of violation, or imprisonment for not more than 3 years, or both. Also, any person who violates a permit condition may be assessed an administrative penalty not to exceed $10,000 per violation with the maximum amount not to exceed $125,000. [Ref: Section 309 of the Federal Act 33 USC 1319 and 40 CFR 122.41(a).]

c. Under state law, a daily civil penalty of not more than ten thousand dollars ($10,000) per violation may be assessed against any person who violates or fails to act in accordance with the terms, conditions, or requirements of a permit. [Ref: NC General Statutes 143-215.6A].

d. Any person may be assessed an administrative penalty by the Director for violating section 301, 302, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of the Act. Administrative penalties for Class I violations are not to exceed $10,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed $25,000. Penalties for Class II violations are not to exceed

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$10,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed $125,000.

3. Duty to Mitigate

The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this individual permit which has a reasonable likelihood of adversely affecting human health or the environment.

4. Civil and Criminal Liability

Except as provided in Part III, Section C of this permit regarding bypassing of stormwater control facilities, nothing in this individual permit shall be construed to relieve the permittee from any responsibilities, liabilities, or penalties for noncompliance pursuant to NCGS 143-215.3, 143-215.6A, 143-215.6B, 143-215.6C or Section 309 of the Federal Act, 33 USC 1319. Furthermore, the permittee is responsible for consequential damages, such as fish kills, even though the responsibility for effective compliance may be temporarily suspended.

5. Oil and Hazardous Substance Liability

Nothing in this individual permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject to under NCGS 143-215.75 et seq. or Section 311 of the Federal Act, 33 USC 1321.

6. Property Rights

The issuance of this individual permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, State or local laws or regulations.

7. Severability

The provisions of this individual permit are severable, and if any provision of this individual permit, or the application of any provision of this individual permit to any circumstances, is held invalid, the application of such provision to other circumstances, and the remainder of this individual permit, shall not be affected thereby.

8. Duty to Provide Information

The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit issued pursuant to this individual permit or to determine compliance with this individual permit. The permittee shall also furnish to the Director upon request, copies of records required to be kept by this individual permit.

9. Penalties for Tampering

The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate, any monitoring device or method required to be maintained under this individual permit shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than two years per violation, or by both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more that $20,000 per day of violation, or by imprisonment of not more than 4 years, or both.

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10. Penalties for Falsification of Reports

The Clean Water Act provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this individual permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than two years per violation, or by both.

SECTION B: GENERAL CONDITIONS

1. Individual Permit Expiration

The permittee is not authorized to discharge after the expiration date. In order to receive automatic authorization to discharge beyond the expiration date, the permittee shall submit forms and fees as are required by the agency authorized to issue permits no later than 180 days prior to the expiration date. Any permittee that has not requested renewal at least 180 days prior to expiration, or any permittee that does not have a permit after the expiration and has not requested renewal at least 180 days prior to expiration, will be subjected to enforcement procedures as provided in NCGS 143-215.6 and 33 USC 1251 et. seq.

2. Transfers

This permit is not transferable to any person except after notice to and approval by the Director. The Director may require modification or revocation and reissuance of the permit to change the name and incorporate such other requirements as may be necessary under the Clean Water Act. **The Permittee is required to notify the Division in writing in the event the permitted facility is sold or closed.**

3. Signatory Requirements

All applications, reports, or information submitted to the Director shall be signed and certified.

a. All applications to be covered under this individual permit shall be signed as follows:

(1) In the case of a corporation: by a principal executive officer of at least the level of vice-president, or his duly authorized representative, if such representative is responsible for the overall operation of the facility from which the discharge described in the permit application form originates;

(2) In the case of a partnership or limited partnership: by a general partner;

(3) In the case of a sole proprietorship: by the proprietor;

(4) In the case of a municipal, state, or other public entity: by a principal executive officer, ranking elected official, or other duly authorized employee.

b. All reports required by the individual permit and other information requested by the Director shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

(1) The authorization is made in writing by a person described above;

(2) The authorization specified either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or well field, superintendent, a position of equivalent

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responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.); and

(3) The written authorization is submitted to the Director.

c. Any person signing a document under paragraphs a. or b. of this section shall make the following certification:

"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."

4. Individual Permit Modification, Revocation and Reissuance or Termination

The issuance of this individual permit does not prohibit the Director from reopening and modifying the individual permit, revoking and reissuing the individual permit, or terminating the individual permit as allowed by the laws, rules, and regulations contained in Title 40, Code of Federal Regulations, Parts 122 and 123; Title 15A of the North Carolina Administrative Code, Subchapter 2H .0100; and North Carolina General Statute 143-215.1 et al.

5. Permit Actions

The permit may be modified, revoked and reissued, or terminated for cause. The notification of planned changes or anticipated noncompliance does not stay any individual permit condition.

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SECTION C: OPERATION AND MAINTENANCE OF POLLUTION CONTROLS

1. Proper Operation and Maintenance

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this individual permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of this individual permit.

2. Need to Halt or Reduce Not a Defense

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the condition of this individual permit.

3. Bypassing of Stormwater Control Facilities

Bypass is prohibited and the Director may take enforcement action against a permittee for bypass unless:

a. Bypass was unavoidable to prevent loss of life, personal injury or severe property damage; and

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b. There were no feasible alternatives to the bypass, such as the use of auxiliary control facilities, retention of stormwater or maintenance during normal periods of equipment downtime or dry weather. This condition is not satisfied if adequate backup controls should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and

c. The permittee submitted notices as required under, Part III, Section E of this permit.

If the Director determines that it will meet the three conditions listed above, the Director may approve an anticipated bypass after considering its adverse effects.

SECTION D: MONITORING AND RECORDS

1. Representative Sampling

Samples collected and measurements taken, as required herein, shall be characteristic of the volume and nature of the permitted discharge. Analytical sampling shall be performed during a representative storm event. Samples shall be taken on a day and time that is characteristic of the discharge. All samples shall be taken before the discharge joins or is diluted by any other waste stream, body of water, or substance. Monitoring points as specified in this permit shall not be changed without notification to and approval of the Director.

2. Recording Results

For each measurement, sample, inspection or maintenance activity performed or collected pursuant to the requirements of this individual permit the permittee shall record the following information:

a. The date, exact place, and time of sampling, measurements, inspection or maintenance activity;

b. The individual(s) who performed the sampling, measurements, inspection or maintenance activity;

c. The date(s) analyses were performed;

d. The individual(s) who performed the analyses;

e. The analytical techniques or methods used; and

f. The results of such analyses.

3. Flow Measurements

Where required, appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges.

4. Test Procedures

Test procedures for the analysis of pollutants shall conform to the EMC regulations published pursuant to NCGS 143-215.63 et. seq, the Water and Air Quality Reporting Acts, and to regulations published pursuant to Section 304(g), 33 USC 1314, of the Federal Water Pollution Control Act, as Amended, and Regulation 40 CFR 136.

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To meet the intent of the monitoring required by this individual permit, all test procedures must produce minimum detection and reporting levels and all data generated must be reported down to the minimum detection or lower reporting level of the procedure.

5. Representative Outfall

If a facility has multiple discharge locations with substantially identical stormwater discharges that are required to be sampled, the permittee may petition the Director for representative outfall status. If it is established that the stormwater discharges are substantially identical and the permittee is granted representative outfall status, then sampling requirements may be performed at a reduced number of outfalls.

6. Records Retention

Visual monitoring shall be documented and records maintained at the facility along with the Stormwater Pollution Prevention Plan. Copies of analytical monitoring results shall also be maintained on-site. The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, and copies of all reports required by this individual permit for a period of at least 5 years from the date of the sample, measurement, report or application. This period may be extended by request of the Director at any time.

7. Inspection and Entry

The permittee shall allow the Director, or an authorized representative (including an authorized contractor acting as a representative of the Director), or in the case of a facility which discharges through a municipal separate storm sewer system, an authorized representative of a municipal operator or the separate storm sewer system receiving the discharge, upon the presentation of credentials and other documents as may be required by law, to;

a. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this individual permit;

b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this individual permit;

c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this individual permit; and

d. Sample or monitor at reasonable times, for the purposes of assuring individual permit compliance or as otherwise authorized by the Clean Water Act, any substances or parameters at any location.

SECTION E: REPORTING REQUIREMENTS

1. Discharge Monitoring Reports

Samples analyzed in accordance with the terms of this permit shall be submitted to the Division on Discharge Monitoring Report (DMR) forms provided by the Director. Submittals shall be delivered to the Division no later than 30 days from the date the facility receives the sampling results from the laboratory.

When no discharge has occurred from the facility during the report period, the permittee is required to submit a discharge monitoring report within 30 days of the end of the three-month sampling period, giving all required information and indicating "NO FLOW" as per NCAC T15A 02B .0506.

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The permittee shall record the required qualitative monitoring observations on the SDO Qualitative Monitoring Report (QMR) form provided by the Division, and shall retain the completed forms on site. Qualitative monitoring results should not be submitted to the Division, except upon DWQ's specific requirement to do so.

2. Submitting Reports

Duplicate signed copies of all reports required herein, shall be submitted to the following address:

Division of Water Quality
Surface Water Protection Section
ATTENTION: Central Files
1617 Mail Service Center
Raleigh, North Carolina 27699-1617

In addition, a separate signed Annual Summary DMR copy shall be submitted to the permittee's DWQ Regional Office (RO) by March 1 of each year.

3. Availability of Reports

Except for data determined to be confidential under NCGS 143-215.3(a)(2) or Section 308 of the Federal Act, 33 USC 1318, all reports prepared in accordance with the terms shall be available for public inspection at the offices of the Division of Water Quality. As required by the Act, analytical data shall not be considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal penalties as provided for in NCGS 143-215.6B or in Section 309 of the Federal Act.

4. Non-Stormwater Discharges

If the storm event monitored in accordance with this individual permit coincides with a non-stormwater discharge, the permittee shall separately monitor all parameters as required under the non-stormwater discharge permit and provide this information with the stormwater discharge monitoring report.

5. Planned Changes

The permittee shall give notice to the Director as soon as possible of any planned changes at the permitted facility which could significantly alter the nature or quantity of pollutants discharged. This notification requirement includes pollutants which are not specifically listed in the individual permit or subject to notification requirements under 40 CFR Part 122.42 (a).

6. Anticipated Noncompliance

The permittee shall give notice to the Director as soon as possible of any planned changes at the permitted facility which may result in noncompliance with the individual permit requirements.

7. Bypass

a. Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten days before the date of the bypass; including an evaluation of the anticipated quality and affect of the bypass.

b. Unanticipated bypass. The permittee shall submit notice within 24 hours of becoming aware of an unanticipated bypass.

8. Twenty-four Hour Reporting

The permittee shall report to the central office or the appropriate regional office any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee became aware of the circumstances. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances.

The written submission shall contain a description of the noncompliance, and its causes; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time compliance is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

The Director may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.

9. Other Noncompliance

The permittee shall report all instances of noncompliance not reported under 24 hour reporting at the time monitoring reports are submitted.

10. Other Information

Where the permittee becomes aware that it failed to submit any relevant facts in an application for an individual permit or in any report to the Director, it shall promptly submit such facts or information.

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PART IV LIMITATIONS REOPENER

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

a. Contains different conditions or is otherwise more stringent than any effluent limitation in the individual permit; or

b. Controls any pollutant not limited in the individual permit.

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

PART V ADMINISTERING AND COMPLIANCE MONITORING FEE REQUIREMENTS

The permittee must pay the administering and compliance monitoring fee within 30 (thirty) days after being billed by the Division. Failure to pay the fee in a timely manner in accordance with 15A NCAC 2H .0105(b)(4) may cause this Division to initiate action to revoke the individual permit.

PART VI DEFINITIONS

1. Act

See Clean Water Act.

2. Arithmetic Mean

The arithmetic mean of any set of values is the summation of the individual values divided by the number of individual values.

3. Allowable Non-Stormwater Discharges

This permit regulates stormwater discharges. Non-stormwater discharges which shall be allowed in the stormwater conveyance system are:

(a) All other discharges that are authorized by a non-stormwater NPDES permit.

(b) Uncontaminated groundwater, foundation drains, air-conditioner condensate without added chemicals, springs, discharges of uncontaminated potable water, waterline and fire hydrant flushings, water from footing drains, flows from riparian habitats and wetlands.

(c) Discharges resulting from fire-fighting or fire-fighting training.

4. Best Management Practices (BMPs)

Measures or practices used to reduce the amount of pollution entering surface waters. BMPs may take the form of a process, activity, or physical structure.

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5. Bypass

A bypass is the known diversion of stormwater from any portion of a stormwater control facility including the collection system, which is not a designed or established operating mode for the facility.

6. Bulk Storage of Liquid Products

Liquid raw materials, manufactured products, waste materials or by-products with a single above ground storage container having a capacity of greater than 660 gallons or with multiple above ground storage containers located in close proximity to each other having a total combined storage capacity of greater than 1,320 gallons.

7. Clean Water Act

The Federal Water Pollution Control Act, also known as the Clean Water Act (CWA), as amended, 33 USC 1251, et. seq.

8. Division or DWQ

The Division of Water Quality, Department of Environment and Natural Resources.

9. Director

The Director of the Division of Water Quality, the permit issuing authority.

10. EMC

The North Carolina Environmental Management Commission.

11. Grab Sample

An individual sample collected instantaneously. Grab samples that will be directly analyzed or qualitatively monitored must be taken within the first 30 minutes of discharge.

12. Hazardous Substance

Any substance designated under 40 CFR Part 116 pursuant to Section 311 of the Clean Water Act.

13. Landfill

A disposal facility or part of a disposal facility where waste is placed in or on land and which is not a land treatment facility, a surface impoundment, an injection well, a hazardous waste long-term storage facility or a surface storage facility.

14. Municipal Separate Storm Sewer System

A stormwater collection system within an incorporated area of local self-government such as a city or town.

15. No Exposure

A condition of no exposure means that all industrial materials and activities are protected by a storm resistant shelter or acceptable storage containers to prevent exposure to rain, snow, snowmelt, or runoff. Industrial materials or activities include, but are not limited to, material handling equipment or activities,

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industrial machinery, raw materials, intermediate products, by-products, final products, or waste products. DWQ may grant a No Exposure Exclusion from NPDES Stormwater Permitting requirements only if a facility complies with the terms and conditions described in 40 CFR §122.26(g).

16. Overburden

Any material of any nature, consolidated or unconsolidated, that overlies a mineral deposit, excluding topsoil or similar naturally-occurring surface materials that are not disturbed by mining operations.

17. Permittee

The owner or operator issued a permit pursuant to this individual permit.

18. Point Source Discharge of Stormwater

Any discernible, confined and discrete conveyance including, but not specifically limited to, any pipe, ditch, channel, tunnel, conduit, well, or discrete fissure from which stormwater is or may be discharged to waters of the state.

19. Representative Storm Event

A storm event that measures greater than 0.1 inches of rainfall and that is preceded by at least 72 hours in which no storm event measuring greater than 0.1 inches has occurred. A single storm event may contain up to 10 consecutive hours of no precipitation. For example, if it rains for 2 hours without producing any collectable discharge, and then stops, a sample may be collected if a rain producing a discharge begins again within the next 10 hours.

20. Representative Outfall Status

When it is established that the discharge of stormwater runoff from a single outfall is representative of the discharges at multiple outfalls, the DWQ may grant representative outfall status. Representative outfall status allows the permittee to perform analytical monitoring at a reduced number of outfalls.

21. Rinse Water Discharge

The discharge of rinse water from equipment cleaning areas associated with industrial activity. Rinse waters from vehicle and equipment cleaning areas are process wastewaters and do not include washwaters utilizing any type of detergent or cleaning agent.

22. Secondary Containment

Spill containment for the contents of the single largest tank within the containment structure plus sufficient freeboard to allow for the 25-year, 24-hour storm event.

23. Section 313 Water Priority Chemical

A chemical or chemical category which:

a. Is listed in 40 CFR 372.65 pursuant to Section 313 of Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986, also titled the Emergency Planning and Community Right-to-Know Act of 1986;

b. Is present at or above threshold levels at a facility subject to SARA Title III, Section 313 reporting requirements; and

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c. That meets at least one of the following criteria:

(1) Is listed in Appendix D of 40 CFR part 122 on Table II (organic priority pollutants), Table III (certain metals, cyanides, and phenols), or Table IV (certain toxic pollutants and hazardous substances);

(2) Is listed as a hazardous substance pursuant to section 311(b)(2)(A) of the CWA at 40 CFR 116.4; or

(3) Is a pollutant for which EPA has published acute or chronic water quality criteria.

24. Severe Property Damage

Means substantial physical damage to property, damage to the control facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

25. Significant Materials

Includes, but is not limited to: raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under section 101(14) of CERCLA; any chemical the facility is required to report pursuant to section 313 of Title III of SARA; fertilizers; pesticides; and waste products such as ashes, slag and sludge that have the potential to be released with stormwater discharges.

26. Significant Spills

Includes, but is not limited to: releases of oil or hazardous substances in excess of reportable quantities under section 311 of the Clean Water Act (Ref: 40 CFR 110.10 and CFR 117.21) or section 102 of CERCLA (Ref: 40 CFR [illegible]).

27. Stormwater Runoff

The flow of water which results from precipitation and which occurs immediately following rainfall or as a result of snowmelt.

28. Stormwater Associated with Industrial Activity

The discharge from any point source which is used for collecting and conveying stormwater and which is directly related to manufacturing, processing or raw material storage areas at an industrial site. Facilities considered to be engaged in "industrial activities" include those activities defined in 40 CFR 122.26(b)(14). The term does not include discharges from facilities or activities excluded from the NPDES program.

29. Stormwater Pollution Prevention Plan

A comprehensive site-specific plan which details measures and practices to reduce stormwater pollution and is based on an evaluation of the pollution potential of the site.

30. Ten Year Design Storm

The maximum 24 hour precipitation event expected to be equaled or exceeded on the average once in ten years. Design storm information can be found in the State of North Carolina Erosion and Sediment Control Planning and Design Manual.

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31. Total Flow

The flow corresponding to the time period over which the entire storm event occurs. Total flow shall be either; (a) measured continuously, (b) calculated based on the amount of area draining to the outfall, the amount of built-upon (impervious) area, and the total amount of rainfall, or (c) estimated by the measurement of flow at 20 minute intervals during the rainfall event.

32. Total Maximum Daily Load (TMDL)

A TMDL is a calculation of the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards, and an allocation of that amount to the pollutant's sources. A TMDL is a detailed water quality assessment that provides the scientific foundation for an implementation plan. The implementation plan outlines the steps necessary to reduce pollutant loads in a certain body of water to restore and maintain water quality standards in all seasons. The Clean Water Act, Section 303, establishes the water quality standards and TMDL programs.

33. Toxic Pollutant

Any pollutant listed as toxic under Section 307(a)(1) of the Clean Water Act.

34. Upset

Means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment or control facilities, inadequate treatment or control facilities, lack of preventive maintenance, or careless or improper operation.

35. Vehicle Maintenance Activity

Vehicle rehabilitation, mechanical repairs, painting, fueling, lubrication, vehicle cleaning operations, or airport deicing operations.

36. Visible Sedimentation

Solid particulate matter, both mineral and organic, that has been or is being transported by water, air, gravity, or ice from its site of origin which can be seen with the unaided eye.

37. 25-year, 24 hour storm event

The maximum 24-hour precipitation event expected to be equaled or exceeded, on the average, once in 25 years.

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NCDENR
North Carolina Department of Environment and Natural Resources
Division of Water Quality
Coleen H. Sullins
Director

Beverly Eaves Perdue
Governor

Dee Freeman
Secretary

July 20, 2011

Mr. Mark McGary
Senior Engineer
Duke Energy Carolinas, LLC
P.O. Box 1006, Mail Code EC13K
Charlotte, North Carolina 28201

Subject: Draft NPDES Stormwater Permit
Permit No. NCS000546
Duke Energy Carolinas, LLC – Allen Steam Station
Gaston County

Dear Mr. McGary:

Enclosed with this letter is a copy of the draft NPDES stormwater permit for your facility. Please review the draft permit very carefully to ensure thorough understanding of the conditions and requirements it contains.

Please submit any comments to me no later than thirty (30) days following your receipt of the draft. Comments should be sent to the address listed at the bottom of this page. If no adverse comments are received from the public or from you, this permit will likely be issued in about two months.

With its application, the company requested representative outfall status (ROS) for four stormwater discharge outfalls. The Mooresville Regional Office has recommended approval with some modifications. The recommendations include approval of ROS for SW005, SW008, SW015 (instead of SW018), and SW011. Because of a lack of recent analytical data, the Region also advised a short-term period of sampling at some of the outfalls represented by this group, including outfalls SW002, SW007, SW008, SW009, SW010, and SW012.

The draft permit reflects the Region's recommendations for SW011 and SW012 with a special footnote because discharges commingle with wastewater outfall flows. Since ROS is typically handled outside of the permit, changes may not require a permit modification. The Division will document final ROS approval in the cover letter of the issued permit.

Wetlands and Stormwater Branch
1617 Mail Service Center, Raleigh, North Carolina 27699-1617
Location: 512 N. Salisbury St. Raleigh, North Carolina 27604
Phone: 919-807-6300 \ FAX: 919-807-6494 \ Customer Service: 1-877-623-6748
Internet: www.ncwaterquality.org

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One NorthCarolina Naturally

If you have any questions or comments concerning this draft permit, please contact me at (919) 807-6372 or bethany.georgoulias@ncdenr.gov.

Sincerely,

Bethany A. Georgoulias
Environmental Engineer
Stormwater Permitting Unit

cc: Mooresville Regional Office, Water Quality Section (w/attachment)/ M. Parker
Stormwater Permitting Unit

Attachments

EPARFI00178

NCS000546

STATE OF NORTH CAROLINA
DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
DIVISION OF WATER QUALITY

PERMIT

TO DISCHARGE STORMWATER UNDER THE

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

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

Duke Energy Carolinas, LLC

is hereby authorized to discharge stormwater from a facility located at

Allen Steam Station
253 Plant Allen Road
Belmont, NC
Gaston County

to receiving waters designated as the Catawba and South Fork Catawba Rivers, class WS-V, B streams in the Catawba River Basin, in accordance with the discharge limitations, monitoring requirements, and other conditions set forth in Parts I, II, III, IV, V and VI hereof.

Note: Draft Permit Dates are Approximate
This permit shall become effective October 1, 2011.

This permit and the authorization to discharge shall expire at midnight on September 30, 2016.

Signed this day September 9, 2011.

for Coleen H. Sullins, Director
Division of Water Quality
By the Authority of the Environmental Management Commission

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PART I INTRODUCTION

SECTION A: INDIVIDUAL PERMIT COVERAGE

During the period beginning on the effective date of the permit and lasting until expiration, the permittee is authorized to discharge stormwater associated with industrial activity. Such discharges shall be controlled, limited and monitored as specified in this permit.

If industrial materials and activities are not exposed to precipitation or runoff as described in 40 CFR §122.26(g), the facility may qualify for a No Exposure Exclusion from NPDES stormwater discharge permit requirements. Any owner or operator wishing to obtain a No Exposure Certification must submit a No Exposure Certification (NOE) form to the Division; must receive approval by the Division; must maintain no exposure conditions unless authorized to discharge under a valid NPDES stormwater permit; and must reapply for the No Exposure Exclusion once every five (5) years.

SECTION B: PERMITTED ACTIVITIES

Until this permit expires or is modified or revoked, the permittee is authorized to discharge stormwater to the surface waters of North Carolina or separate storm sewer system that has been adequately treated and managed in accordance with the terms and conditions of this individual permit. All stormwater discharges shall be in accordance with the conditions of this permit.

Any other point source discharge to surface waters of the state is prohibited unless it is an allowable non-stormwater discharge or is covered by another permit, authorization, or approval. The stormwater discharges allowed by this individual permit shall not cause or contribute to violations of Water Quality Standards.

This permit does not relieve the permittee from responsibility for compliance with any other applicable federal, state, or local law, rule, standard, ordinance, order, judgment, or decree.

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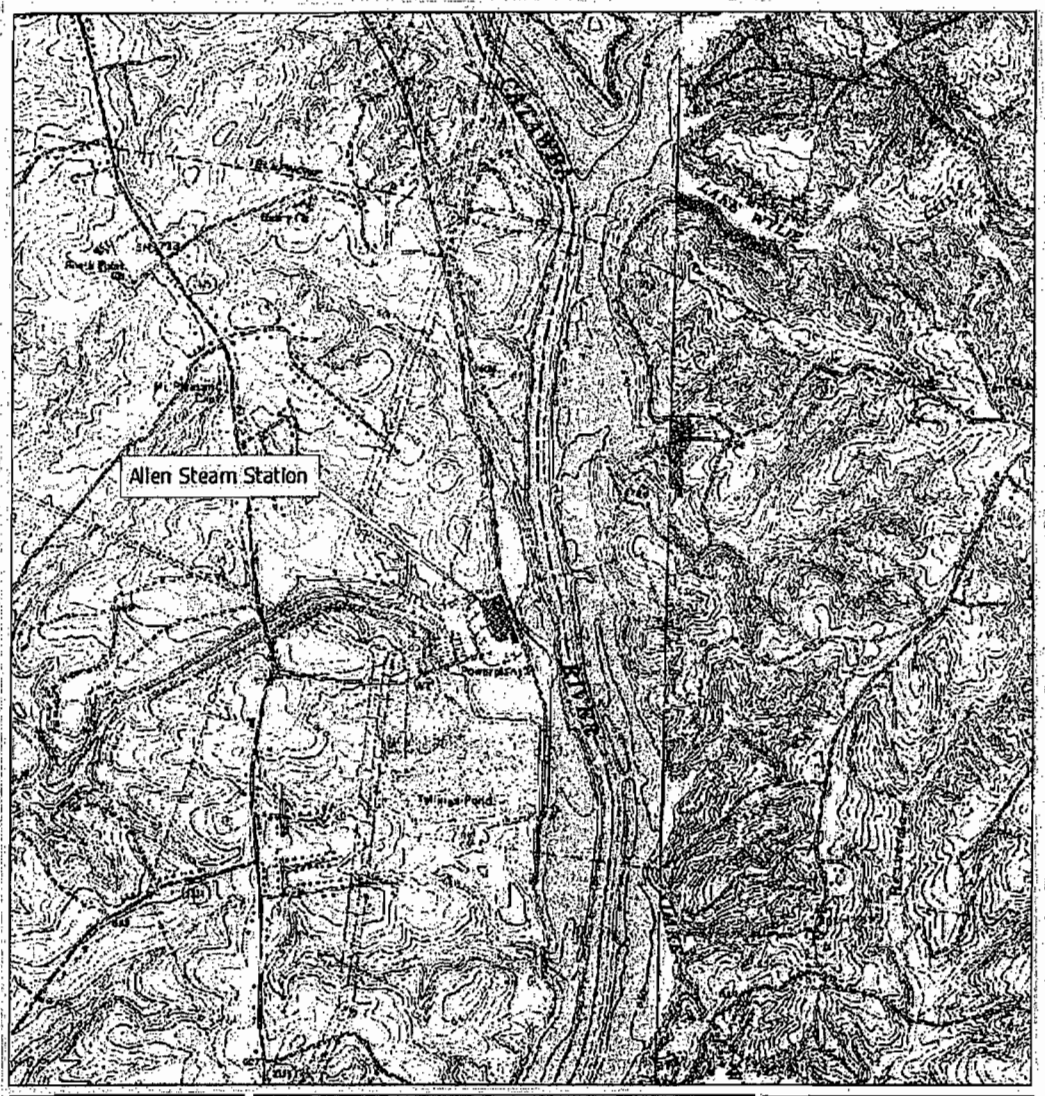
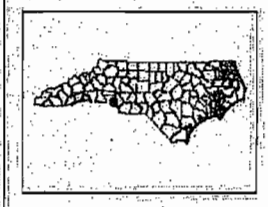


NCS000546

Map Scale 1:24,000

Duke Energy Carolinas, LLC
Allen Steam Station

Latitude: 35° 11' 25" N
Longitude: 81° 00' 32" W
County: Gaston
Receiving Stream: Catawba River
Stream Class: WS-V, B
Sub-basin: 03-08-37 (Catawba River Basin)



Facility Location

PART II MONITORING, CONTROLS, AND LIMITATIONS FOR PERMITTED DISCHARGES

SECTION A: STORMWATER POLLUTION PREVENTION PLAN

The Permittee shall develop a Stormwater Pollution Prevention Plan, herein after referred to as the Plan. This Plan shall be considered public information in accordance with Part III, Standard Conditions, Section E, Paragraph 3 of this individual permit. The Plan shall include, at a minimum, the following items:

1. Site Plan. The site plan shall provide a description of the physical facility and the potential pollutant sources which may be expected to contribute to contamination of stormwater discharges. The site plan shall contain the following:

   (a) A general location map (USGS quadrangle map or appropriately drafted equivalent map), showing the facility's location in relation to transportation routes and surface waters, the name of the receiving water(s) to which the stormwater outfall(s) discharges, or if the discharge is to a municipal separate storm sewer system, the name of the municipality and the ultimate receiving waters, and accurate latitude and longitude of the point(s) of discharge. The general location map (or alternatively the site map) shall identify whether each receiving water is impaired (on the state's 303(d) list of impaired waters) or is located in a **watershed for which a TMDL has been established,** and what the parameter(s) of concern are.
   North Carolina's 303(d) List can be found here:
   http://h2o.enr.state.nc.us/tmdl/General_303d.htm#Downloads
   North Carolina TMDL documents can be found here:
   http://h2o.enr.state.nc.us/tmdl/TMDL_list.htm#Final_TMDLs.

   (b) A narrative description of storage practices, loading and unloading activities, outdoor process areas, dust or particulate generating or control processes, and waste disposal practices. A narrative description of the potential pollutants which could be expected to be present in the stormwater discharge from each outfall.

   (c) A site map drawn to scale (including a distance legend) showing: the site property boundary, the stormwater discharge outfalls, all on-site and adjacent surface waters and wetlands, industrial activity areas (including storage of materials, disposal areas, process areas, loading and unloading areas, and haul roads), site topography, all drainage features and structures, drainage areas for each outfall, direction of flow in each drainage area, industrial activities occurring in each drainage area, buildings, existing BMPs, and impervious surfaces. The site map must indicate the percentage of each drainage area that is impervious.

   (d) A list of significant spills or leaks of pollutants that have occurred at the facility during the three (3) previous years and any corrective actions taken to mitigate spill impacts.

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(e) Certification that the stormwater outfalls have been evaluated for the presence of non-stormwater discharges. The certification statement will be signed in accordance with the requirements found in Part III, Standard Conditions, Section B, Paragraph 3. The permittee shall re-certify annually that the stormwater outfalls have been evaluated for the presence of non-stormwater discharges.

2. Stormwater Management Plan. The stormwater management plan shall contain a narrative description of the materials management practices employed which control or minimize the exposure of significant materials to stormwater, including structural and nonstructural measures. The stormwater management plan, at a minimum, shall incorporate the following:

(a) Feasibility Study. A review of the technical and economic feasibility of changing the methods of operations and/or storage practices to eliminate or reduce exposure of materials and processes to stormwater. Wherever practical, the permittee shall prevent exposure of all storage areas, material handling operations, and manufacturing or fueling operations. In areas where elimination of exposure is not practical, the stormwater management plan shall document the feasibility of diverting the stormwater runoff away from areas of potential contamination.

(b) Secondary Containment Requirements and Records. Secondary containment is required for: bulk storage of liquid materials; storage in any amount of Section 313 of Title III of the Superfund Amendments and Reauthorization Act (SARA) water priority chemicals; and storage in any amount of hazardous substances, in order to prevent leaks and spills from contaminating stormwater runoff. A table or summary of all such tanks and stored materials and their associated secondary containment areas shall be maintained. If the secondary containment devices are connected directly to stormwater conveyance systems, the connection shall be controlled by manually activated valves or other similar devices (which shall be secured closed with a locking mechanism), and any stormwater that accumulates in the containment area shall be at a minimum visually observed for color, foam, outfall staining, visible sheens and dry weather flow, prior to release of the accumulated stormwater. Accumulated stormwater shall be released if found to be uncontaminated by the material stored within the containment area. Records documenting the individual making the observation, the description of the accumulated stormwater, and the date and time of the release shall be kept for a period of five years.

(c) BMP Summary. A listing of site structural and non-structural Best Management Practices (BMP) shall be provided. The installation and implementation of BMPs shall be based on the assessment of the potential for sources to contribute significant quantities of pollutants to stormwater discharges and data collected through monitoring of stormwater discharges. The BMP Summary shall include a written record of the specific rationale for installation and implementation of the selected site BMPs. The BMP Summary shall be reviewed and updated annually.

3. Spill Prevention and Response Plan. The Spill Prevention and Response Plan (SPRP) shall incorporate an assessment of potential pollutant sources based on a materials inventory of the facility. Facility personnel (or the team) responsible for implementing the SPRP shall be identified in a written list incorporated into the SPRP and signed and dated by each individual acknowledging their responsibilities for the plan. A responsible person shall be on-site at all times during facility operations that have the potential to contaminate stormwater runoff through spills or exposure of materials associated with the facility operations. The SPRP must be site stormwater specific. Therefore, an oil Spill Prevention Control and Countermeasure plan (SPCC) may be a component of the SPRP, but may not be sufficient to completely address the stormwater aspects of the SPRP. The common elements of the SPCC with the SPRP may be incorporated by reference into the SPRP.

4. Preventative Maintenance and Good Housekeeping Program. A preventative maintenance and good housekeeping program shall be developed. The program shall list all stormwater control systems, stormwater discharge outfalls, all on-site and adjacent surface waters and wetlands, industrial activity areas (including material storage areas, material handling areas, disposal areas, process areas, loading and unloading areas, and haul roads), all drainage features and structures, and existing structural BMPs. The program shall establish schedules of inspections, maintenance, and housekeeping activities of stormwater control systems, as well as facility equipment, facility areas, and facility systems that present a potential for stormwater exposure or stormwater pollution. Inspection of material handling areas and regular cleaning schedules of these areas shall be incorporated into the program. Timely compliance with the established schedules for inspections, maintenance, and housekeeping shall be recorded in writing and maintained in the SPPP.

5. Employee Training. Training programs shall be developed and training provided at a minimum on an annual basis for facility personnel with responsibilities for: spill response and cleanup, preventative maintenance activities, and for any of the facility's operations that have the potential to contaminate stormwater runoff. Facility personnel (or team) responsible for implementing the training shall be identified, and their annual training shall be documented by the signature of each employee trained.

6. Responsible Party. The Stormwater Pollution Prevention Plan shall identify a specific position(s) responsible for the overall coordination, development, implementation, and revision to the Plan. Responsibilities for all components of the Plan shall be documented and position assignments provided.

7. Plan Amendment. The permittee shall amend the Plan whenever there is a change in design, construction, operation, or maintenance which has a significant effect on the potential for the discharge of pollutants to surface waters. All aspects of the Stormwater Pollution Prevention Plan shall be reviewed and updated on an annual basis. The annual update shall include an updated list of significant spills or leaks of pollutants for the previous three years, or the notation that no spills have occurred. The annual update shall include re-certification that the stormwater outfalls have been evaluated for the presence of non-stormwater discharges. Each annual update shall include a re-evaluation of the

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effectiveness of the BMPs listed in the BMP Summary of the Stormwater Management Plan.

The Director may notify the permittee when the Plan does not meet one or more of the minimum requirements of the permit. Within 30 days of such notice, the permittee shall submit a time schedule to the Director for modifying the Plan to meet minimum requirements. The permittee shall provide certification in writing (in accordance with Part III, Standard Conditions, Section B, Paragraph 5) to the Director that the changes have been made.

8. Facility Inspections. Inspections of the facility and all stormwater systems shall occur as part of the Preventative Maintenance and Good Housekeeping Program at a minimum on a semi-annual schedule, once during the first half of the year (January to June), and once during the second half (July to December), with at least 60 days separating inspection dates (unless performed more frequently than semi-annually). These facility inspections are different from, and in addition to, the stormwater discharge characteristic monitoring required in Part II B, C and D of this permit.

9. Implementation. The permittee shall implement the Plan. Implementation of the Plan shall include documentation of all monitoring, measurements, inspections, maintenance activities, and training provided to employees, including the log of the sampling data and of actions taken to implement BMPs associated with the industrial activities, including vehicle maintenance activities. Such documentation shall be kept on-site for a period of five years and made available to the Director or the Director's authorized representative immediately upon request.

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SECTION B: ANALYTICAL MONITORING REQUIREMENTS

Analytical monitoring of stormwater discharges shall be performed as specified in **Table 1**. All analytical monitoring shall be performed during a representative storm event. The required monitoring will result in a minimum of ten analytical samplings being conducted over the term of the permit at each stormwater discharge outfall (SDO).

A **representative storm event** is a storm event that measures greater than 0.1 inches of rainfall. The time between this storm event and the previous storm event measuring greater than 0.1 inches must be at least 72 hours. A single storm event may have a period of no precipitation of up to 10 hours. For example, if it rains but stops before producing any collectable discharge, a sample may be collected if the next rain producing a discharge begins within 10 hours.

Table 1. Analytical Monitoring Requirements

Discharge Characteristics	Units	Measurement Frequency[1]	Sample Type[2]	Sample Location[3]
40 CFR Part 423 Appendix A: 13 Priority Pollutant Metals (Ag, As, Be, Cd, Cr, Cu, Hg, Ni, Pb, Sb, Se, Tl, Zn)[4]	µg/l	semi-annual	Grab	SDO
Al	µg/l	semi-annual	Grab	SDO
B	µg/l	semi-annual	Grab	SDO
COD	mg/l	semi-annual	Grab	SDO
TSS	mg/l	semi-annual	Grab	SDO
Sulfate	mg/l	semi-annual	Grab	SDO
Oil and Grease (O&G)	mg/l	semi-annual	Grab	SDO
pH	standard	semi-annual	Grab	SDO
Total Nitrogen (TN)	mg/l	annual	Grab	SDO
Total Phosphorus (TP)	mg/l	annual	Grab	SDO
Total Rainfall[5]	inches	semi-annual	Rain Gauge	-

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Footnotes:

1 Measurement Frequency: Twice per year during a representative storm event, for each year until either another permit is issued for this facility or until this permit is revoked or rescinded. If at the end of this permitting cycle the permittee has submitted the appropriate paperwork for a renewal permit before the submittal deadline, the permittee will be considered for a renewal application. The applicant must continue semi-annual monitoring until the renewed permit is issued. See **Table 2** for schedule of monitoring periods through the end of this permitting cycle.

2 If the stormwater runoff is controlled by a stormwater detention pond, a grab sample of the discharge from the pond shall be collected within the first 30 minutes of discharge.

3 Sample Location: Samples shall be collected at each stormwater discharge outfall (SDO) unless representative outfall status has been granted.

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4 **Stormwater Discharge Outfalls SW011 and SW012** (which also serve as outfalls 004 and 003 under NPDES wastewater permit NC0004979) should each be sampled for these parameters **at least once during a representative storm event during Year 1 – Period 1** and must be reported in accordance with Part III, Section E.4. (Reporting Requirements – Non-Stormwater Discharges). Benchmark exceedances at these outfalls may trigger a Tier 1 response. Depending on sampling results and/or changes in activities in the drainage areas, the Division may require continued stormwater sampling at one or both of these outfalls.

5 Mercury shall be analyzed by EPA Low-level detection method 1631E. This method also requires a field blank be analyzed. A benchmark does not apply; however, **values above 0.012 µg/l should be noted on annual SDO DMR reports to the Regional Office.**

6 For each sampled representative storm event the total precipitation must be recorded. An on-site rain gauge or local rain gauge reading must be recorded.

The permittee shall complete the minimum ten analytical samplings in accordance with the schedule specified below in **Table 2**. A **minimum of 60 days must separate each sample date** unless monthly monitoring has been instituted under a **Tier Two** response.

Table 2. Monitoring Schedule

Monitoring period[1,2]	Sample Number	Start	End
Year 1 – Period 1[3]	1	October 1, 2011	March 31, 2012
Year 1 – Period 2	2	April 1, 2012	September 30, 2012
Year 2 – Period 1	3	October 1, 2012	March 31, 2013
Year 2 – Period 2	4	April 1, 2013	September 30, 2013
Year 3 – Period 1	5	October 1, 2013	March 31, 2014
Year 3 – Period 2	6	April 1, 2014	September 30, 2014
Year 4 – Period 1	7	October 1, 2014	March 31, 2015
Year 4 – Period 2	8	April 1, 2015	September 30, 2015
Year 5 – Period 1	9	October 1, 2015	March 31, 2016
Year 5 – Period 2	10	April 1, 2016	September 30, 2016

Footnotes:

1 Maintain semi-annual monitoring during permit renewal process. The applicant must continue semi-annual monitoring until the renewed permit is issued.

2 If no discharge occurs during the sampling period, the permittee must submit a monitoring report indicating "No Flow" within 30 days of the end of the six-month sampling period.

3 SDOs SW011 and SW012 should be sampled at least once during this period.

The permittee shall report the analytical results from the first sample with valid results within the monitoring period. **In addition, a separate signed Annual Summary DMR copy shall be submitted to the local DWQ Regional Office (RO) by March 1 of each year.** The permittee shall compare monitoring results to the benchmark values in **Table 3**. The benchmark values in **Table 3** are **not permit limits** but should be used as guidelines for the permittee's Stormwater Pollution Prevention Plan (SPPP). Exceedences of benchmark values require the permittee to increase monitoring, increase management actions, increase record keeping, and/or install stormwater Best Management Practices (BMPs) in a tiered program. See below the descriptions of Tier One and Tier Two.

Table 3. Benchmark Values for Analytical Monitoring

Discharge Characteristic	Units	Benchmark
Aluminum	mg/l	0.75
Antimony	mg/l	0.09
Arsenic	mg/l	0.36
Beryllium	mg/l	0.07
Boron	mg/l	N/A
Cadmium	mg/l	0.001
Chromium	mg/l	1
Copper	mg/l	07
Lead	mg/l	0.03
Mercury	µg/l	N/A
Nickel	mg/l	0.26
Selenium	mg/l	0.056
Silver	mg/l	0.001
Thallium	mg/l	N/A
Zinc	mg/l	0.067
COD	mg/l	120
TSS	mg/l	100
Sulfate	mg/l	500
O&G	mg/l	30
Total Nitrogen (TN)	mg/l	30
Total Phosphorus (TP)	mg/l	2
pH (*see footnote 1*)	standard	6 - 9[1]

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Footnotes:

1 If pH values outside this range are recorded in sampled stormwater discharges, **but ambient rainfall data indicate precipitation pH levels are within ± 0.1 standard units of the measured discharge values or lower,** then the lower threshold of this benchmark range does not apply. Readings from an on-site or local rain gauge (or local precipitation data) must be documented to demonstrate background concentrations were below the benchmark pH range.

Tier One
If: The first valid sampling results are above a benchmark value, or outside of the benchmark range, for any parameter at any outfall;
Then: The permittee shall: 1. Conduct a stormwater management inspection of the facility **within two weeks of receiving sampling results.** 2. Identify and evaluate possible causes of the benchmark value exceedence. 3. Identify potential, and select the specific: source controls, operational controls, or physical improvements to reduce concentrations of the parameters of concern, or to bring concentrations to within the benchmark range. 4. Implement the selected actions **within two months of the inspection.** 5. Record each instance of a Tier One response in the Stormwater Pollution Prevention Plan. Include the date and value of the benchmark exceedence, the inspection date, the personnel conducting the inspection, the selected actions, and the date the selected actions were implemented.

Tier Two
If: During the term of this permit, the first valid sampling results **from two consecutive monitoring periods** are above the benchmark values, or outside of the benchmark range, for any specific parameter at a specific discharge outfall;
Then: The permittee shall: 1. Repeat all the required actions outlined above in Tier One. 2. Immediately institute monthly monitoring for all parameters (**except mercury**) at every outfall where a sampling result exceeded the benchmark value for two consecutive samples. Monthly (analytical and qualitative) monitoring shall continue **until three consecutive sample results** are below the benchmark values, or within the benchmark range, for all parameters at that outfall. 3. If no discharge occurs during the sampling period, the permittee is required to submit a monthly monitoring report indicating "No Flow." 4. Maintain a record of the Tier Two response in the Stormwater Pollution Prevention Plan.

During the term of this permit, if the valid sampling results required for the permit monitoring periods exceed the benchmark value, or are outside the benchmark range, for any specific parameter at any specific outfall on **four occasions**, the permittee shall notify the DWQ Mooresville Regional Office Supervisor in writing **within 30 days of receipt** of the fourth analytical results. DWQ may, but is not limited to:

- Require that the permittee increase or decrease the monitoring frequency for the remainder of the permit;
- Work with the permittee to develop alternative response strategies;
- Require the permittee to install structural stormwater controls;
- Require the permittee to implement other stormwater control measures; or
- Require that the permittee implement site modifications to qualify for the No Exposure Exclusion.

This site discharges to the South Fork Catawba River, which is **impaired for copper**. If a Total Maximum Daily Load (TMDL) is approved for this segment of the river, the Division may require additional monitoring for this metal (currently part of the permit) or consider routine sample results in determining whether additional BMPs are needed to control the pollutant(s) of concern to the maximum extent practicable. This site is also located in the watershed draining to Lake Wylie, which has a TMDL for nutrients.

If additional BMPs are needed to achieve the required level of control, the permittee will be required to (1) develop a strategy for implementing appropriate BMPs, and (2) submit a timetable for incorporation of those BMPs into the permitted Stormwater Pollution Prevention Plan.

SECTION C: QUALITATIVE MONITORING REQUIREMENTS

Qualitative monitoring requires a visual inspection of each stormwater outfall regardless of representative outfall status and shall be performed as specified in **Table 4**, during the analytical monitoring event. [If analytical monitoring is not required, the permittee still must conduct semi-annual qualitative monitoring.] Qualitative monitoring is for the purpose of evaluating the effectiveness of the Stormwater Pollution Prevention Plan (SPPP) and assessing new sources of stormwater pollution.

In the event an atypical condition is noted at a stormwater discharge outfall, the permittee shall document the suspected cause of the condition and any actions taken in response to the discovery. This documentation will be maintained with the SPPP.

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Table 4. Qualitative Monitoring Requirements

Discharge Characteristics	Frequency[1]	Monitoring Location[2]
Color	semi-annual	SDO
Odor	semi-annual	SDO
Clarity	semi-annual	SDO
Floating Solids	semi-annual	SDO
Suspended Solids	semi-annual	SDO
Foam	semi-annual	SDO
Oil Sheen	semi-annual	SDO
Erosion or deposition at the outfall	semi-annual	SDO
Other obvious indicators of stormwater pollution	semi-annual	SDO

Footnotes:

1 Measurement Frequency: Twice per year during a representative storm event, for each year until either another permit is issued for this facility or until this permit is revoked or rescinded. If at the end of this permitting cycle the permittee has submitted the appropriate paperwork for a renewal permit before the submittal deadline, the permittee will be considered for a renewal application. The applicant must continue semi-annual monitoring until the renewed permit is issued. See Table 5 for schedule of monitoring periods through the end of this permitting cycle.

2 Monitoring Location: Qualitative monitoring shall be performed at each stormwater discharge outfall (SDO) regardless of representative outfall status.

SECTION D: ON-SITE VEHICLE MAINTENANCE MONITORING REQUIREMENTS

Facilities which have any vehicle maintenance activity occurring on-site which uses more than 55 gallons of new motor oil per month when averaged over the calendar year shall perform analytical monitoring as specified below in **Table 5**. This monitoring shall be performed at all stormwater discharge outfalls which discharge stormwater runoff from vehicle maintenance areas and in accordance with the schedule presented in **Table 2** (Section B). All analytical monitoring shall be performed during a representative storm event.

Table 5. Analytical Monitoring Requirements for On-Site Vehicle Maintenance

Parameter Characteristic	Units	Measurement Frequency[1]	Sample Type	Sample Location[3]
pH	standard	semi-annual	Grab	SDO
Total Petroleum Hydrocarbons *EPA Method 1664 (SGT-HEM)*	mg/l	semi-annual	Grab	SDO
Total Suspended Solids	mg/l	semi-annual	Grab	SDO
Total Rainfall[4]	inches	semi-annual	Rain gauge	-
New Motor Oil Usage	gallons/month	semi-annual	Estimate	-

Footnotes:

1 Measurement Frequency: Twice per year during a representative storm event, for each year until either another permit is issued for this facility or until this permit is revoked or rescinded. At the end of this permitting cycle the permittee has submitted the appropriate paperwork for a renewal permit before the submittal deadline, the permittee will be considered for a renewal application. The applicant must continue semi-annual monitoring until the renewed permit is issued. See **Table 2** for schedule of monitoring periods through the end of this permitting cycle.

2 If the stormwater runoff is controlled by a stormwater detention pond a grab sample of the discharge from the pond shall be collected within the first 30 minutes of discharge from the pond.

3 Sample Location: Samples shall be collected at each stormwater discharge outfall (SDO) that discharges stormwater runoff from area(s) where vehicle maintenance activities occur.

4 For each sampled representative storm event the total precipitation must be recorded. An on-site or local rain gauge reading must be recorded.

Monitoring results shall be compared to the benchmark values in **Table 6**. The benchmark values in **Table 6** are not permit limits but should be used as guidelines for the permittee's Stormwater Pollution Prevention Plan (SPPP). Exceedences of benchmark values require the permittee to increase monitoring, increase management actions, increase record keeping, and/or install stormwater Best Management Practices (BMPs), as provided in Part II Section B.

Table 6. Benchmark Values for Vehicle Maintenance Analytical Monitoring

Parameter Characteristic	Units	Benchmark Value
pH (*see footnote 1*)	standard	6 - 9[1]
Total Petroleum Hydrocarbons (TPH)	mg/L	15
Total Suspended Solids	mg/L	100

Footnotes:

1 If pH values outside this range are recorded in sampled stormwater discharges, **but ambient rainfall data indicate precipitation pH levels are within ± 0.1 standard units of the measured values or lower**, then the lower threshold of this benchmark range does not apply. Readings from an on-site or local rain gauge (or local precipitation data) must be documented to demonstrate background concentrations were below the normal pH range.

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PART III STANDARD CONDITIONS FOR NPDES STORMWATER INDIVIDUAL PERMITS

SECTION A: COMPLIANCE AND LIABILITY

1. Compliance Schedule

The permittee shall comply with Limitations and Controls specified for stormwater discharges in accordance with the following schedule:

Existing Facilities already operating but applying for permit coverage for the first time: The Stormwater Pollution Prevention Plan shall be developed and implemented within 12 months of the effective date of the initial permit and updated thereafter on an annual basis. Secondary containment, as specified in Part II, Section A, Paragraph 2(b) of this permit, shall be accomplished within 12 months of the effective date of the initial permit issuance.

New Facilities applying for coverage for the first time and existing facilities previously permitted and applying for renewal under this permit: The Stormwater Pollution Prevention Plan shall be developed and implemented prior to the beginning of discharges from the operation of the industrial activity and be updated thereafter on an annual basis. Secondary containment as specified in Part II, Section A, Paragraph 2(b) of this permit shall be accomplished prior to the beginning of discharges from the operation of the industrial activity.

2. Duty to Comply

The permittee must comply with all conditions of this individual permit. Any permit noncompliance constitutes a violation of the Clean Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance or modification; or denial of a permit upon renewal application.

a. The permittee shall comply with standards or prohibitions established under section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

b. The Clean Water Act provides that any person who violates a permit condition is subject to a civil penalty not to exceed $25,000 per day for each violation. Any person who negligently violates any permit condition is subject to criminal penalties of $2,500 to 25,000 per day of violation, or imprisonment for not more than 1 year, or both. Any person who knowingly violates permit conditions is subject to criminal penalties of $5,000 to $50,000 per day of violation, or imprisonment for not more than 3 years, or both. Also, any person who violates a permit condition may be assessed an administrative penalty not to exceed $10,000 per violation with the maximum amount not to exceed $125,000. [Ref: Section 309 of the Federal Act 33 USC 1319 and 40 CFR 122.41(a).]

c. Under state law, a daily civil penalty of not more than ten thousand dollars ($10,000) per violation may be assessed against any person who violates or fails to act in accordance with the terms, conditions, or requirements of a permit. [Ref: NC General Statutes 143-215.6A].

d. Any person may be assessed an administrative penalty by the Director for violating section 301, 302, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of the Act. Administrative penalties for Class I violations are not to exceed $10,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed $25,000. Penalties for Class II violations are not to exceed

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$10,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed $125,000.

3. Duty to Mitigate

The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this individual permit which has a reasonable likelihood of adversely affecting human health or the environment.

4. Civil and Criminal Liability

Except as provided in Part III, Section C of this permit regarding bypassing of stormwater control facilities, nothing in this individual permit shall be construed to relieve the permittee from any responsibilities, liabilities, or penalties for noncompliance pursuant to NCGS 143-215.3, 143-215.6A, 143-215.6B, 143-215.6C or Section 309 of the Federal Act, 33 USC 1319. Furthermore, the permittee is responsible for consequential damages, such as fish kills, even though the responsibility for effective compliance may be temporarily suspended.

5. Oil and Hazardous Substance Liability

Nothing in this individual permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject to under NCGS 143-215.75 et seq. or Section 311 of the Federal Act, 33 USC 1321.

6. Property Rights

The issuance of this individual permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

7. Severability

The provisions of this individual permit are severable, and if any provision of this individual permit, or the application of any provision of this individual permit to any circumstances, is held invalid, the application of such provision to other circumstances, and the remainder of this individual permit, shall not be affected thereby.

8. Duty to Provide Information

The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit issued pursuant to this individual permit or to determine compliance with this individual permit. The permittee shall also furnish to the Director upon request, copies of records required to be kept by this individual permit.

9. Penalties for Tampering

The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate, any monitoring device or method required to be maintained under this individual permit shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than two years per violation, or by both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more that $20,000 per day of violation, or by imprisonment of not more than 4 years, or both.

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10. Penalties for Falsification of Reports

The Clean Water Act provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this individual permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than two years per violation, or by both.

SECTION B: GENERAL CONDITIONS

1. Individual Permit Expiration

The permittee is not authorized to discharge after the expiration date. In order to receive automatic authorization to discharge beyond the expiration date, the permittee shall submit forms and fees as are required by the agency authorized to issue permits no later than 180 days prior to the expiration date. Any permittee that has not requested renewal at least 180 days prior to expiration, or any permittee that does not have a permit after the expiration and has not requested renewal at least 180 days prior to expiration, will be subjected to enforcement procedures as provided in NCGS §143-215.6 and 33 USC 1251 et. seq.

2. Transfers

This permit is not transferable to any person except after notice to and approval by the Director. The Director may require modification or revocation and reissuance of the permit to change the name and incorporate such other requirements as may be necessary under the Clean Water Act. **The Permittee is required to notify the Division in writing in the event the permitted facility is sold or closed.**

3. Signatory Requirements

All applications, reports, or information submitted to the Director shall be signed and certified.

a. All applications to be covered under this individual permit shall be signed as follows:

(1) In the case of a corporation: by a principal executive officer of at least the level of vice-president, or his duly authorized representative, if such representative is responsible for the overall operation of the facility from which the discharge described in the permit application form originates;

(2) In the case of a partnership or limited partnership: by a general partner;

(3) In the case of a sole proprietorship: by the proprietor;

(4) In the case of a municipal, state, or other public entity: by a principal executive officer, ranking elected official, or other duly authorized employee.

b. All reports required by the individual permit and other information requested by the Director shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

(1) The authorization is made in writing by a person described above;

(2) The authorization specified either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or well field, superintendent, a position of equivalent

responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.); and

(3) The written authorization is submitted to the Director.

c. Any person signing a document under paragraphs a. or b. of this section shall make the following certification:

"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."

4. Individual Permit Modification, Revocation and Reissuance, or Termination

The issuance of this individual permit does not prohibit the Director from reopening and modifying the individual permit, revoking and reissuing the individual permit, or terminating the individual permit as allowed by the laws, rules, and regulations contained in Title 40, Code of Federal Regulations, Parts 122 and 123; Title 15A of the North Carolina Administrative Code, Subchapter 2H .0100; and North Carolina General Statute 143-215.1 et al.

5. Permit Actions

The permit may be modified, revoked and reissued, or terminated for cause. The notification of planned changes or anticipated noncompliance does not stay any individual permit condition.

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SECTION C: OPERATION AND MAINTENANCE OF POLLUTION CONTROLS

1. Proper Operation and Maintenance

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this individual permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of this individual permit.

2. Need to Halt or Reduce Not a Defense

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the condition of this individual permit.

3. Bypassing of Stormwater Control Facilities

Bypass is prohibited and the Director may take enforcement action against a permittee for bypass unless:

a. Bypass was unavoidable to prevent loss of life, personal injury or severe property damage; and

b. There were no feasible alternatives to the bypass, such as the use of auxiliary control facilities, retention of stormwater or maintenance during normal periods of equipment downtime or dry weather. This condition is not satisfied if adequate backup controls should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and

c. The permittee submitted notices as required under, Part III, Section E of this permit.

If the Director determines that it will meet the three conditions listed above, the Director may approve an anticipated bypass after considering its adverse effects.

SECTION D: MONITORING AND RECORDS

1. Representative Sampling

Samples collected and measurements taken, as required herein, shall be characteristic of the volume and nature of the permitted discharge. Analytical sampling shall be performed during a representative storm event. Samples shall be taken on a day and time that is characteristic of the discharge. All samples shall be taken before the discharge joins or is diluted by any other waste stream, body of water, or substance. Monitoring points as specified in this permit shall not be changed without notification to and approval of the Director.

2. Recording Results

For each measurement, sample, inspection or maintenance activity performed or collected pursuant to the requirements of this individual permit the permittee shall record the following information:

a. The date, exact place, and time of sampling, measurements, inspection or maintenance activity;

b. The individual(s) who performed the sampling, measurements, inspection or maintenance activity;

c. The date(s) analyses were performed;

d. The individual(s) who performed the analyses;

e. The analytical techniques or methods used; and

f. The results of such analyses.

3. Flow Measurements

Where required, appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges.

4. Test Procedures

Test procedures for the analysis of pollutants shall conform to the EMC regulations published pursuant to NCGS 143-215.63 et. seq, the Water and Air Quality Reporting Acts, and to regulations published pursuant to Section 304(g), 33 USC 1314, of the Federal Water Pollution Control Act, as Amended, and Regulation 40 CFR 136.

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To meet the intent of the monitoring required by this individual permit, all test procedures must produce minimum detection and reporting levels and all data generated must be reported down to the minimum detection or lower reporting level of the procedure.

5. Representative Outfall

If a facility has multiple discharge locations with substantially identical stormwater discharges that are required to be sampled, the permittee may petition the Director for representative outfall status. If it is established that the stormwater discharges are substantially identical and the permittee is granted representative outfall status, then sampling requirements may be performed at a reduced number of outfalls.

6. Records Retention

Visual monitoring shall be documented and records maintained at the facility along with the Stormwater Pollution Prevention Plan. Copies of analytical monitoring results shall also be maintained on-site. The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, and copies of all reports required by this individual permit for a period of at least 5 years from the date of the sample, measurement, report or application. This period may be extended by request of the Director at any time.

7. Inspection and Entry

The permittee shall allow the Director, or an authorized representative (including an authorized contractor acting as a representative of the Director), or in the case of a facility which discharges through a municipal separate storm sewer system, an authorized representative of a municipal operator or the separate storm sewer system receiving the discharge, upon the presentation of credentials and other documents as may be required by law, to;

a. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this individual permit;

b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this individual permit;

c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this individual permit; and

d. Sample or monitor at reasonable times, for the purposes of assuring individual permit compliance or as otherwise authorized by the Clean Water Act, any substances or parameters at any location.

SECTION E: REPORTING REQUIREMENTS

1. Discharge Monitoring Reports

Samples analyzed in accordance with the terms of this permit shall be submitted to the Division on Discharge Monitoring Report (DMR) forms provided by the Director. Submittals shall be delivered to the Division no later than 30 days from the date the facility receives the sampling results from the laboratory.

When no discharge has occurred from the facility during the report period, the permittee is required to submit a discharge monitoring report within 30 days of the end of the three-month sampling period, giving all required information and indicating "NO FLOW" as per NCAC T15A 02B .0506.

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The permittee shall record the required qualitative monitoring observations on the SDO Qualitative Monitoring Report (QMR) form provided by the Division, and shall retain the completed forms on site. Qualitative monitoring results should not be submitted to the Division, except upon DWQ's specific requirement to do so.

2. Submitting Reports

Duplicate signed copies of all reports required herein, shall be submitted to the following address:

Division of Water Quality
Surface Water Protection Section
ATTENTION: Central Files
1617 Mail Service Center
Raleigh, North Carolina 27699-1617

In addition, a separate signed Annual Summary DMR copy shall be submitted to the permittee's DWQ Regional Office (RO) by March 1 of each year.

3. Availability of Reports

Except for data determined to be confidential under NCGS 143-215.3(a)(2) or Section 308 of the Federal Act, 33 USC 1318, all reports prepared in accordance with the terms shall be available for public inspection at the offices of the Division of Water Quality. As required by the Act, analytical data shall not be considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal penalties as provided for in NCGS 143-215.6B or in Section 309 of the Federal Act.

4. Non-Stormwater Discharges

If the storm event monitored in accordance with this individual permit coincides with a non-stormwater discharge, the permittee shall separately monitor all parameters as required under the non-stormwater discharge permit and provide this information with the stormwater discharge monitoring report.

5. Planned Changes

The permittee shall give notice to the Director as soon as possible of any planned changes at the permitted facility which could significantly alter the nature or quantity of pollutants discharged. This notification requirement includes pollutants which are not specifically listed in the individual permit or subject to notification requirements under 40 CFR Part 122.42 (a).

6. Anticipated Noncompliance

The permittee shall give notice to the Director as soon as possible of any planned changes at the permitted facility which may result in noncompliance with the individual permit requirements.

7. Bypass

a. Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten days before the date of the bypass; including an evaluation of the anticipated quality and affect of the bypass.

b. Unanticipated bypass. The permittee shall submit notice within 24 hours of becoming aware of an unanticipated bypass.

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8. Twenty-four Hour Reporting

The permittee shall report to the central office or the appropriate regional office any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee became aware of the circumstances. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances.

The written submission shall contain a description of the noncompliance, and its causes; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time compliance is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

The Director may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.

9. Other Noncompliance

The permittee shall report all instances of noncompliance not reported under 24 hour reporting at the time monitoring reports are submitted.

10. Other Information

Where the permittee becomes aware that it failed to submit any relevant facts in an application for an individual permit or in any report to the Director, it shall promptly submit such facts or information.

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PART IV LIMITATIONS REOPENER

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

a. Contains different conditions or is otherwise more stringent than any effluent limitation in the individual permit; or

b. Controls any pollutant not limited in the individual permit.

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

PART V ADMINISTERING AND COMPLIANCE MONITORING FEE REQUIREMENTS

The permittee must pay the administering and compliance monitoring fee within 30 (thirty) days after being billed by the Division. Failure to pay the fee in a timely manner in accordance with 15A NCAC 2H .0105(b)(4) may cause this Division to initiate action to revoke the individual permit.

PART VI DEFINITIONS

1. Act

   See Clean Water Act.

2. Arithmetic Mean

   The arithmetic mean of any set of values is the summation of the individual values divided by the number of individual values.

3. Allowable Non-Stormwater Discharges

   This permit regulates stormwater discharges. Non-stormwater discharges which shall be allowed in the stormwater conveyance system are:

   (a) All other discharges that are authorized by a non-stormwater NPDES permit.

   (b) Uncontaminated groundwater, foundation drains, air-conditioner condensate without added chemicals, springs, discharges of uncontaminated potable water, waterline and fire hydrant flushings, water from footing drains, flows from riparian habitats and wetlands.

   (c) Discharges resulting from fire-fighting or fire-fighting training.

4. Best Management Practices (BMPs)

   Measures or practices used to reduce the amount of pollution entering surface waters. BMPs may take the form of a process, activity, or physical structure.

5. Bypass

A bypass is the known diversion of stormwater from any portion of a stormwater control facility including the collection system, which is not a designed or established operating mode for the facility.

6. Bulk Storage of Liquid Products

Liquid raw materials, manufactured products, waste materials or by-products with a single above ground storage container having a capacity of greater than 660 gallons or with multiple above ground storage containers located in close proximity to each other having a total combined storage capacity of greater than 1,320 gallons.

7. Clean Water Act

The Federal Water Pollution Control Act, also known as the Clean Water Act (CWA), as amended, 33 USC 1251, et. seq.

8. Division or DWQ

The Division of Water Quality, Department of Environment and Natural Resources.

9. Director

The Director of the Division of Water Quality, the permit issuing authority.

10. EMC

The North Carolina Environmental Management Commission.

11. Grab Sample

An individual sample collected instantaneously. Grab samples that will be directly analyzed or qualitatively monitored must be taken within the first 30 minutes of discharge.

12. Hazardous Substance

Any substance designated under 40 CFR Part 116 pursuant to Section 311 of the Clean Water Act.

13. Landfill

A disposal facility or part of a disposal facility where waste is placed in or on land and which is not a land treatment facility, a surface impoundment, an injection well, a hazardous waste long-term storage facility or a surface storage facility.

14. Municipal Separate Storm Sewer System

A stormwater collection system within an incorporated area of local self-government such as a city or town.

15. No Exposure

A condition of no exposure means that all industrial materials and activities are protected by a storm resistant shelter or acceptable storage containers to prevent exposure to rain, snow, snowmelt, or runoff. Industrial materials or activities include, but are not limited to, material handling equipment or activities,

draft

5. Bypass

A bypass is the known diversion of stormwater from any portion of a stormwater control facility including the collection system, which is not a designed or established operating mode for the facility.

6. Bulk Storage of Liquid Products

Liquid raw materials, manufactured products, waste materials or by-products with a single above ground storage container having a capacity of greater than 660 gallons or with multiple above ground storage containers located in close proximity to each other having a total combined storage capacity of greater than 1,320 gallons.

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draft

industrial machinery, raw materials, intermediate products, by-products, final products, or waste products. DWQ may grant a No Exposure Exclusion from NPDES Stormwater Permitting requirements only if a facility complies with the terms and conditions described in 40 CFR §122.26(g).

16. Overburden

Any material of any nature, consolidated or unconsolidated, that overlies a mineral deposit, excluding topsoil or similar naturally-occurring surface materials that are not disturbed by mining operations.

17. Permittee

The owner or operator issued a permit pursuant to this individual permit.

18. Point Source Discharge of Stormwater

Any discernible, confined and discrete conveyance including, but not specifically limited to, any pipe, ditch, channel, tunnel, conduit, well, or discrete fissure from which stormwater is or may be discharged to waters of the state.

19. Representative Storm Event

A storm event that measures greater than 0.1 inches of rainfall and that is preceded by at least 72 hours in which no storm event measuring greater than 0.1 inches has occurred. A single storm event may contain up to 10 consecutive hours of no precipitation. For example, if it rains for 2 hours without producing any collectable discharge, and then stops, a sample may be collected if a rain producing a discharge begins again within the next 10 hours.

20. Representative Outfall Status

When it is established that the discharge of stormwater runoff from a single outfall is representative of the discharges at multiple outfalls, the DWQ may grant representative outfall status. Representative outfall status allows the permittee to perform analytical monitoring at a reduced number of outfalls.

21. Rinse Water Discharge

The discharge of rinse water from equipment cleaning areas associated with industrial activity. Rinse waters from vehicle and equipment cleaning areas are process wastewaters and do not include washwaters utilizing any type of detergent or cleaning agent.

22. Secondary Containment

Spill containment for the contents of the single largest tank within the containment structure plus sufficient freeboard to allow for the 25-year, 24-hour storm event.

23. Section 313 Water Priority Chemical

A chemical or chemical category which:

a. Is listed in 40 CFR 372.65 pursuant to Section 313 of Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986, also titled the Emergency Planning and Community Right-to-Know Act of 1986;

b. Is present at or above threshold levels at a facility subject to SARA Title III, Section 313 reporting requirements; and

c. That meets at least one of the following criteria:

(1) Is listed in Appendix D of 40 CFR part 122 on Table II (organic priority pollutants), Table III (certain metals, cyanides, and phenols), or Table IV (certain toxic pollutants and hazardous substances);

(2) Is listed as a hazardous substance pursuant to section 311(b)(2)(A) of the CWA at 40 CFR 116.4; or

(3) Is a pollutant for which EPA has published acute or chronic water quality criteria.

24. Severe Property Damage

Means substantial physical damage to property, damage to the control facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

25. Significant Materials

Includes, but is not limited to: raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under section 101(14) of CERCLA; any chemical the facility is required to report pursuant to section 313 of Title III of SARA; fertilizers; pesticides; and waste products such as ashes, slag and sludge that have the potential to be released with stormwater discharges.

26. Significant Spills

Includes, but is not limited to: releases of oil or hazardous substances in excess of reportable quantities under section 311 of the Clean Water Act (Ref: 40 CFR 110.10 and CFR 117.21) or section 102 of CERCLA (Ref: 40 CFR [illegible]).

27. Stormwater Runoff

The flow of water which results from precipitation and which occurs immediately following rainfall or as a result of snowmelt.

28. Stormwater Associated with Industrial Activity

The discharge from any point source which is used for collecting and conveying stormwater and which is directly related to manufacturing, processing or raw material storage areas at an industrial site. Facilities considered to be engaged in "industrial activities" include those activities defined in 40 CFR 122.26(b)(14). The term does not include discharges from facilities or activities excluded from the NPDES program.

29. Stormwater Pollution Prevention Plan

A comprehensive site-specific plan which details measures and practices to reduce stormwater pollution and is based on an evaluation of the pollution potential of the site.

30. Ten Year Design Storm

The maximum 24 hour precipitation event expected to be equaled or exceeded on the average once in ten years. Design storm information can be found in the State of North Carolina Erosion and Sediment Control Planning and Design Manual.

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31. Total Flow

The flow corresponding to the time period over which the entire storm event occurs. Total flow shall be either; (a) measured continuously, (b) calculated based on the amount of area draining to the outfall, the amount of built-upon (impervious) area, and the total amount of rainfall, or (c) estimated by the measurement of flow at 20 minute intervals during the rainfall event.

32. Total Maximum Daily Load (TMDL)

A TMDL is a calculation of the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards, and an allocation of that amount to the pollutant's sources. A TMDL is a detailed water quality assessment that provides the scientific foundation for an implementation plan. The implementation plan outlines the steps necessary to reduce pollutant loads in a certain body of water to restore and maintain water quality standards in all seasons. The Clean Water Act, Section 303, establishes the water quality standards and TMDL programs.

33. Toxic Pollutant

Any pollutant listed as toxic under Section 307(a)(1) of the Clean Water Act.

34. Upset

Means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment or control facilities, inadequate treatment or control facilities, lack of preventive maintenance, or careless or improper operation.

35. Vehicle Maintenance Activity

Vehicle rehabilitation, mechanical repairs, painting, fueling, lubrication, vehicle cleaning operations, or airport deicing operations.

36. Visible Sedimentation

Solid particulate matter, both mineral and organic, that has been or is being transported by water, air, gravity, or ice from its site of origin which can be seen with the unaided eye.

37. 25-year, 24 hour storm event

The maximum 24-hour precipitation event expected to be equaled or exceeded, on the average, once in 25 years.

EPARFI00207

NCDENR
North Carolina Department of Environment and Natural Resources
Division of Water Quality
Coleen H. Sullins
Director

Beverly Eaves Perdue
Governor

Dee Freeman
Secretary

October 11, 2011

Mr. Randy Cox
Carolina Power and Light
d/b/a Progress Energy Carolinas, Inc.
Cape Fear Steam Plant
500 CP&L Road
Moncure, North Carolina 27559

Subject: Draft NPDES Stormwater Permit
Permit No. NCS000550
Progress Energy Carolinas, Inc. – Cape Fear
Steam Electric Plant
Chatham County

Dear Mr. Cox:

Enclosed with this letter is a copy of the draft NPDES stormwater permit for your facility. Please review the draft permit very carefully to ensure thorough understanding of the conditions and requirements it contains.

Please submit any comments to me no later than thirty (30) days following your receipt of the draft. Comments should be sent to the address listed at the bottom of this page. If no adverse comments are received from the public or from you, this permit will likely be issued in about two months.

The draft proposes monitoring requirements and conditions that are consistent with the Stormwater Permitting Unit's approach to permitting all coal-fired power plants in the NPDES program. In addition, the draft proposes nutrient monitoring based on discussions with DWQ Planning Section staff about this area of the Cape Fear River Basin.

During a site visit with the Raleigh Regional Office on September 8, 2011, we discussed the four stormwater discharge outfalls (SDOs) that are applicable under this permit. The SDOs were SW-001, SW-008, SW-002, and SW-003. The draft permit does not require sampling from SDOs SW-001 and SW-008 (inactive ash ponds) as long as there are no discharges from events less than the 25-year, 24-hour storm. Please review footnote 3 under **Part II, Section B, Table 2** for the proposed conditions.

Wetlands and Stormwater Branch
1617 Mail Service Center, Raleigh, North Carolina 27699-1617
Location: 512 N. Salisbury St. Raleigh, North Carolina 27604
Phone: 919-807-6300 \ FAX: 919-807-6494 Customer Service: 1-877-623-6748
Internet: www.ncwaterquality.org

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One North Carolina Naturally

During the site visit, we also discussed the most appropriate sampling location and discharge frequency for SDOs SW-002 and SW-003. The plant correctly relocated SW-002 closer to the receiving water. We understand that standing water may sometimes introduce groundwater influences to the sample; however, sampling upstream of this point would omit additional treatment gained by flow through the field upland in that drainage area. DWQ recommends that plant personnel use best professional judgment in sampling upstream of this point if flooding conditions prevent sampling at the outfall (but as close to the outfall as possible) and in documenting possible interference by groundwater here.

Plant personnel explained that SW-003 only discharges in response to larger rain events—around 3 inches or more—and asked how to target times when flows occur. To assist personnel responsible for stormwater sampling, DWQ finds it reasonable for the company to determine the minimum rainfall amount that results in a discharge based on the drainage area and past experience. The company should consider using a calculation method like the Simple Method [described in Chapter 3 of the DWQ Best Management Practices (BMP) Manual, found here: http://portal.ncdenr.org/web/wq/ws/su/bmp-manual] to estimate runoff from the drainage area that corresponds to a certain size storm and observations of flow vs. no flow. Documenting that information in the Stormwater Pollution Prevention Plan (SPPP) would provide guidance about when to reasonably expect rainfall to produce a discharge and would support a record of "No Flow" from SW-003 for the sample period as long as no events above that amount are recorded. The outfall should still be periodically observed to fulfill qualitative monitoring.

Finally, during the visit we also confirmed that SW-006 discharges to the wastewater discharge canal and ultimately to wastewater outfall 007, covered by the NPDES wastewater permit.

If you have any questions or comments concerning this draft permit, please contact me at (919) 807-6372 or bethany.georgoulias@ncdenr.gov.

Sincerely,

Bethany A. Georgoulias

Bethany A. Georgoulias
Environmental Engineer
Stormwater Permitting Unit

cc: Robin Bryson, Progress Energy (via e-mail)
Raleigh Regional Office, Water Quality Section (w/attachment)/ A. Romanski
Stormwater Permitting Unit

Attachments

NCS000550

STATE OF NORTH CAROLINA
DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
DIVISION OF WATER QUALITY

PERMIT

TO DISCHARGE STORMWATER UNDER THE

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

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

Carolina Power & Light Company d/b/a
Progress Energy Carolinas, Inc.

is hereby authorized to discharge stormwater from a facility located at

Cape Fear Steam Electric Plant
500 CP&L Road
Moncure, NC
Chatham County

to receiving waters designated as an unnamed tributary to Shaddox Creek and Shaddox Creek, and the Cape Fear River, both class WS-IV streams in the Cape Fear River Basin, in accordance with the discharge limitations, monitoring requirements, and other conditions set forth in Parts I, II, III, IV, V and VI hereof.

Note: Draft Permit Dates are Approximate
This permit shall become effective January 1, 2012.

This permit and the authorization to discharge shall expire at midnight on December 31, 2016.

Signed this day December 2, 2011.

for Coleen H. Sullins, Director
Division of Water Quality
By the Authority of the Environmental Management Commission

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PART I INTRODUCTION

SECTION A: INDIVIDUAL PERMIT COVERAGE

During the period beginning on the effective date of the permit and lasting until expiration, the permittee is authorized to discharge stormwater associated with industrial activity. Such discharges shall be controlled, limited and monitored as specified in this permit.

If industrial materials and activities are not exposed to precipitation or runoff as described in 40 CFR §122.26(g), the facility may qualify for a No Exposure Exclusion from NPDES stormwater discharge permit requirements. Any owner or operator wishing to obtain a No Exposure Certification must submit a No Exposure Certification NOI form to the Division; must receive approval by the Division; must maintain no exposure conditions unless authorized to discharge under a valid NPDES stormwater permit; and must reapply for the No Exposure Exclusion once every five (5) years.

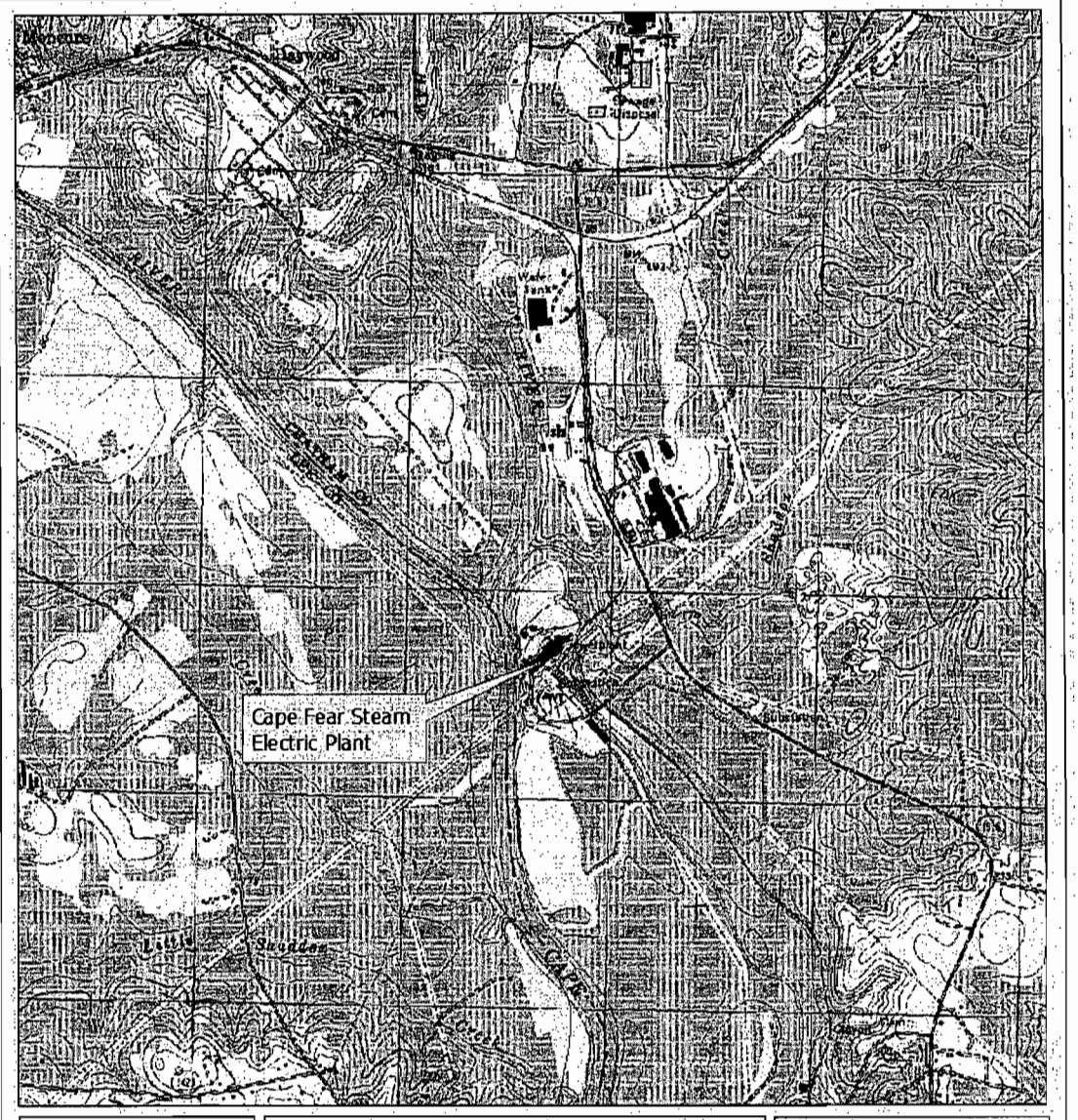
SECTION B: PERMITTED ACTIVITIES

Until this permit expires or is modified or revoked, the permittee is authorized to discharge stormwater to the surface waters of North Carolina or separate storm sewer system that has been adequately treated and managed in accordance with the terms and conditions of this individual permit. All stormwater discharges shall be in accordance with the conditions of this permit.

Any other point source discharge to surface waters of the state is prohibited unless it is an allowable non-stormwater discharge or is covered by another permit, authorization, or approval. The stormwater discharges allowed by this individual permit shall not cause or contribute to violations of Water Quality Standards.

This permit does not relieve the permittee from responsibility for compliance with any other applicable federal, state, or local law, rule, standard, ordinance, order, judgment, or decree.

SECTION C: LOCATION MAP Permit No. NCS000550



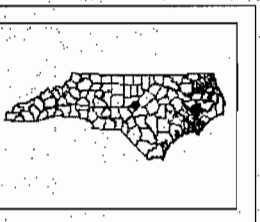
NCS000550

N
W E
S

Map Scale 1:24,000

CP&L d/b/a Progress Energy Carolinas, Inc.
Cape Fear Steam Electric Plant

Latitude: 35° 35' 50" N (SW-001)
Longitude: 79° 02' 55" W (SW-001)
County: Chatham
Receiving Streams: UT/Shaddox Creek, Cape Fear River
Stream Class: Both WS-IV
Sub-basin: 03-06-07 (Cape Fear River Basin)



Facility Location

PART II MONITORING, CONTROLS, AND LIMITATIONS FOR PERMITTED DISCHARGES

SECTION A: STORMWATER POLLUTION PREVENTION PLAN

The Permittee shall develop a Stormwater Pollution Prevention Plan, herein after referred to as the Plan. This Plan shall be considered public information in accordance with Part III, Standard Conditions, Section E, Paragraph 3 of this individual permit. The Plan shall include, at a minimum, the following items:

1. Site Plan. The site plan shall provide a description of the physical facility and the potential pollutant sources which may be expected to contribute to contamination of stormwater discharges. The site plan shall contain the following:

   (a) A general location map (USGS quadrangle map or appropriately drafted equivalent map), showing the facility's location in relation to transportation routes and surface waters, the name of the receiving water(s) to which the stormwater outfall(s) discharges, or if the discharge is to a municipal separate storm sewer system, the name of the municipality and the ultimate receiving waters, and accurate latitude and longitude of the point(s) of discharge. The general location map (or alternatively the site map) shall identify whether each receiving water is **impaired** (on the state's 303(d) list of impaired waters) or is located in a **watershed for which a TMDL has been established**, and what the parameter(s) of concern are.
   North Carolina's 303(d) List can be found here:
   http://h2o.enr.state.nc.us/tmdl/General_303d.htm#Downloads
   North Carolina TMDL documents can be found here:
   http://h2o.enr.state.nc.us/tmdl/TMDL_list.htm#Final_TMDLs.

   (b) A narrative description of storage practices, loading and unloading activities, outdoor process areas, dust or particulate generating or control processes, and waste disposal practices. A narrative description of the potential pollutants which could be expected to be present in the stormwater discharge from each outfall.

   (c) A site map drawn to scale (including a distance legend) showing: the site property boundary, the stormwater discharge outfalls, all on-site and adjacent surface waters and wetlands, industrial activity areas (including storage of materials, disposal areas, process areas, loading and unloading areas, and haul roads), site topography, all drainage features and structures, drainage areas for each outfall, direction of flow in each drainage area, industrial activities occurring in each drainage area, buildings, existing BMPs, and impervious surfaces. The site map must indicate the percentage of each drainage area that is impervious.

   (d) A list of significant spills or leaks of pollutants that have occurred at the facility during the three (3) previous years and any corrective actions taken to mitigate spill impacts.

(e) Certification that the stormwater outfalls have been evaluated for the presence of non-stormwater discharges. The certification statement will be signed in accordance with the requirements found in Part III, Standard Conditions, Section B, Paragraph 3. The permittee shall re-certify annually that the stormwater outfalls have been evaluated for the presence of non-stormwater discharges.

2. Stormwater Management Plan. The stormwater management plan shall contain a narrative description of the materials management practices employed which control or minimize the exposure of significant materials to stormwater, including structural and nonstructural measures. The stormwater management plan, at a minimum, shall incorporate the following:

(a) Feasibility Study. A review of the technical and economic feasibility of changing the methods of operations and/or storage practices to eliminate or reduce exposure of materials and processes to stormwater. Wherever practical, the permittee shall prevent exposure of all storage areas, material handling operations, and manufacturing or fueling operations. In areas where elimination of exposure is not practical, the stormwater management plan shall document the feasibility of diverting the stormwater runoff away from areas of potential contamination.

(b) Secondary Containment Requirements and Records. Secondary containment is required for: bulk storage of liquid materials; storage in any amount of Section 313 of Title III of the Superfund Amendments and Reauthorization Act (SARA) water priority chemicals; and storage in any amount of hazardous substances, in order to prevent leaks and spills from contaminating stormwater runoff. A table or summary of all such tanks and stored materials and their associated secondary containment areas shall be maintained. If the secondary containment devices are connected directly to stormwater conveyance systems, the connection shall be controlled by manually activated valves or other similar devices (which shall be secured closed with a locking mechanism), and any stormwater that accumulates in the containment area shall be at a minimum visually observed for color, foam, outfall staining, visible sheens and dry weather flow, prior to release of the accumulated stormwater. Accumulated stormwater shall be released if found to be uncontaminated by the material stored within the containment area. Records documenting the individual making the observation, the description of the accumulated stormwater, and the date and time of the release shall be kept for a period of five years.

(c) BMP Summary. A listing of site structural and non-structural Best Management Practices (BMP) shall be provided. The installation and implementation of BMPs shall be based on the assessment of the potential for sources to contribute significant quantities of pollutants to stormwater discharges and data collected through monitoring of stormwater discharges. The BMP Summary shall include a written record of the specific rationale for installation and implementation of the selected site BMPs. The BMP Summary shall be reviewed and updated annually.

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3. Spill Prevention and Response Plan. The Spill Prevention and Response Plan (SPRP) shall incorporate an assessment of potential pollutant sources based on a materials inventory of the facility. Facility personnel (or the team) responsible for implementing the SPRP shall be identified in a written list incorporated into the SPRP and signed and dated by each individual acknowledging their responsibilities for the plan. A responsible person shall be on-site at all times during facility operations that have the potential to contaminate stormwater runoff through spills or exposure of materials associated with the facility operations. The SPRP must be site stormwater specific. Therefore, an oil Spill Prevention Control and Countermeasure plan (SPCC) may be a component of the SPRP, but may not be sufficient to completely address the stormwater aspects of the SPRP. The common elements of the SPCC with the SPRP may be incorporated by reference into the SPRP.

4. Preventative Maintenance and Good Housekeeping Program. A preventative maintenance and good housekeeping program shall be developed. The program shall list all stormwater control systems, stormwater discharge outfalls, all on-site and adjacent surface waters and wetlands, industrial activity areas (including material storage areas, material handling areas, disposal areas, process areas, loading and unloading areas, and haul roads), all drainage features and structures, and existing structural BMPs. The program shall establish schedules of inspections, maintenance, and housekeeping activities of stormwater control systems, as well as facility equipment, facility areas, and facility systems that present a potential for stormwater exposure or stormwater pollution. Inspection of material handling areas and regular cleaning schedules of these areas shall be incorporated into the program. Timely compliance with the established schedules for inspections, maintenance, and housekeeping shall be recorded in writing and maintained in the SPPP.

5. Employee Training. Training programs shall be developed and training provided at a minimum on an annual basis for facility personnel with responsibilities for: spill response and cleanup, preventative maintenance activities, and for any of the facility's operations that have the potential to contaminate stormwater runoff. Facility personnel (or team) responsible for implementing the training shall be identified, and their annual training shall be documented by the signature of each employee trained.

6. Responsible Party. The Stormwater Pollution Prevention Plan shall identify a specific position(s) responsible for the overall coordination, development, implementation, and revision to the Plan. Responsibilities for all components of the Plan shall be documented and position assignments provided.

7. Plan Amendment. The permittee shall amend the Plan whenever there is a change in design, construction, operation, or maintenance which has a significant effect on the potential for the discharge of pollutants to surface waters. All aspects of the Stormwater Pollution Prevention Plan shall be reviewed and updated on an annual basis. The annual update shall include an updated list of significant spills or leaks of pollutants for the previous three years, or the notation that no spills have occurred. The annual update shall include re-certification that the stormwater outfalls have been evaluated for the presence of non-stormwater discharges. Each annual update shall include a re-evaluation of the

effectiveness of the BMPs listed in the BMP Summary of the Stormwater Management Plan.

The Director may notify the permittee when the Plan does not meet one or more of the minimum requirements of the permit. Within 30 days of such notice, the permittee shall submit a time schedule to the Director for modifying the Plan to meet minimum requirements. The permittee shall provide certification in writing (in accordance with Part III, Standard Conditions, Section B, Paragraph 5) to the Director that the changes have been made.

8. Facility Inspections. Inspections of the facility and all stormwater systems shall occur as part of the Preventative Maintenance and Good Housekeeping Program at a minimum on a semi-annual schedule, once during the first half of the year (January to June), and once during the second half (July to December), with at least 60 days separating inspection dates (unless performed more frequently than semi-annually). These facility inspections are different from, and in addition to, the stormwater discharge characteristic monitoring required in Part II B, C and D of this permit.

9. Implementation. The permittee shall implement the Plan. Implementation of the Plan shall include documentation of all monitoring, measurements, inspections, maintenance activities, and training provided to employees including the log of the sampling data and of actions taken to implement BMPs associated with the industrial activities, including vehicle maintenance activities. Such documentation shall be kept on-site for a period of five years and made available to the Director or the Director's authorized representative immediately upon request.

SECTION B: ANALYTICAL MONITORING REQUIREMENTS

Analytical monitoring of stormwater discharges shall be performed as specified in **Table 1**. All analytical monitoring shall be performed during a representative storm event. The required monitoring will result in a minimum of ten analytical samplings being conducted over the term of the permit at each stormwater discharge outfall (SDO).

A **representative storm event** is a storm event that measures greater than 0.1 inches of rainfall. The time between this storm event and the previous storm event measuring greater than 0.1 inches must be at least 72 hours. A single storm event may have a period of no precipitation of up to 10 hours. For example, if it rains but stops before producing any collectable discharge, a sample may be collected if the next rain producing a discharge begins within 10 hours.

Table 1. Analytical Monitoring Requirements

Discharge Characteristics	Units	Measurement Frequency[1]	Sample Type[2]	Sample Location[3]
40 CFR Part 423 Appendix A: 13 Priority Pollutant Metals (Ag, As, Be, Cd, Cr, Cu, Hg, Ni, Pb, Sb, Se, Tl, Zn)[4]	µg/l	semi-annual	Grab	SDO
Al	µg/l	semi-annual	Grab	SDO
B	µg/l	semi-annual	Grab	SDO
COD	mg/l	semi-annual	Grab	SDO
TSS	mg/l	semi-annual	Grab	SDO
Sulfate	mg/l	semi-annual	Grab	SDO
Oil and Grease (O&G)	mg/l	semi-annual	Grab	SDO
pH	standard	semi-annual	Grab	SDO
Total Nitrogen (TN)	mg/l	semi-annual	Grab	SDO
Total Phosphorus (TP)	mg/l	semi-annual	Grab	SDO
Total Rainfall[5]	inches	semi-annual	Rain Gauge	-

Footnotes:

1 Measurement Frequency: Twice per year during a representative storm event, for each year until either another permit is issued for this facility or until this permit is revoked or rescinded. If at the end of this permitting cycle the permittee has submitted the appropriate paperwork for a renewal permit before the submittal deadline, the permittee will be considered for a renewal application. The applicant must continue semi-annual monitoring until the renewed permit is issued. See **Table 2** for schedule of monitoring periods through the end of this permitting cycle.

2 If the stormwater runoff is controlled by a stormwater detention pond, a grab sample of the discharge from the pond shall be collected within the first 30 minutes of discharge.

3 Sample Location: Samples shall be collected at each stormwater discharge outfall (SDO) unless representative outfall status has been granted. Sampling is not necessary from SDOs from the inactive ash ponds designated as

'SW001' and 'SW008' unless (a) discharges result in response to storms less than the 25-year, 24-hour storm event, or (b) these ash ponds are modified in a way that reduces holding capacity. To comply with permit reporting requirements, "No Flow" must be reported on the stormwater discharge monitoring reports for sample periods that do not result in discharge, or the permittee must indicate the only flows were in response to a rain event larger than the 25-year, 24-hour storm (approximately 6 inches in this location).

4 Mercury shall be analyzed by EPA Low-level detection method 1631E. This method also requires a field blank be analyzed. A benchmark does not apply; however, **values above 0.012 µg/l should be noted on annual SDO DMR reports to the Regional Office.**

5 For each sampled representative storm event the total precipitation must be recorded. An on-site rain gauge or local rain gauge reading must be recorded.

The permittee shall complete the minimum ten analytical samplings in accordance with the schedule specified below in **Table 2**. A **minimum of 60 days must separate each sample date** unless monthly monitoring has been instituted under a Tier Two response.

Table 2. Monitoring Schedule

Monitoring period[1,2]	Sample Number	Start	End
Year 1 – Period 1	1	January 1, 2012	June 30, 2012
Year 1 – Period 2	2	July 1, 2012	December 31, 2012
Year 2 – Period 1	3	January 1, 2013	June 30, 2013
Year 2 – Period 2	4	July 1, 2013	December 31, 2013
Year 3 – Period 1	5	January 1, 2014	June 30, 2014
Year 3 – Period 2	6	July 1, 2014	December 31, 2014
Year 4 – Period 1	7	January 1, 2015	June 30, 2015
Year 4 – Period 2	8	July 1, 2015	December 31, 2015
Year 5 – Period 1	9	January 1, 2016	June 30, 2016
Year 5 – Period 2	10	July 1, 2016	December 31, 2016

Footnotes:

1 Maintain semi-annual monitoring during permit renewal process. The applicant must continue semi-annual monitoring until the renewed permit is issued.

2 If no discharge occurs during the sampling period, the permittee must submit a monitoring report indicating "No Flow" within 30 days of the end of the six-month sampling period.

The permittee shall report the analytical results from the first sample with valid results within the monitoring period. **In addition, a separate signed Annual Summary DMR copy shall be submitted to the local DWQ Regional Office (RO) by March 1 of each year.** The permittee shall compare monitoring results to the benchmark values in **Table 3**. The benchmark values in **Table 3** are **not permit limits** but should be used as guidelines for the permittee's Stormwater Pollution Prevention Plan (SPPP). Exceedences of benchmark values require the permittee to increase monitoring, increase management actions, increase record keeping, and/or install stormwater Best Management Practices (BMPs) in a tiered program. See below the descriptions of Tier One and Tier Two.

Table 3. Benchmark Values for Analytical Monitoring

Discharge Characteristics	Units	Benchmark
Aluminum	mg/l	0.75
Antimony	mg/l	0.09
Arsenic	mg/l	0.36
Beryllium	mg/l	0.07
Boron	mg/l	N/A
Cadmium	mg/l	0.001
Chromium	mg/l	1
Copper	mg/l	0.007
Lead	mg/l	0.03
Mercury	µg/l	N/A
Nickel	mg/l	0.26
Selenium	mg/l	0.056
Silver	mg/l	0.001
Thallium	mg/l	N/A
Zinc	mg/l	0.067
COD	mg/l	120
TSS	mg/l	100
Sulfate	mg/l	500
O&G	mg/l	30
Total Nitrogen (TN)	mg/l	30
Total Phosphorus (TP)	mg/l	2
pH (*see footnote 1*)	standard	6 - 9[1]

Footnotes:

1 If pH values outside this range are recorded in sampled stormwater discharges, **but ambient rainfall data indicate precipitation pH levels are within ± 0.1 standard units of the measured discharge values or lower,** then the lower threshold of this benchmark range does not apply. Readings from an on-site or local rain gauge (or local precipitation data) must be documented to demonstrate background concentrations were below the benchmark pH range.

Tier One
If: The first valid sampling results are above a benchmark value, or outside of the benchmark range, for any parameter at any outfall;
Then: The permittee shall: 1. Conduct a stormwater management inspection of the facility **within two weeks of receiving sampling results.** 2. Identify and evaluate possible causes of the benchmark value exceedence. 3. Identify potential, and select the specific: source controls, operational controls, or physical improvements to reduce concentrations of the parameters of concern, or to bring concentrations to within the benchmark range. 4. Implement the selected actions **within two months of the inspection.** 5. Record each instance of a Tier One response in the Stormwater Pollution Prevention Plan. Include the date and value of the benchmark exceedence, the inspection date, the personnel conducting the inspection, the selected actions, and the date the selected actions were implemented.

Tier Two
If: During the term of this permit, the first valid sampling results **from two consecutive monitoring periods** are above the benchmark values, or outside of the benchmark range, for any specific parameter at a specific discharge outfall;
Then: The permittee shall: 1. Repeat all the required actions outlined above in Tier One. 2. Immediately institute monthly monitoring for all parameters (**except mercury**) at every outfall where a sampling result exceeded the benchmark value for two consecutive samples. Monthly (analytical and qualitative) monitoring shall continue **until three consecutive sample results** are below the benchmark values, or within the benchmark range, for all parameters at that outfall. 3. If no discharge occurs during the sampling period, the permittee is required to submit a monthly monitoring report indicating "No Flow." 4. Maintain a record of the Tier Two response in the Stormwater Pollution Prevention Plan.

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Tier Three

During the term of this permit, if the valid sampling results required for the permit monitoring periods exceed the benchmark value, or are outside the benchmark range, for any specific parameter at any specific outfall on **four occasions**, the permittee shall notify the DWQ Raleigh Regional Office Supervisor in writing **within 30 days of receipt** of the fourth analytical results. DWQ may, but is not limited to:

- Require that the permittee increase or decrease the monitoring frequency for the remainder of the permit;
- Work with the permittee to develop alternative response strategies;
- Require the permittee to install structural stormwater controls;
- Require the permittee to implement other stormwater control measures; or
- Require that the permittee implement site modifications to qualify for the No Exposure Exclusion.

This site is located just upstream of a portion of the Cape Fear River that is impaired for aquatic life because of chlorophyll *a* standard violations, indicating excessive nutrient loading. If a Total Maximum Daily Load (TMDL) is approved that affects the watershed where this plant site is located, the Division may require additional monitoring or consider routine sample results in determining whether additional BMPs are needed to control the pollutant(s) of concern to the maximum extent practicable.

If additional BMPs are needed to achieve the required level of control, the permittee will be required to (1) develop a strategy for implementing appropriate BMPs, and (2) submit a timetable for incorporation of those BMPs into the permitted Stormwater Pollution Prevention Plan.

SECTION C: QUALITATIVE MONITORING REQUIREMENTS

Qualitative monitoring requires a visual inspection of each stormwater outfall regardless of representative outfall status and shall be performed as specified in **Table 4**, during the analytical monitoring event. [If analytical monitoring is not required, the permittee still must conduct semi-annual qualitative monitoring.] Qualitative monitoring is for the purpose of evaluating the effectiveness of the Stormwater Pollution Prevention Plan (SPPP) and assessing new sources of stormwater pollution.

In the event an atypical condition is noted at a stormwater discharge outfall, the permittee shall document the suspected cause of the condition and any actions taken in response to the discovery. This documentation will be maintained with the SPPP.

Table 4. Qualitative Monitoring Requirements

Discharge Characteristics	Frequency[1]	Monitoring Location[2]
Color	semi-annual	SDO
Odor	semi-annual	SDO
Clarity	semi-annual	SDO
Floating Solids	semi-annual	SDO
Suspended Solids	semi-annual	SDO
Foam	semi-annual	SDO
Oil Sheen	semi-annual	SDO
Erosion or deposition at the outfall	semi-annual	SDO
Other obvious indicators of stormwater pollution	semi-annual	SDO

Footnotes:

1 Measurement Frequency: Twice per year during a representative storm event, for each year until either another permit is issued for this facility or until this permit is revoked or rescinded. If at the end of this permitting cycle the permittee has submitted the appropriate paperwork for a renewal permit before the submittal deadline, the permittee will be considered for a renewal application. The applicant must continue semi-annual monitoring until the renewed permit is issued. See Table 2 for schedule of monitoring periods through the end of this permitting cycle.

2 Monitoring Location: Qualitative monitoring shall be performed at each stormwater discharge outfall (SDO) regardless of representative outfall status.

SECTION D: ON-SITE VEHICLE MAINTENANCE MONITORING REQUIREMENTS

Facilities which have any vehicle maintenance activity occurring on-site which uses more than 55 gallons of new motor oil per month when averaged over the calendar year shall perform analytical monitoring as specified below in **Table 5**. This monitoring shall be performed at all stormwater discharge outfalls which discharge stormwater runoff from vehicle maintenance areas and in accordance with the schedule presented in **Table 2** (Section B). All analytical monitoring shall be performed during a representative storm event.

Table 5. Analytical Monitoring Requirements for On-Site Vehicle Maintenance

Discharge Characteristics	Units	Measurement Frequency[1]	Sample Type[2]	Sample Location[3]
pH	standard	semi-annual	Grab	SDO
Total Petroleum Hydrocarbons *EPA Method 1664 (SGT-HEM)*	mg/l	semi-annual	Grab	SDO
Total Suspended Solids	mg/l	semi-annual	Grab	SDO
Total Rainfall[4]	inches	semi-annual	Rain gauge	-
New Motor Oil Usage	gallons/month	semi-annual	Estimate	-

Footnotes:

1 Measurement Frequency: Twice per year during a representative storm event, for each year until either another permit is issued for this facility or until this permit is revoked or rescinded. If at the end of this permitting cycle the permittee has submitted the appropriate paperwork for a renewal permit before the submittal deadline, the permittee will be considered for a renewal application. The applicant must continue semi-annual monitoring until the renewed permit is issued. See **Table 2** for schedule of monitoring periods through the end of this permitting cycle.

2 If the stormwater runoff is controlled by a stormwater detention pond a grab sample of the discharge from the pond shall be collected within the first 30 minutes of discharge from the pond.

3 Sample Location: Samples shall be collected at each stormwater discharge outfall (SDO) that discharges stormwater runoff from area(s) where vehicle maintenance activities occur.

4 For each sampled representative storm event the total precipitation must be recorded. An on-site or local rain gauge reading must be recorded.

Monitoring results shall be compared to the benchmark values in **Table 6**. The benchmark values in **Table 6** are not permit limits but should be used as guidelines for the permittee's Stormwater Pollution Prevention Plan (SPPP). Exceedences of benchmark values require the permittee to increase monitoring, increase management actions, increase record keeping, and/or install stormwater Best Management Practices (BMPs), as provided in Part II Section B.

Table 6. Benchmark Values for Vehicle Maintenance Analytical Monitoring

Discharge Characteristics	Units	Benchmark
pH (*see footnote 1*)	standard	6 - 9[1]
Total Petroleum Hydrocarbons (TPH)	mg/L	15
Total Suspended Solids	mg/L	100

Footnotes:

1 If pH values outside this range are recorded in sampled stormwater discharges, **but ambient rainfall data indicate precipitation pH levels are within ± 0.1 standard units of the measured values or lower**, then the lower threshold of this benchmark range does not apply. Readings from an on-site or local rain gauge (or local precipitation data) must be documented to demonstrate background concentrations were below the normal pH range.

PART III STANDARD CONDITIONS FOR NPDES STORMWATER INDIVIDUAL PERMITS

SECTION A: COMPLIANCE AND LIABILITY

1. Compliance Schedule

The permittee shall comply with Limitations and Controls specified for stormwater discharges in accordance with the following schedule:

Existing Facilities already operating but applying for permit coverage for the first time: The Stormwater Pollution Prevention Plan shall be developed and implemented within 12 months of the effective date of the initial permit and updated thereafter on an annual basis. Secondary containment, as specified in Part II, Section A, Paragraph 2(b) of this permit, shall be accomplished within 12 months of the effective date of the initial permit issuance.

New Facilities applying for coverage for the first time and existing facilities previously permitted and applying for renewal under this permit: The Stormwater Pollution Prevention Plan shall be developed and implemented prior to the beginning of discharges from the operation of the industrial activity and be updated thereafter on an annual basis. Secondary containment, as specified in Part II, Section A, Paragraph 2(b) of this permit shall be accomplished prior to the beginning of discharges from the operation of the industrial activity.

2. Duty to Comply

The permittee must comply with all conditions of this individual permit. Any permit noncompliance constitutes a violation of the Clean Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit upon renewal application.

a. The permittee shall comply with standards or prohibitions established under section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

b. The Clean Water Act provides that any person who violates a permit condition is subject to a civil penalty not to exceed $25,000 per day for each violation. Any person who negligently violates any permit condition is subject to criminal penalties of $2,500 to 25,000 per day of violation, or imprisonment for not more than 1 year, or both. Any person who knowingly violates permit conditions is subject to criminal penalties of $5,000 to $50,000 per day of violation, or imprisonment for not more than 3 years, or both. Also, any person who violates a permit condition may be assessed an administrative penalty not to exceed $10,000 per violation with the maximum amount not to exceed $125,000. [Ref. Section 309 of the Federal Act 33 USC 1319 and 40 CFR 122.41(a).]

c. Under state law, a daily civil penalty of not more than ten thousand dollars ($10,000) per violation may be assessed against any person who violates or fails to act in accordance with the terms, conditions, or requirements of a permit. [Ref. NC General Statutes 143-215.6A].

d. Any person may be assessed an administrative penalty by the Director for violating section 301, 302, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of the Act. Administrative penalties for Class I violations are not to exceed $10,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed $25,000. Penalties for Class II violations are not to exceed

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$10,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed $125,000.

3. Duty to Mitigate

The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this individual permit which has a reasonable likelihood of adversely affecting human health or the environment.

4. Civil and Criminal Liability

Except as provided in Part III, Section C of this permit regarding bypassing of stormwater control facilities, nothing in this individual permit shall be construed to relieve the permittee from any responsibilities, liabilities, or penalties for noncompliance pursuant to NCGS 143-215.3, 143-215.6A, 143-215.6B, 143-215.6C or Section 309 of the Federal Act, 33 USC 1319. Furthermore, the permittee is responsible for consequential damages, such as fish kills, even though the responsibility for effective compliance may be temporarily suspended.

5. Oil and Hazardous Substance Liability

Nothing in this individual permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject to under NCGS 143-215.75 et seq. or Section 311 of the Federal Act, 33 USC 1321.

6. Property Rights

The issuance of this individual permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

7. Severability

The provisions of this individual permit are severable, and if any provision of this individual permit, or the application of any provision of this individual permit to any circumstances, is held invalid, the application of such provision to other circumstances, and the remainder of this individual permit, shall not be affected thereby.

8. Duty to Provide Information

The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit issued pursuant to this individual permit or to determine compliance with this individual permit. The permittee shall also furnish to the Director upon request, copies of records required to be kept by this individual permit.

9. Penalties for Tampering

The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate, any monitoring device or method required to be maintained under this individual permit shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than two years per violation, or by both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more that $20,000 per day of violation, or by imprisonment of not more than 4 years, or both.

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10. Penalties for Falsification of Reports

The Clean Water Act provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this individual permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than two years per violation, or by both.

SECTION B: GENERAL CONDITIONS

1. Individual Permit Expiration

The permittee is not authorized to discharge after the expiration date. In order to receive automatic authorization to discharge beyond the expiration date, the permittee shall submit forms and fees as are required by the agency authorized to issue permits no later than 180 days prior to the expiration date. Any permittee that has not requested renewal at least 180 days prior to expiration, or any permittee that does not have a permit after the expiration and has not requested renewal at least 180 days prior to expiration, will be subjected to enforcement procedures as provided in NCGS §143-215.6 and 33 USC 1251 et. seq.

2. Transfers

This permit is not transferable to any person except after notice to and approval by the Director. The Director may require modification or revocation and reissuance of the permit to change the name and incorporate such other requirements as may be necessary under the Clean Water Act. **The Permittee is required to notify the Division in writing in the event the permitted facility is sold or closed.**

3. Signatory Requirements

All applications, reports, or information submitted to the Director shall be signed and certified.

a. All applications to be covered under this individual permit shall be signed as follows:

(1) In the case of a corporation: by a principal executive officer of at least the level of vice-president, or his duly authorized representative, if such representative is responsible for the overall operation of the facility from which the discharge described in the permit application form originates;

(2) In the case of a partnership or limited partnership: by a general partner;

(3) In the case of a sole proprietorship: by the proprietor;

(4) In the case of a municipal, state, or other public entity: by a principal executive officer, ranking elected official, or other duly authorized employee.

b. All reports required by the individual permit and other information requested by the Director shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

(1) The authorization is made in writing by a person described above;

(2) The authorization specified either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant

manager, operator of a well or well field, superintendent, a position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.); and

(3) The written authorization is submitted to the Director.

c. Any person signing a document under paragraphs a. or b. of this section shall make the following certification:

"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."

4. Individual Permit Modification, Revocation and Reissuance, or Termination

The issuance of this individual permit does not prohibit the Director from reopening and modifying the individual permit, revoking and reissuing the individual permit, or terminating the individual permit as allowed by the laws, rules, and regulations contained in Title 40, Code of Federal Regulations, Parts 122 and 123; Title 15A of the North Carolina Administrative Code, Subchapter 2H .0100; and North Carolina General Statute 143-215.1 et al.

5. Permit Actions

The permit may be modified, revoked and reissued, or terminated for cause. The notification of planned changes or anticipated noncompliance does not stay any individual permit condition.

SECTION C: OPERATION AND MAINTENANCE OF POLLUTION CONTROLS

1. Proper Operation and Maintenance

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this individual permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of this individual permit.

2. Need to Halt or Reduce Not a Defense

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the condition of this individual permit.

3. Bypassing of Stormwater Control Facilities

Bypass is prohibited and the Director may take enforcement action against a permittee for bypass unless:

a. Bypass was unavoidable to prevent loss of life, personal injury or severe property damage; and

b. There were no feasible alternatives to the bypass, such as the use of auxiliary control facilities, retention of stormwater or maintenance during normal periods of equipment downtime or dry weather. This condition is not satisfied if adequate backup controls should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and

c. The permittee submitted notices as required under, Part III, Section E of this permit.

If the Director determines that it will meet the three conditions listed above, the Director may approve an anticipated bypass after considering its adverse effects.

SECTION D: MONITORING AND RECORDS

1. Representative Sampling

Samples collected and measurements taken, as required herein, shall be characteristic of the volume and nature of the permitted discharge. Analytical sampling shall be performed during a representative storm event. Samples shall be taken on a day and time that is characteristic of the discharge. All samples shall be taken before the discharge joins or is diluted by any other waste stream, body of water, or substance. Monitoring points as specified in this permit shall not be changed without notification to and approval of the Director.

2. Recording Results

For each measurement, sample, inspection or maintenance activity performed or collected pursuant to the requirements of this individual permit the permittee shall record the following information:

a. The date, exact place, and time of sampling, measurements, inspection or maintenance activity;

b. The individual(s) who performed the sampling, measurements, inspection or maintenance activity;

c. The date(s) analyses were performed;

d. The individual(s) who performed the analyses;

e. The analytical techniques or methods used; and

f. The results of such analyses.

3. Flow Measurements

Where required, appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges.

4. Test Procedures

Test procedures for the analysis of pollutants shall conform to the EMC regulations published pursuant to NCGS 143-215.63 et. seq, the Water and Air Quality Reporting Acts, and to regulations published pursuant to Section 304(g), 33 USC 1314, of the Federal Water Pollution Control Act, as Amended, and Regulation 40 CFR 136.

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To meet the intent of the monitoring required by this individual permit, all test procedures must produce minimum detection and reporting levels and all data generated must be reported down to the minimum detection or lower reporting level of the procedure.

5. Representative Outfall

If a facility has multiple discharge locations with substantially identical stormwater discharges that are required to be sampled, the permittee may petition the Director for representative outfall status. If it is established that the stormwater discharges are substantially identical and the permittee is granted representative outfall status, then sampling requirements may be performed at a reduced number of outfalls.

6. Records Retention

Visual monitoring shall be documented and records maintained at the facility along with the Stormwater Pollution Prevention Plan. Copies of analytical monitoring results shall also be maintained on-site. The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, and copies of all reports required by this individual permit for a period of at least 5 years from the date of the sample, measurement, report or application. This period may be extended by request of the Director at any time.

7. Inspection and Entry

The permittee shall allow the Director, or an authorized representative (including an authorized contractor acting as a representative of the Director), or in the case of a facility which discharges through a municipal separate storm sewer system, an authorized representative of a municipal operator or the separate storm sewer system receiving the discharge, upon the presentation of credentials and other documents as may be required by law, to;

a. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this individual permit;

b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this individual permit;

c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this individual permit; and

d. Sample or monitor at reasonable times, for the purposes of assuring individual permit compliance or as otherwise authorized by the Clean Water Act, any substances or parameters at any location.

SECTION E: REPORTING REQUIREMENTS

1. Discharge Monitoring Reports

Samples analyzed in accordance with the terms of this permit shall be submitted to the Division on Discharge Monitoring Report (DMR) forms provided by the Director. Submittals shall be delivered to the Division no later than 30 days from the date the facility receives the sampling results from the laboratory.

When no discharge has occurred from the facility during the report period, the permittee is required to submit a discharge monitoring report within 30 days of the end of the six-month sampling period, giving all required information and indicating "NO FLOW" as per NCAC T15A 02B .0506.

The permittee shall record the required qualitative monitoring observations on the SDO Qualitative Monitoring Report (QMR) form provided by the Division, and shall retain the completed forms on site. Qualitative monitoring results should not be submitted to the Division, except upon DWQ's specific requirement to do so.

2. Submitting Reports

Duplicate signed copies of all reports required herein, shall be submitted to the following address:

Division of Water Quality
Surface Water Protection Section
ATTENTION: Central Files
1617 Mail Service Center
Raleigh, North Carolina 27699-1617

In addition, a separate signed Annual Summary DMR copy shall be submitted to the permittee's DWQ Regional Office (RO) by March 1 of each year.

3. Availability of Reports

Except for data determined to be confidential under NCGS 143-215.3(a)(2) or Section 308 of the Federal Act, 33 USC 1318, all reports prepared in accordance with the terms shall be available for public inspection at the offices of the Division of Water Quality. As required by the Act, analytical data shall not be considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal penalties as provided for in NCGS 143-215.6B or in Section 309 of the Federal Act.

4. Non-Stormwater Discharges

If the storm event monitored in accordance with this individual permit coincides with a non-stormwater discharge, the permittee shall separately monitor all parameters as required under the non-stormwater discharge permit and provide this information with the stormwater discharge monitoring report.

5. Planned Changes

The permittee shall give notice to the Director as soon as possible of any planned changes at the permitted facility which could significantly alter the nature or quantity of pollutants discharged. This notification requirement includes pollutants which are not specifically listed in the individual permit or subject to notification requirements under 40 CFR Part 122.42 (a).

6. Anticipated Noncompliance

The permittee shall give notice to the Director as soon as possible of any planned changes at the permitted facility which may result in noncompliance with the individual permit requirements.

7. Bypass

a. Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten days before the date of the bypass; including an evaluation of the anticipated quality and affect of the bypass.

b. Unanticipated bypass. The permittee shall submit notice within 24 hours of becoming aware of an unanticipated bypass.

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8. Twenty-four Hour Reporting

The permittee shall report to the central office or the appropriate regional office any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee became aware of the circumstances. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances.

The written submission shall contain a description of the noncompliance, and its causes; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time compliance is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

The Director may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.

9. Other Noncompliance

The permittee shall report all instances of noncompliance not reported under 24 hour reporting at the time monitoring reports are submitted.

10. Other Information

Where the permittee becomes aware that it failed to submit any relevant facts in an application for an individual permit or in any report to the Director, it shall promptly submit such facts or information.

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PART IV LIMITATIONS REOPENER

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

a. Contains different conditions or is otherwise more stringent than any effluent limitation in the individual permit; or

b. Controls any pollutant not limited in the individual permit.

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

PART V ADMINISTERING AND COMPLIANCE MONITORING FEE REQUIREMENTS

The permittee must pay the administering and compliance monitoring fee within 30 (thirty) days after being billed by the Division. Failure to pay the fee in timely manner in accordance with 15A NCAC 2H .0105(b)(4) may cause this Division to initiate action to revoke the individual permit.

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PART VI DEFINITIONS

1. Act

   See Clean Water Act.

2. Arithmetic Mean

   The arithmetic mean of any set of values is the summation of the individual values divided by the number of individual values.

3. Allowable Non-Stormwater Discharges

   This permit regulates stormwater discharges. Non-stormwater discharges which shall be allowed in the stormwater conveyance system are:

   (a) All other discharges that are authorized by a non-stormwater NPDES permit.

   (b) Uncontaminated groundwater, foundation drains, air-conditioner condensate without added chemicals, springs, discharges of uncontaminated potable water, waterline and fire hydrant flushings, water from footing drains, flows from riparian habitats and wetlands.

   (c) Discharges resulting from fire-fighting or fire-fighting training.

4. Best Management Practices (BMPs)

   Measures or practices used to reduce the amount of pollution entering surface waters. BMPs may take the form of a process, activity, or physical structure.

5. Bypass

A bypass is the known diversion of stormwater from any portion of a stormwater control facility including the collection system, which is not a designed or established operating mode for the facility.

6. Bulk Storage of Liquid Products

Liquid raw materials, manufactured products, waste materials or by-products with a single above ground storage container having a capacity of greater than 660 gallons or with multiple above ground storage containers located in close proximity to each other having a total combined storage capacity of greater than 1,320 gallons.

7. Clean Water Act

The Federal Water Pollution Control Act, also known as the Clean Water Act (CWA), as amended, 33 USC 1251, et. seq.

8. Division or DWQ

The Division of Water Quality, Department of Environment and Natural Resources.

9. Director

The Director of the Division of Water Quality, the permit issuing authority.

10. EMC

The North Carolina Environmental Management Commission.

11. Grab Sample

An individual sample collected instantaneously. Grab samples that will be directly analyzed or qualitatively monitored must be taken within the first 30 minutes of discharge.

12. Hazardous Substance

Any substance designated under 40 CFR Part 116 pursuant to Section 311 of the Clean Water Act.

13. Landfill

A disposal facility or part of a disposal facility where waste is placed in or on land and which is not a land treatment facility, a surface impoundment, an injection well, a hazardous waste long-term storage facility or a surface storage facility.

14. Municipal Separate Storm Sewer System

A stormwater collection system within an incorporated area of local self-government such as a city or town.

15. No Exposure

A condition of no exposure means that all industrial materials and activities are protected by a storm resistant shelter or acceptable storage containers to prevent exposure to rain, snow, snowmelt, or runoff.

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Industrial materials or activities include, but are not limited to, material handling equipment or activities, industrial machinery, raw materials, intermediate products, by-products, final products, or waste products. DWQ may grant a No Exposure Exclusion from NPDES Stormwater Permitting requirements only if a facility complies with the terms and conditions described in 40 CFR §122.26(g).

16. Overburden

Any material of any nature, consolidated or unconsolidated, that overlies a mineral deposit, excluding topsoil or similar naturally-occurring surface materials that are not disturbed by mining operations.

17. Permittee

The owner or operator issued a permit pursuant to this individual permit.

18. Point Source Discharge of Stormwater

Any discernible, confined and discrete conveyance including, but not specifically limited to, any pipe, ditch, channel, tunnel, conduit, well, or discrete fissure from which stormwater is or may be discharged to waters of the state.

19. Representative Storm Event

A storm event that measures greater than 0.1 inches of rainfall and that is preceded by at least 72 hours in which no storm event measuring greater than 0.1 inches has occurred. A single storm event may contain up to 10 consecutive hours of no precipitation. For example, if it rains for 2 hours without producing any collectable discharge, and then stops, a sample may be collected if a rain producing a discharge begins again within the next 10 hours.

20. Representative Outfall Status

When it is established that the discharge of stormwater runoff from a single outfall is representative of the discharges at multiple outfalls, the DWQ may grant representative outfall status. Representative outfall status allows the permittee to perform analytical monitoring at a reduced number of outfalls.

21. Rinse Water Discharge

The discharge of rinse water from equipment cleaning areas associated with industrial activity. Rinse waters from vehicle and equipment cleaning areas are process wastewaters and do not include washwaters utilizing any type of detergent or cleaning agent.

22. Secondary Containment

Spill containment for the contents of the single largest tank within the containment structure plus sufficient freeboard to allow for the 25-year, 24-hour storm event.

23. Section 313 Water Priority Chemical

A chemical or chemical category which:

a. Is listed in 40 CFR 372.65 pursuant to Section 313 of Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986, also titled the Emergency Planning and Community Right-to-Know Act of 1986;

b. Is present at or above threshold levels at a facility subject to SARA Title III, Section 313 reporting requirements; and

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c. That meets at least one of the following criteria:

(1) Is listed in Appendix D of 40 CFR part 122 on Table II (organic priority pollutants), Table III (certain metals, cyanides, and phenols), or Table IV (certain toxic pollutants and hazardous substances);

(2) Is listed as a hazardous substance pursuant to section 311(b)(2)(A) of the CWA at 40 CFR 116.4; or

(3) Is a pollutant for which EPA has published acute or chronic water quality criteria.

24. Severe Property Damage

Means substantial physical damage to property, damage to the control facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

25. Significant Materials

Includes, but is not limited to: raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under section 101(14) of CERCLA; any chemical the facility is required to report pursuant to section 313 of Title III of SARA; fertilizers; pesticides; and waste products such as ashes, slag and sludge that have the potential to be released with stormwater discharges.

26. Significant Spills

Includes, but is not limited to: releases of oil or hazardous substances in excess of reportable quantities under section 311 of the Clean Water Act (Ref: 40 CFR 110.10 and CFR 117.21) or section 102 of CERCLA (Ref: 40 CFR 302.4).

27. Stormwater Runoff

The flow of water which results from precipitation and which occurs immediately following rainfall or as a result of snowmelt.

28. Stormwater Associated with Industrial Activity

The discharge from any point source which is used for collecting and conveying stormwater and which is directly related to manufacturing, processing or raw material storage areas at an industrial site. Facilities considered to be engaged in "industrial activities" include those activities defined in 40 CFR 122.26(b)(14). The term does not include discharges from facilities or activities excluded from the NPDES program.

29. Stormwater Pollution Prevention Plan

A comprehensive site-specific plan which details measures and practices to reduce stormwater pollution and is based on an evaluation of the pollution potential of the site.

30. Ten Year Design Storm

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The maximum 24 hour precipitation event expected to be equaled or exceeded on the average once in ten years. Design storm information can be found in the State of North Carolina Erosion and Sediment Control Planning and Design Manual.

31. Total Flow

The flow corresponding to the time period over which the entire storm event occurs. Total flow shall be either; (a) measured continuously, (b) calculated based on the amount of area draining to the outfall, the amount of built-upon (impervious) area, and the total amount of rainfall, or (c) estimated by the measurement of flow at 20 minute intervals during the rainfall event.

32. Total Maximum Daily Load (TMDL)

A TMDL is a calculation of the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards, and an allocation of that amount to the pollutant's sources. A TMDL is a detailed water quality assessment that provides the scientific foundation for an implementation plan. The implementation plan outlines the steps necessary to reduce pollutant loads in a certain body of water to restore and maintain water quality standards in all seasons. The Clean Water Act, Section 303, establishes the water quality standards and TMDL programs.

33. Toxic Pollutant

Any pollutant listed as toxic under Section 307(a)(1) of the Clean Water Act.

34. Upset

Means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment or control facilities, inadequate treatment or control facilities, lack of preventive maintenance, or careless or improper operation.

35. Vehicle Maintenance Activity

Vehicle rehabilitation, mechanical repairs, painting, fueling, lubrication, vehicle cleaning operations, or airport deicing operations.

36. Visible Sedimentation

Solid particulate matter, both mineral and organic, that has been or is being transported by water, air, gravity, or ice from its site of origin which can be seen with the unaided eye.

37. 25-year, 24 hour storm event

The maximum 24-hour precipitation event expected to be equaled or exceeded, on the average, once in 25 years.

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NCDENR
North Carolina Department of Environment and Natural Resources
Division of Water Quality

Beverly Eaves Perdue
Governor

Charles Wakild, P.E.
Director

Dee Freeman
Secretary

February 28, 2012

Mr. Mark McGary
Duke Energy Corporation
P.O. Box 1006
Mail Code EC13K
Charlotte, North Carolina 28201-1006

Subject: Draft NPDES Stormwater Permit
Permit No. NCS000554
Buck Combustion Turbine Combined Cycle Station
Rowan County

Dear Mr. McGary:

Enclosed with this letter is a copy of the draft stormwater permit for your facility. Please review the draft very carefully to ensure thorough understanding of the conditions and requirements it contains.

Please submit any comments to me no later than thirty (30) days following your receipt of the draft. Comments should be sent to the address listed at the bottom of this page. If no adverse comments are received from the public or from you, this permit will likely be issued in about two months.

If you have any questions or comments concerning this draft permit, contact me at (919) 807-6372 or bethany.georgoulias@ncdenr.gov

Sincerely,

Bethany Georgoulias
Environmental Engineer
Stormwater Permitting Unit

cc: Mooresville Regional Office, Mike Parker
Stormwater Permitting Unit

Attachments

Wetlands and Stormwater Branch
1617 Mail Service Center, Raleigh, North Carolina 27699-1617
Location: 512 N. Salisbury St. Raleigh, North Carolina 27604
Phone: 919-807-6300 \ FAX: 919-807-6494
Internet: www.ncwaterquality.org
An Equal Opportunity \ Affirmative Action Employer

One NorthCarolina Naturally

STATE OF NORTH CAROLINA
DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
DIVISION OF WATER QUALITY

PERMIT

TO DISCHARGE STORMWATER UNDER THE

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

draft

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

Duke Energy Carolinas, LLC

is hereby authorized to discharge stormwater from a facility located at

Buck Combustion Turbine Combined Cycle Station
1385 Dukeville Road
Salisbury, NC
Rowan County

to receiving waters designated as The Yadkin River (Upper Portion of High Rock Lake), a class WS-V stream in the Yadkin-Pee Dee River Basin, in accordance with the discharge limitations, monitoring requirements, and other conditions set forth in Parts I, II, III, IV, V and VI hereof.

Note: Draft Permit Dates are Approximate
This permit shall become effective May 1, 2012.

This permit and the authorization to discharge shall expire at midnight on April 30, 2017.

Signed this 20th day of April 2012.

for Charles Wakild, P.E., Director
Division of Water Quality
By the Authority of the Environmental Management Commission

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Draft

PART I INTRODUCTION

SECTION A: INDIVIDUAL PERMIT COVERAGE

During the period beginning on the effective date of the permit and lasting until expiration, the permittee is authorized to discharge stormwater associated with industrial activity. Such discharges shall be controlled, limited and monitored as specified in this permit.

If industrial materials and activities are not exposed to precipitation or runoff as described in 40 CFR §122.26(g), the facility may qualify for a No Exposure Exclusion from NPDES stormwater discharge permit requirements. Any owner or operator wishing to obtain a No Exposure Certification must submit a No Exposure Certification NOI form to the Division; must receive approval by the Division; must maintain no exposure conditions unless authorized to discharge under a valid NPDES stormwater permit; and must reapply for the No Exposure Exclusion once every five (5) years.

SECTION B: PERMITTED ACTIVITIES

Until this permit expires or is modified or revoked, the permittee is authorized to discharge stormwater to the surface waters of North Carolina or separate storm sewer system that has been adequately treated and managed in accordance with the terms and conditions of this individual permit. All stormwater discharges shall be in accordance with the conditions of this permit.

Any other point source discharge to surface waters of the state is prohibited unless it is an allowable non-stormwater discharge or is covered by another permit, authorization, or approval. The stormwater discharges allowed by this individual permit shall not cause or contribute to violations of Water Quality Standards.

This permit does not relieve the permittee from responsibility for compliance with any other applicable federal, state, or local law, rule, standard, ordinance, order, judgment, or decree.

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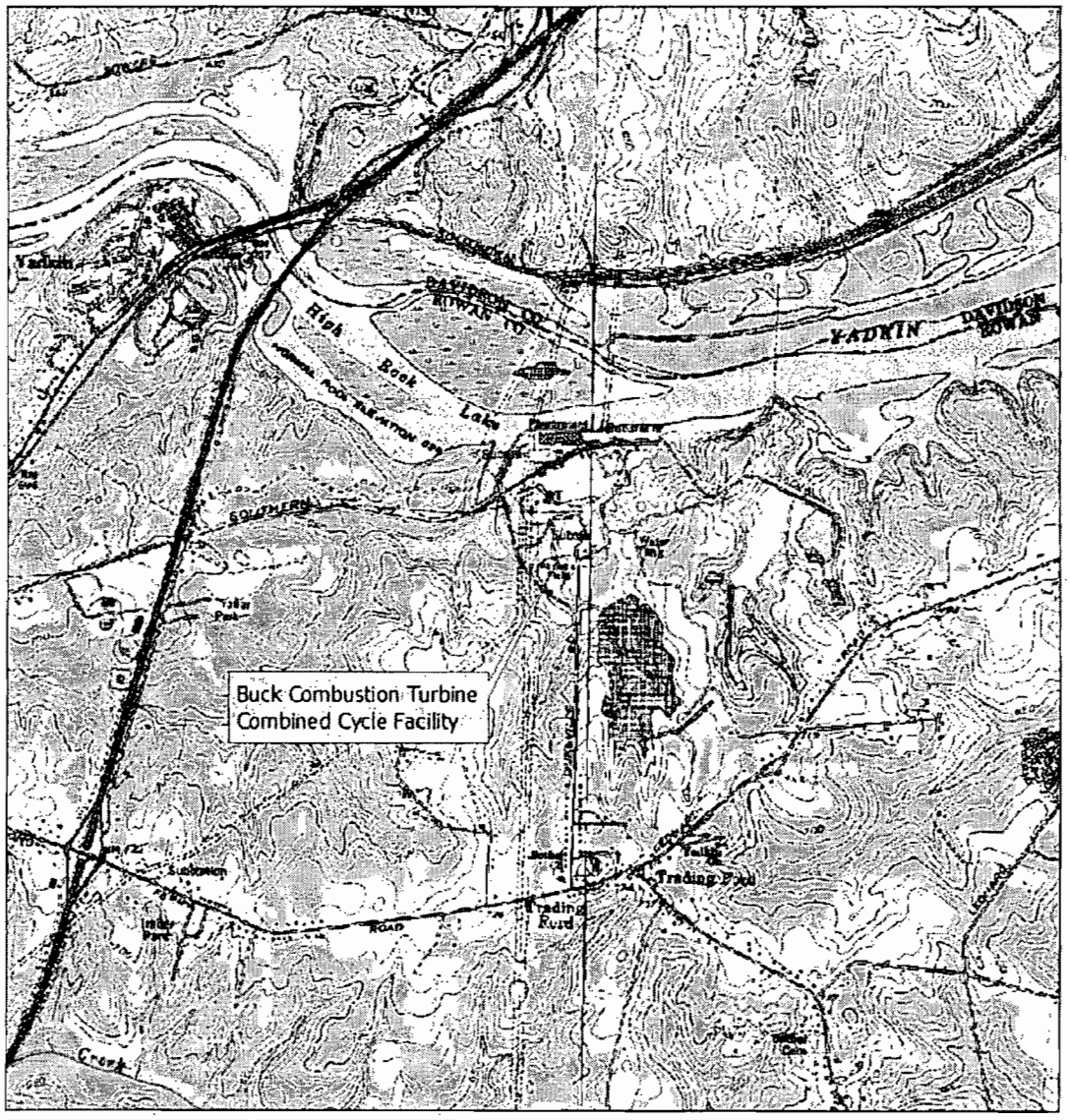
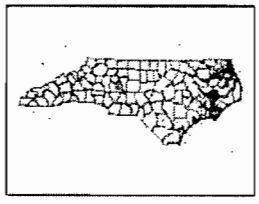


NCS000554

Map Scale 1:24,000

Duke Energy Carolinas, LLC
Buck CTCC Station

Latitude: 35° 42' 30" N
Longitude: 80° 22' 40" W
County: Rowan
Receiving Stream: Yadkin River
Stream Class: WS-V
Sub-basin: 03-07-04 (Yadkin River Basin)



Facility Location

PART II MONITORING, CONTROLS, AND LIMITATIONS FOR PERMITTED DISCHARGES

SECTION A: STORMWATER POLLUTION PREVENTION PLAN

The Permittee shall develop a Stormwater Pollution Prevention Plan, herein after referred to as the Plan. This Plan shall be considered public information in accordance with Part III, Standard Conditions, Section E, Paragraph 3 of this individual permit. The Plan shall include, at a minimum, the following items:

1. Site Plan. The site plan shall provide a description of the physical facility and the potential pollutant sources which may be expected to contribute to contamination of stormwater discharges. The site plan shall contain the following:

   (a) A general location map (USGS quadrangle map or appropriately drafted equivalent map), showing the facility's location in relation to transportation routes and surface waters, the name of the receiving water(s) to which the stormwater outfall(s) discharges, or if the discharge is to a municipal separate storm sewer system, the name of the municipality and the ultimate receiving waters, and accurate latitude and longitude of the point(s) of discharge. The general location map (or alternatively the site map) shall identify whether each receiving water is **impaired** (on the state's 303(d) list of impaired waters) or is located in a **watershed for which a TMDL has been established,** and what the parameter(s) of concern are.

   (b) A narrative description of storage practices, loading and unloading activities, outdoor process areas, dust or particulate generating or control processes, and waste disposal practices. A narrative description of the potential pollutants which could be expected to be present in the stormwater discharge from each outfall.

   (c) A site map drawn to scale (including a distance legend) showing: the site property boundary, the stormwater discharge outfalls, all on-site and adjacent surface waters and wetlands, industrial activity areas (including storage of materials, disposal areas, process areas, loading and unloading areas, and haul roads), site topography, all drainage features and structures, drainage areas for each outfall, direction of flow in each drainage area, industrial activities occurring in each drainage area, buildings, existing BMPs, and impervious surfaces. The site map must indicate the percentage of each drainage area that is impervious.

   (d) A list of significant spills or leaks of pollutants that have occurred at the facility during the three (3) previous years and any corrective actions taken to mitigate spill impacts.

   (e) Certification that the stormwater outfalls have been evaluated for the presence of non-stormwater discharges. The certification statement will be signed in accordance with the requirements found in Part III, Standard Conditions, Section

B, Paragraph 3. The permittee shall re-certify annually that the stormwater outfalls have been evaluated for the presence of non-stormwater discharges.

2. Stormwater Management Plan. The stormwater management plan shall contain a narrative description of the materials management practices employed which control or minimize the exposure of significant materials to stormwater, including structural and nonstructural measures. The stormwater management plan, at a minimum, shall incorporate the following:

   (a) Feasibility Study. A review of the technical and economic feasibility of changing the methods of operations and/or storage practices to eliminate or reduce exposure of materials and processes to stormwater. Wherever practical, the permittee shall prevent exposure of all storage areas, material handling operations, and manufacturing or fueling operations. In areas where elimination of exposure is not practical, the stormwater management plan shall document the feasibility of diverting the stormwater runoff away from areas of potential contamination.

   (b) Secondary Containment Requirements and Records. Secondary containment is required for: bulk storage of liquid materials; storage in any amount of Section 313 of Title III of the Superfund Amendments and Reauthorization Act (SARA) water priority chemicals; and storage in any amount of hazardous substances, in order to prevent leaks and spills from contaminating stormwater runoff. A table or summary of all such tanks and stored materials and their associated secondary containment areas shall be maintained. If the secondary containment devices are connected to stormwater conveyance systems, the connection shall be controlled by manually activated valves or other similar devices (which shall be secured closed with a locking mechanism), and any stormwater that accumulates in the containment area shall be at a minimum visually observed for color, foam, outfall staining, visible sheens and dry weather flow, prior to release of the accumulated stormwater. Accumulated stormwater shall be released if found to be uncontaminated by any material. Records documenting the individual making the observation, the description of the accumulated stormwater, and the date and time of the release shall be kept for a period of five years.

   (c) BMP Summary. A listing of site structural and non-structural Best Management Practices (BMP) shall be provided. The installation and implementation of BMPs shall be based on the assessment of the potential for sources to contribute significant quantities of pollutants to stormwater discharges and data collected through monitoring of stormwater discharges. The BMP Summary shall include a written record of the specific rationale for installation and implementation of the selected site BMPs. The BMP Summary shall be reviewed and updated annually.

3. Spill Prevention and Response Plan. The Spill Prevention and Response Plan (SPRP) shall incorporate an assessment of potential pollutant sources based on a materials inventory of the facility. Facility personnel (or the team) responsible for implementing the SPRP shall be identified in a written list incorporated into the SPRP and signed and dated by each individual acknowledging their responsibilities for the plan. A responsible

person shall be on-site at all times during facility operations that have the potential to contaminate stormwater runoff through spills or exposure of materials associated with the facility operations. The SPRP must be site stormwater specific. Therefore, an oil Spill Prevention Control and Countermeasure plan (SPCC) may be a component of the SPRP, but may not be sufficient to completely address the stormwater aspects of the SPRP. The common elements of the SPCC with the SPRP may be incorporated by reference into the SPRP.

4. Preventative Maintenance and Good Housekeeping Program. A preventative maintenance and good housekeeping program shall be developed. The program shall list all stormwater control systems, stormwater discharge outfalls, all on-site and adjacent surface waters and wetlands, industrial activity areas (including material storage areas, material handling areas, disposal areas, process areas, loading and unloading areas, and haul roads), all drainage features and structures, and existing structural BMPs. The program shall establish schedules of inspections, maintenance, and housekeeping activities of stormwater control systems, as well as facility equipment, facility areas, and facility systems that present a potential for stormwater exposure or stormwater pollution. Inspection of material handling areas and regular cleaning schedules of these areas shall be incorporated into the program. Timely compliance with the established schedules for inspections, maintenance, and housekeeping shall be recorded in writing and maintained in the SPPP.

5. Employee Training. Training programs shall be developed and training provided at a minimum on an annual basis for facility personnel with responsibilities for: spill response and cleanup, preventative maintenance activities, and for any of the facility's operations that have the potential to contaminate stormwater runoff. Facility personnel (or team) responsible for implementing the training shall be identified, and their annual training shall be documented by the signature of each employee trained.

6. Responsible Party. The Stormwater Pollution Prevention Plan shall identify a specific position(s) responsible for the overall coordination, development, implementation, and revision to the Plan. Responsibilities for all components of the Plan shall be documented and position assignments provided.

7. Plan Amendment. The permittee shall amend the Plan whenever there is a change in design, construction, operation, or maintenance which has a significant effect on the potential for the discharge of pollutants to surface waters. **All aspects of the Stormwater Pollution Prevention Plan shall be reviewed and updated on an annual basis**. The annual update shall include an updated list of significant spills or leaks of pollutants for the previous three years, or the notation that no spills have occurred. The annual update shall include written re-certification that the stormwater outfalls have been evaluated for the presence of non-stormwater discharges. Each annual update shall include a documented re-evaluation of the effectiveness of the BMPs listed in the BMP Summary of the Stormwater Management Plan.

   The Director may notify the permittee when the Plan does not meet one or more of the minimum requirements of the permit. Within 30 days of such notice, the permittee shall

submit a time schedule to the Director for modifying the Plan to meet minimum requirements. The permittee shall provide certification in writing (in accordance with Part III, Standard Conditions, Section B, Paragraph 3) to the Director that the changes have been made.

8. Facility Inspections. Inspections of the facility and all stormwater systems shall occur as part of the Preventative Maintenance and Good Housekeeping Program at a minimum on a semi-annual schedule, once during the first half of the year (January to June), and once during the second half (July to December), with at least 60 days separating inspection dates (unless performed more frequently than semi-annually). These facility inspections are different from, and in addition to, the stormwater discharge characteristic monitoring required in Part II B and C of this permit.

9. Implementation. The permittee shall implement the Plan. Implementation of the Plan shall include documentation of all monitoring, measurements, inspections, maintenance activities, and training provided to employees, including the log of the sampling data and of actions taken to implement BMPs associated with the industrial activities, including vehicle maintenance activities. Such documentation shall be kept on-site for a period of five years and made available to the Director or the Director's authorized representative immediately upon request.

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SECTION B: ANALYTICAL MONITORING REQUIREMENTS

Analytical monitoring of stormwater discharges shall be performed as specified in **Table 1**. All analytical monitoring shall be performed during a measurable storm event. The required monitoring will result in a minimum of ten analytical samplings being conducted over the term of the permit at each stormwater discharge outfall (SDO).

A **measurable storm event** is a storm event that **results in an actual discharge** from the permitted site outfall. The previous measurable storm event must have been at least 72 hours prior. The 72-hour storm interval does not apply if the permittee is able to document that a shorter interval is representative for local storm events during the sampling period, and obtains approval from the local DWQ Regional Office. *See definitions for more information.*

Table 1. Analytical Monitoring Requirements

Discharge Characteristics	Units	Measurement Frequency[1]	Sample Type[2]	Sample Location[3]
Total Suspended Solids	mg/L	semi-annual	Grab	SDO
Non-Polar Oil & Grease / TPH [EPA Method 1664 (SGT-HEM)]	mg/L	semi-annual	Grab	SDO
pH	standard	semi-annual	Grab	SDO
Total Rainfall[4]	inches	semi-annual	Rain Gauge	-

Footnotes:

1 Measurement Frequency: Twice per year during a measurable storm event.

2 Grab samples shall be collected within the first 30 minutes of discharge.

3 Sample Location: Samples shall be collected at each stormwater discharge outfall (SDO) unless representative outfall status has been granted.

4 For each sampled measurable storm event the total precipitation must be recorded. An on-site rain gauge or local rain gauge reading must be recorded.

The permittee shall complete the minimum ten analytical samplings in accordance with the schedule specified below in **Table 2**. A **minimum of 60 days must separate Period 1 and Period 2 sample dates** unless monthly monitoring has been instituted under a Tier Two response.

Table 2. Monitoring Schedule

Monitoring period[1,2]	Sample Number	Start	End
Year 1 – Period 1	1	July 1, 2012	December 31, 2012
Year 1 – Period 2	2	January 1, 2013	June 30, 2013
Year 2 – Period 1	3	July 1, 2013	December 31, 2013
Year 2 – Period 2	4	January 1, 2014	June 30, 2014
Year 3 – Period 1	5	July 1, 2014	December 31, 2014
Year 3 – Period 2	6	January 1, 2015	June 30, 2015
Year 4 – Period 1	7	July 1, 2015	December 31, 2015
Year 4 – Period 2	8	January 1, 2016	June 30, 2016
Year 5 – Period 1	9	July 1, 2016	December 31, 2016
Year 5 – Period 2	10	January 1, 2017	April 30, 2017

Footnotes:

1. Maintain semi-annual monitoring during permit renewal process. If at the expiration of the Individual Permit, the permittee has submitted an application for renewal of coverage before the submittal deadline, the permittee will be considered for renewed coverage. The applicant must continue semi-annual monitoring until the renewed permit is issued.
2. If no discharge occurs during the sampling period, the permittee must submit a monitoring report indicating "No Flow" within 30 days of the end of the six-month sampling period.

The permittee shall report the analytical results from each sample within the monitoring period. The permittee shall compare monitoring results to the benchmark values in **Table 3**. The benchmark values in **Table 3** are not permit limits but should be used as guidelines for the permittee's Stormwater Pollution Prevention Plan (SPPP). Exceedences of benchmark values require the permittee to increase monitoring, increase management actions, increase record keeping, and/or install stormwater Best Management Practices (BMPs) in a tiered program. See below the descriptions of Tier One and Tier Two.

Table 3. Benchmark Values for Analytical Monitoring

Discharge Characteristics	Units	Benchmark
Total Suspended Solids (TSS)	mg/L	100
Non-Polar Oil & Grease / TPH [EPA Method 1664 (SGT-HEM)]	mg/L	15
pH	standard	6 - 9

Tier One
If: The first valid sampling results are above a benchmark value, or outside of the benchmark range, for any parameter at any outfall;
Then: The permittee shall: 1. Conduct a stormwater management inspection of the facility **within two weeks of receiving sampling results.** 2. Identify and evaluate possible causes of the benchmark value exceedence. 3. Identify potential and select the specific: source controls, operational controls, or physical improvements to reduce concentrations of the parameters of concern, or to bring concentrations within the benchmark range. 4. Implement the selected actions **within two months of the inspection.** 5. Record each instance of a Tier One response in the Stormwater Pollution Prevention Plan. Include the date and value of the benchmark exceedence, the inspection date, the personnel conducting the inspection, the selected actions, and the date the selected actions were implemented.

Tier Two
If: During the term of this permit, the first valid sampling results from two consecutive monitoring periods are above the benchmark values, or outside of the benchmark range, for any specific parameter at a specific discharge outfall;
Then: The permittee shall: 1. Repeat all the required actions outlined above in Tier One. 2. Immediately institute monthly monitoring for all parameters at every outfall where a sampling result exceeded the benchmark value for two consecutive samples. Monthly (analytical and qualitative) monitoring shall continue until three consecutive sample results are below the benchmark values or within the benchmark range. 3. If no discharge occurs during the sampling period, the permittee is required to submit a monthly monitoring report indicating "No Flow" to comply with reporting requirements. 4. Maintain a record of the Tier Two response in the Stormwater Pollution Prevention Plan.

During the term of this permit, if the valid sampling results required for the permit monitoring periods exceed the benchmark value, or are outside the benchmark range, for any specific parameter at any specific outfall on **four occasions**, the permittee shall notify the DWQ Regional Office Supervisor in writing **within 30 days of receipt** of the fourth analytical results. DWQ may but is not limited to:

- require that the permittee revise, increase, or decrease the monitoring frequency for the remainder of the permit;
- require the permittee to install structural stormwater controls;
- require the permittee to implement other stormwater control measures; or
- require that the permittee implement site modifications to qualify for the No Exposure Exclusion.

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This site discharges to impaired waters experiencing problems with copper, turbidity, and excessive nutrient loading. If a Total Maximum Daily Load (TMDL) is approved for this segment of the Yadkin River and/or High Rock Lake, the permittee may be required to monitor for the pollutant(s) of concern in the future and submit results to the Division of Water Quality. The Division will consider the monitoring results in determining whether additional BMPs are needed to control the pollutant(s) of concern to the maximum extent practicable.

If additional BMPs are needed to achieve the required level of control, the permittee will be required to (1) develop a strategy for implementing appropriate BMPs, and (2) submit a timetable for incorporation of those BMPs into the permitted Stormwater Pollution Prevention Plan.

SECTION C: QUALITATIVE MONITORING REQUIREMENTS

Qualitative monitoring requires a visual inspection of each stormwater outfall regardless of representative outfall status and shall be performed as specified in **Table 4**, during the analytical monitoring event. Qualitative monitoring is for the purpose of evaluating the effectiveness of the Stormwater Pollution Prevention Plan (SPPP) and assessing new sources of stormwater pollution.

In the event an atypical condition is noted at a stormwater discharge outfall, the permittee shall document the suspected cause of the condition and any actions taken in response to the discovery. This documentation will be maintained with the SPPP.

Table 4. Qualitative Monitoring Requirements

Discharge Characteristics	Frequency[1]	Monitoring Location[2]
Color	semi-annual	SDO
Odor	semi-annual	SDO
Clarity	semi-annual	SDO
Floating Solids	semi-annual	SDO
Suspended Solids	semi-annual	SDO
Foam	semi-annual	SDO
Oil Sheen	semi-annual	SDO
Erosion or deposition at the outfall	semi-annual	SDO
Other obvious indicators of stormwater pollution	semi-annual	SDO

Footnotes:

1 Measurement Frequency: Twice per year during a measurable storm event, for each year until either another permit is issued for this facility or until this permit is revoked or rescinded. If at the end of this permitting cycle the permittee has submitted the appropriate paperwork for a renewal permit before the submittal deadline, the permittee will be considered for a renewal application. The applicant must continue semi-annual monitoring until the renewed permit is issued. See **Table 2** for schedule of monitoring periods through the end of this permitting cycle.

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2 Monitoring Location: Qualitative monitoring shall be performed at each stormwater discharge outfall (SDO) regardless of representative outfall status.

SECTION D: ON-SITE VEHICLE MAINTENANCE MONITORING REQUIREMENTS

Facilities which have any vehicle maintenance activity occurring on-site which uses more than 55 gallons of new motor oil per month when averaged over the calendar year shall perform analytical monitoring as specified below in **Table 5**. This monitoring shall be performed at all stormwater discharge outfalls which discharge stormwater runoff from vehicle maintenance areas, and in accordance with the schedule presented in **Table 2** (Section B). All analytical monitoring shall be performed during a measurable storm event.

Table 5. Analytical Monitoring Requirements for On-Site Vehicle Maintenance

Discharge Characteristics	Units	Measurement Frequency[1]	Sample Type[2]	Sample Location[3]
pH	standard	semi-annual	Grab	SDO
Non-Polar Oil & Grease / TPH [EPA Method 1664 (SGT-HEM)]	mg/L	semi-annual	Grab	SDO
Total Suspended Solids	mg/L	semi-annual	Grab	SDO
Total Rainfall[4]	inches	semi-annual	Rain gauge	-
New Motor Oil Usage	gallons/month	semi-annual	Estimate	-

Footnotes;

1 Measurement Frequency: Twice per year during a measureable storm event, for each year until either another permit is issued for this facility or until this permit is revoked or rescinded. If at the end of this permitting cycle the permittee has submitted the appropriate paperwork for a renewal permit before the submittal deadline, the permittee will be considered for a renewal application. The applicant must continue semi-annual monitoring until the renewed permit is issued. See **Table 2** for schedule of monitoring periods through the end of this permitting cycle.

2 If the stormwater runoff is controlled by a stormwater detention pond a grab sample of the discharge from the pond shall be collected within the first 30 minutes of discharge from the pond.

3 Sample Location: Samples shall be collected at each stormwater discharge outfall (SDO) that discharges stormwater runoff from area(s) where vehicle maintenance activities occur.

4 For each sampled measureable storm event the total precipitation must be recorded. An on-site or local rain gauge reading must be recorded.

Monitoring results shall be compared to the benchmark values in **Table 6**. The benchmark values in **Table 6** are not permit limits but should be used as guidelines for the permittee's Stormwater Pollution Prevention Plan (SPPP). Exceedences of benchmark values require the permittee to increase monitoring, increase management actions, increase record keeping, and/or install stormwater Best Management Practices (BMPs), as provided in Part II Section B.

Table 6. Benchmark Values for Vehicle Maintenance Analytical Monitoring

Discharge Characteristics	Units	Benchmark
pH	standard	6 - 9
Non-Polar Oil & Grease / TPH [EPA Method 1664 (SGT-HEM)]	mg/L	15
Total Suspended Solids	mg/L	100

draft

PART III STANDARD CONDITIONS FOR NPDES STORMWATER INDIVIDUAL PERMITS

SECTION A: COMPLIANCE AND LIABILITY

1. Compliance Schedule

The permittee shall comply with Limitations and Controls specified for stormwater discharges in accordance with the following schedule:

Existing Facilities already operating but applying for permit coverage for the first time: The Stormwater Pollution Prevention Plan shall be developed and implemented within 12 months of the effective date of the initial permit and updated thereafter on an annual basis. Secondary containment, as specified in Part II, Section A, Paragraph 2(b) of this permit, shall be accomplished within 12 months of the effective date of the initial permit issuance.

New Facilities applying for coverage for the first time and existing facilities previously permitted and applying for renewal under this permit: The Stormwater Pollution Prevention Plan shall be developed and implemented prior to the beginning of discharges from the operation of the industrial activity and be updated thereafter on an annual basis. Secondary containment, as specified in Part II, Section A, Paragraph 2(b) of this permit shall be accomplished prior to the beginning of discharges from the operation of the industrial activity.

Existing facilities previously permitted and applying for renewal: All requirements, conditions, limitations, and controls contained in this permit (except new SPPP elements in this permit renewal) shall become effective immediately upon issuance of the Certificate of Coverage. New elements of the Stormwater Pollution Prevention Plan for this permit renewal shall be developed and implemented within 6 months of the effective date of the initial Certificate of Coverage issued pursuant to this General Permit and updated thereafter on an annual basis. Secondary containment, as specified in Part III, Paragraph 2(b) of this permit shall be accomplished prior to the beginning of discharges from the operation of the industrial activity.

2. Duty to Comply

The permittee must comply with all conditions of this individual permit. Any permit noncompliance constitutes a violation of the Clean Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit upon renewal application.

a. The permittee shall comply with standards or prohibitions established under section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

b. The Clean Water Act provides that any person who violates a permit condition is subject to a civil penalty not to exceed $25,000 per day for each violation. Any person who negligently violates any permit condition is subject to criminal penalties of $2,500 to 25,000 per day of violation, or imprisonment for not more than 1 year, or both. Any person who knowingly violates permit conditions is subject to criminal penalties of $5,000 to $50,000 per day of violation, or imprisonment for not more than 3 years, or both. Also, any person who violates a permit condition may be assessed an administrative penalty not to exceed $10,000 per violation with the maximum amount not to exceed $125,000. [Ref: Section 309 of the Federal Act 33 USC 1319 and 40 CFR 122.41(a).]

c. Under state law, a daily civil penalty of not more than ten thousand dollars ($10,000) per violation may be assessed against any person who violates or fails to act in accordance with the terms, conditions, or requirements of a permit. [Ref: NC General Statutes 143-215.6A].

d. Any person may be assessed an administrative penalty by the Director for violating section 301, 302, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of the Act. Administrative penalties for Class I violations are not to exceed $10,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed $25,000. Penalties for Class II violations are not to exceed $10,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed $125,000.

3. Duty to Mitigate

The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this individual permit which has a reasonable likelihood of adversely affecting human health or the environment.

4. Civil and Criminal Liability

Except as provided in Part III, Section C of this permit regarding bypassing of stormwater control facilities, nothing in this individual permit shall be construed to relieve the permittee from any responsibilities, liabilities, or penalties for noncompliance pursuant to NCGS 143-215.3, 143-215.6A, 143-215.6B, 143-215.6C or Section 309 of the Federal Act, 33 USC 1319. Furthermore, the permittee is responsible for consequential damages, such as fish kills, even though the responsibility for effective compliance may be temporarily suspended.

5. Oil and Hazardous Substance Liability

Nothing in this individual permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject to under NCGS 143-215.75 et seq. or Section 311 of the Federal Act, 33 USC 1321.

6. Property Rights

The issuance of this individual permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

7. Severability

The provisions of this individual permit are severable, and if any provision of this individual permit, or the application of any provision of this individual permit to any circumstances, is held invalid, the application of such provision to other circumstances, and the remainder of this individual permit, shall not be affected thereby.

8. Duty to Provide Information

The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit issued pursuant to this individual permit or to determine compliance with this individual permit. The permittee shall also furnish to the Director upon request, copies of records required to be kept by this individual permit.

9. Penalties for Tampering

The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate, any monitoring device or method required to be maintained under this individual permit shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than two years per violation, or by both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more that $20,000 per day of violation, or by imprisonment of not more than 4 years, or both.

10. Penalties for Falsification of Reports

The Clean Water Act provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this individual permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than two years per violation, or by both.

SECTION B: GENERAL CONDITIONS

1. Individual Permit Expiration

The permittee is not authorized to discharge after the expiration date. In order to receive automatic authorization to discharge beyond the expiration date, the permittee shall submit forms and fees as are required by the agency authorized to issue permits no later than 180 days prior to the expiration date. Any permittee that has not requested renewal at least 180 days prior to expiration, or any permittee that does not have a permit after the expiration and has not requested renewal at least 180 days prior to expiration, will be subjected to enforcement procedures as provided in NCGS §143-215.36 and 33 USC 1251 et. seq.

2. Transfers

This permit is not transferable to any person except after notice to and approval by the Director. The Director may require modification or revocation and reissuance of the permit to change the name and incorporate such other requirements as may be necessary under the Clean Water Act. **The Permittee is required to notify the Division in writing in the event the permitted facility is sold or closed.**

3. Signatory Requirements

All applications, reports, or information submitted to the Director shall be signed and certified.

a. All applications to be covered under this individual permit shall be signed as follows:

(1) In the case of a corporation: by a principal executive officer of at least the level of vice-president, or his duly authorized representative, if such representative is responsible for the overall operation of the facility from which the discharge described in the permit application form originates;

(2) In the case of a partnership or limited partnership: by a general partner;

(3) In the case of a sole proprietorship: by the proprietor;

(4) In the case of a municipal, state, or other public entity: by a principal executive officer, ranking elected official, or other duly authorized employee.

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b. All reports required by the individual permit and other information requested by the Director shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

(1) The authorization is made in writing by a person described above;

(2) The authorization specified either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or well field, superintendent, a position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.); and

(3) The written authorization is submitted to the Director.

c. Any person signing a document under paragraphs a. or b. of this section shall make the following certification:

"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."

4. Individual Permit Modification, Revocation and Reissuance, or Termination

The issuance of this individual permit does not prohibit the Director from reopening and modifying the individual permit, revoking and reissuing the individual permit, or terminating the individual permit as allowed by the laws, rules, and regulations contained in Title 40, Code of Federal Regulations, Parts 122 and 123; Title 15A of the North Carolina Administrative Code, Subchapter 2H .0100; and North Carolina General Statute 143-215.1 et al.

5. Permit Actions

The permit may be modified, revoked and reissued, or terminated for cause. The notification of planned changes or anticipated noncompliance does not stay any individual permit condition.

SECTION C: OPERATION AND MAINTENANCE OF POLLUTION CONTROLS

1. Proper Operation and Maintenance

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this individual permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of this individual permit.

2. Need to Halt or Reduce Not a Defense

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the condition of this individual permit.

3. Bypassing of Stormwater Control Facilities

Bypass is prohibited and the Director may take enforcement action against a permittee for bypass unless:

a. Bypass was unavoidable to prevent loss of life, personal injury or severe property damage; and

b. There were no feasible alternatives to the bypass, such as the use of auxiliary control facilities, retention of stormwater or maintenance during normal periods of equipment downtime or dry weather. This condition is not satisfied if adequate backup controls should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and

c. The permittee submitted notices as required under Part III, Section E of this permit.

If the Director determines that it will meet the three conditions listed above, the Director may approve an anticipated bypass after considering its adverse effects.

SECTION D: MONITORING AND RECORDS

1. Representative Sampling

Samples collected and measurements taken, as required herein, shall be characteristic of the volume and nature of the permitted discharge. Analytical sampling shall be performed during a measureable storm event. Samples shall be taken on a day and time that is characteristic of the discharge. All samples shall be taken before the discharge joins or is diluted by any other waste stream, body of water, or substance. Monitoring points as specified in this permit shall not be changed without notification to and approval of the Director.

2. Recording Results

For each measurement, sample, inspection or maintenance activity performed or collected pursuant to the requirements of this individual permit, the permittee shall record the following information:

a. The date, exact place, and time of sampling, measurements, inspection or maintenance activity;

b. The individual(s) who performed the sampling, measurements, inspection or maintenance activity;

c. The date(s) analyses were performed;

d. The individual(s) who performed the analyses;

e. The analytical techniques or methods used; and

f. The results of such analyses.

3. Flow Measurements

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Where required, appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges.

4. Test Procedures

Test procedures for the analysis of pollutants shall conform to the EMC regulations published pursuant to NCGS 143-215.63 et. seq, the Water and Air Quality Reporting Acts, and to regulations published pursuant to Section 304(g), 33 USC 1314, of the Federal Water Pollution Control Act, as Amended, and Regulation 40 CFR 136.
To meet the intent of the monitoring required by this individual permit, all test procedures must produce minimum detection and reporting levels and all data generated must be reported down to the minimum detection or lower reporting level of the procedure.

5. Representative Outfall

If a facility has multiple discharge locations with substantially identical stormwater discharges that are required to be sampled, the permittee may petition the Director for representative outfall status. If it is established that the stormwater discharges are substantially identical and the permittee is granted representative outfall status, then sampling requirements may be performed at a reduced number of outfalls.

6. Records Retention

Visual monitoring shall be documented and records maintained at the facility along with the Stormwater Pollution Prevention Plan. Copies of analytical monitoring results shall also be maintained on-site. The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, and copies of all reports required by this individual permit for a period of at least 5 years from the date of the sample, measurement, report or application. This period may be extended by request of the Director at any time.

7. Inspection and Entry

The permittee shall allow the Director, or an authorized representative (including an authorized contractor acting as a representative of the Director), or in the case of a facility which discharges through a municipal separate storm sewer system, an authorized representative of a municipal operator or the separate storm sewer system receiving the discharge, upon the presentation of credentials and other documents as may be required by law, to;

a. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this individual permit;

b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this individual permit;

c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this individual permit; and

d. Sample or monitor at reasonable times, for the purposes of assuring individual permit compliance or as otherwise authorized by the Clean Water Act, any substances or parameters at any location.

SECTION E: REPORTING REQUIREMENTS

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1. Discharge Monitoring Reports

Samples analyzed in accordance with the terms of this permit shall be submitted to the Division on Discharge Monitoring Report forms provided by the Director. **Submittals shall be delivered to the Division no later than 30 days from the date the facility receives the sampling results from the laboratory.**

When no discharge has occurred from the facility during the report period, the permittee is required to submit a discharge monitoring report, within 30 days of the end of the six-month sampling period, giving all required information and indicating "NO FLOW" as per NCAC T15A 02B .0506.

The permittee shall record the required qualitative monitoring observations on the SDO Qualitative Monitoring Report form provided by the Division, and shall retain the completed forms on site. Visual monitoring results should not be submitted to the Division, except upon DWQ's specific requirement to do so.

2. Submitting Reports

Two signed copies of Discharge Monitoring Reports (DMRs) shall be submitted to:

Central Files
Division of Water Quality
1617 Mail Service Center
Raleigh, North Carolina 27699-1617

Addresses for each RO and the counties covered by each RO can be found here: **http://portal.ncdenr.org/web/wq/home/ro**. The permittee shall retain the completed originals on site. Visual monitoring results should not be submitted to the Regional Offices or Central Files unless specifically requested by DWQ.

3. Availability of Reports

Except for data determined to be confidential under NCGS 143-215.3(a)(2) or Section 308 of the Federal Act, 33 USC 1318, all reports prepared in accordance with the terms shall be available for public inspection at the offices of the Division of Water Quality. As required by the Act, analytical data shall not be considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal penalties as provided for in NCGS 143-215.6B or in Section 309 of the Federal Act.

4. Non-Stormwater Discharges

If the storm event monitored in accordance with this Individual Permit coincides with a non-stormwater discharge, the permittee shall separately monitor all parameters as required under the non-stormwater discharge permit and provide this information with the stormwater discharge monitoring report.

5. Planned Changes

The permittee shall give notice to the Director as soon as possible of any planned changes at the permitted facility which could significantly alter the nature or quantity of pollutants discharged. This notification requirement includes pollutants which are not specifically listed in the Individual Permit or subject to notification requirements under 40 CFR Part 122.42 (a).

6. Anticipated Noncompliance

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The permittee shall give notice to the Director as soon as possible of any planned changes at the permitted facility which may result in noncompliance with the Individual Permit requirements.

7. Spills

The permittee shall report to the local DWQ Regional Office, within 24 hours, all significant spills as defined in Part VI of this permit. Additionally, the permittee shall report spills including: any oil spill of 25 gallons or more, any spill regardless of amount that causes a sheen on surface waters, any oil spill regardless of amount occurring within 100 feet of surface waters, and any oil spill less than 25 gallons that cannot be cleaned up within 24 hours.

8. Bypass

a. Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten days before the date of the bypass; including an evaluation of the anticipated quality and affect of the bypass.

b. Unanticipated bypass. The permittee shall submit notice within 24 hours of becoming aware of an unanticipated bypass.

9. Twenty-four Hour Reporting

The permittee shall report to the central office or the appropriate regional office any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee became aware of the circumstances. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances.

The written submission shall contain a description of the noncompliance, and its causes; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time compliance is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

The Director may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.

10. Other Noncompliance

The permittee shall report all instances of noncompliance not reported under 24 hour reporting at the time monitoring reports are submitted.

11. Other Information

Where the permittee becomes aware that it failed to submit any relevant facts in a Notice of Intent to be covered under this Individual Permit or in any report to the Director, it shall promptly submit such facts or information.

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PART IV LIMITATIONS REOPENER

This individual permit shall be modified or alternatively, revoked and reissued, to comply with any applicable effluent guideline or water quality standard issued or approved under provisions of the Clean Water Act, if the effluent guideline or water quality standard so issued or approved:

a. Contains different conditions or is otherwise more stringent than any effluent limitation in the individual permit; or

b. Controls any pollutant not limited in the individual permit.

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

PART V ADMINISTERING AND COMPLIANCE MONITORING FEE REQUIREMENTS

The permittee must pay the administering and compliance monitoring fee within 30 (thirty) days after being billed by the Division. Failure to pay the fee in timely manner in accordance with 15A NCAC 2H .0105(b)(4) may cause this Division to initiate action to revoke the Individual Permit.

PART VI DEFINITIONS

1. Act
   See Clean Water Act.

2. Allowable Non-Stormwater Discharges
   This permit regulates stormwater discharges. Non-stormwater discharges which shall be allowed in the stormwater conveyance system are:
   (a) All other discharges that are authorized by a non-stormwater NPDES permit.
   (b) Uncontaminated groundwater, foundation drains, air-conditioner condensate without added chemicals, springs, discharges of uncontaminated potable water, waterline and fire hydrant flushings, water from footing drains, flows from riparian habitats and wetlands.
   (c) Discharges resulting from fire-fighting or fire-fighting training.

3. Best Management Practices (BMPs)
   Measures or practices used to reduce the amount of pollution entering surface waters. BMPs may take the form of a process, activity, or physical structure. More information on BMPs can be found at: http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm.

4. Bypass
   A bypass is the known diversion of stormwater from any portion of a stormwater control facility including the collection system, which is not a designed or established operating mode for the facility.

5. Bulk Storage of Liquid Products
   Liquid raw materials, manufactured products, waste materials or by-products with a single above ground storage container having a capacity of greater than 660 gallons or with multiple above ground storage containers located in close proximity to each other having a total combined storage capacity of greater than 1,320 gallons.

6. Certificate of Coverage
The Certificate of Coverage (COC) is the cover sheet which accompanies the Individual Permit upon issuance and lists the facility name, location, receiving stream, river basin, effective date of coverage under the permit and is signed by the Director.

7. Clean Water Act
The Federal Water Pollution Control Act, also known as the Clean Water Act (CWA), as amended, 33 USC 1251, et. seq.

8. Division or DWQ
The Division of Water Quality, Department of Environment and Natural Resources.

9. Director
The Director of the Division of Water Quality, the permit issuing authority.

10. EMC
The North Carolina Environmental Management Commission.

11. Grab Sample
An individual sample collected instantaneously. Grab samples that will be analyzed (quantitatively or qualitatively) must be taken within the first 30 minutes of discharge.

12. Hazardous Substance
Any substance designated under 40 CFR Part 116 pursuant to Section 311 of the Clean Water Act.

13. Landfill
A disposal facility or part of a disposal facility where waste is placed in or on land and which is not a land treatment facility, a surface impoundment, an injection well, a hazardous waste long-term storage facility or a surface storage facility.

14. Measurable Storm Event
A measurable storm event is a storm event that results in an actual discharge from the permitted site outfall. The previous measurable storm event must have been at least 72 hours prior. The 72-hour storm interval may not apply if the permittee is able to document that a shorter interval is representative for local storm events during the sampling period, and obtains approval from the local DWQ Regional Office. Two copies of this information and a written request letter shall be sent to the local DWQ Regional Office. After authorization by the DWQ Regional Office, a written approval letter must be kept on site in the permittee's SPPP.

15. Municipal Separate Storm Sewer System
A stormwater collection system within an incorporated area of local self-government such as a city or town.

16. No Exposure
A condition of no exposure means that all industrial materials and activities are protected by a storm resistant shelter or acceptable storage containers to prevent exposure to rain, snow, snowmelt, or runoff. Industrial materials or activities include, but are not limited to, material handling equipment or activities, industrial machinery, raw materials, intermediate products, by-products, final products, or waste products. DWQ may grant a No Exposure Exclusion from NPDES Stormwater Permitting requirements only if a facility complies with the terms and conditions described in 40 CFR §122.26(g)

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17. Notice of Intent
The state application form which, when submitted to the Division, officially indicates the facility's notice of intent to seek coverage under an Individual Permit.

18. Permittee
The owner or operator issued a certificate of coverage pursuant to this Individual Permit.

19. Point Source Discharge of Stormwater
Any discernible, confined and discrete conveyance including, but not specifically limited to, any pipe, ditch, channel, tunnel, conduit, well, or discrete fissure from which stormwater is or may be discharged to waters of the state.

20. Representative Outfall Status
When it is established that the discharge of stormwater runoff from a single outfall is representative of the discharges at multiple outfalls, the DWQ may grant representative outfall status. Representative outfall status allows the permittee to perform analytical monitoring at a reduced number of outfalls.

21. Secondary Containment
Spill containment for the contents of the single largest tank within the containment structure plus sufficient freeboard to allow for the 25-year, 24-hour storm event.

22. Section 313 Water Priority Chemical
A chemical or chemical category which:
   a. Is listed in 40 CFR 372.65 pursuant to Section 313 of Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986, also titled the Emergency Planning and Community Right-to-Know Act of 1986;
   b. Is present at or above threshold levels at a facility subject to SARA title III, Section 313 reporting requirements; and
   c. Meets at least one of the following criteria:
      (1) Is listed in appendix D of 40 CFR part 122 on Table II (organic priority pollutants), Table III (certain metals, cyanides, and phenols) or Table IV (certain toxic pollutants and hazardous substances);
      (2) Is listed as a hazardous substance pursuant to section 311(b)(2)(A) of the CWA at 40 CFR 116.4; or
      (3) Is a pollutant for which EPA has published acute or chronic water quality criteria.

23. Severe Property Damage
Means substantial physical damage to property, damage to the control facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

24. Significant Materials
Includes, but is not limited to: raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under section 101(14) of CERCLA; any chemical the facility is required to report pursuant to section 313 of Title III of SARA; fertilizers; pesticides; and waste products such as ashes, slag and sludge that have the potential to be released with stormwater discharges.

25. Significant Spills
Includes, but is not limited to: releases of oil or hazardous substances in excess of reportable quantities under section 311 of the Clean Water Act (Ref: 40 CFR 110.10 and CFR 117.21) or section 102 of CERCLA (Ref: 40 CFR 302.4).

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26. Stormwater Discharge Outfall (SDO)
The point of departure of stormwater from a discernible, confined, or discrete conveyance, including but not limited to, storm sewer pipes, drainage ditches, channels, spillways, or channelized collection areas, from which stormwater flows directly or indirectly into waters of the State of North Carolina.

27. Stormwater Runoff
The flow of water which results from precipitation and which occurs immediately following rainfall or as a result of snowmelt.

28. Stormwater Associated with Industrial Activity
The discharge from any point source which is used for collecting and conveying stormwater and which is directly related to manufacturing, processing or raw material storage areas at an industrial site. Facilities considered to be engaged in "industrial activities" include those activities defined in 40 CFR 122.26(b)(14). The term does not include discharges from facilities or activities excluded from the NPDES program.

29. Stormwater Pollution Prevention Plan
A comprehensive site-specific plan which details measures and practices to reduce stormwater pollution and is based on an evaluation of the pollution potential of the site.

30. Total Maximum Daily Load (TMDL)
TMDLs are written plans for attaining and maintaining water quality standards, in all seasons, for a specific water body and pollutant. (A list of approved TMDLs for the state of North Carolina can be found at **http://h2o.enr.state.nc.us/tmdl/**)

31. Toxic Pollutant
Any pollutant listed as toxic under Section 307(a)(l) of the Clean Water Act.

32. Vehicle Maintenance Activity
Vehicle rehabilitation, mechanical repairs, painting, fueling, lubrication, vehicle cleaning operations, or airport deicing operations.

33. Visible Sedimentation
Solid particulate matter, both mineral and organic, that has been or is being transported by water, air, gravity, or ice from its site of origin which can be seen with the unaided eye.

34. 25-year, 24 hour storm event
The maximum 24-hour precipitation event expected to be equaled or exceeded, on the average, once in 25 years.

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~~BLC~~
Larry
File

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CAPE FEAR PLANT

NCDENR

North Carolina Department of Environment and Natural Resources
Division of Water Quality

Beverly Eaves Perdue
Governor

Coleen H. Sullins
Director

Dee Freeman
Secretary

Randy Cox
Carolina Power and Light
d/b/a Progress Energy Carolinas, Inc.
Cape Fear Steam Plant
500 CP&L Road
Moncure, North Carolina 27559

Wetlands and Stormwater Branch
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NCDENR
North Carolina Department of Environment and Natural Resources
Division of Water Quality

Beverly Eaves Perdue
Governor

Charles Wakild, P. E.
Director

Dee Freeman
Secretary

March 21, 2012

Mr. Randy Cox
Carolina Power and Light
d/b/a Progress Energy Carolinas, Inc.
Cape Fear Steam Plant
500 CP&L Road
Moncure, North Carolina 27559

Subject: Draft NPDES Stormwater Permit
Permit No. NCS000550
Progress Energy Carolinas, Inc. -
Cape Fear Steam Electric Plant
Chatham County

Dear Mr. Cox:

Enclosed with this letter is a copy of revised draft NPDES stormwater permit for the Cape Fear Steam Electric Plant. Please review the draft permit very carefully to ensure a thorough understanding of the conditions and requirements each contains.

Thank you for joining our meeting with Duke Energy last November to discuss your questions and concerns with the proposed stormwater permits for coal fired power plants. As we explained, efforts to permit those power plants consistently across the state led to a comprehensive stormwater monitoring scheme for all similar plants. The original draft permit for the Cape Fear plant contained the same requirements as other NDPES stormwater permits issued for coal-fired power plants since 2009.

Changes to Draft Permit and Permitting of Coal-Fired Power Plants

The revised draft permit reflects a more recent NPDES stormwater permit template, which the Stormwater Permitting Unit (SPU) implemented for all industrial stormwater permits this year (not just power plants). Standard template changes include the requirement to monitor during a "measureable storm event," rather than "representative storm event." Based on discussion at the November meeting and your comments, we have also proposed new monitoring requirements. These changes reduce metals monitoring significantly. The Division will continue to structure stormwater permits for all coal-fired power plants as consistently as possible across the state, as described below.

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This draft permit contains monitoring for conventional pollutants **COD, TSS, O&G, and pH** because they are general indicators of potential stormwater contaminants at these types of sites. Data from permitted power plants and new permit applications indicate these parameters sometimes exceed or fall outside of benchmark ranges. The pH is also critical to characterizing toxicity of metals.

This draft permit also includes monitoring for **mercury (Hg)** and **selenium (Se)**. Both metals are in coal combustion waste ash, a potential stormwater contaminant at these sites. All waterbodies in the state are impaired for mercury, and a statewide mercury TMDL is under development. Studies by N.C. State University researchers suggest that selenium may be taken up in fish in preference to mercury at locations in close proximity to coal-fired power plants (Sackett et al., 2010). Regional deposition may influence mercury discharge concentrations, and therefore field blank data must be reported. DWQ has not identified a conflict with sampling during a stormwater event and employing Method 1631 for analysis when the intent is to characterize stormwater discharges (and not uncontaminated wastewater discharges).

Permits for these plants will include **aluminum (Al)** monitoring if sample results submitted with the application exceed the stormwater benchmark concentration of 0.75 mg/l, or if no data are available (as in this case). North Carolina does not currently have a water quality standard for aluminum, but there are federal recommended water quality criteria. An aluminum **benchmark does not apply unless** the waterbody is ever impaired for aluminum or for biological integrity.

Power plants discharging stormwater to waterbodies impaired for **copper (Cu)**, **zinc (Zn)**, or **other priority pollutant metals** will monitor for those metals. Biological impairment also prompts copper and zinc monitoring, and possibly other metals associated with coal ash. Exceptions may be made (and monitoring required) for metals or other toxicants for plant sites discharging to waterbodies that are <u>not</u> impaired *if data or other information evidences a possible problem with stormwater discharges.* However, in general, these permits will not require monitoring for all priority pollutant metals as originally proposed. Where applicable, permits will offer alternatives to copper and zinc benchmarks. Copper or zinc monitoring does not apply at the Cape Fear plant site.

There is no benchmark that triggers monthly monitoring for mercury. Also, sampling for metals may be discontinued after four consecutive samples are below the benchmark or below 12 ng/l of mercury. In some cases, nutrient monitoring (total nitrogen and/or total phosphorus) will apply because of nutrient problems in the river basin. The draft permit for this site includes annual nitrogen and phosphorus monitoring because of nutrient concerns in the Cape Fear River.

This draft permit allows qualitative monitoring to be limited to representative outfalls if the remaining outfalls can be observed once per the permit term. Exceptions may be made if the regional office agrees outfalls are truly inaccessible or cannot be made safe without excessive burden on the permittee; or the regional office determines some outfalls warrant more periodic observation.

Plants Shutting Down

Draft permits for plants scheduled to shut down within the five-year permit term include monitoring for the same parameters based on the criteria explained above. **Annual sampling** without benchmarks that trigger monthly monitoring is proposed for the Cape Fear Electric Steam Station, contingent on the company submitting a plan within six months of the permit effective date

to outline the shutdown schedule and clean-up details. This plan should include a demonstration that past or present industrial activities will longer have the potential to pollute stormwater. Please note that the Division is still obligated to review any request for permit rescission and to consider site conditions after the shutdown before approving the request. The Division may also require more frequent monitoring at a plant scheduled to shut down if discharge data or in-stream data justify concern about in-stream standard violations.

Site Specific Conditions

During a site visit with the Raleigh Regional Office on September 8, 2011, we discussed the four stormwater discharge outfalls (SDOs) that are applicable under this permit. The SDOs were SW-001, SW-008, SW-002, and SW-003. The revised draft permit again does not require sampling from SDOs SW-001 and SW-008 (inactive ash ponds) as long as there are no discharges from events less than the 25-year, 24-hour storm. Please review footnote 3 under **Part II, Section B. Table 2** for the proposed conditions.

During that site visit, we also discussed the most appropriate sampling location and discharge frequency for SDOs SW-002 and SW-003. The plant correctly relocated SW-002 closer to the receiving water. We understand that standing water may sometimes introduce groundwater influences to the sample; however, sampling upstream of this point would omit additional treatment gained by flow through the field upland in that drainage area. DWQ recommends that plant personnel use best professional judgment in sampling upstream of this point if flooding conditions prevent sampling at the outfall (but as close to the outfall as possible) and in documenting possible interference by groundwater here.

Plant personnel explained that SW-003 only discharges in response to larger rain events—around 3 inches or more—and asked how to target times when flows occur. To assist personnel responsible for stormwater sampling, we advise the company to determine the minimum rainfall amount that results in a discharge based on the drainage area and past experience. The company should consider using a calculation method like the Simple Method [described in Chapter 3 of the DWQ Best Management Practices (BMP) Manual, found here: http://portal.ncdenr.org/web/wq/ws/su/bmp-manual] to estimate runoff from the drainage area that corresponds to a certain size storm and observations of flow. Documenting that information in the Stormwater Pollution Prevention Plan (SPPP) would provide guidance about when to reasonably expect rainfall to produce a discharge and would support a record of "No Flow" from SW-003 for the sample period as long as no events above that amount are recorded. The outfall should still be periodically observed to fulfill qualitative monitoring.

Finally, during the visit we also confirmed that SW-006 discharges to the wastewater discharge canal and ultimately to wastewater outfall 007, covered by the NPDES wastewater permit.

Comment Period

Because of the significant changes, the Division will re-notice this revised draft permit NCS000550 for another public comment period. Please submit any comments to the appropriate Stormwater Permitting Unit (SPU) no later than thirty (30) days following your receipt of the draft. We also welcome the opportunity to meet with Progress Energy again to discuss the proposed permits during the public notice period.

Comments should be sent to the address listed at the bottom of this page. If no adverse comments are received from the public or from you, this permit will be issued in about two months. If you have any questions or comments concerning these draft permits, please contact Bethany Georgoulias at (919) 807-6372 or bethany.georgoulias@ncdenr.gov.

Sincerely,

Bradley Bennett

Bradley Bennett
Supervisor,
Stormwater Permitting Unit

References

Sackett, D.K., D. D. Aday, J.A. Rice, W.G. Cope, and D. David Buchwalter, 2010, Does proximity to coal-fired power plants influence fish tissue mercury? *Ecotoxicology* 19:1601–1611. DOI: 10.1007/s10646-010-0545-5.

cc: Raleigh Regional Office, Water Quality Section (w/attachment)/ A. Romanski
Robin Bryson, Progress Energy (via e-mail)
Fred Holt, Progress Energy (via e-mail)
Stormwater Permitting Unit

Attachments

STATE OF NORTH CAROLINA
DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
DIVISION OF WATER QUALITY

PERMIT

TO DISCHARGE STORMWATER UNDER THE

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

Draft

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

Carolina Power & Light Company d/b/a
Progress Energy Carolinas, Inc.

is hereby authorized to discharge stormwater from a facility located at

Cape Fear Steam Electric Plant
500 CP&L Road
Moncure, NC
Chatham County

to receiving waters designated as an unnamed tributary to Shaddox Creek and Shaddox Creek, and the Cape Fear River, class WS-IV streams in the Cape Fear River Basin, in accordance with the discharge limitations, monitoring requirements, and other conditions set forth in Parts I, II, III, and IV hereof.

Note: Draft Permit Dates are Approximate

This permit shall become effective [June 1, 2012].

This permit and the authorization to discharge shall expire at midnight on [May 31, 2017].

Signed this [11th] day of [May 2012].

for Charles Wakild, P.E., Director
Division of Water Quality
By the Authority of the Environmental Management Commission

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draft

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PART I INTRODUCTION

SECTION A: INDIVIDUAL PERMIT COVERAGE

During the period beginning on the effective date of the permit and lasting until expiration, the permittee is authorized to discharge stormwater associated with industrial activity. Such discharges shall be controlled, limited and monitored as specified in this permit.

If industrial materials and activities are not exposed to precipitation or runoff as described in 40 CFR §122.26(g), the facility may qualify for a No Exposure Exclusion from NPDES stormwater discharge permit requirements. Any owner or operator wishing to obtain a No Exposure Exclusion must submit a No Exposure Certification Notice of Intent (NOI) form to the Division; must receive approval by the Division; must maintain no exposure conditions unless authorized to discharge under a valid NPDES stormwater permit; and must recertify the No Exposure Exclusion annually.

SECTION B: PERMITTED ACTIVITIES

Until this permit expires or is modified or revoked, the permittee is authorized to discharge stormwater to the surface waters of North Carolina or separate storm sewer system that has been adequately treated and maintained in accordance with the terms and conditions of this permit. All stormwater discharges shall be in accordance with the conditions of this permit.

Any other point source discharge to surface waters of the state is prohibited unless it is an allowable non-stormwater discharge or is covered by another permit, authorization, or approval. The stormwater discharges allowed by this permit shall not cause or contribute to violations of Water Quality Standards.

This permit does not relieve the permittee from responsibility for compliance with any other applicable federal, state, or local law, rule, standard, ordinance, order, judgment, or decree.

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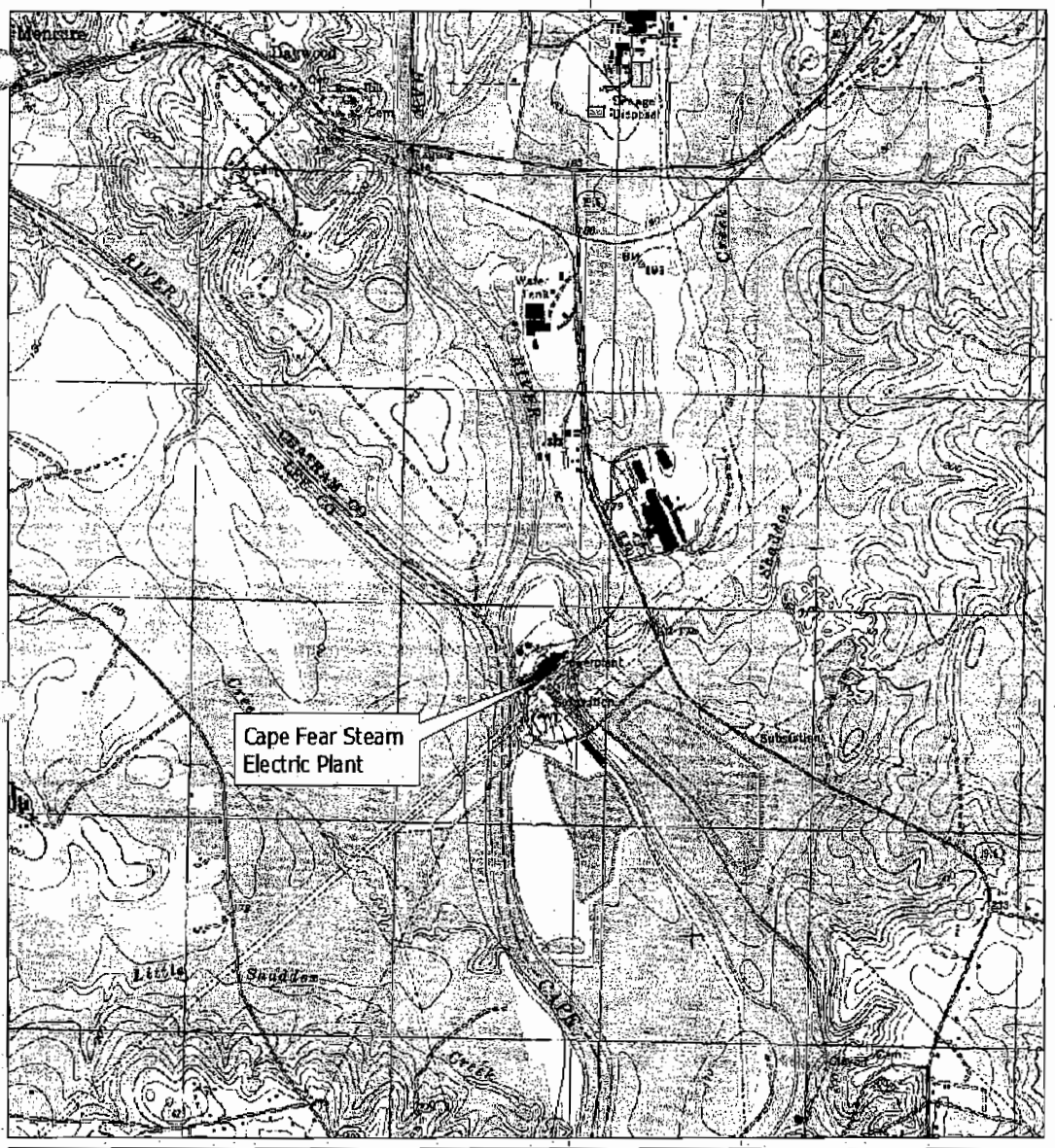
SECTION C: LOCATION MAP

Permit No. NCS000550

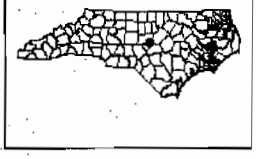


NCS000550

Map Scale 1:24,000

CP&L d/b/a Progress Energy Carolinas, Inc.
Cape Fear Steam Electric Plant

Latitude: 35° 35' 50" N (SW-001)
Longitude: 79° 02' 55" W (SW-001)
County: Chatham
Receiving Streams: UT/Shaddox Creek, Cape Fear River
Stream Class: Both WS-IV
Sub-basin: 03-06-07 (Cape Fear River Basin)



Facility Location

PART II MONITORING, CONTROLS, AND LIMITATIONS FOR PERMITTED DISCHARGES

SECTION A: STORMWATER POLLUTION PREVENTION PLAN

The permittee shall **develop and implement** a Stormwater Pollution Prevention Plan (SPPP). The SPPP shall be maintained on site unless exempted from this requirement by the Division. The SPPP is public information in accordance with Part III, Standard Conditions, Section E, paragraph 3 of this permit. The SPPP shall include, at a minimum, the following items:

1. **Site Overview**. The Site Overview shall provide a description of the physical facility and the potential pollutant sources that may be expected to contribute to contamination of stormwater discharges. The Site Overview shall contain the following:

   (a) A general **location map** (USGS quadrangle map or appropriately drafted equivalent map), showing the facility's location in relation to transportation routes and surface waters; the name of the receiving waters to which the stormwater outfalls discharge, or if the discharge is to a municipal separate storm sewer system, the name of the municipality and the ultimate receiving waters; and accurate latitude and longitude of the point of stormwater discharge associated with industrial activity. The general location map (or alternatively the site map) shall identify whether any receiving waters are **impaired** (on the state's 303(d) list of impaired waters) or if the site is located in a **watershed for which a TMDL has been established**, and what the parameters of concern are.

   (b) A **narrative description** of storage practices, loading and unloading activities, outdoor process areas, dust or particulate generating or control processes, and waste disposal practices. A **narrative description** of the potential pollutants that could be expected to be present in the stormwater discharge from each outfall.

   (c) A **site map** drawn at a scale sufficient to clearly depict: the site property boundary; the stormwater discharge outfalls; all on-site and adjacent surface waters and wetlands; industrial activity areas (including storage of materials, disposal areas, process areas, loading and unloading areas, and haul roads); site topography and finished grade; all drainage features and structures; drainage area boundaries and total contributing area for each outfall; direction of flow in each drainage area; industrial activities occurring in each drainage area; buildings; stormwater Best Management Practices (BMPs); and impervious surfaces. The site map must indicate the percentage of each drainage area that is impervious, and the site map must include a graphic scale indication and north arrow.

   (d) A **list of significant spills or leaks** of pollutants during the previous three (3) years and any corrective actions taken to mitigate spill impacts.

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(e) Certification that the stormwater outfalls have been evaluated for the presence of non-stormwater discharges. **The permittee shall re-certify annually that the stormwater outfalls have been evaluated for the presence of non-stormwater discharges.** The certification statement will be signed in accordance with the requirements found in Part III, Standard Conditions, Section B, Paragraph 3.

2. **Stormwater Management Strategy.** The Stormwater Management Strategy shall contain a narrative description of the materials management practices employed which control or minimize the stormwater exposure of significant materials, including structural and nonstructural measures. The Stormwater Management Strategy, at a minimum, shall incorporate the following:

(a) **Feasibility Study.** A review of the technical and economic feasibility of changing the methods of operations and/or storage practices to eliminate or reduce exposure of materials and processes to rainfall and run-on flows. Wherever practical, the permittee shall prevent exposure of all storage areas, material handling operations, and manufacturing or fueling operations. In areas where elimination of exposure is not practical, this review shall document the feasibility of diverting the stormwater run-on away from areas of potential contamination.

(b) **Secondary Containment Requirements and Records.** Secondary containment is required for: bulk storage of liquid materials; storage in any amount of Section 313 of Title III of the Superfund Amendments and Reauthorization Act (SARA) water priority chemicals; and storage in any amount of hazardous substances, in order to prevent leaks and spills from contaminating stormwater runoff. A table or summary of all such tanks and stored materials and their associated secondary containment areas shall be maintained. If the secondary containment devices are connected to stormwater conveyance systems, the connection shall be controlled by manually activated valves or other similar devices (which shall be secured closed with a locking mechanism). Any stormwater that accumulates in the containment area shall be at a minimum visually observed for color, foam, outfall staining, visible sheens and dry weather flow, prior to release of the accumulated stormwater. Accumulated stormwater shall be released if found to be uncontaminated by any material. Records documenting the individual making the observation, the description of the accumulated stormwater, and the date and time of the release shall be kept for a period of five (5) years.

(c) **BMP Summary.** A listing of site structural and non-structural Best Management Practices (BMPs) shall be provided. The installation and implementation of BMPs shall be based on the assessment of the potential for sources to contribute significant quantities of pollutants to stormwater discharges and on data collected through monitoring of stormwater discharges. The BMP Summary shall include a written record of the specific rationale for installation and implementation of the selected site BMPs. The BMP Summary shall be reviewed and updated annually.

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3. **Spill Prevention and Response Procedures**. The Spill Prevention and Response Procedures (SPRP) shall incorporate an assessment of potential pollutant sources based on a materials inventory of the facility. Facility personnel responsible for implementing the SPRP shall be identified in a written list incorporated into the SPRP and signed and dated by each individual acknowledging their responsibilities for the plan. A responsible person shall be on-site at all times during facility operations that have the potential to contaminate stormwater runoff through spills or exposure of materials associated with the facility operations. The SPRP must be site stormwater specific. Therefore, an oil Spill Prevention Control and Countermeasure plan (SPCC) may be a component of the SPRP, but may not be sufficient to completely address the stormwater aspects of the SPRP. The common elements of the SPCC with the SPRP may be incorporated by reference into the SPRP.

4. **Preventative Maintenance and Good Housekeeping Program**. A preventative maintenance and good housekeeping program shall be developed and implemented. The program shall address all stormwater control systems (if applicable), stormwater discharge outfalls, all on-site and adjacent surface waters and wetlands, industrial activity areas (including material storage areas, material handling areas, disposal areas, process areas, loading and unloading areas, and haul roads), all drainage features and structures, and existing structural BMPs. The program shall establish schedules of inspections, maintenance, and housekeeping activities of stormwater control systems, as well as facility equipment, facility areas, and facility systems that present a potential for stormwater exposure or stormwater pollution where not already addressed under another element of the SPPP. Inspection of material handling areas and regular cleaning schedules of these areas shall be incorporated into the program. Timely compliance with the established schedules for inspections, maintenance, and housekeeping shall be recorded and maintained in the SPPP.

5. **Facility Inspections**. Inspections of the facility and all stormwater *systems* shall occur as part of the Preventative Maintenance and Good Housekeeping Program at a minimum on a semi-annual schedule, once during the first half of the year (January to June), and once during the second half (July to December), with at least 60 days separating inspection dates (unless performed more frequently than semi-annually). These facility inspections are different from, and in addition to, the stormwater discharge characteristic monitoring *at the outfalls* required in Part II B, C, and D of this permit.

6. **Employee Training**. Training programs shall be developed and training provided at a minimum on an annual basis for facility personnel with responsibilities for: spill response and cleanup, preventative maintenance activities, and for any of the facility's operations that have the potential to contaminate stormwater runoff. The facility personnel responsible for implementing the training shall be identified, and their annual training shall be documented by the signature of each employee trained.

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7. **Responsible Party**. The SPPP shall identify a specific position or positions responsible for the overall coordination, development, implementation, and revision of the SPPP. Responsibilities for all components of the SPPP shall be documented and position assignments provided.

8. **SPPP Amendment and Annual Update**. The permittee shall amend the SPPP whenever there is a change in design, construction, operation, site drainage, maintenance, or configuration of the physical features which may have a significant effect on the potential for the discharge of pollutants to surface waters. **All aspects of the SPPP shall be reviewed and updated on an annual basis**. The annual update shall include:

   (a) an *updated list of significant spills or leaks of pollutants* for the previous three (3) years, or the notation that no spills have occurred (element of the **Site Overview**);
   (b) a written *re-certification that the stormwater outfalls have been evaluated for the presence of non-stormwater discharges* (element of the **Site Overview**);
   (c) a documented re-evaluation of the effectiveness of the on-site stormwater BMPs (*BMP Summary* element of the **Stormwater Management Strategy**).
   (d) a *review and comparison of sample analytical data* to benchmark values (if applicable) over the past year, including a discussion about Tiered Response status. The permittee should use the Division's Annual Summary Data Monitoring Report (ASDMR) form, available from the Stormwater Permitting Unit's website (See 'Monitoring Forms' here: http://portal.ncdenr.org/web/wq/ws/su/npdessw).

   The Director may notify the permittee when the SPPP does not meet one or more of the minimum requirements of the permit. Within 30 days of such notice, the permittee shall submit a time schedule to the Director for modifying the SPPP to meet minimum requirements. The permittee shall provide certification in writing (in accordance with Part III, Standard Conditions, Section B, Paragraph 3) to the Director that the changes have been made.

9. **SPPP Implementation**. The permittee shall implement the Stormwater Pollution Prevention Plan and all appropriate BMPs to prevent contaminants from entering surface waters via stormwater. Implementation of the SPPP shall include documentation of all monitoring, measurements, inspections, maintenance activities, and training provided to employees, including the log of the sampling data and of actions taken to implement BMPs associated with the industrial activities, including vehicle maintenance activities. Such documentation shall be kept on-site for a period of five (5) years and made available to the Director or the Director's authorized representative immediately upon request.

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SECTION B: ANALYTICAL MONITORING REQUIREMENTS

Analytical monitoring of stormwater discharges shall be performed as specified in **Table 1**. All analytical monitoring shall be performed during a **measureable storm event** at each stormwater discharge outfall (SDO). Only SDOs discharging *stormwater associated with industrial activity* must be sampled (See Definitions).

A **measurable storm event** is a storm event that results in **an actual discharge** from the permitted site outfall. The previous measurable storm event must have been at least 72 hours prior. The 72-hour storm interval does not apply if the permittee is able to document that a shorter interval is representative for local storm events during the sampling period, and the permittee obtains approval from the local DWQ Regional Office. *See Definitions.*

Table 1. Analytical Monitoring Requirements

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Total Suspended Solids (TSS)	mg/L	annual	Grab	SDO
Chemical Oxygen Demand (COD)	mg/L	annual	Grab	SDO
Oil and Grease (O&G)	mg/L	annual	Grab	SDO
pH	standard	annual	Grab	SDO
Mercury (Hg)[4]	ng/L	annual[4]	Grab	SDO
Selenium (Se)[5]	µg/L	annual[5]	Grab	SDO
Aluminum (Al)[5]	mg/L	annual[5]	Grab	SDO
Boron (B), optional[6]	mg/L	annual	Grab	SDO
Total Nitrogen (TN)	mg/L	annual	Grab	SDO
Total Phosphorus (TP)	mg/L	annual	Grab	SDO
Total Rainfall[7]	inches	annual	Rain Gauge	-

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Footnotes:

1 Measurement Frequency: Once per year during a **measureable storm event**.

2 Grab samples shall be collected within the first 30 minutes of discharge.

3 Sample Location: Samples shall be collected at each stormwater discharge outfall (SDO) unless representative outfall status (ROS) has been granted. A copy of the letter granting ROS shall be kept on site. Sampling is not necessary from SDOs from the inactive ash ponds designated as 'SW001' and 'SW008' unless (a) discharges result in response to storms less than the 25-year, 24-hour storm event, or (b) these ash ponds are modified in a way that reduces holding capacity. To comply with permit reporting requirements, "No Flow" must be reported on the stormwater discharge monitoring reports for sample periods that do not result in discharge, or the permittee must indicate the only flows were in response to a rain event larger than the 25-year, 24-hour storm (approximately 6 inches in this location).

4 Mercury shall be analyzed by EPA Low-level detection method 1631E. This method also requires a field blank be analyzed. Field blank data must be reported for all Hg samples. The permittee may **discontinue** Hg monitoring at every outfall where four (4) consecutive samples **are below 12 ng/l** (0.012 µg/l). The permittee may request approval by the Division to discontinue Hg monitoring at other outfalls where Hg

concentrations are above 12 ng/l but field blank data or other information suggest no localized stormwater contamination source (for example, typical of stormwater concentrations elsewhere in the region).

5 Monitoring for each of these parameters may be discontinued at every outfall where four (4) samples consecutive samples **are below the benchmark concentration**.

6 Boron (B) monitoring is *optional*. The permittee may elect to monitor boron for the purpose of establishing a relationship between B concentrations and other metals as a surrogate indicator for coal-related sources. If the permittee proposes a benchmark concentration for boron with sufficient data and supporting rationale, DWQ will consider relieving monitoring for one or more of the other metals in the permit. The permittee must also demonstrate contributions from other (not coal-related) potential sources of those metals on-site are minimal.

7 For each sampled measureable storm event, the total precipitation must be recorded. An on-site rain gauge or local rain gauge reading must be recorded.

The permittee shall complete the analytical sampling in accordance with the schedule specified below in **Table 2**, unless *adverse weather* conditions prevent sample collection (see *Adverse Weather* in Definitions). A **minimum of 60 days must separate Period 1 and Period 2 sample dates**, unless more frequent monitoring has been instituted. Inability to sample because of adverse weather conditions must be documented in the SPPP and recorded on the DMR. The permittee must report the results from each sample taken within the monitoring period (see Part III, Section E).

Table 2. Monitoring Schedule

Year 1	1	June 1, 2012	June 30, 2013
Year 2	2	July 1, 2013	June 30, 2014
Year 3	3	July 1, 2014	June 30, 2015
Year 4	4	July 1, 2015	June 30, 2016
Year 5	5	July 1, 2016	May 31, 2017

Footnotes:

1 Maintain annual monitoring until either another permit is issued for this facility or until this permit is revoked or rescinded. The permittee must submit an application for renewal of coverage before the submittal deadline (180 days before expiration) to be considered for renewed coverage under the permit. The permittee must continue analytical monitoring throughout the permit renewal process, even if a renewal permit is not issued until after expiration of this permit.

2 If no discharge occurs during the sampling period, the permittee must submit a monitoring report indicating "No Flow" or "No Discharge" within 30 days of the end of the sampling period.

Failure to monitor annually per permit terms **immediately institutes monthly monitoring** for all parameters, upon the next measureable storm event. After six (6) months of monthly monitoring, the permittee may return to an annual sampling monitoring schedule, unless DWQ requires continued monthly monitoring. "No discharge" from an outfall during a monitoring period does not constitute failure to monitor, as long as it is properly reported.

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The permittee shall compare monitoring results to the benchmark values in **Table 3**. The benchmark values in **Table 3** are not permit limits but should be used as guidelines for the permittee's Stormwater Pollution Prevention Plan (SPPP). Exceedances of benchmark values may require the permittee to increase monitoring, increase management actions, increase record keeping, and/or install stormwater Best Management Practices (BMPs) in a tiered program. See below the descriptions of **Tier One** and **Tier Two** response actions below.

Table 3. Benchmark Values for Analytical Monitoring

Total Suspended Solids	mg/L	100
Chemical Oxygen Demand	mg/L	120
Oil and Grease (O&G)	mg/L	30
pH (*see footnote 1*)	standard units	6 – 9[1]
Mercury (Hg)	mg/L	N/A
Selenium (Se)	mg/L	0.056
Aluminum (Al) (*see footnote 2*)	mg/L	0.075 (impairment) or N/A[2]
Boron (B), optional	mg/L	N/A
Total Nitrogen (TN)	mg/L	30
Total Phosphorus (TP)	mg/L	2

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Footnotes:

1 If pH values outside this range are recorded in sampled stormwater discharges, **but ambient rainfall data indicate precipitation pH levels are within ± 0.1 standard units of the measured discharge values or lower**, then the lower threshold of this benchmark range does not apply. Readings from an on-site or local rain gauge (or local precipitation data) must be documented to demonstrate background concentrations were below the benchmark pH range.

2 Aluminum (Al) benchmark **does not apply** unless the waterbody is ever listed as **impaired for this metal or because of biological integrity impairment**.

If: The first valid sampling results are above a benchmark value, or outside of the benchmark range, for any parameter at any outfall;

Then: The permittee shall:

1. Conduct a stormwater management inspection of the facility **within two weeks of receiving sampling results.**
2. Identify and evaluate possible causes of the benchmark value exceedance.
3. Identify potential and select the specific: source controls, operational controls, or physical improvements to reduce concentrations of the parameters of concern, and/or to bring concentrations within the benchmark range.
4. Implement the selected actions **within two months of the inspection.**
5. Record each instance of a Tier One response in the SPP. Include the date and value of the benchmark exceedence, the inspection date, the personnel conducting the inspection, the selected actions, and the date the selected actions were implemented.

During the term of this permit, if the valid sampling results required for the permit monitoring periods exceed the benchmark value, or are outside the benchmark range, for any specific parameter at any specific outfall on **four occasions**, the permittee shall notify the DWQ Mooresville Regional Office Supervisor in writing **within 30 days of receipt** of the fourth analytical results. **DWQ may but is not limited to:**

- require that the permittee revise, increase, or decrease the monitoring frequency for the remainder of the permit;
- require the permittee to install structural stormwater controls;
- require the permittee to implement other stormwater control measures;
- require the permittee to perform upstream and downstream monitoring to characterize impacts on receiving waters; or
- require the permittee to implement site modifications to qualify for a No Exposure Exclusion.

This site is located just upstream of a portion of the Cape Fear River that is impaired for aquatic life because of **chlorophyll *a* standard violations**, indicating excessive nutrient loading. If a Total Maximum Daily Load (TMDL) is approved that affects the watershed where this plant site is located, the Division may require additional monitoring or consider routine sample results in determining whether additional BMPs are needed to control the pollutant(s) of concern to the maximum extent practicable.

If additional BMPs are needed to achieve the required level of control, the permittee will be required to (1) develop a strategy for implementing appropriate BMPs, and (2) submit a timetable for incorporation of those BMPs into the permitted Stormwater Pollution Prevention Plan.

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SECTION C: QUALITATIVE MONITORING REQUIREMENTS

The purpose of qualitative monitoring is to evaluate the effectiveness of the Stormwater Pollution Prevention Plan (SPPP) and assess new sources of stormwater pollution. Qualitative monitoring of stormwater outfalls must be performed during a **measurable storm event**.

Qualitative monitoring requires a visual inspection of each stormwater outfall *regardless of* representative outfall status. Qualitative monitoring shall be performed annually as specified in **Table 4**, and during required analytical monitoring events (unless the permittee is required to perform further qualitative sampling per the **Qualitative Monitoring Response**, below). Inability to sample because of adverse weather conditions must be documented in the SPPP and recorded on the DMR (see *Adverse Weather* in Definitions). Only SDOs discharging *stormwater associated with industrial activity* must be monitored (See Definitions).

In the event an atypical condition is noted at a stormwater discharge outfall, the permittee shall document the suspected cause of the condition and any actions taken in response to the discovery. This documentation will be maintained with the SPPP.

Table 4. Qualitative Monitoring Requirements

Color	annual	SDO
Odor	annual	SDO
Clarity	annual	SDO
Floating Solids	annual	SDO
Suspended Solids	annual	SDO
Foam	annual	SDO
Oil Sheen	annual	SDO
Erosion or deposition at the outfall	annual	SDO
Other obvious indicators of stormwater pollution	annual	SDO

Footnotes:

1 Measurement Frequency: Once per year during a **measureable storm event**. See **Table 2** for schedule of monitoring periods through the end of this permitting cycle. The permittee must continue qualitative monitoring throughout the permit renewal process until a new permit is issued.

2 Monitoring Location: Qualitative monitoring shall be performed at each stormwater discharge outfall (SDO) regardless of representative outfall status, *unless ROS is granted specifically for qualitative monitoring*. A copy of any letter granting ROS shall be kept on site. Remaining outfalls must be observed at least once during the permit term during a measureable storm event, except where the DWQ Regional Office (1) agrees outfalls are truly inaccessible or cannot be made safe without excessive burden on the permittee, or (2) determines some outfalls warrant more periodic observation.

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A minimum of 60 days must separate monitoring dates, *unless additional sampling has been instituted as part of other analytical monitoring requirements in this permit.*

If the permittee's qualitative monitoring indicates that existing stormwater BMPs are ineffective, or that significant stormwater contamination is present, the permittee shall investigate potential causes, evaluate the feasibility of corrective actions, and implement those corrective actions within 60 days, per the **Qualitative Monitoring Response**, below. A **written record** of the permittee's investigation, evaluation, and response actions shall be kept in the Stormwater Pollution Prevention Plan.

Qualitative monitoring is for the purposes of evaluating SPPP effectiveness, assessing new sources of stormwater pollution, and prompting the permittee's response to pollution. If the permittee repeatedly fails to respond effectively to correct problems identified by qualitative monitoring, or if the discharge causes or contributes to a water quality standard violation, **DWQ may but is not limited to:**

- require that the permittee revise, increase, or decrease the monitoring frequency (analytical or qualitative) for the remainder of the permit;
- require the permittee to install structural stormwater controls;
- require the permittee to implement other stormwater control measures;
- require the permittee to perform upstream and downstream monitoring to characterize impacts on receiving waters; or
- require the permittee implement site modifications to qualify for a No Exposure Exclusion.

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SECTION D: ON-SITE VEHICLE MAINTENANCE MONITORING REQUIREMENTS

Facilities that have any vehicle maintenance activity occurring on-site which uses **more than 55 gallons of new motor oil per month when averaged over the calendar year** shall perform analytical monitoring as specified below in **Table 5.** All analytical monitoring shall be performed during a **measureable storm event** at all stormwater discharge outfalls (SDOs) *that discharge stormwater runoff from vehicle maintenance areas,* and in accordance with the schedule presented in **Table 2** (Section B).

Table 5. Analytical Monitoring Requirements for On-Site Vehicle Maintenance

pH	standard	annual	Grab	SDO
Non-Polar Oil & Grease / TPH [EPA Method 1664 (SGT-HEM)]	mg/L	annual	Grab	SDO
Total Suspended Solids	mg/L	annual	Grab	SDO
Total Rainfall[4]	inches	annual	Rain gauge	-
New Motor Oil Usage	gallons/month	annual	Estimate	-

Footnotes:

1 Measurement Frequency: Once per year during a **measureable storm event** until either another permit is issued for this facility or until this permit is revoked or rescinded. See Table 2 for schedule of monitoring periods through the end of this permitting cycle.

2 Grab samples shall be collected within the first 30 minutes of discharge.

3 Sample Location: Samples shall be collected at each stormwater discharge outfall (SDO) that discharges stormwater runoff from area(s) where vehicle maintenance activities occur.

4 For each sampled **measureable storm event** the total precipitation must be recorded. An on-site or local rain gauge reading must be recorded.

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Failure to monitor semi-annually per permit terms **immediately institutes monthly monitoring** for all parameters, upon the next measureable storm event, as provided in Part II Section B.

Monitoring results shall be compared to the benchmark values in **Table 6**. The benchmark values in **Table 6** are not permit limits but should be used as guidelines for the permittee's Stormwater Pollution Prevention Plan (SPPP). Exceedances of benchmark values may require the permittee to increase monitoring, increase management actions, increase record keeping, and/or install stormwater Best Management Practices (BMPs), as provided in Part II Section B.

Table 6. Benchmark Values for Vehicle Maintenance Analytical Monitoring

pH	standard	6 - 9
Non-Polar Oil & Grease / TPH [EPA Method 1664 (SGT-HEM)]	mg/L	15
Total Suspended Solids	mg/L	100

SECTION E: MANDATORY BEST MANAGEMENT PRACTICES (BMPS) FOR COAL-FIRED POWER PLANTS SCHEDULED TO SHUT DOWN WITHIN THE TERM OF THE PERMIT

Within six (6) months of the permit effective date, the permittee must submit a plan that outlines the plant shutdown schedule and clean-up details to DWQ. This shutdown plan must include a demonstration that past or present industrial activities will not have the potential to pollute stormwater. DWQ must review and consider site conditions after the shutdown before approving any request by the permittee to rescind this permit before the expiration date.

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PART III STANDARD CONDITIONS FOR NPDES STORMWATER INDIVIDUAL PERMITS

SECTION A: COMPLIANCE AND LIABILITY

1. Compliance Schedule

The permittee shall comply with Limitations and Controls specified for stormwater discharges in accordance with the following schedule:

Existing Facilities already operating but applying for permit coverage for the first time: The Stormwater Pollution Prevention Plan shall be developed and implemented within 12 months of the effective date of the initial permit and updated thereafter on an annual basis. Secondary containment, as specified in Part II, Section A, Paragraph 2(b) of this permit, shall be accomplished within 12 months of the effective date of the initial permit issuance.

New Facilities applying for coverage for the first time: The Stormwater Pollution Prevention Plan shall be developed and implemented prior to the beginning of discharges from the operation of the industrial activity and be updated thereafter on an annual basis. Secondary containment, as specified in Part II, Section A, Paragraph 2(b) of this permit shall be accomplished prior to the beginning of discharges from the operation of the industrial activity.

Existing facilities previously permitted and applying for renewal: All requirements, conditions, limitations, and controls contained in this permit (except new SPPP elements in this permit renewal) shall become effective immediately upon issuance of this permit. New elements of the Stormwater Pollution Prevention Plan for this permit renewal shall be developed and implemented within 6 months of the effective date of this permit and updated thereafter on an annual basis. Secondary containment, as specified in Part II, Paragraph 2(b) of this permit shall be accomplished prior to the beginning of discharges from the operation of the industrial activity.

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2. Duty to Comply

The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Clean Water Act (CWA) and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit upon renewal application [40 CFR 122.41].

a. The permittee shall comply with standards or prohibitions established under section 307(a) of the CWA for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

b. The CWA provides that any person who violates section[s] 301, 302, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any such sections in a permit issued under section 402, or any requirement imposed in a pretreatment program approved under sections 402(a)(3) or 402(b)(8) of the Act, is subject to a civil penalty not to exceed $37,500 per day for each violation. [33 USC 1319(d) and 40 CFR 122.41(a)(2)]

c. The CWA provides that any person who negligently violates sections 301, 302, 306, 307, 308, 318, or 405 of the Act, or any condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, or any requirement imposed in a pretreatment program approved under section 402(a)(3) or 402(b)(8) of the Act, is subject to criminal penalties of $2,500 to $25,000 per day of violation, or imprisonment of not more than 1 year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be

subject to criminal penalties of not more than $50,000 per day of violation, or by imprisonment of not more than 2 years, or both. [33 USC 1319(c)(1) and 40 CFR 122.41(a)(2)]

d. Any person who knowingly violates such sections, or such conditions or limitations is subject to criminal penalties of $5,000 to $50,000 per day of violation, or imprisonment for not more than 3 years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than $100,000 per day of violation, or imprisonment of not more than 6 years, or both. [33 USC 1319(c)(2) and 40 CFR 122.41(a)(2)]

e. Any person who *knowingly* violates section 301, 302, 303, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than $250,000 or imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing endangerment violation, a person shall be subject to a fine of not more than $500,000 or by imprisonment of not more than 30 years, or both. An organization, as defined in section 309(c)(3)(B)(iii) of the Act, shall, upon conviction of violating the imminent danger provision, be subject to a fine of not more than $1,000,000 and can be fined up to $2,000,000 for second or subsequent convictions. [40 CFR 122.41(a)(2)]

f. Under state law, a civil penalty of not more than $25,000 per violation may be assessed against any person who violates or fails to act in accordance with the terms, conditions, or requirements of a permit. [North Carolina General Statutes § 143-215.6A]

g. Any person may be assessed an administrative penalty by the Administrator for violating section 301, 302, 306, 307, 308, 318 or 405 of this Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of this Act. Administrative penalties for Class I violations are not to exceed $16,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed $37,500. Penalties for Class II violations are not to exceed $16,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed $177,500. [33 USC 1319(g)(2) and 40 CFR 122.41(a)(3)]

3. Duty to Mitigate
The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment [40 CFR 122.41(d)].

4. Civil and Criminal Liability
Except as provided in Part III, Section C of this permit regarding bypassing of stormwater control facilities, nothing in this permit shall be construed to relieve the permittee from any responsibilities, liabilities, or penalties for noncompliance pursuant to NCGS 143-215.3, 143-215.6, or Section 309 of the Federal Act, 33 USC 1319. Furthermore, the permittee is responsible for consequential damages, such as fish kills, even though the responsibility for effective compliance may be temporarily suspended.

5. Oil and Hazardous Substance Liability
Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject to under NCGS 143-215.75 et seq. or Section 311 of the Federal Act, 33 USC 1321.

6. Property Rights
The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of

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personal rights, nor any infringement of Federal, State or local laws or regulations [40 CFR 122.41(g)].

7. Severability
The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstances, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby [NCGS 150B-23].

8. Duty to Provide Information
The permittee shall furnish to the Permit Issuing Authority, within a reasonable time, any information which the Permit Issuing Authority may request to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit issued pursuant to this permit or to determine compliance with this permit. The permittee shall also furnish to the Permit Issuing Authority upon request, copies of records required to be kept by this permit [40 CFR 122.41(h)].

9. Penalties for Tampering
The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate, any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than two years per violation, or by both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than $20,000 per day of violation, or by imprisonment of not more than 4 years, or both [40 CFR 122.41].

10. Penalties for Falsification of Reports
The Clean Water Act provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than two years per violation, or by both [40 CFR 122.41].

11. Onshore or Offshore Construction
This permit does not authorize or approve the construction of any onshore or offshore physical structures or facilities or the undertaking of any work in any navigable waters.

12. Duty to Reapply
If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit [40 CFR 122.41(b)].

SECTION B: GENERAL CONDITIONS

1. Permit Expiration
The permittee is not authorized to discharge after the expiration date. In order to receive automatic authorization to discharge beyond the expiration date, the permittee shall submit forms and fees as are required by the agency authorized to issue permits **no later than 180 days prior to the expiration date**, unless permission for a later date has been granted by the Director. (The Director shall not grant permission for applications to be submitted later than the expiration date of the existing permit.) [40 CFR 122.21(d)]. Any permittee that has not requested renewal at least 180 days prior to expiration, or any permittee that does not have a permit after the expiration and has not requested renewal at least 180 days prior to expiration, will be subjected to enforcement procedures as provided in NCGS §143-215.36 and 33 USC 1251 et. seq.

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2. Transfers

This permit is not transferable to any person without prior written notice to and approval from the Director in accordance with 40 CFR 122.61. The Director may condition approval in accordance with NCGS 143-215.1, in particular NCGS 143-215.1(b)(4)b.2., and may require modification or revocation and reissuance of the permit, or a minor modification, to identify the new permittee and incorporate such other requirements as may be necessary under the CWA [40 CFR 122.41(l)(3), 122.61] or state statute. **The Permittee is required to notify the Division in writing in the event the permitted facility is sold or closed.**

3. Signatory Requirements

All applications, reports, or information submitted to the Permitting Issuing Authority shall be signed and certified [40 CFR 122.41(k)].

a. All permit applications shall be signed as follows:

(1) For a corporation: by a responsible corporate officer. For the purpose of this Section, a responsible corporate officer means: (a) a president, secretary, treasurer or vice president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision making functions for the corporation, or (b) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

(2) For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or

(3) For a municipality, State, Federal, or other public agency: by either a principal executive officer or ranking elected official [40 CFR 122.22].

b. All reports required by the permit and other information requested by the Permit Issuing Authority shall be signed by a person described in paragraph a. above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

(1) The authorization is made in writing by a person described above;

(2) The authorization specified either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or well field, superintendent, a position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.); and

(3) The written authorization is submitted to the Permit Issuing Authority [40 CFR 122.22]

c. Changes to authorization: If an authorization under paragraph (b) of this section is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph (b) of this section must be submitted to the Director prior to or together with any reports, information, or applications to be signed by an authorized representative [40 CFR 122.22]

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d. Certification. Any person signing a document under paragraphs a. or b. of this section 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."

4. Permit Modification, Revocation and Reissuance, or Termination
The issuance of this permit does not prohibit the Permit Issuing Authority from reopening and modifying the permit, revoking and reissuing the permit, or terminating the permit as allowed by the laws, rules, and regulations contained in Title 40, Code of Federal Regulations, Parts 122 and 123; Title 15A of the North Carolina Administrative Code, Subchapter 2H .0100; and North Carolina General Statute 143-215.1 et al.

5. Permit Actions
The permit may be modified, revoked and reissued or terminated for cause. The notification of planned changes or anticipated noncompliance does not stay any permit condition [40 CFR 122.41(f)].

6. Annual Administering and Compliance Monitoring Fee Requirements
The permittee must pay the administering and compliance monitoring fee within 30 (thirty) days after being billed by the Division. Failure to pay the fee in timely manner in accordance with 15A NCAC 2H .0105(b)(2) may cause the Division to initiate action to revoke the permit.

SECTION C: OPERATION AND MAINTENANCE OF POLLUTION CONTROLS

1. Proper Operation and Maintenance
The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of this permit [40 CFR 122.41(e)].

2. Need to Halt or Reduce Not a Defense
It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the condition of this permit [40 CFR 122.41(c)].

3. Bypassing of Stormwater Control Facilities
Bypass is prohibited and the Director may take enforcement action against a permittee for bypass unless:
   a. Bypass was unavoidable to prevent loss of life, personal injury or severe property damage; and
   b. There were no feasible alternatives to the bypass, such as the use of auxiliary control facilities, retention of stormwater or maintenance during normal periods of equipment downtime or dry weather. This condition is not satisfied if adequate backup controls should have been installed in

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the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and

c. The permittee submitted notices as required under, Part III, Section E of this permit.

If the Director determines that it will meet the three conditions listed above, the Director may approve an anticipated bypass after considering its adverse effects.

SECTION D: MONITORING AND RECORDS

1. Representative Sampling

Samples collected and measurements taken, as required herein, shall be characteristic of the volume and nature of the permitted discharge. Analytical sampling shall be performed during a measureable storm event. Samples shall be taken on a day and time that is characteristic of the discharge. All samples shall be taken before the discharge joins or is diluted by any other waste stream, body of water, or substance. Monitoring points as specified in this permit shall not be changed without notification to and approval of the Permit Issuing Authority [40 CFR 122.41(j)].

2. Recording Results

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information [40 CFR [illegible]]:

a. The date, exact place, and time of sampling or measurements;
b. The individual(s) who performed the sampling or measurements;
c. The date(s) analyses were performed;
d. The individual(s) who performed the analyses;
e. The analytical techniques or methods used; and
f. The results of such analyses.

3. Flow Measurements

Where required, appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges.

4. Test Procedures

Test procedures for the analysis of pollutants shall conform to the EMC regulations published pursuant to NCGS 143-215.63 et. seq, the Water and Air Quality Reporting Acts, and to regulations published pursuant to Section 304(g), 33 USC 1314, of the Federal Water Pollution Control Act, as Amended, and Regulation 40 CFR 136.

To meet the intent of the monitoring required by this permit, all test procedures must produce minimum detection and reporting levels and all data generated must be reported down to the minimum detection or lower reporting level of the procedure. If no approved methods are determined capable of achieving minimum detection and reporting levels below permit discharge requirements, then the most sensitive (method with the lowest possible detection and reporting level) approved method must be used.

5. Representative Outfall

If a facility has multiple discharge locations with substantially identical stormwater discharges that are required to be sampled, the permittee may petition the Director for representative outfall status. If it is established that the stormwater discharges are substantially identical and the permittee is granted representative outfall status, then sampling requirements may be performed at a reduced number of outfalls.

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6. Records Retention

Visual monitoring shall be documented and records maintained at the facility along with the Stormwater Pollution Prevention Plan. Copies of analytical monitoring results shall also be maintained on-site. The permittee shall retain records of all monitoring information, including

- all calibration and maintenance records,
- all original strip chart recordings for continuous monitoring instrumentation,
- copies of all reports required by this permit,
- copies of all data used to complete the application for this permit

These records or copies shall be maintained for a period of at least 5 years from the date of the sample, measurement, report or application. This period may be extended by request of the Director at any time [40 CFR 122.41].

7. Inspection and Entry

The permittee shall allow the Director, or an authorized representative (including an authorized contractor acting as a representative of the Director), or in the case of a facility which discharges through a municipal separate storm sewer system, an authorized representative of a municipal operator or the separate storm sewer system receiving the discharge, upon the presentation of credentials and other documents as may be required by law, to:

a. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
d. Sample or monitor at reasonable times for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act, any substances or parameters at any location [40 CFR 122.41(i)].

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SECTION E: REPORTING REQUIREMENTS

1. Discharge Monitoring Reports

Samples analyzed in accordance with the terms of this permit shall be submitted to the Division on Discharge Monitoring Report (DMR) forms provided by the Director. DMR forms are available on the Division's website (http://portal.ncdenr.org/web/wq/ws/su/npdessw). Submittals shall be delivered to the Division **no later than 30 days from the date the facility receives the sampling results from the laboratory.**

When no discharge has occurred from the facility during the report period, the permittee is required to submit a discharge monitoring report, within 30 days of the end of the specified sampling period, giving all required information and indicating "NO FLOW" as per NCAC T15A 02B .0506.

If the permittee monitors any pollutant more frequently than required by this permit using test procedures approved under 40 CFR Part 136 and at a sampling location specified in this permit or other appropriate instrument governing the discharge, the results of such monitoring shall be included in the data submitted on the DMR.

The permittee shall record the required qualitative monitoring observations on the SDO Qualitative Monitoring Report form provided by the Division and shall retain the completed forms on site. Qualitative monitoring results should not be submitted to the Division, except upon DWQ's specific requirement to do so. Qualitative Monitoring Report forms are available at the website above.

2. Submitting Reports
Two signed copies of Discharge Monitoring Reports (DMRs) shall be submitted to:

Central Files
Division of Water Quality
1617 Mail Service Center
Raleigh, North Carolina 27699-1617

3. Availability of Reports
Except for data determined to be confidential under NCGS 143-215.3(a)(2) or Section 308 of the Federal Act, 33 USC 1318, all reports prepared in accordance with the terms shall be available for public inspection at the offices of the Division. As required by the Act, analytical data shall not be considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal penalties as provided for in NCGS 143-215.6B or in Section 309 of the Federal Act.

4. Non-Stormwater Discharges
If the storm event monitored in accordance with this permit coincides with a non-stormwater discharge, the permittee shall separately monitor all parameters as required under all other applicable discharge permits and provide this information with the stormwater discharge monitoring report.

5. Planned Changes
The permittee shall give notice to the Director as soon as possible of any planned changes at the permitted facility which could significantly alter the nature or quantity of pollutants discharged [40 CFR 122.41(l)]. This notification requirement includes pollutants which are not specifically listed in the permit or subject to notification requirements under 40 CFR Part 122.42 (a).

6. Anticipated Noncompliance
The permittee shall give advance notice to the Director of any planned changes at the permitted facility which may result in noncompliance with the permit [40 CFR 122.41(l)(2)].

7. Spills
The permittee shall report to the local DWQ Regional Office, within 24 hours, all significant spills as defined in Part IV of this permit. Additionally, the permittee shall report spills including: any oil spill of 25 gallons or more, any spill regardless of amount that causes a sheen on surface waters, any oil spill regardless of amount occurring within 100 feet of surface waters, and any oil spill less than 25 gallons that cannot be cleaned up within 24 hours.

8. Bypass
Notice [40 CFR 122.41(m)(3)]:
a. Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten days before the date of the bypass; including an evaluation of the anticipated quality and affect of the bypass
b. Unanticipated bypass. The permittee shall submit notice within 24 hours of becoming aware of an unanticipated bypass.

9. Twenty-four Hour Reporting
a. The permittee shall report to the central office or the appropriate regional office any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee became aware of the circumstances. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances.

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The written submission shall contain a description of the noncompliance, and its causes; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time compliance is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance [40 CFR 122.41(l)(6)].

b. The Director may waive the written report on a case-by-case basis for reports under this section if the oral report has been received within 24 hours.

c. Occurrences outside normal business hours may also be reported to the Division's Emergency Response personnel at (800) 662-7956, (800) 858-0368 or (919) 733-3300.

10. Other Noncompliance
The permittee shall report all instances of noncompliance not reported under 24 hour reporting at the time monitoring reports are submitted [40 CFR 122.41(l)].

11. Other Information
Where the Permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Director, it shall promptly submit such facts or information [40 CFR 122.41(l)(8)].

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PART IV DEFINITIONS

1. Act
See Clean Water Act.

2. Adverse Weather
Adverse conditions are those that are dangerous or create inaccessibility for personnel, such as local flooding, high winds, or electrical storms, or situations that otherwise make sampling impractical. When adverse weather conditions prevent the collection of samples during the sample period, the permittee must take a substitute sample or perform a visual assessment during the next qualifying storm event. Documentation of an adverse event (with date, time and written narrative) and the rationale must be included with your SPPP records. Adverse weather does not exempt the permittee from having to file a monitoring report in accordance with the sampling schedule. Adverse events and failures to monitor must also be explained and reported on the relevant DMR.

3. Allowable Non-Stormwater Discharges
This permit regulates stormwater discharges. Non-stormwater discharges which shall be allowed in the stormwater conveyance system are:
   a. All other discharges that are authorized by a non-stormwater NPDES permit.
   b. Uncontaminated groundwater, foundation drains, air-conditioner condensate without added chemicals, springs, discharges of uncontaminated potable water, waterline and fire hydrant flushings, water from foundation drains, flows from riparian habitats and wetlands.
   c. Discharges resulting from firefighting or fire-fighting training, or emergency shower or eye wash as a result of use in the event of an emergency.

4. Best Management Practices (BMPs)
Measures or practices to reduce the amount of pollution entering surface waters. BMPs may take the form of a process, activity, or physical structure. More information on BMPs can be found at: http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm.

5. Bypass
A bypass is the known diversion of stormwater from any portion of a stormwater control facility including the collection system, which is not a designed or established operating mode for the facility.

6. Bulk Storage of Liquid Products
Liquid raw materials, manufactured products, waste materials or by-products with a single above ground storage container having a capacity of greater than 660 gallons or with multiple above ground storage containers located in close proximity to each other having a total combined storage capacity of greater than 1,320 gallons.

7. Certificate of Coverage
The Certificate of Coverage (COC) is the cover sheet which accompanies a General Permit upon issuance and lists the facility name, location, receiving stream, river basin, effective date of coverage under the permit and is signed by the Director.

8. Clean Water Act
The Federal Water Pollution Control Act, also known as the Clean Water Act (CWA), as amended, 33 USC 1251, et. seq.

9. Division or DWQ
The Division of Water Quality, Department of Environment and Natural Resources.

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10. Director
The Director of the Division of Water Quality, the permit issuing authority.

11. EMC
The North Carolina Environmental Management Commission.

12. Grab Sample
An individual sample collected instantaneously. Grab samples that will be analyzed (quantitatively or qualitatively) must be taken within the first 30 minutes of discharge.

13. Hazardous Substance
Any substance designated under 40 CFR Part 116 pursuant to Section 311 of the Clean Water Act.

14. Landfill
A disposal facility or part of a disposal facility where waste is placed in or on land and which is not a land treatment facility, a surface impoundment, an injection well, a hazardous waste long-term storage facility or a surface storage facility.

15. Measureable Storm Event
A storm event that results in an actual discharge from the permitted site outfall. The previous measurable storm event must have been at least 72 hours prior. The 72-hour storm interval may not apply if the permittee is able to document that a shorter interval is representative for local storm events during the sampling period, and obtains approval from the local DWQ Regional Office. Two copies of this information and a written request letter shall be sent to the local DWQ Regional Office. After authorization by the DWQ Regional Office, a written approval letter must be kept on site in the permittee's SPPP.

16. Municipal Separate Storm Sewer System
A stormwater collection system within an incorporated area of local self-government such as a city or town.

17. No Exposure
A condition of no exposure means that all industrial materials and activities are protected by a storm resistant shelter or acceptable storage containers to prevent exposure to rain, snow, snowmelt, or runoff. Industrial materials or activities include, but are not limited to, material handling equipment or activities, industrial machinery, raw materials, intermediate products, by-products, final products, or waste products. DWQ may grant a No Exposure Exclusion from NPDES Stormwater Permitting requirements only if a facility complies with the terms and conditions described in 40 CFR §122.26(g).

18. Notice of Intent
The state application form which, when submitted to the Division, officially indicates the facility's notice of intent to seek coverage under a General Permit.

19. Permit Issuing Authority
The Director of the Division of Water Quality (see "Director" above).

20. Permittee
The owner or operator issued this permit.

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21. Point Source Discharge of Stormwater
Any discernible, confined and discrete conveyance including, but not specifically limited to, any pipe, ditch, channel, tunnel, conduit, well, or discrete fissure from which stormwater is or may be discharged to waters of the state.

22. Representative Outfall Status
When it is established that the discharge of stormwater runoff from a single outfall is representative of the discharges at multiple outfalls, the DWQ may grant representative outfall status. Representative outfall status allows the permittee to perform analytical monitoring at a reduced number of outfalls.

23. Secondary Containment
Spill containment for the contents of the single largest tank within the containment structure plus sufficient freeboard to allow for the 25-year, 24-hour storm event.

24. Section 313 Water Priority Chemical
A chemical or chemical category which:
b. Is listed in 40 CFR 372.65 pursuant to Section 313 of Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986, also titled Emergency Planning and Community Right-to-Know Act of 1986;
c. Is present at or above threshold levels at a facility subject to SARA title III, Section 313 reporting requirements; and
d. Meets at least one of the following criteria:
   i. Is listed in appendix D of 40 CFR part 122 on Table II (organic priority pollutants), Table III (certain metals, cyanides, and phenols) or Table IV (certain toxic pollutants and hazardous substances);
   ii. Is listed as a hazardous substance pursuant to section 311(b)(2)(A) of the CWA at 40 CFR 116.4; or
   iii. Is a pollutant for which EPA has published acute or chronic water quality criteria.

25. Severe Property Damage
Substantial physical damage to property, damage to the control facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

26. Significant Materials
Includes, but is not limited to: raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under section 101(14) of CERCLA; any chemical the facility is required to report pursuant to section 313 of Title III of SARA; fertilizers; pesticides; and waste products such as ashes, slag and sludge that have the potential to be released with stormwater discharges.

27. Significant Spills
Includes, but is not limited to: releases of oil or hazardous substances in excess of reportable quantities under section 311 of the Clean Water Act (Ref: 40 CFR 110.3and 40 CFR 117.3) or section 102 of CERCLA (Ref: 40 CFR 302.4).

28. Stormwater Discharge Outfall (SDO)
The point of departure of stormwater from a discernible, confined, or discrete conveyance, including but not limited to, storm sewer pipes, drainage ditches, channels, spillways, or channelized collection areas, from which stormwater flows directly or indirectly into waters of the State of North Carolina.

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29. Stormwater Runoff
The flow of water which results from precipitation and which occurs immediately following rainfall or as a result of snowmelt.

30. Stormwater Associated with Industrial Activity
The discharge from any point source which is used for collecting and conveying stormwater and which is directly related to manufacturing, processing or raw material storage areas at an industrial site. Facilities considered to be engaged in "industrial activities" include those activities defined in 40 CFR 122.26(b)(14). The term does not include discharges from facilities or activities excluded from the NPDES program.

31. Stormwater Pollution Prevention Plan
A comprehensive site-specific plan which details measures and practices to reduce stormwater pollution and is based on an evaluation of the pollution potential of the site.

32. Total Maximum Daily Load (TMDL)
TMDLs are written plans for attaining and maintaining water quality standards, in all seasons, for a specific water body and pollutant. A list of approved TMDLs for the state of North Carolina can be found at **http://portal.ncdenr.org/web/wq/ps/mtu/tmdl**.

33. Toxic Pollutant
Any pollutant listed as toxic under Section 307(a)(1) of the Clean Water Act.

34. Vehicle Maintenance Activity
Vehicle rehabilitation, mechanical repairs, painting, fueling, lubrication, vehicle cleaning operations, or airport deicing operations.

35. Visible Sedimentation
Solid particulate matter, both mineral and organic, that has been or is being transported by water, air, gravity, or ice from its site of origin which can be seen with the unaided eye.

36. 25-year, 24 hour Storm Event
The maximum 24-hour precipitation event expected to be equaled or exceeded, on the average, once in 25 years.

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Cape Fear Steam Electric Plant

Storm Water Pollution Prevention Plan (SWPPP)

Progress Energy Carolinas, Inc.

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EPARFI00304

Introduction

The purpose of this Storm Water Pollution Prevention Plan (SWPPP) is to prevent and/or control the pollution of discharges associated with the five storm water outfalls which convey storm water from industrial activity to surface waters at the Cape Fear Steam Electric Plant. The primary focus of this Plan is the three storm water outfalls along the plant access road and the railroad. Two additional storm water outfalls discharge to surface waters from separate abandoned ash ponds which discharge only during extreme precipitation events.

The preparation and implementation of the SWPPP is required as a condition of the Part I Section C of National Pollutant Discharge Elimination System (NPDES) permit number NC0003433 as issued by the North Carolina Department of Environment and Natural Resources (NCDENR). The Cape Fear Steam Electric Plant is authorized to discharge storm water with industrial activity from Outfalls 008, SW-1, SW-2, SW-3, and SW-4. As approved by NCDENR, there are no monitoring requirements specified in the NPDES Permit for these outfalls other than those specified in the SWPPP.

The SWPPP addresses all applicable aspects for the identification of potential sources of pollution, the development of appropriate prevention and control measures, and the procedures necessary to implement the plan as stipulated in the NPDES permit. The SWPPP will be maintained at the plant and will be available for inspection by the North Carolina Division of Water Quality (DWQ) personnel upon request.

EPARFI00305

Site Plan

The site plan provides a description of the physical facility and the potential pollutant sources which may be expected to contribute to contamination of regulated storm water discharges. This Storm Water Pollution Prevention Plan applies to the storm water outfalls associated with the industrial activity along the plant access road and the railroad and from the outfalls from two abandoned ash ponds.

Narrative Description of Industrial Activities

The Cape Fear Steam Electric Plant, which began commercial operation in 1923, currently operates two coal fired units that produce approximately 340 megawatts of power, four oil-fired combustion turbines with a generating capacity of 56 megawatts, and two combined cycle generating units with a generating capacity of 28 megawatts.

Coal is transported to the plant site via railcar. Each railcar coal shipment consists of approximately fifteen coal-filled railcars. The coal is unloaded from each railcar into a coal hopper. Conveyor belts from the hopper send the unloaded coal to a crusher. Crushed coal is either sent directly to the boilers or sent to the coal pile for later use.

During coal ash reclamation projects, trucks are filled with moistened ash within the confines of the ash pond boundary and the load is covered. The trucks exit along the plant access road. No fugitive emissions or storm water contamination are expected from this activity.

There currently are no activities within the two abandoned ash pond. The only storm water discharge from these two outfalls would be during an extreme precipitation event.

Potential Sources of Pollutants

Potential sources of pollutants to the authorized storm water discharges along the access road and the railroad include transportation of bulk chemicals, petroleum products, coal, and coal ash. Exposure of pollutants to storm water may be a result of spills or leaks in the transportation of these materials along these corridors.

The below table summarizes the average amounts of bulk chemicals transported and stored onsite:

Chemical Name	Amount Transported and Stored	Transportation Method	Onsite Containment	Potential for Spill/Leak
Aluminum Sulfate, 48% (Liquid)	1600 gal	Tanker Truck	Tank	Possible–leak from valve
Spectrus, OX103, (Solid)	12–24, 50 lb pails	Enclosed Truck	Pails	No
Sodium Hydroxide, 50% (Liquid)	12, 55 gal drums	Enclosed Truck	Drums	No
Salt (Solid)	12, 40 to 50 lb bags	Enclosed Truck	Bags	No

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Chemical Name	Amount Transported and Stored	Transportation Method	Onsite Containment	Potential for Spill/Leak
Urea (Liquid)	10,000 gal	Tanker Truck	Tank with secondary containment	Possible–leak from valve
Disodium Phosphate (Solid)	12, 30 to 50 lb bags	Enclosed Truck	Bags or Pails	No
Trisodium Phosphate (Solid)	12, 30 to 50 lb bags	Enclosed Truck	Bags or Pails	No
Sodium Hexametaphosphate (Solid)	12, 30 to 50 lb bags	Enclosed Truck	Bags or Pails	No
Morpholine (Liquid)	55 gal	Enclosed Truck	Drum	No
Monosodium Phosphate (Solid)	1, 30 to 50 lb pail	Enclosed Truck	Pail	No
Dianodic DN2126 (Liquid)	280 gal	Enclosed Truck	Tote	No

No. 2 Fuel Oil is transported to the plant site via tanker trucks along the access road and unloaded from the trucks in the designated unloading station within the plant site. Fuel oil delivery operations are conducted in accordance with plant procedure Fuel Oil Receipt. This procedure can be obtained on Progress Energy's Intranet procedure system. Plant personnel are present at all times to prevent vehicular departure before complete disconnect of flexible or fixed transfer lines during loading or unloading. Employees also inspect the tanker lower most drains and all outlets to prevent liquid discharge after the tanker leaves the unloading station. The above steps are also followed when unloading PCB oil, gasoline and kerosene from tanker trucks. Please refer to the plant's Spill Prevention Control and Countermeasure Plan (SPCC) for a detailed description of preventing the discharge of oil into or upon the navigable waters of the United States.

The plant is permitted for coal ash reuse activities. In the event coal ash is removed (e.g., coal ash is transported from the ash pond area off-site along the access road), there is a potential that coal ash could be spilled on the roadway. At present time, no coal ash is being removed.

General Location and Site Maps

The Cape Fear Steam Electric Plant is located a few miles off US Highway 1 near Moncure, North Carolina (Figure 1). The Plant is bordered to the west by the Cape Fear River and to the north by Shaddox Creek. Storm water discharge from the plant access road ultimately flows into Shaddox Creek and discharge from the railroad ultimately flows into the Cape Fear River (Figure 2). Below is a written description of each of the five outfalls.

Description of Storm Water Outfalls

Outfall	Description
008	This outfall is located at the southwest corner of the West Ash Pond and is used only to provide severe weather drainage from this abandoned pond. The pond last discharged in April 1998. This outfall discharges into the Cape Fear River.
SW-1	This outfall is from the 1956 Ash Pond which was abandoned over 40 years ago. The entire pond is vegetated. The crest of the standpipe outlet is approximately 2 feet above the ground surface. No discharge has been observed from this outfall.

EPARFI00307

SW-2	This outfall drains a small area adjacent to a short section of the railroad track and drains water from a small employee parking lot, a wooded employee picnic area, and grassy lawns. This outfall ultimately discharges to an unnamed tributary of Shaddox Creek.
SW-3	This outfall collects drainage from the plant entrance road and ultimately discharges to an unnamed tributary of Shaddox Creek.
SW-4	This outfall receives runoff from the railroad tracks south of the East Ash Pond. Flow goes along an unnamed tributary to the effluent canal which ultimately discharges into the Cape Fear River.

Significant Spills

No significant spills or leaks have been reported along the plant access road or the railroad at the Cape Fear Steam Electric Plant since the date this plan was implemented (November 1, 2004).

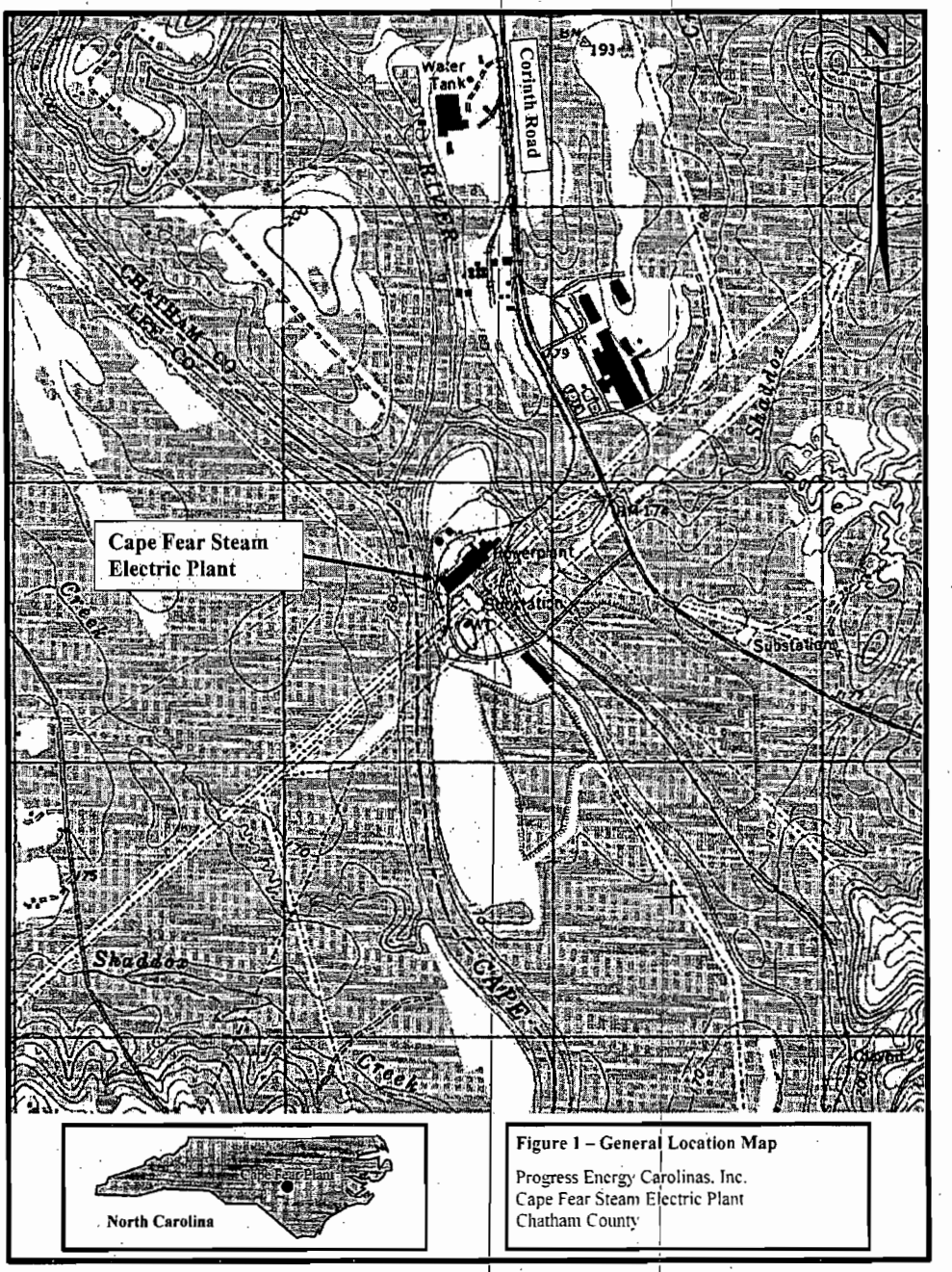
Note: The NPDES permit defines "significant spills" to include but is not limited to: releases of oil or hazardous substances in excess of reportable quantities under section 311 of the Clean Water Act (Ref: 40 CFR 110.10 and CFR 117.21) or section 102 of CERCLA (Ref: 40 CFR 302.4).

Certification of Non-storm Water Discharges

Cape Fear Steam Electric Plant personnel visually inspected all five storm water outfalls during dry weather conditions on May 12, 2010 for the presence of non-storm water entering into the storm water collection system. During the inspection, no water discharges were present. This evaluation was recorded and certification signed by the plant manager on September 29, 2010 (Figure 3).

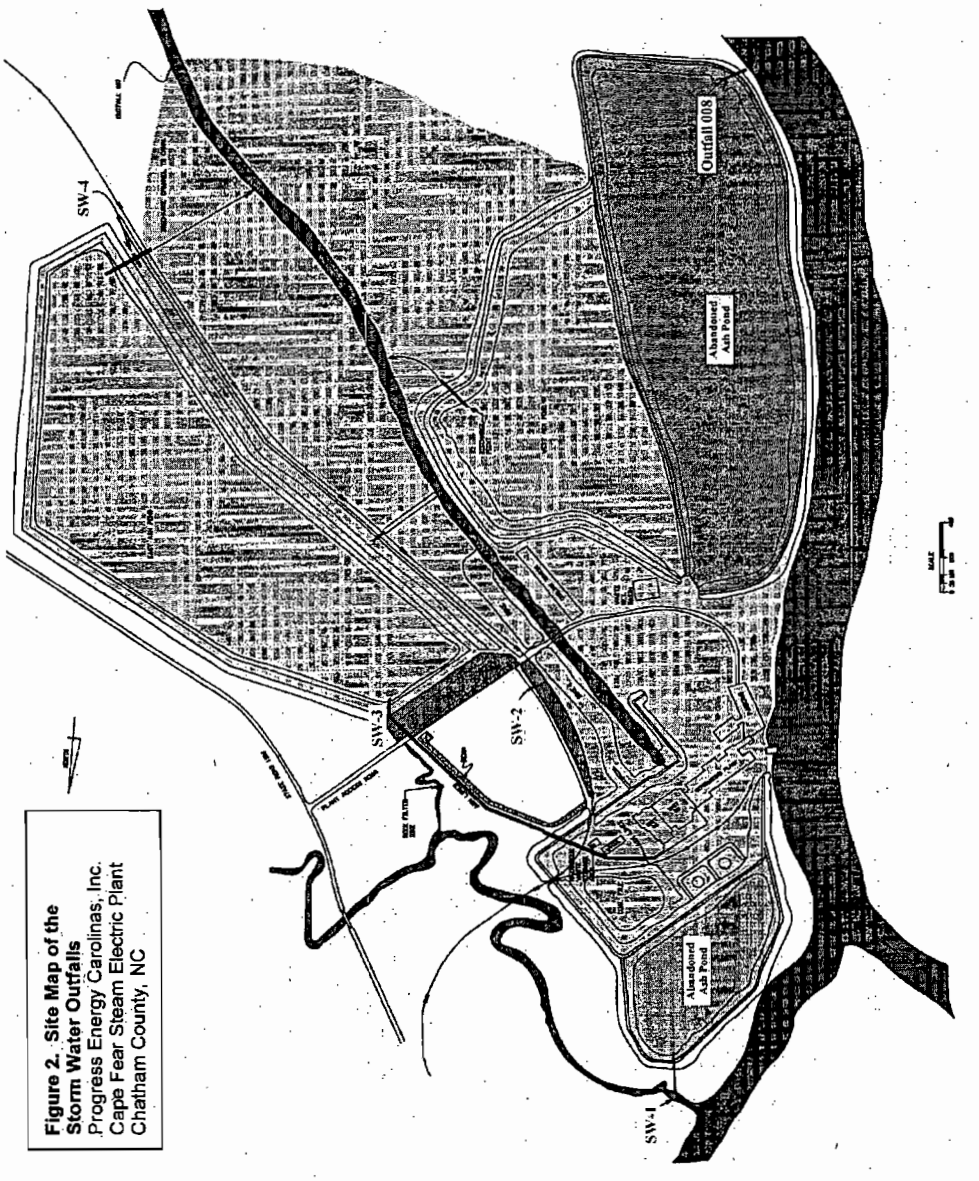
EPARFI00308

Figure 1. General location map of the Cape Fear Steam Electric Plant.



EPARFI00309

Figure 2. Site map of the storm water outfalls which discharge into surface waters at the Cape Fear Steam Electric Plant.



EPARFI00310

Figure 3. Non-storm water discharge certification for the storm water outfalls along the plant access road and the railroad at the Cape Fear Steam Electric Plant.

Non-Storm Water Discharge Assessment and Certification					
Date of test or evaluation	Outfall ID (identify as indicated on the site map)	Method used to test or evaluate discharge	Describe results from test for the presence of non-storm water discharge	Identify potential significant sources	Name of person who conducted the test or evaluation
8/16/2011	Outfall 008	Visual	No non-storm water was present	N/A	Danny Hedgepeth
8/16/2011	SW-1	Visual	No non-storm water was present	N/A	Danny Hedgepeth
8/16/2011	SW-2	Visual	No non-storm water was present	N/A	Danny Hedgepeth
8/16/2011	SW-3	Visual	No non-storm water was present	N/A	Danny Hedgepeth
8/16/2011	SW-4	Visual	No non-storm water was present	N/A	Danny Hedgepeth

I, Randy L. Cox, (responsible corporate official), certify under penalty of law that this document and all the 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 fine and imprisonment for knowing violations.

Name & Official Title (type or print)	Telephone number
Randy Cox, Plant Manager	(919) 774-5520
Signature: Randy L. Cox	Date: 5-31-12

EPARFI00311

Visual Inspections
Visual inspections along the plant access road and railroad are performed in conjunction with other BMPs, such as housekeeping and preventive maintenance, and also as a separate activity. When performed as an independent activity, the inspections are performed by qualified personnel. The inspections include reviews of past inspections and preventive maintenance activities.

Spill Prevention and Response
Spill prevention is achieved by good housekeeping, visual inspection, and preventive maintenance, and through training. Steps are taken to reduce or eliminate the potential for spills or released of material on the roadway. Trucks transporting coal ash off-site, for example, are covered and brushed off before leaving the loading site.

Training in proper spill identification and cleanup procedures, including the use of equipment and the notification and documentation procedures, are the main components of spill response. Spill response is in accordance with existing plant procedures, including the Spill Prevention, Control and Countermeasure (SPCC) Plan and the Hazardous Substance Notification Procedure. Personnel are trained to identify potential storm water pollution occurrences as may occur during a spill event, and respond in appropriate manner. Specific items in spill response training include

- Establishment and training of the plant personnel in spill response, cleanup, documentation, and notification,
- Safety measures,
- Notification procedure for plant and the appropriate public authorities,
- Safety and cleanup equipment, and
- Monitoring and verification of cleanup efforts.

Erosion and Sediment Control
Areas under construction, or where accelerated erosion or sedimentation is occurring, are monitored and corrective measures will be implemented as necessary. An Erosion and Sedimentation Control Plan may be needed. The Soil Conservation Service or County Soil Conservation District will be contacted as appropriate. Re-vegetation or equivalent stabilization of the ground will be performed to reduce/eliminate accelerated erosion.

Storm Water Runoff Management
Drainage areas along the transportation routes are vegetated where feasible. The natural and constructed grade of the drainage areas slows the flow of storm water. If necessary, uncontaminated storm water will be diverted away from potential sources of contamination and discharged to a stabilized conveyance structure. Diversion efforts would be made to reduce the quantity of contaminated storm water which would be collected and treated depending on conditions.

Employee Training
Training will be conducted at a minimum annually by the Environmental Specialist. General training for employees emphasizes good housekeeping and preventive methods, procedures,

EPARFI00313

and practices. Responsibilities are clearly communicated to personnel, including notification procedures for preventive and corrective measures. Maintenance and inspection personnel have the authority to follow-up on areas requiring improvement. Plant personnel are trained in safety and cleanup operations and in how to recognize spill events which may contribute to storm water pollution.

Recordkeeping and Reports
Personnel have the responsibility to prepare the appropriate records to implement and maintain the SWPPP. All records are maintained for at least five years.

Containment/Diversion
The need for structural BMPs is based on the assessment of the potential of sources contributing significant quantities of pollutants to storm water discharges. As determined by data collected through monitoring of storm water discharges, no containment or diversion structures are needed on the plant access road or the railroad.

Inspection of Storm Water Conveyances

A formal inspection of all storm water conveyance systems and controls and measures is combined with the Facility Inspection Program and is conducted **semi-annually**, once in the fall (September-November) and once during the spring (April-June). These inspections and any subsequent maintenance activities performed are documented (see example forms in Appendix A).

Informal visual inspections incorporated in the day-to-day conduct of operations and maintenance may occur at any time. Any corrective actions are documented.

EPARFI00314

Spill Prevention and Response Plan

The Spill Prevention and Response Plan for storm water is incorporated in portions of existing plant procedures, including the Spill Prevention, Control and Countermeasure (SPCC) Plan and the Hazardous Substance Notification Procedure which are maintained as separate documents at the Cape Fear Steam Electric Plant. The scope of these documents is broader than the scope for the Storm Water Pollution Prevention Plan. Three of the five outfalls which convey storm water from industrial activity at the Cape Fear Steam Electric Plant to surface waters are along the plant access road and the rail road. Thus, materials being transported either to or from the plant site have the potential to be spilled on these transportation corridors.

The Responsible Facility Team is responsible for implementing the Spill Prevention and Response Plan. A responsible person is on-site at all times during facility operations that have the potential to contaminate storm water runoff through spills or exposure of material associated with operations. This includes times when materials are being delivered to or removed from the plant site.

In the unlikely event of a release, plant personnel would reference and follow these steps:

1) All Progress Energy employees discovering any spill are responsible to report this information to his/her supervisor who will, as necessary, notify the Plant Environmental Specialist, or in his/her absence, the Plant Manager.

2) The notified supervisor and the Environmental Specialist or Plant Manager shall determine if the spill has reached the storm water system, or has the potential to reach storm water systems. If the spill meets the aforementioned criteria, the plant Environmental Specialist or the Plant Manager will determine if the spill is reportable to a government agency.

3) In the event of a spill, Plant personnel would use absorbent materials to recover the material. Cleanup kits are stored at the following locations:

   - Directly under the control room on the ground floor;
   - Fuel unloading area

   Spill kits include absorbent padding, mini-booms, rubber gloves, goggles and duct and barricade tape. The spill equipment inventory is inspected on a monthly basis and restocked as needed. If the situation is beyond the Plant's safety requirements, Shamrock Environmental Corporation, an emergency spill response organization, would be called on to complete the recovery. Progress Energy Carolinas, Inc. has a blanket contract with Shamrock Environmental Corporation for such activities.

Use of best management practices, good housekeeping, visual inspections, preventive maintenance, and training are the main components of the Spill Prevention and Response Plan.

EPARFI00315

Preventative Maintenance and Good Housekeeping Program

The Preventative Maintenance and Good Housekeeping Program documents the schedule of inspections and maintenance activities of storm water control systems primarily associated with the access road and railroad. The inspection of material handling areas and regular cleaning schedules of these areas are incorporated into the program. The integrity of the abandoned ash ponds are also inspected and maintained.

Inspection and Maintenance Schedules

Inspections and preventive maintenance are performed to ensure that storm water management facilities and controls operate correctly and effectively and to reduce their breakdowns and failure. The Preventative Maintenance Program is combined with the Facility Inspection Program and performed on a **semi-annual** basis, once in the fall (September-November) and once during the spring (April-June). These inspections and any subsequent maintenance activities performed are documented (see Appendix A for example forms). Preventative maintenance includes the clean out and maintenance of ditches, grass-lined and concrete-lined conveyances, riprap, and piping.

Good housekeeping practices along the access road and railroad are designed to minimize/eliminate the potential for pollutants to come in contact with storm water. The following practices shall be performed on a regular basis:

- Regular pickup and disposal of waste material (litter removal),
- Proper operation of equipment,
- Routine visual inspections by qualified personnel for leaks or spills, and for conditions that may lead to a leak or spill,
- Training of employees in spill prevention and cleanup procedures, and
- Ensuring grass mowing clippings are directed away from the access roads to eliminate a potential pollutant source.

Material Handling Area Inspection and Cleaning Schedules

Areas where materials are handled (i.e., chemicals, fuel oil, coal, coal ash) and unloaded are monitored upon delivery and during use by appropriate personnel. Material Handling inspections are incorporated in the day-to-day handling of materials. Any maintenance activities resulting from inspection activities would be documented.

EPARFI00316

Training Schedules

Training programs are essential for providing employees with a complete understanding of the Storm Water Pollution Prevention Plan and their responsibilities in complying with the components of the plan. Training is provided for all personnel involved in any of the facility's operations that have the potential to contaminate storm water runoff on at least an **annual** basis. Training is documented and records are maintained for a period of 5 years.

Topics include proper spill response and cleanup procedures and preventative maintenance activities. Further, the training provided for the Spill Control and Countermeasure (SPCC) Plan allows additional emphasis on spill prevention procedures, known spill events, failures, malfunctioning components, and recently developed precautionary measures and may be used as part of the SWPPP training.

The Plant Manager is responsible for the implementation of the SPCC Plan and for ensuring that the Environmental Specialist is trained in the operation and maintenance of spill prevention equipment, spill prevention procedures and applicable pollution control regulations.

The Environmental Specialist is responsible for providing and implementing the training for employees.

EPARFI00317

Responsible Facility Team

The Responsible Facility Team consists of individuals with the responsibility and authority to develop and implement the SWPPP. These individuals are familiar with the industrial activities at the Cape Fear Steam Electric Plant, especially activities that use the access roads and railroads including the knowledge of the materials being transported along these corridors. This Team is responsible for

- Implementing the Storm Water Pollution Prevention Plan,
- Being aware of any operational changes that may require a revision to the SWPPP,
- Advising management on matters relative to the SWPPP, and
- Providing training.

The Responsible Facility Team also must evaluate existing environmental management plans and procedures for consistency. These documents may include, but are not limited to, the Spill Prevention Control and Countermeasure (SPCC) Plan, Oil Spill Notification Procedure, and Hazardous Waste Spill Notification Procedure.

Responsible Facility Team Members

Member	Position Assignment
Plant Manager	Overall implementation.
Environmental Specialist	Overall coordination, development, training, spill notifications, and plan revision.
Control Room Operator	Oversees plant activities and makes proper notifications on a 24/7 basis. Oversees the proper unloading of fuel oil (including PCB oil) and urea from tanker trucks. After unloading, the operator inspects the tanker lower most drains and all outlets to prevent liquid discharge after the tanker leaves the unloading station.
Combustion Turbine Technician	Oversees the proper unloading of fuel oil from tanker trucks. After unloading, the operator inspects the tanker lower most drains and all outlets to prevent liquid discharge after the tanker leaves the unloading station.
Chemistry Technician	Performs inspections as required by the Facility Inspections Program.
Fuel Handling Supervisor	Fuel handling. Oversees the proper unloading of coal from railcars and monitors the integrity of the railways.
Coal Ash Reclamation Project Lead	Guarantees that reclaimed ash is properly removed and transported as to not contaminate storm water systems.
Store Room Staff	Oversees the delivery of bulk chemicals. Oversees the proper unloading of gasoline and kerosene from tanker trucks. After unloading gasoline and kerosene, store room staff inspects the tanker lower most drains and all outlets to prevent liquid discharge after the tanker leaves the unloading station.

EPARFI00318

Member	Position Assignment
All Plant Personal	1) Report any spill to your supervisor and/or Environmental Specialist; 2) If safe, use absorbent materials to recover the material (Refer back to SPCC training); 3) Perform required preventative maintenance; and 4) Practice good housekeeping!

EPARFI00319

Plan Amendments

The Storm Water Pollution Prevention Plan (SWPPP) is amended as appropriate to reflect any changes at the Cape Fear Steam Electric Plant which has a significant effect on the potential for the discharge of pollutants via a point source to surface waters. There are five outfalls at the Cape Fear Steam Electric Plant which convey storm water from industrial activity to surface waters—three along the plant access road and the railroad and two from abandoned ash ponds.

At a minimum, the SWPPP shall be reviewed and updated, if needed, on an **annual** basis. Conditions that may require amendment to the SWPPP include changes in transportation corridor design, construction, operations, or maintenance or if the plan proves to be ineffective in eliminating or minimizing pollutants from identified sources.

Amendments to the SWPPP are documented below.

Revision History

Section	Rev. Date	Rev. No.	Revised by	Reason for Revision/Review
All	10/30/04	0	A. Kapur, D. Hedgepeth, S. Cahoon	Initial development of SWPPP
All	04/18/08	1	L. Barr, R. Bryson	General update and addition of ash reclamation project
A.5.	10/6/08	2	L. Barr	Non-Storm Water Discharge Assessment and Certification Form Update
All	9/8/09	3	L.Barr	Corrected grammatical errors, updated bulk chemical section, modified description of Outfall SW-1 and SW-2, updated Certification of Non-Storm Water Discharges, and modified Responsible Facility Team Member table.
All	09/29/10	4	A. Ramey	General update and updated Certification of Non-Storm Water Discharges
Figure 3	8/16/11	4	L. Baxley	Certification of Non-Storm water Discharges Annual Review 9-6-11

EPARFI00320

Member	Position Assignment
All Plant Personal	1) Report any spill to your supervisor and/or Environmental Specialist; 2) If safe, use absorbent materials to recover the material (Refer back to SPCC training); 3) Perform required preventative maintenance; and 4) Practice good housekeeping!

EPARFI00321

Plan Amendments

The Storm Water Pollution Prevention Plan (SWPPP) is amended as appropriate to reflect any changes at the Cape Fear Steam Electric Plant which has a significant effect on the potential for the discharge of pollutants via a point source to surface waters. There are five outfalls at the Cape Fear Steam Electric Plant which convey storm water from industrial activity to surface waters—three along the plant access road and the railroad and two from abandoned ash ponds.

At a minimum, the SWPPP shall be reviewed and updated, if needed, on an **annual** basis. Conditions that may require amendment to the SWPPP include changes in transportation corridor design, construction, operations, or maintenance or if the plan proves to be ineffective in eliminating or minimizing pollutants from identified sources.

Amendments to the SWPPP are documented below.

Revision History

Section	Rev. Date	Rev. No.	Revised by	Reason for Revision/Review
All	10/30/04	0	A. Kapur, D. Hedgepeth, S. Cahoon	Initial development of SWPPP
All	04/18/08	1	L. Barr, R. Bryson	General update and addition of ash reclamation project
A.5.	10/6/08	2	L. Barr	Non-Storm Water Discharge Assessment and Certification Form Update
All	9/8/09	3	L.Barr	Corrected grammatical errors, updated bulk chemical section, modified description of Outfall SW-1 and SW-2, updated Certification of Non-Storm Water Discharges, and modified Responsible Facility Team Member table.
All	09/29/10	4	A. Ramey	General update and updated Certification of Non-Storm Water Discharges
All	08/16/11	4	L. Baxley	General update and updated Certifications of Non-Storm water Discharges. Requested outfalls adjusted to reflect plant conditions.
All	09/08/11	4	L. Baxley	Storm water Outfall changes and follow-up
				Training conducted at Monthly
				Safety Meeting - 12/6/2011

Facility Inspections Program

Inspections of the facility are conducted and documented on a weekly and **semi-annual** basis. Semi-annual inspections will be conducted in fall (September-November) and spring (April-June) as per plant procedure. Storm water outfalls are included in the list of areas checked during these inspections. Any deficiencies are reported and corrective actions implemented. Inspections of the facility are documented (see Appendix A for example forms).

Visual inspections of the storm water discharge outfalls will be completed on a **semi-annual** basis in fall (September-November) and spring (April-June) as per plant procedures. These inspections will consist of visual monitoring for obvious indicators of storm water pollution such as color, odor, clarity, floating solids, suspended solids, foam, and oil sheen. Inspections of the storm water outfalls are documented (see Appendix A for example forms).

EPARFI00323

Implementation

Implementation of the SWPPP includes the documentation of all monitoring, measurements, inspections, maintenance activities, and training provided to employees. Activities taken to implement BMPs associated with the industrial activities are also recorded. Documentation is kept on-site for at least five years and is available to DWQ upon request.

In accordance with Part I Section C. 1. of National Pollutant Discharge Elimination System permit number NC0003433, the Storm Water Pollution Prevention Plan for the Cape Fear Steam Electric Plant was implemented on November 1, 2004.

EPARFI00324

Appendix A

Facility Inspection Program
Weekly/Semi-Annual

EPARFI00325

2014 Stormwater and Oil/Chemical Spillage Weekly Checklist
File Point - 12520B

Week	Any noticeable Spills Y/N	Any noticeable standing water Y/N	West Ash Pond Functional Y/N	East Ash Pond Functional Y/N	Oil Skimmer Basin Functional Y/N	Access Road in Good Condition Y/N	Railroad in Good Condition Y/N	Date and time of Inspection	Person Performing Inspection	Comments and/or Summary of Maintenance Required
Apr. 30 - May 4	N	N	Y	Y	Y	Y	Y	5/1/12 0700	D. Hedgpeth	
May 7 - 11	N	N	Y	Y	Y	Y	Y	5/8/12 0650	D. Hedgpeth	
May 14 - 18	N	N	Y	Y	Y	Y	Y	5/15/12 0730	D. Hedgpeth	
May 21 - 25	N	N	Y	Y	Y	Y	Y	5/22/12 0700	D. Hedgpeth	

Note: SWP Plan requires the following semi-annual inpsection:

Area	Good Condition Y/N	Any noticeable color, odor, clarity, floating solids, suspended solids, foam, oil sheen, and/or debris removal? If yes, explain issue.	Time of Inspection	Date of Inspection	Responsible Person	Comments
Access Roads	Y	No	1000	5/30/12	D. Hedgpeth	
Railroad	Y	No	1010	↓	↓	
Outfall SW-1	Y	No	1020	↓	↓	
Outfall SW-2	Y	No	1030	↓	↓	
Outfall SW-3	Y	No	1035	↓	↓	
Outfall SW-4	Y	No	1040	↓	↓	
Outfall 008	Y	No	1045	↓	↓	

2011 Stormwater and Oil/Chemical Spillage Weekly Checklist
File Point - 12520B

Week	Any noticeable Spills Y/N	Any noticeable standing water Y/N	West Ash Pond Functional Y/N	East Ash Pond Functional Y/N	Oil Skimmer Basin Functional Y/N	Access Road in Good Condition Y/N	Railroad in Good Condition Y/N	Date and Time of Inspection	Person Performing Inspection	Comments and/or Summary of Maintenance Required
May 2 - 6	N	N	Y	Y	Y	Y	Y	5/3/11 0700	[illegible]	"C" skimmer out for maintenance Repaired
May 9 - 13	N	N	Y	Y	Y	Y	Y	5/9/11 0700	[illegible]	
May 16 - 20	N	N	Y	Y	Y	Y	Y	5/16/11 0700	[illegible]	
May 23 - 27	N	N	Y	Y	Y	Y	Y	5/24/11 0700	[illegible]	Algae growing in "A" basin Treated 5/24

Note: SWP Plan requires the following semi-annual inpsection:

Area	Good Condition Y/N	Any noticeable color, odor, clarity, floating solids, suspended solids, foam, oil sheen, and/or debris removal? If yes, explain issue.	Time of Inspection	Date of Inspection	Responsible Person	Comments
Access Roads	Y		1000	5/5/11	[illegible]	
Railroad	Y					
Outfall SW-1	Y					
Outfall SW-2	Y					
Outfall SW-3	Y					
Outfall SW-4	Y					
Outfall 008	Y					

EPARFI00327

2011 Stormwater and Oil/Chemical Spillage Weekly Checklist
File Point - 12520B

Week	Any noticeable Spills Y/N	Any noticeable standing water Y/N	West Ash Pond Functional Y/N	East Ash Pond Functional Y/N	Oil Skimmer Basin Functional Y/N	Access Road in Good Condition Y/N	Railroad in Good Condition Y/N	Date and Time of Inspection	Person Performing Inspection	Comments and/or Summary of Maintenance Required
Oct. 3 - 7	N	N	Y	Y	Y	Y	Y	10/4/11 0730	[illegible]	
Oct. 10 - 14	N	N	Y	Y	Y	Y	Y	10/11/11 0700	[illegible]	
Oct. 17 - 21	N	N	Y	Y	Y	Y	Y	10/18/11 0700	[illegible]	
Oct. 24 - 28	N	N	Y	Y	Y	Y	Y	10/25/11 0700	[illegible]	

Note: SWP Plan requires the following semi-annual inpsection:

Area	Good Condition Y/N	Any noticeable color, odor, clarity, floating solids, suspended solids, foam, oil sheen, and/or debris removal? If yes, explain issue.	Time of Inspection	Date of Inspection	Responsible Person	Comments
Access Roads	Y		1000	10/4/11	[illegible]	
Railroad	Y					
Outfall SW-1	Y					
Outfall SW-2	Y					
Outfall SW-3	Y					
Outfall SW-4	Y					
Outfall 008	Y					

EPARFI00328

NCDENR
North Carolina Department of Environment and Natural Resources
Division of Water Quality

Beverly Eaves Perdue
Governor

Charles Wakild, P. E.
Director

Dee Freeman
Secretary

March 21, 2012

Mark McGary
Senior Engineer
Duke Energy Carolinas, LLC
P.O. Box 1006, Mail Code EC13K
Charlotte, North Carolina 28201

Subject: Draft NPDES Stormwater Permit
Permit Nos. NCS000546, NCS000548, & NCS00549
Duke Energy Carolinas, LLC –
Plant Allen, Marshall Steam Station, and Riverbend Station
Gaston and Catawba Counties

Dear Mr. McGary:

Enclosed with this letter is a copy of revised draft NPDES stormwater permits for these three facilities. Please review the draft permits very carefully to ensure thorough understanding of the conditions and requirements each contains.

Thank you for meeting with us last November to discuss your questions and concerns with the proposed stormwater permits for these facilities. As we explained, efforts to permit coal-fired power plants consistently across the state led to a comprehensive stormwater monitoring scheme for all such plants. The original draft permits for these sites contained the same requirements as other NDPES stormwater permits issued for coal-fired power plants since 2009.

We also hope we clarified the intent and flexibility of designating outfalls with "Representative Outfall Status" (ROS) to alleviate the company's concerns about that process. We will continue to work with you and the Mooresville Regional Office during this draft permit stage to establish ROS for the most appropriate outfalls at these sites. With this letter, we are transmitting our proposed ROS designation at each site. We invite further consultation with you and the regional office to reach a mutual resolution if necessary.

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Changes to Draft Permits

These permits reflect a newer NPDES stormwater permit template, which the Stormwater Permitting Unit (SPU) implemented for all industrial stormwater permits this year (not just power plants). Standard changes include the requirement to monitor during a "measureable storm event," rather than "representative storm event." Based on our discussion at the November meeting and your comments, we have also proposed revised monitoring requirements. These changes reduce metals monitoring significantly. The Division will continue to structure stormwater permits for all coal-fired power plants as consistently as possible across the state.

These permits contain monitoring for conventional pollutants **COD, TSS, O&G, and pH** because they are general indicators of potential stormwater contaminants at these types of sites. Data from permitted power plants and new permit applications indicate these parameters sometimes exceed or fall outside of benchmark ranges. The pH is also critical to characterizing toxicity of metals.

These draft permits also include monitoring for **mercury (Hg)** and **selenium (Se)**. Both metals are in coal combustion waste ash, a potential stormwater contaminant at these sites. All waterbodies in the state are impaired for mercury, and a statewide mercury TMDL is under development. Studies by N.C. State University researchers suggest that selenium may be taken up in fish in preference to mercury at locations in close proximity to coal-fired power plants (Sackett et al., 2010). Regional deposition may influence mercury discharge concentrations, and therefore field blank data must be reported. DWQ has not identified a conflict with sampling during a stormwater event and employing Method 1631 for analysis when the intent is to characterize stormwater discharges (and not uncontaminated wastewater discharges).

Permits for these sites will include **aluminum (Al)** monitoring if sample results submitted with the application exceed the stormwater benchmark concentration of 0.75 mg/l, or if no data are available. North Carolina does not currently have a water quality standard for aluminum, but there are federal recommended water quality criteria. An aluminum **benchmark will not apply unless** the waterbody is ever impaired for aluminum or for biological integrity.

Power plants discharging stormwater to waterbodies impaired for **copper (Cu), zinc (Zn)**, or **other priority pollutant metals** will monitor for those metals. Biological impairment also prompts copper and zinc monitoring, and possibly other metals associated with coal ash. Exceptions may be made (and monitoring required) for metals or other toxicants for plant sites discharging to waterbodies that are <u>not</u> impaired *if data or other information evidences a possible problem with stormwater discharges*. However, in general, these permits will not require monitoring for all priority pollutant metals as originally proposed.

There is no benchmark that triggers monthly monitoring for mercury. Also, sampling for metals may be discontinued after four consecutive samples are below the benchmark or below 12 ng/l of mercury. Where applicable, these permits offer alternatives to copper and zinc benchmarks (see Part II, Section B.). In some cases, nutrient monitoring (total nitrogen and/or total phosphorus) will apply because of nutrient problems in the river basin. The draft permit for Plant Allen includes annual nitrogen and phosphorus monitoring because of nutrient concerns in the Catawba River basin and Lake Wylie.

These draft permits allow qualitative monitoring to be limited to representative outfalls if the remaining outfalls can be observed once per the permit term. Exceptions may be made where the regional office agrees outfalls are truly inaccessible or cannot be made safe without excessive burden on the permittee; or the regional office determines some outfalls warrant more periodic observation.

Plants Shutting Down

Draft permits for plants scheduled to shut down within the five-year permit term will include monitoring for the same parameters based on the criteria explained above. **Annual sampling** without benchmarks that trigger monthly monitoring is proposed for the **Riverbend Steam Station**, contingent on the company submitting a plan within six months of the permit effective date to outline the shutdown schedule and clean-up details. This plan should include a demonstration that past or present industrial activities will longer have the potential to pollute stormwater.

Please note that the Division is still obligated to review any request for permit rescission and to consider site conditions after the shutdown before approving the request. The Division may also require more frequent monitoring at a plant scheduled to shut down if discharge data or in-stream data justify concern about in-stream standard violations.

Comment Period

Because of the significant changes, the Division will re-notice these revised draft permits for another public comment period. We are also appending responses to comments Duke Energy submitted on each of these plant's original draft permits (see attached). We hope this information will answer some of the questions that remained after our initial meeting with you last fall. We welcome the opportunity to meet with you again to discuss the proposed permits during the 30-day public notice period.

Please submit any comments to the appropriate Stormwater Permitting Unit (SPU) contact no later than thirty (30) days following your receipt of the draft. Comments should be sent to the address listed at the bottom of this page. If no adverse comments are received from the public or from you, these permits will be issued in about two months. If you have any questions or comments concerning these draft permits, please contact:

Plant Allen – Bethany Georgoulias at (919) 807-6372 or bethany.georgoulias@ncdenr.gov
Marshall Steam Station – Brian Lowther at (919) 807-6368 or brian.lowther@ncdenr.gov
Riverbend Steam Station – Robert Patterson at (919) 807-6375 or robert.patterson@ncdenr.gov

Sincerely,

Original signed by Bradley Bennett

Bradley Bennett
Supervisor, Stormwater Permitting Unit

cc: Mooresville Regional Office, Water Quality Section (w/attachment)/ M. Parker
Stormwater Permitting Unit

Attachments

References

Sackett, D.K., D. D. Aday, J.A. Rice, W.G. Cope, and D. David Buchwalter, 2010, Does proximity to coal-fired power plants influence fish tissue mercury? *Ecotoxicology* 19:1601–1611. DOI: 10.1007/s10646-010-0545-5.

Response to Comments from Duke Energy on Previous Draft Permits

Plant Allen – NCS000546

Comments on the draft permit were received **September 15, 2011**, and subsequent comments were received via e-mail on **November 18, 2011**. We have tried to address many of these comments below.

With its permit application, the company requested representative outfall status (ROS) for four stormwater discharge outfalls. The Mooresville Regional Office has recommended approval with some modifications. The recommendations include approval of **ROS for SW005, SW008, SW011** and **SW015** (instead of SW018).

- **SW005** represents outfalls SW002, SW004 - SW006, SW014, and Group SW017.
- **SW008** represents outfalls SW001, SW003, SW007 - SW010, and Group SW013.
- **SW011** represents outfalls SW011 and SW012.
- **SW015** represents outfalls SW016, SW018, and SW020.

The draft permit also includes a special footnote for SW011 and SW012 because discharges commingle with wastewater outfall flows. Because of a lack of recent analytical data, the Region has advised a short-term period of sampling at some of the outfalls represented by this group, including outfalls SW002, SW007, SW009, SW010, and SW012. **The Division is proposing two sampling events in the first year of the permit for these outfalls.** However, the draft permit does not contain conditions specifying that sampling.

DWQ typically handles representative outfall status (ROS) designation **outside** of the permit because that status (and the relief from monitoring other outfalls) is subject to change if activities or other circumstances change. Otherwise, the permittee would have to go through the process of a permit modification every time ROS changed. With our current process, designations of, and any changes to ROS can be handled more expeditiously without reopening a permit for modification. The Division will verify ROS approval and temporary monitoring requirements in the cover letter of the issued permit, unless the company prefers to include these specifications in the final permit.

Your letter in September 2011 listed numerous outfalls on the plant property that Duke Energy feels are not part of the industrial use areas and should be excluded from the permit. Those outfalls are SW001, Group SW013, SW014, Group SW017, SW019, and SW020.

Response: The company may have a better understanding of which outfalls do not drain runoff associated with industrial activity since our November meeting. The NPDES stormwater permit applies to all stormwater outfalls *associated with industrial activity*; it is the permittee's responsibility to identify all appropriate discharge outfalls in the Stormwater Pollution Prevention Plan (SPPP) and to conduct sampling as necessary. Please note that magnitude of risk to surface waters does not determine whether or not a stormwater discharge is subject to the NPDES permit. Applicability is determined by whether that discharge is associated with industrial activities. For a definition of "Stormwater Associated with Industrial Activity," please refer to the DEFINITIONS section in Part VI of the permit and to 40 CFR §122.26 (b)(14). The Division will be happy to help you with any questions about whether a drainage area falls into that category or not.

The company commented that several stormwater outfalls are currently inaccessible, and that there are concerns about safe and secure access to theses outfalls for sampling and monitoring. For example, you indicated sampling from Group SW013 and Group SW017 was not feasible.

Response: Most of the outfalls listed will be represented by other outfalls, with the exception of SW012. The Mooresville Regional Office (MRO) has advised short-term analytical sampling for SW012, and the Central Office is recommending sampling during the first year only. Attached to the comments was a photo of SW012 that noted sample collection probability was "likely" if sampled upstream of the outlet because it is submerged. This approach is acceptable. We understand your concerns about safety and secure access to outfalls, and we fully support taking caution in order to make sure outfalls are accessed safely. We encourage sampling at the nearest, safely accessible location upstream of a stormwater outfall when it is necessary.

Duke Energy's comments in September 2011 addressed many concerns about the list of analytical monitoring parameters and lack of a basis for the proposed monitoring. Your comments express the opinion that the ash basin discharges of wastewater should represent "the worst case impacts to surface waters in terms of mass loading associated with the facility.

Response: The NPDES wastewater permits are developed with the benefit of a considerable amount of historical data. With those data, staff can do a reasonable potential analysis and determine whether monitoring a parameter is warranted for wastewater flows, which are also permitted at a maximum flow rate. Typically no maximum flow rates are established for stormwater discharge outfalls, and the amount of stormwater data from this plant site is very limited. Only two stormwater samples—each from a different outfall—were submitted with the permit application, and data from any other samples for previous NPDES wastewater permit renewals were not provided. As a comparison, typically a minimum of 8-10 samples are required for a reasonable potential analysis of wastewater concentrations. Please see the revised list of parameters in the attached draft permit and discussion on p. 2 to understand how the Division has addressed this concern.

In its comments, the company was concerned that there was no scientific justification for many of the benchmark values and suggested that a water quality issue, such as a 303(d) listing (impairment), should drive the need for a benchmark. The comment letter requested that the benchmarks that do not relate to actual existing water quality issues in the receiving water body be removed. The company expressed concern that exceeding a benchmark would give the appearance to third parties that a water quality standard had been violated.

Response: The stormwater benchmarks (or "triggers" for additional stormwater management responses) are not the same as effluent limits, and exceeding those values is not a violation of the NPDES stormwater permit. Benchmarks are intended as a tool for the permittee to evaluate the effectiveness of BMPs and flag possible stormwater contamination problems. The Division has incorporated flexibility in Tier 3 of the permit to work with the permittee in addressing issues, including ameliorating monitoring requirements when appropriate.

Benchmarks are determined with guidance from the Division's Classification and Standards Unit and use data from multiple sources, including EPA's National Recommended Water Quality Criteria and N.C. Surface Water Quality Standards (found in 15A NCAC 02B Rules). When rules or regulations do not contain information for a pollutant of concern, benchmarks may be calculated per 15A NCAC 2B .0200 using peer-reviewed toxicity data, other reference sources, and best

professional judgment (BPJ). For toxics like metals, stormwater benchmark concentrations are based on the ½ Final Acute Value (FAV) or other value protective against acute impacts to aquatic life whenever available. Conventional pollutants in this permit (BOD, COD, O&G) are based on the secondary treatment standards in the federal regulations (40 CFR §133). In the Division's best professional judgment, stormwater concentrations of these pollutants that regularly exceed those standards indicate a possible problem.

The requirement to control the discharge of stormwater pollutants is established in federal rule and North Carolina law; that requirement is not based on establishing impact. This oversight is consistent with the Division's other programs. The Division has incorporated stormwater benchmarks into industrial stormwater permits for the last four years, and it modeled the tiered response approach after other states' programs. Compliance with the permit is established by the permittee responding appropriately to benchmark exceedances in the tiered structure.

The company commented that EPA Method 1631 E low level mercury analysis was not appropriate for stormwater sampling and requested the requirement be removed, or that it be replaced with Cold Vapor Mercury Analytical Method 245.1.

Response: We understand the limitations of EPA Method 1631 E. However, the low level mercury analysis is the only acceptable method for measuring concentrations at the water quality standard of 12 ng/l. Even though regional wet deposition may contribute to mercury concentrations measured in stormwater discharges from this site, Method 245.1 is not likely to detect those concentrations because its practical quantification limit (PQL) is only 0.2 µg/l. DWQ has not identified a conflict with sampling during a stormwater event and employing Method 1631 for analysis when the intent is to characterize stormwater discharges.

In its comment letter, the company requested that the Annual Summary DMR reporting requirement (to the DWQ Regional Office) be removed.

Response: We are receptive to the company's concern that this annual submittal was redundant with the standard reporting requirement to submit DMRs to the Central Office within 30 days of receiving results. This requirement has been removed from Part II, Section B, Table 2 (and Part III, Section E 2.).

The company's comments expressed dissatisfaction about the mandatory 60-day separation between concurrent sampling events (Part II, Section B.).

Response: The Division feels that a 60-day (2-month) separation between two concurrent sampling events in a year period (12 months) gives sufficient time to capture two representative events to fulfill the semi-annual sampling schedule. If significant drought conditions make capturing the subsequent qualifying event within the semi-annual (6 month) sampling period window, the Division will work with permittees who document that difficulty in their monitoring records.

Response to Comments from Duke Energy on Previous Draft Permits, cont.

Marshall Steam Station – NCS000548
Comments on the draft permit were received **July 20, 2011**, and subsequent comments were received via e-mail on **November 18, 2011**. We have tried to address many of these comments below.

With its permit application, the company requested representative outfall status (ROS) for two stormwater discharge outfalls. The Mooresville Regional Office has recommended approval of these outfalls. The recommendations include approval of **ROS for SW003** and **SW007**.

- **SW003** represents outfalls SW001, SW002, SW004, SW012, SW022, and SW023.
- **SW007** represents outfalls SW006, SW008, SW009, and SW011.

Comments on the draft include concerns about your representative outfall request not being adequately addressed in the draft permit or cover letter.

Response: DWQ typically handles representative outfall status (ROS) designation outside of the permit because that status (and the relief from monitoring other outfalls) is subject to change if activities or other circumstances change. Otherwise, the permittee would have to go through the process of a permit modification every time ROS changed. With our current process, designations of, and any changes to ROS can be handled more expeditiously without reopening a permit for modification. The Division will verify ROS approval in the cover letter of the issued permit, unless the company prefers to include these specifications in the final permit.

Your comments indicated many of the outfalls are currently inaccessible and there are concerns about safe and secure access to theses outfalls for sampling and monitoring.

Response: Most of the outfalls listed will be represented by other outfalls, with the exception of SW007. Outfall SW007 was requested to by representative and therefore we will require it to be sampled in order to represent outfalls SW006-SW009 and SW011. Attached to the comments was a photo of SW007 that noted sample collection probability was "likely" if sampled upstream of the outlet because it is submerged. This approach is acceptable. We understand your concerns about safety and secure access to outfalls, and we fully support taking caution in order to make sure outfalls are accessed safely. We encourage sampling at the nearest, safely accessible location upstream of a stormwater outfall when it is necessary.

The company requested requirements for monitoring of SW009 be removed from the permit.

Response: The requirement in Part II, Section B, Table 1, Footnote 3 has been removed given this outfall will be represented by SW007. Please make sure to comply with Part III, Section E.4 of the permit in case changes in the NPDES wastewater permit require sampling at this outfall.

Earlier responses to Duke Energy's comments pertaining to Plant Allen address other comments submitted by the company for Marshall Steam Station.

Response to Comments from Duke Energy on Previous Draft Permits, cont.

Riverbend Steam Station – NCS000549

Comments on the draft permit were received **August 16, 2011**, and subsequent comments were received via e-mail on **November 18, 2011**. We have tried to address many of these comments below.

With its permit application, the company requested representative outfall status (ROS) for two stormwater discharge outfalls (SDO) ; SW002 and SW004. Duke Energy's comments in September 2011 reduced that and requested ROS for only a single SDO; SW002. The Mooresville Regional Office has recommended approval with some modifications as discussed with you at the site visit on June 22, 2011. The recommendations include approval of **ROS for SW001, SW002,** and **SW006** (instead of SW004).

- **SW001** represents outfall SW001.
- **SW002** represents outfalls SW002, SW005, SW007, and SW014.
- **SW006** represents outfalls SW003, SW006, and SW008.

Based on the site visit, outfalls SW004, SW010, SW011, and SW012 will not be monitored since they are not part of the industrial activities that occur on the site.

DWQ typically handles representative outfall status (ROS) designation **outside** of the permit because that status (and the relief from monitoring other outfalls) is subject to change if activities or other circumstances change. Otherwise, the permittee would have to go through the process of a permit modification every time ROS changed. With our current process, designations of, and any changes to ROS can be handled more expeditiously without reopening a permit for modification. The Division will verify ROS approval in the cover letter of the issued permit, unless the company prefers to include these specifications in the final permit.

The company commented that several stormwater outfalls are currently inaccessible, and that there are concerns about safe and secure access to theses outfalls for sampling and monitoring. For example, you indicated sampling from SW006 and SW014 was not feasible.

Response: Most of the outfalls listed will be represented by other outfalls, with the exception of SW006. The Mooresville Regional Office (MRO) has recommended that SW006 be a representative outfall, and the Central Office is recommending only annual sampling. Attached to the comments was a photo of SW006 that noted sample collection probability was not feasible at the outlet. However, it would be acceptable to sample further upstream of the pipe outlet for SW006. We understand your concerns about safety and secure access to outfalls, and we fully support taking caution in order to make sure outfalls are accessed safely. We encourage sampling at the nearest, safely accessible location upstream of a stormwater outfall when it is necessary.

Earlier responses to Duke Energy's comments pertaining to Plant Allen address other comments submitted by the company for Riverbend Steam Station.

FINAL

526 South Church St.
Charlotte, NC 28202

Mailing Address:
PO Box 1006
Mail Code EC13K
Charlotte, NC 28201-1006

704 382 8768

704 382 6240 fax

May 1, 2012

Mr. Matt Matthews
Section Chief
Surface Water Protection Section
North Carolina Department of Environment
and Natural Resources
1617 Mail Service Center
Raleigh, NC 27699-1617

Subject: Duke Energy Carolinas, LLC
Stormwater Permitting Proposal

Dear Mr. Matthews:

As a follow up to our recent discussions and meetings regarding draft DWQ stormwater permits, Duke Energy proposes the following stormwater permitting protocol for our steam electric facilities located in North Carolina:

a. Duke Energy supports permit requirements for semi-annual quantitative monitoring for TSS and pH for any stormwater outfalls that discharge runoff from coal storage piles directly into waters of the state as required under effluent guidelines. At the present time, Duke has no such outfalls at our facilities. All stormwater runoff from our coal storage piles is directed into coal ash ponds that have NPDES discharge permits that include appropriate monitoring requirements.

b. As a general indicator for our system of coal-fired power plants, Duke supports semi-annual quantitative monitoring for TSS and pH from representative outfalls at Plant Allen and Riverbend. Representative outfalls to be monitored are SW005, SW008, SW011 and SW015 (Plant Allen); and are SW002 and SW003 (Riverbend).

c. Duke Energy supports permit requirements for semi-annual quantitative monitoring at representative outfalls for any parameter associated with our operations if there is an in-stream impairment for that parameter. Monitoring will be discontinued following two consecutive non-detect results.

d. Duke Energy cannot support monitoring for mercury at our stormwater outfalls based on a 303(d) listing that has been established without supporting fish tissue data. Duke has submitted comments on this issue previously. The DWQ/DAQ joint effort to establish a TMDL for mercury has shown that the mercury in fish tissue is not a result of water discharges, and has shown that air emissions from NC utilities are responsible for much less than half of the mercury in NC surface waters. This joint effort has also shown that, with the scheduled retirements and upgrades to our facilities, utility air emissions in NC are appropriately controlled.

f. Duke Energy supports semi-annual qualitative monitoring at representative outfalls for all of our coal-fired power plants that have active NPDES ash basin discharge permits. This monitoring will involve characterizing collected samples for color; odor; clarity; presence of floating solids, settled solids, suspended solids, foam, oil sheen, or other indications of stormwater pollution. Representative outfalls to be monitored are SW005, SW008, SW011 and SW015 (Plant Allen); SW002 and SW003 (Riverbend), SW003 and SW007 (Marshall); and SW002, SW005 and SW073 (Buck).

g. Duke Energy supports development and implementation of stormwater pollution prevention plans as drafted by DWQ with certain exceptions. Duke Energy does not support the requirement for a feasibility study, and does not support the requirement for a written rationale for installation and implementation of BMPs.

Duke Energy believes that stormwater permits with these conditions are consistent with general permits for steam electric facilities in other states, and are appropriate and reasonable given the substantial data available on the health of receiving waters and the biological conditions where our facilities have operated for decades. Such terms as proposed by Duke Energy are sufficient to meet regulatory requirements.

Duke Energy would also support DWQ development of a NPDES General Permit for steam electric facilities provided that it adheres to the conditions expressed above. Duke Energy believes that this approach could be efficient and cost effective for both DWQ and permittees, especially during the permit renewal process.

Please contact Mark.McGary@duke-energy.com or at 704-634-7098 if you have any questions or need any additional information.

Sincerely,

Mark McGary, P.E.
Environmental, Health & Safety

Cc: John Velte
Garry Rice
Josh Quinn
George Everett
Dayna Herrick
Allen Stowe

File Number: 8-6

Record Number: 248464

Duke Energy
Dan River Combined Cycle Station
864 South Edgewood Road
Eden, NC 27288
(336) 635-3000 OFFICE

July 30, 2014

Mr. Bradley Bennett, Supervisor
North Carolina Department of Environment and Natural Resources
Division of Energy, Mineral & Land Resources
Stormwater Permitting Program
1612 Mail Service Center
Raleigh, North Carolina 27699-1612

Subject: Duke Energy Carolinas LLC – Dan River Combined Cycle Station
Stormwater Permit Application

Dear Mr. Bennett:

Duke Energy Carolinas, LLC requests a stormwater discharge permit for Dan River Combined Cycle Station located in Rockingham County. Enclosed is a check in the amount of $860 for the subject stormwater permitting fee and three sets of the following documents related to this permit request:

EPA Form 1
EPA Form 2F
EPA Form 2F Supplemental Information
Available Stormwater Analytical Data
Site Location Map
Site Stormwater Plan Drawings

Historical data have not been included because it is obsolete owing to the many significant changes this facility has undergone in recent years. The stormwater outfall nomenclature has also been revised from previous submittals. There are two stormwater plan drawings, one which depicts current status and the other projects future stormwater outfalls.

If additional information is needed, please advise. Should you have questions regarding this application, please contact Allen Stowe at (704) 382-4309 or Allen.Stowe@duke-energy.com.

Sincerely,

Glenn E. Harris

Glenn Harris
General Manager II, CC/CTs

Attachments

Allen Stowe/drccswcoverappl07302014

bc w: Dana Newcomb – Dan River
Penny Stafford
Allen Stowe

bc wo: Jason Allen
Joanie Cooke
Mitch Griggs
Linda Hickok
John Velte
Jim Wells

Check Date: Jul/30/2014	Vendor Number: 0000071949	Name: STATE OF NORTH CAROLINA DEPARTMENT OF				Check Number: 1000121292
Invoice Number	**Invoice Date**	**Voucher ID**	**Gross Amount**	**Discounts Taken**	**Late Charge**	**Paid Amount**
07292014DR	Jul/29/2014	10662171	860.00	0.00	0.00	860.00

Check Number:	Date	Total Gross Amount	Total Discounts	Total Late Charges	Total Paid Amount
1000121292	Jul/30/2014	$860.00	$0.00	$0.00	$860.00

DUKE ENERGY NAME AND LOGO ARE ON BACK. HOLD AT AN ANGLE TO VIEW. VOID IF ABSENT.

DUKE ENERGY.

Duke Energy Business Services
400 South Tryon Street
Charlotte, NC 28285

JPMORGAN CHASE BANK, N.A.
Syracuse, NY

1000121292
50-937/213

Corporate Accounts Payable
ST25B | 400 South Tryon Street
Charlotte, NC 28285

Date 7/30/14

Pay *Eight hundred sixty and xx / 100 Dollars* $**860.00

To The Order Of
STATE OF NORTH CAROLINA DEPARTMENT OF
ENVIROMENT AND NATURAL RESOURCES
DIV OF ENERGY MINERAL AND
LAND RESOURCES
1612 MAIL SERVICE CENTER
Raleigh, NC 27699-1612

Authorized Signature

[redacted]

Please print or type in the unshaded areas only

Form Approved OMB No 2040-0086.

FORM 1 GENERAL

EPA

U S ENVIRONMENTAL PROTECTION AGENCY

GENERAL INFORMATION

Consolidated Permits Program

(Read the "General Instructions" before starting.)

I EPA I D NUMBER: F NC0003468 — TIA: D

LABEL ITEMS	
I EPA I.D. NUMBER	PLEASE PLACE LABEL IN THIS SPACE
III FACILITY NAME	
V FACILITY MAILING ADDRESS	
VI FACILITY LOCATION	

GENERAL INSTRUCTIONS

If a preprinted label has been provided, affix it in the designated space. Review the information carefully; if any of it is incorrect, cross through it and enter the correct data in the appropriate fill-in area below. Also if any of the preprinted data is absent (*the area to the left of the label space lists the information that should appear*), please provide it in the proper fill-in area(s) below. If the label is complete and correct, you need not complete Items I, III, V, and VI (*except VI-B which must be completed regardless*). Complete all items if no label has been provided. Refer to the instructions for detailed item descriptions and for the legal authorizations under which this data is collected.

II POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also Section D of the instructions for definitions of **bold-faced terms**.

SPECIFIC QUESTIONS	Mark "X" YES	NO	FORM ATTACHED
A. Is this facility a **publicly owned treatment works** which results in a discharge to waters of the U.S.? (FORM 2A)		X	
C. Is this a facility which currently results in **discharges to waters of the U.S.** other than those described in A or B above? (FORM 2C)	X		
E. Does or will this facility treat, store or dispose of **hazardous wastes**? (FORM 3)		X	
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)		X	
I. Is this facility a proposed **stationary source** which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X	

SPECIFIC QUESTIONS	Mark "X" YES	NO	FORM ATTACHED
B. Does or will this facility (*either existing or proposed*) include a **concentrated animal feeding operation** or **aquatic animal production facility** which results in a discharge to waters of the U.S.? (FORM 2B)		X	
D. Is this a proposed facility (*other than those described in A or B above*) which will result in a **discharge to waters of the U.S.**? (FORM 2D)		X	
F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)		X	
H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel or recovery of geothermal energy? (FORM 4)		X	
J. Is this facility a proposed **stationary source** which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X	

III. NAME OF FACILITY

1 SKIP: Dan River Combined Cycle Station

IV FACILITY CONTACT

A. NAME & TITLE (*last, first, & title*)	B. PHONE (*area code & no.*)
2 Stowe, J. Allen / Lead Environmental Specialist	(704) 382-4309

V FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX

3 P.O. Box 1006 Interoffice Mail - EC13K

B. CITY OR TOWN	C. STATE	D. ZIP CODE
4 Charlotte	NC	28201

VI FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER

5 864 South Edgewood Drive

B. COUNTY NAME

Rockingham

C. CITY OR TOWN	D. STATE	E. ZIP CODE	F. COUNTY CODE (*if known*)
6 Eden	NC	27288	079

CONTINUED FROM THE FRONT

VII. SIC CODES *(4-digit, in order of priority)*

A. FIRST	B. SECOND
7 4911 (specify) Electric Services	7 (specify)
C. THIRD	**D. FOURTH**
7 (specify)	7 (specify)

VIII. OPERATOR INFORMATION

A. NAME: 8 Duke Energy Carolinas, LLC

B. Is the name listed in Item VIII-A also the owner? ☑ YES ☐ NO

C. STATUS OF OPERATOR *(Enter the appropriate letter into the answer box; if "Other," specify.)*

F = FEDERAL
S = STATE
P = PRIVATE
M = PUBLIC *(other than federal or state)*
O = OTHER *(specify)*

P (specify)

D. PHONE *(area code & no.)*: A (704) 382-4309

E. STREET OR P.O. BOX: 422 South Church Street

F. CITY OR TOWN: B Charlotte

G. STATE: NC

H. ZIP CODE: 28242

IX. INDIAN LAND: Is the facility located on Indian lands? ☐ YES ☑ NO

X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES *(Discharges to Surface Water)*	**D. PSD** *(Air Emissions from Proposed Sources)*	
9 N NC0003468	9 P 03455T30 (Title V Air)	
B. UIC *(Underground Injection of Fluids)*	**E. OTHER** *(specify)*	
9 U	9 790015R02	(specify) Phase II Acid Rain
C. RCRA *(Hazardous Wastes)*	**E. OTHER** *(specify)*	
9 R NCD024668535	9 WQ0000452	(specify) Distribution of Residual Solids

XI. MAP

Attach to this application a topographic map of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers, and other surface water bodies in the map area. See instructions for precise requirements.

XII. NATURE OF BUSINESS *(provide a brief description)*

Gas Fired Electric Generation

XIII. CERTIFICATION *(see instructions)*

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME & OFFICIAL TITLE *(type or print)*	B. SIGNATURE	C. DATE SIGNED
Glenn Harris, General Mgr II, CC/CTs	Glenn E. Harris	7/29/14

COMMENTS FOR OFFICIAL USE ONLY

C

EPA Form 3510-1 (8-90)

Please print or type in the unshaded areas only.

EPA ID Number (*copy from Item 1 of Form 1*)
NC00003468

Form Approved. OMB No 2040-0086
Approval expires 5-31-92

FORM 2F NPDES

U.S. Environmental Protection Agency
Washington, DC 20460

Application for Permit to Discharge Storm Water Discharges Associated with Industrial Activity

Paperwork Reduction Act Notice

Public reporting burden for this application is estimated to average 28 6 hours per application, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information Send comments regarding the burden estimate, any other aspect of this collection of information, or suggestions for improving this form, including suggestions which may increase or reduce this burden to: Chief, Information Policy Branch, PM-223, U S Environmental Protection Agency, 1200 Pennsylvania Avenue, NW, Washington, DC 20460, or Director, Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503

I. Outfall Location

For each outfall, list the latitude and longitude of its location to the nearest 15 seconds and the name of the receiving water.

A. Outfall Number (*list*)	B. Latitude			C. Longitude			D. Receiving Water (*name*)
See attached							See attached supplemental information

II. Improvements

A Are you now required by any Federal, State, or local authority to meet any implementation schedule for the construction, upgrading or operation of wastewater treatment equipment or practices or any other environmental programs which may affect the discharges described in this application? This includes, but is not limited to, permit conditions, administrative or enforcement orders, enforcement compliance schedule letters, stipulations, court orders, and grant or loan conditions.

1. Identification of Conditions, Agreements, Etc.	2. Affected Outfalls		3. Brief Description of Project	4. Final Compliance Date	
	number	source of discharge		a. req.	b. proj.
N/A					

B. You may attach additional sheets describing any additional water pollution (or other environmental projects which may affect your discharges) you now have under way or which you plan. Indicate whether each program is now under way or planned, and indicate your actual or planned schedules for construction.

III. Site Drainage Map

Attach a site map showing topography (or indicating the outline of drainage areas served by the outfalls(s) covered in the application if a topographic map is unavailable) depicting the facility including: each of its intake and discharge structures; the drainage area of each storm water outfall; paved areas and buildings within the drainage area of each storm water outfall, each known past or present areas used for outdoor storage of disposal of significant materials, each existing structural control measure to reduce pollutants in storm water runoff, materials loading and access areas, areas where pesticides, herbicides, soil conditioners and fertilizers are applied; each of its hazardous waste treatment, storage or disposal units (including each area not required to have a RCRA permit which is used for accumulating hazardous waste under 40 CFR 262.34), each well where fluids from the facility are injected underground; springs, and other surface water bodies which received storm water discharges from the facility.

 Continue on Page 2

EPARFI00346

Continued from the Front

IV. Narrative Description of Pollutant Sources

A. For each outfall provide an estimate of the area (includn units) of impervious surfaces (including paved areas and building roofs) drained to the outfall, and an estimate of the total surface area drained by the outfall

Outfall Number	Area of Impervious Surface (provide units)	Total Area Drained (provide units)	Outfall Number	Area of Impervious Surface (provide units)	Total Area Drained (provide units)
	See attached supplemental information				

B. Provide a narrative description of significant materials that are currently or in the past three years have been treated, stored or disposed in a manner to allow exposure to storm water; method of treatment, storage, or disposal; past and present materials management practices employed to minimize contact by these materials with storm water runoff; materials loading and access areas, and the location, manner, and frequency in which pesticides, herbicides, soil conditioners, and fertilizers are applied.

See attached supplemental information

C. For each outfall, provide the location and a description of existing structural and nonstructural control measures to reduce pollutants in storm water runoff; and a description of the treatment the storm water receives, including the schedule and type of maintenance for control and treatment measures and the ultimate disposal of any solid or fluid wastes other than by discharge.

Outfall Number	Treatment	List Codes from Table 2F-1
	See attached supplemental information	

V. Nonstormwater Discharges

A. I certify under penalty of law hat the outfall(s) covered by this application have been tested or evaluated for the presence of nonstormwater discharges, and that all nonstormwater discharged from these outfall(s) are identified in either an accompanying Form 2C or From 2E application for the outfall.

Name and Official Title (*type or print*)	Signature	Date Signed
Glenn Harris/General Mgr.II	Glenn E. Harris	7/29/14

B. Provide a description of the method used, the date of any testing, and the onsite drainage points that were directly observed during a test.

Visual inspection was performed on 7/3/2014. Stormwater outfalls were inspected following a period of dry weather of at least 72 hours duration to determine if any process water was discharging. Groundwater was observed to be discharging from SW005.

VI. Significant Leaks or Spills

Provide existing information regarding the history of significant leaks or spills of toxic or hazardous pollutants at the facility in the last three years, including the approximate date and location of the spill or leak, and the type and amount of material released.

On February 2, 2014, there was a significant ash wastewater spill believed to contain constituents in excess of reportable quantities set forth by Section 311 of the Clean Water Act or Section 102 of CERCLA.

 Continue on Page 3

Continued from Page 2

EPA ID Number (copy from Item 1 of Form 1)
NC0003468

VII. Discharge Information

A, B, C, & D: See instructions before proceeding. Complete one set of tables for each outfall. Annotate the outfall number in the space provided. Table VII-A, VII-B, VII-C are included on separate sheets numbers VII-1 and VII-2.

E. Potential discharges not covered by analysis – is any toxic pollutant listed in table 2F-2, 2F-3, or 2F-4, a substance or a component of a substance which you currently use or manufacture as an intermediate or final product or byproduct?

☐ Yes (*list all such pollutants below*) ☑ No (*go to Section IX*)

VIII. Biological Toxicity Testing Data

Do you have any knowledge or reason to believe that any biological test for acute or chronic toxicity has been made on any of your discharges or on a receiving water in relation to your discharge within the last 3 years?

☐ Yes (*list all such pollutants below*) ☑ No (*go to Section IX*)

Toxicity testing has been performed in association with NPDES wastewater discharge outfall 002. No toxicity testing has been performed for the stormwater outfalls.

IX. Contract Analysis Information

Were any of the analyses reported in Item VII performed by a contract laboratory or consulting firm?

☑ Yes (*list the name, address, and telephone number of, and pollutants analyzed by, each such laboratory or firm below*) ☐ No (*go to Section X*)

A. Name	B. Address	C. Area Code & Phone No.	D. Pollutants Analyzed
Pace Analytical Services, Inc	9800 Kincey Ave., Suite 100 Huntersville, NC 28078	704-875-9092	Oil& Grease
Duke Power Company LLC d/b/a Duke Energy Carolinas, LLC	13339 Hagers Ferry Road Huntersville, NC 28078-7929	704-875-5245	All additional parameters - COD, Cl, F, sulfate, Hg, Al, Ba, B, Ca, hardness, Fe, Mg, Mn, Zn, Sb, As, Cd, Cr, Cu, Pb, Mo, Ni, Se, Tl, TDS, TSS

X. Certification

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 fine and imprisonment for knowing violations.

A. Name & Official Title (*Type Or Print*)	B. Area Code and Phone No
Glenn Harris /Gen Mgr II CC/CTs	(336) 635-3080
C. Signature: Glenn E. Harris	D. Date Signed: 7/29/14

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

EPA ID Number (Item 1 of Form 1)
NC0003468

REGIONAL HEARING CLERK
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

Form Approved. OMB No 2040-0086
Approval expires 5-31-92

VII. Discharge information *(Continued from page 3 of Form 2F)*

Part A – You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

Pollutant and CAS Number *(if available)*	Maximum Values *(include units)*		Average Values *(include units)*		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite		
Oil and Grease		N/A				(See attached analytical results
Biological Oxygen Demand (BOD5)						for the various SW outfalls)
Chemical Oxygen Demand (COD)						
Total Suspended Solids (TSS)						
Total Nitrogen						
Total Phosphorus						
pH	Minimum	Maximum	Minimum	Maximum		

Part B – List each pollutant that is limited in an effluent guideline which the facility is subject to or any pollutant listed in the facility's NPDES permit for its process wastewater (if the facility is operating under an existing NPDES permit). Complete one table for each outfall. See the instructions for additional details and requirements.

Pollutant and CAS Number *(if available)*	Maximum Values *(include units)*		Average Values *(include units)*		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite		
						(See attached analytical results
						for the various SW outfalls)

Internet Address (URL) • http://www.epa.gov
Recyled/Recyclable • Printed with Vegetable Oil Based Inks on Recycled Paper (Minimum 30% Postconsumer)

Continued from the Front

Part C - List each pollutant shown in Table 2F-2, 2F-3, and 2F-4 that you know or have reason to believe is present See the instructions for additional details and requirements Complete one table for each outfall

Pollutant and CAS Number *(if available)*	Maximum Values *(include units)*		Average Values *(include units)*		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite		
						(See attached analytical results for
						the various stormwater outfalls)

Part D – Provide data for the storm event(s) which resulted in the maximum values for the flow weighted composite sample.

1. Date of Storm Event	2. Duration of Storm Event *(in minutes)*	3. Total rainfall during storm event *(in inches)*	4. Number of hours between beginning of storm measured and end of previous measurable rain event	5. Maximum flow rate during rain event *(gallons/minute or specify units)*	6. Total flow from rain event *(gallons or specify units)*
See other	attached	analytical results for the	various stormwater	outfalls	

7. Provide a description of the method of flow measurement or estimate.

Flow data derived from a theoretical flow calculation using local meteorological data and contributing watershed area of the area outfalls.

Dan River Combined Cycle Station
Stormwater Supplemental information

General Facility Description

The Dan River Combined Cycle Station is a 620-megawatt (MW) natural gas facility located in Rockingham County, NC near the city of Eden. The facility is located on the same property as the retired Dan River Steam Station. The three coal fired units (Units 1,2, and 3) of the Dan River Steam Station were retired in April 2012. The remaining facilities and the combustion turbines (Unit 4, 5, and 6) of the Steam Station were retired in October 2013. Commercial operation of the Dan River Combined Cycle Station began on December 10, 2012. The Combined Cycle plant utilizes state-of-the-art air emissions control devices like selective catalytic reduction (SCRs) and oxidation catalyst to reduce air emissions. These controls combined with the retirement of the older coal units has and will continue to greatly reduce nitrogen oxide, sulfur dioxide, and carbon monoxide emissions at the site.

Dan River CC has a Stormwater Pollution Prevention Plan (SWPPP) and uses the best management practices outlined in the SWPPP to minimize the risk of polluting stormwater.

Stormwater Outfall Descriptions

The following descriptions serve to further narrate the existing and future defined storm water outfalls for the Dan River Steam Station site and the existing precautionary measures in each drainage area.

- Storm Water Outfall SW001 and Former SW002
  - Discharge Structure: 48-inch and 36-inch diameter RCP
  - Location: South of Combined Cycle Station
  - Drainage area: 17.42 acres and 2.34 acres
  - Area Description: This outfall conveys the majority of storm water flows from generated from the Combined Cycle Station. Areas include the Substation, Admin building, Generator and Steam Turbine buildings, Clarifier, Clarifier Filters, and Filter Press.
  - Material Storage/Controls: Chemical and Fuel/Oil storage details can be found on the existing SWPPP document for the Combined Cycle Station and accompanying Figure 2. Secondary containment is provided for all chemical and fuel/oil storage. Additionally, protocols are in place to manage storm water accumulation in open air secondary containment areas. Valves in these areas remain in the closed position until criteria are met to release accumulated storm water into the drainage system.

- Storm Water Outfall SW003
  - Discharge Structure: 3 12-inch diameter steel culverts
  - Location: West of the steam station powerhouse building
  - Drainage area: 1.02 acres

- Area Description: This outfall conveys flows from the laydown yard and storage area to the west of the steam station powerhouse building. All flow in the drainage area flows overland to a ditch leading to the outfall. Drainage area is gravel and grassed.

- Material Storage/Controls:
  Spare equipment, parts, steel, iron, cable, and miscellaneous supplies are stored in the large, relatively flat gravel area. Some fabrication work may also be performed in the area associated with the steam station decommissioning effort. Equipment and supplies generally do not contain liquid.

- Storm Water Outfall SW004
  - Discharge Structure: 20-inch diameter CMP culvert
  - Location: West of the steam station powerhouse building
  - Drainage area: 2.38 acres
  - Area Description: This outfall conveys flows from the laydown yard and storage area to the west of the steam station powerhouse building between the warehouse storage racks and the maintenance building. Flows in the storage area flow overland to a ditch leading to the outfall. Area also includes the oil storage building. Drainage area is gravel and grassed with some covered roofs.
  - Material Storage/Controls:
    Oil storage area drains to a 200 gallon sump. Drums of chemicals, cleaners, batteries, oils, and lubricants were stored here during plant operation.

    Spare equipment, parts, steel, iron, cable, and miscellaneous supplies are stored in the relatively flat gravel area. Some fabrication work may also be performed in the area associated with the steam station decommissioning effort. Equipment and supplies stored in the laydown area generally do not contain liquid.

- Former NPDES Outfall 004
  - Discharge Structure: 10-foot diameter corrugated steel pipe
  - Location: Service water settling pond outfall pipe
  - Drainage area: 147 acres on-site and 600 acres offsite
  - Area Description: This outfall conveys overflows from the service water settling pond. This includes the outfalls for the Combined Cycle Station and off-site residential and urban areas.
  - Material Storage/Controls:
    On-site controls are addressed within the SW001 and SW002 outfalls.

- Storm Water Outfall SW005
  - Discharge Structure: 12-inch diameter CMP culvert

- Location: West of the steam station powerhouse
- Drainage area: 0.07 acres
- Area Description: This outfall conveys overland flows travel/working area on the west side of the steam station powerhouse.
- Material Storage/Controls: No appreciable material storage is currently underway in this area. The area will be impacted in the future by temporary laydown and staging of materials during the decommissioning project.

- Storm Water Outfall SW006
  - Discharge Structure: 8-inch diameter CMP culvert
  - Location: West of the steam station powerhouse adjacent to the powerhouse building
  - Drainage area: 0.33 acres
  - Area Description: This outfall conveys overland flows from the travel/working area on the west side of the steam station powerhouse.
  - Material Storage/Controls: No appreciable material storage is currently underway in this area. The area will be impacted in the future by temporary laydown and staging of materials during the decommissioning project.

- Storm Water Outfall SW007
  - Discharge Structure: Drainage feature/ditch outfall to service water settling pond
  - Location: North of Combined Cycle Station outfall
  - Drainage area: 21.12 acres
  - Area Description: This outfall conveys overland flows from the construction storage, parking and laydown area and a much larger wooded area on the west side of the combined cycle station.
  - Material Storage/Controls: No appreciable material storage is currently underway in this area. Spare equipment, parts, steel, iron, cable, and miscellaneous supplies are stored in the relatively flat gravel area. Some fabrication work or stockpiling may also be performed in the area associated with the steam station decommissioning effort. Equipment and supplies stored in the laydown area generally do not contain liquid.

- Storm Water Outfall SW008
  - Discharge Structure: Drainage feature/ditch outfall to service water settling pond
  - Location: North of Combined Cycle Station outfall
  - Drainage area: 8.46 acres
  - Area Description: This outfall conveys overland flows from the construction storage, parking and laydown area and a much larger wooded area on the west side of the combined cycle station.
  - Material Storage/Controls: No appreciable material storage is currently underway in this area. Spare equipment, parts, steel, iron, cable, and

miscellaneous supplies are stored in the relatively flat gravel area. Some fabrication work or stockpiling may also be performed in the area associated with the steam station decommissioning effort. Equipment and supplies stored in the laydown area generally do not contain liquid.

- Future Storm Water Outfall SW009
  - Discharge Structure: 6-8 inch diameter HDPE pipe from pump discharge
  - Location: Service Water Settling Pond south of SW002
  - Drainage area: 45.0 acres
  - Area Description: This outfall will convey noncontact storm water flows from drainage areas DA-A, DA-B, and DA-C by pump to the service water settling pond. Areas will be discharged only after contact water generating sources have been removed from the areas, including, but not limited to coal or coal combustion products. Currently these flows are pumped to the primary ash pond for treatment.
  - Material Storage/Controls: No appreciable material storage is planned for these areas.

- Future Storm Water Outfall SW010
  - Discharge Structure: 6-8 inch diameter HDPE pipe from pump discharge
  - Location: Service Water Settling Pond south of SW002
  - Drainage area: 77.8 acres
  - Area Description: This outfall will convey noncontact storm water flows from drainage areas DA-D, DA-E, and DA-F by pump to the north side of the secondary ash pond dike. Areas will be discharged only after contact water generating sources have been removed from the areas, including, but not limited to coal or coal combustion products. Currently these flows are pumped or discharged by gravity to the secondary ash pond for treatment. This area includes the existing dry ash stacks. Construction in this area that would generate potential contact water will be managed to discharge to the secondary ash pond for treatment.
  - Material Storage/Controls: No appreciable material storage is planned for these areas. However, future construction in the area of the ash stacks may result in generation of contact water which will be discharged to the secondary ash basin, as is the current protocol.

Dan River Steam Station
Stormwater Monitoring- July 2014

Stormwater samples were collected from ten Dan River Steam Station stormwater outfalls (see attached table) during a storm event on July 15, 2014, measuring 1.6 inches. Manual grab sampling was initiated within 15 minutes after rainfall began on-site. Samples were collected directly into properly preserved bottles and shipped on ice to Duke Energy's analytical laboratory in Huntersville, NC.

Analytical parameters for analysis were: TSS, TDS, Oil &Grease, Cl, SO4, F, COD, Al, As, B, Ba, Ca, Cd, Cu, Cr, Fe, Mn, Mo, Mg, Ni, Pb, Sb, Se, Tl, Zn, Hardness and Hg. Storage and preservation techniques of the samples after collection, and prior to analyses, were followed according to Appendix A.

Analyses were conducted by Duke Energy's Huntersville analytical laboratory(NC Wastewater Certification #248) and Pace Analytical Laboratories (NC Wastewater Certification # 12). Laboratory analytical methods used for each parameter are provided in Table 1 and analytical results are presented in Appendix B.

Table 1.

Parameter	Method	Reporting Limit	Units	Lab
COD	HACH8000	20	mg/L	DukeEnergy
Chloride	EPA300.0	1	mg/L	DukeEnergy
Fluoride	EPA300.0	1	mg/L	DukeEnergy
Sulfate	EPA300.0	1	mg/L	DukeEnergy
OilandGrease	EPA1664B	5	ug/L	PaceAnaltylcal
Mercury(Hg)	EPA245.1	0.05	ug/L	DukeEnergy
Aluminum(Al)	EPA200.7	0.005	mg/L	DukeEnergy
Barium(Ba)	EPA200.7	0.005	mg/L	DukeEnergy
Boron(B)	EPA200.7	0.05	mg/L	DukeEnergy
Calcium(Ca)	EPA200.7	0.01	mg/L	DukeEnergy
Hardness	EPA200.7	0.19	mg/L($CaCO_3$)	DukeEnergy
Iron(Fe)	EPA200.7	0.01	mg/L	DukeEnergy
Magnesium(Mg)	EPA200.7	0.005	mg/L	DukeEnergy
Manganese(Mn)	EPA200.7	0.005	mg/L	DukeEnergy
Zinc(Zn)	EPA200.7	0.005	mg/L	DukeEnergy
Antimony(Sb)	EPA200.8	1	ug/L	DukeEnergy
Arsenic(As)	EPA200.8	1	ug/L	DukeEnergy
Cadmium(Cd)	EPA200.8	1	ug/L	DukeEnergy
Chromium(Cr)	EPA200.8	1	ug/L	DukeEnergy
Copper(Cu)	EPA200.8	1	mg/L	DukeEnergy
Lead(Pb)	EPA200.8	1	ug/L	DukeEnergy
Molybdenum(Mo)	EPA200.8	1	ug/L	DukeEnergy
Nickel(Ni)	EPA200.8	1	ug/L	DukeEnergy
Selenium(Se)	EPA200.8	1	ug/L	DukeEnergy
Thallium(Tl)LowLevel	EPA200.8	0.2	ug/L	DukeEnergy
TDS	SM2540C	25	mg/L	DukeEnergy
TSS	SM2540D	5	mg/L	DukeEnergy

Appendix A

Sample Preservation and Hold times

Parametername	Container[1]	Preservation[2,3]	Maximumholdingtime[4]
Table IB—InorganicTests:			
1.Acidity	P, FP,G	Cool,≤6°C[18]	14days.
2.Alkalinity	P, FP,G	Cool,≤6°C[18]	14days.
4.Ammonia	P, FP,G	Cool,≤6°C[18],H_2SO_4topH <2	28days.
9.Biochemical oxygendemand	P, FP,G	Cool,≤6°C[18]	48hours.
10.Boron	P, FP,orQuartz	HNO_3topH <2	6months.
11.Bromide	P, FP,G	Nonerequired	28days.
14.Biochemical oxygendemand,carbonaceous	P, FP G	Cool,≤6°C[18]	48hours.
15.Chemical oxygendemand	P, FP,G	Cool,≤6°C[18],H_2SO_4topH <2	28days.
16.Chloride	P, FP,G	Nonerequired	28days.
17.Chlorine,totalresidual	P, G	Nonerequired	Analyzewithin15 minutes.
21.Color	P, FP,G	Cool,≤6°C[18]	48hours.
23-24.Cyanide,total or available(or CATC) andfree	P, FP,G	Cool,≤6°C[18],NaOHtopH >10[5],reducingagentiloxidizer present	14days.
25.Fluoride	P	Nonerequired	28days.
27.Hardness	P, FP,G	HNO_3or H_2SO_4topH <2	6months.
28.Hydrogen ion (pH)	P, FP,G	Nonerequired	Analyzewithin15 minutes.
31,43. Kjeldahlandorganic N	P, FP,G	Cool,≤6°C[18],H_2SO_4topH <2	28days.
Table IB—Metals:[7]			
18.Chromium VI	P, FP,G	Cool,≤6°C[18],pH=9.3-9.7[20]	28days.
35. Mercury(CVAA)	P, FP,G	HNO_3topH <2	28days.
35. Mercury(CVAFS)	FP, G, andFP-lined cap[17]	5mL/L12N HClor 5mL/LBrCl[17]	90days.[17]
3,5-8,12,13,19, 20, 22,26,29,30,32-34,36,37, 45, 47,51, 52,58-60, 62, 63,70-72, 74,75.Metals,except boron,chromium VI,andmercury	P, FP,G	HNO_3topH <2,or atleast 24 hoursprior toanalysis[19]	6months.
38.Nitrate	P, FP,G	Cool,≤6°C[18]	48hours.
39.Nitrate-nitrite	P, FP,G	Cool,≤6°C[18],H_2SO_4topH <2	28days.
40.Nitrite	P, FP,G	Cool,≤6°C[18]	48hours.
41.Oilandgrease	G	Coolto≤6°C[18], HClor $H_2SO_4$to pH <2	28days.
42.OrganicCarbon	P, FP,G	Cool to≤6°C[18], HCl, H_2SO_4, or H_3PO_4topH <2	28days.
44.Orthophosphate	P, FP,G	Cool,to≤6°C[18,24]	Filter within 15minutes; Analyzewithin48 hours.
46.Oxygen,DissolvedProbe	G, Bottleandtop	Nonerequired	Analyzewithin15 minutes.
47. Winkler	G, Bottleandtop	Fixon siteandstoreindark	8hours.
48.Phenols	G	Cool,≤6°C[18],H_2SO_4topH <2	28days.
49.Phosphorous(elemental)	G	Cool,≤6°C[18]	48hours.
50.Phosphorous,total	P, FP,G	Cool,≤6°C[18],H_2SO_4topH <2	28days.
53.Residue,total	P, FP,G	Cool,≤6°C[18]	7days.
54.Residue, Filterable	P, FP,G	Cool,≤6°C[18]	7days.
55.Residue,Nonfilterable(TSS)	P, FP,G	Cool,≤6°C[18]	7days.
56.Residue, Settleable	P, FP,G	Cool,≤6°C[18]	48hours.
57.Residue, Volatile	P, FP,G	Cool,≤6°C[18]	7days.
61.Silica	Por Quartz	Cool,≤6°C[18]	28days.
64.Specificconductance	P, FP,G	Cool,≤6°C[18]	28days.
65.Sulfate	P, FP,G	Cool,≤6°C[18]	28days.
66.Sulfide	P, FP,G	Cool,≤6°C[18],addzinc acetate plus sodiumhydroxide topH >9	7days.
67.Sulfite	P, FP,G	Nonerequired	Analyzewithin15 minutes.
68.Surfactants	P, FP,G	Cool,≤6°C[18]	48hours.
69.Temperature	P, FP,G	Nonerequired	Analyze.
73.Turbidity	P, FP,G	Cool,≤6°C[18]	48hours.

[1]"P"isforpolyethylene;"FP"isfluoropolymer(polytetrafluoroethylene(PTFE);Teflon®),orotherfluoropolymer,unlessstatedotherwise inthisTableII;"G"isglass;"PA"isanyplastic thatismadeofasterilizablematerial(polypropyleneorotherautoclavableplastic);"LDPE"is lowdensity polyethylene.

[2]Exceptwherenotedin thisTableIIandthemethodfortheparameter,preserve eachgrab samplewithin15minutes of collection. For a compositesamplecollectedwithanautomatedsample(e.g.,usinga24-hourcompositesample;see40CFR122.21(g)(7)(i)or40CFRPart 403,AppendixE),refrigeratethesampleat≤6°Cduringcollectionunlessspecifiedotherwiseinthis TableIIorinthemethod(s).Fora compositesampletobesplitintoseparatealiquotsforpreservationand/oranalysis,maintainthesampleat≤6°C,unlessspecifiedotherwise inthisTableIIorinthemethod(s),untilcollection,splitting,andpreservationiscompleted.Addthepreservativetothesamplecontainerprior tosamplecollectionwhenthepreservativewillnotcompromisetheintegrityofagrabsample,acompositesample,oraliquotsplitfroma

composite samplewithin15minutesofcollection.Ifa compositemeasurementisrequiredbuta composite samplewouldcompromise sample integrity,individualgrab samples mustbe collectedatprescribed timeintervals(e.g.,4 samplesover the courseofaday,at 6-hourintervals). Grabsamplesmustbeanalyzedseparatelyandthe concentrationsaveraged.Alternatively,grab samplesmaybecollectedinthe fieldand composited inthe laboratoryifthe compositingprocedureproducesresultsequivalenttoresultsproducedbyarithmeticaveragingofresultsof analysisofindividualgrabsamples.Forexamplesoflaboratorycompositingprocedures,seeEPAMethod1664Rev.A(oilandgrease)and the procedures at 40CFR 141.34(f)(14)(iv) and(v) (volatileorganics).

[3]Whenanysampleistobeshippedbycommoncarrierorsentviatheu.S.PostalService,itmustcomplywiththeDepartmentof TransportationHazardousMaterialsRegulations(49CFR part172).Thepersonoffering such materialfortransportation isresponsiblefor ensuringsuch compliance.Forthepreservationrequirementofl'Tablell,the OfficeofHazardousMaterials,MaterialsTransportation Bureau, DepartmentofTransportation hasdetermined that theHazardousMaterialsRegulationsdo notapply tothe followingmaterials:Hydrochloric acid(HCl)inwater solutionsat concentrationsof0.04%by weightorless(pHabout1.96orgreater; Nitricacid(HNO_3)inwater solutionsat concentrationsof0.15%by weightorless(pHabout1.62orgreater);Sulfuricacid(H_2SO_4)inwater solutionsat concentrationsof0.35%by weightorless(pH about1.15orgreater);and Sodiumhydroxide(NaOH)inwater solutionsatconcentrationsof0.080%by weightorless(pH about12.30orless).

[4]Samplesshouldbeanalyzedassoonaspossibleafter collection.Thetimeslistedarethe maximum timesthatsamplesmaybeheld beforethestartofanalysisandstillbeconsideredvalid.Samplesmaybeheldforlongerperiodsonlyifthepermitteeor monitoringlaboratory hasdataonfiletoshowthat,forthespecifictypesofsamplesunderstudy,theanalytesarestableforthelongertime,andhasreceiveda varianceformtheRegionalAdministratorunderSec.136.3(e).Foragrabsample,theholdingtimebeginsatthetimeofcollection.Fora composite samplecollectedwithanautomatedsampler(e.g.,usinga24-hourcompositesampler;see 40CFR122.21(g)(7)(i)or40CFRpart 403,AppendixE),theholdingtimebeginsatthetimeoftheendofcollectionofthecompositesample.Forasetofgrabsamplescomposited inthefieldorlaboratory,theholdingtimebeginsatthetimeofcollectionofthelastgrabsampleintheset.Somesamplesmaynotbestable forthemaximumtimeperiodgiveninthetable.Apermitteeormonitoringlaboratoryisobligatedtoholdthesampleforashortertimeifit knowsthatashortertimeisnecessarytomaintainsamplestability.See136.3(e)fordetails.Thedateandtimeofcollectionofanindividual grabsampleisthedateandtimeatwhichthesampleiscollected.Forasetofgrabsamplestobecomposited,andthatareallcollectedon the samecalendar date, thedateofcollection is thedate onwhichthe samplesarecollected. For asetofgrabsamples tobecomposited,and thatarecollectedacrosstwocalendardates,thedateofcollectionisthedatesofthetwodays;e.g.,November14-15.Foracomposite sample collectedautomaticallyon agivendate,thedateof collectionisthedateonwhichthesampleiscollected.Foracomposite sample collectedautomatically,andthatiscollectedacrosstwocalendardates,thedateofcollectionisthedatesofthe twodays;e.g.,November14-15.Forstatic-renewaltoxicitytests,eachgraborcompositesamplemayalsobeusedtopreparetestsolutionsforrenewalat24h,48h, and/or 72h afterfirstuse, ifstoredat0-6°C, withminimumhead space.

[5]ASTMD7365-09aspecifiestreatmentoptionsforsamplescontainingoxidants(e.g.,chlorine).Also,Section9060AofStandard MethodsfortheExaminationofWater andWastewater (20thand21st editions) addresses dechlorinationprocedures.

[6]Sampling, preservationandmitigatinginterferences inwater samplesfor analysis of cyanidearedescribedinASTM D7365-09a.There maybeinterferencesthatarenotmitigatedbytheanalyticaltestmethodsorD7365-09a.Anytechniqueforremovalorsuppressionof interferencemaybeemployed,providedthelaboratorydemonstratesthatitmoreaccuratelymeasurescyanidethroughqualitycontrol measuresdescribedin theanalytical testmethod. Anyremovalor suppressiontechniquenotdescribedinD7365-09aortheanalyticaltest methodmustbedocumentedalongwith supportingdata.

[7]Fordissolvedmetals,filtergrabsampleswithin15minutesof collectionandbeforeaddingpreservatives.Fora composite sample collectedwithanautomated sampler(e.g.,usinga24-hour composite sampler; see40CFR 122.21(g)(7)(i)or40CFR Part403,Appendix E), filterthesamplewithin15minutesaftercompletionofcollectionandbeforeaddingpreservatives.Ifitisknownorsuspectedthatdissolved sampleintegrity willbe compromisedduring collectionofacomposite samplecollected automatically over time(e.g.,by interchange ofametal betweendissolvedandsuspendedforms), collectandfiltergrabsamplestobe composited(footnote2)inplaceofacompositesample collectedautomatically.

[8]Guidanceapplies tosamples tobeanalyzedby GC,LC, or GC/MS for specific compounds.

[9]If thesampleis not adjustedtopH 2, then thesamplemustbeanalyzedwithin sevendays of sampling.

[10]ThepH adjustment isnotrequiredifacroleinwillnotbemeasured. Samplesfor acroleinreceivingnopH adjustment mustbeanalyzed within3daysofsampling.

[11]Whentheextractableanalytesofconcernfallwithinasinglechemicalcategory,thespecifiedpreservativeandmaximumholding times shouldbe observed for optimumsafeguardofsampleintegrity(*i.e.*,useall necessary preservativesandholdfor theshortest timelisted). When theanalytesofconcern fallwithin twoor more chemicalcategories, the samplemay bepreservedby cooling to≤6°C,reducingresidual chlorinewith0.008%sodiumthiosulfate,storingin thedark,andadjusting thepH to6-9;samplespreservedin this mannermaybeheld for sevendaysbeforeextractionandforfortydaysafterextraction.Exceptionsto thisoptionalpreservationandholdingtimeprocedurearenoted in footnote5(regardingtherequirement for thiosulfatereduction), and footnotes12,13(regarding theanalysis ofbenzidine).

[12]If1,2-diphenylhydrazineis likelyto bepresent, adjust thepH of thesampleto4.0±0.2topreventrearrangement tobenzidine.

[13]Extracts may bestoredupto30daysat <0°C.

[14]For theanalysis ofdiphenylnitrosamine,add0.008% $Na_2S_2O_3$andadjust pH to7-10withNaOHwithin24 hoursof sampling.

[15]ThepHadjustmentmaybeperformeduponreceiptatthelaboratoryand maybeomittedifthe samplesareextractedwithin72hours of collection. Fortheanalysis of aldrin,add0.008%$Na_2S_2O_3$.

[16]Place sufficientice withthe samplesinthe shipping containerto ensurethaticeisstillpresentwhenthesamplesarriveatthe laboratory.However,evenificeispresentwhenthesamplesarrive,Immediatelymeasurethetemperatureofthesamplesandconfirmthat thepreservationtemperaturemaximumhasnotbeenexceeded.Intheisolatedcaseswhereit canbedocumentedthatthisholding temperaturecannotbemet,thepermitteecanbegiventheoptionofon-sitetestingorcanrequestavariance.Therequestforavariance shouldincludesupportivedatawhichshowthattheloxicityoftheeffluentsamplesisnotreducedbecauseoftheincreasedholding temperature.Aqueoussamplesmustnotbefrozen.Hand-deliveredsamplesusedonthedayofcollectiondonotneedtobecooledto0to6 °C prior totest initiation.

[17]Samplescollectedforthedeterminationoftracelevelmercury(<100ng/L)usingEPAMethod1631mustbecollectedintightly-cappedfluoropolymerorglassbottlesandpreservedwithBrClorHClsolutionwithin48hoursofsamplecollection.Thetimetopreservation maybeextendedto28daysifasampleisoxidizedinthesamplebottle.Asamplecollectedfordissolvedtracelevelmercuryshouldbe filteredinthelaboratorywithin24hoursofthetimeofcollection.However,ifcircumstancesprecludeovernightshipment,thesampleshould befilteredinadesignatedcleanareainthefieldinaccordancewithproceduresgiveninMethod1669.Ifsampleintegritywillnotbe maintainedbyshipmenttoandfiltrationinthelaboratory,thesamplemustbefilteredinadesignatedcleanarealnthefieldwithinthetime

periodnecessarytomaintainsampleintegrity.Asamplethathasbeencollectedfordeterminationoftotalordissolvedtracelevelmercury mustbeanalyzed within90days of samplecollection.

[18]Aqueoussamples mustbepreservedat≤6°C,and shouldnotbe frozenunlessdatademonstrating thatsample freezingdoesnot adversely impactsampleintegrity is maintainedon fileandacceptedasvalidby theregulatory authority.Also,forpurposesofNPDES monitoring,thespecificationof"≤°C"isusedinplaceofthe"4°C"and"<4°C"sampletemperaturerequirementslistedinsomemethods.Itis notnecessarytomeasurethesampletemperaturetothreesignificantfigures(1/100thof1degree);rather,threesignificantfiguresare specifiedsothatroundingdownto6°Cmaynotbeusedtomeetthe≤6°Crequirement.Thepreservationtemperaturedoesnotapplyto samples thatareanalyzedimmediately (less than15minutes).

[19]Anaqueoussample maybecollectedandshippedwithoutacidpreservation.However,acid mustbeaddedatleast24hoursbefore analysistodissolveanymetalsthatadsorbtothecontainerwalls.Ifthesample mustbeanalyzedwithin24hoursofcollection,addtheacid immediately (seefootnote 2). Soiland sediment samplesdonotneed tobepreservedwithacid. The allowancesin this footnotesupersede the preservationandholdingtimerequirements intheapprovedmetalsmethods.

[20]Toachievethe28-dayholdingtime,use theammonium sulfatebuffersolutionspecifiedinEPAMethod218.6.Theallowanceinthis footnotesupersedespreservationandholdingtimerequirementsintheapprovedhexavalentchromiummethods,unlessthissupersession would compromisethemeasurement,inwhichcaserequirements inthemethodmustbefollowed.

[21]Holdingtimeiscalculatedfromtimeofsamplecollectiontoelutionforsamplesshippedtothelaboratoryinbulkandcalculatedfrom the timeof samplefiltrationtoelution forsamples filteredinthefield.

[22]Sampleanalysisshouldbeginassoonaspossibleafterreceipt;sampleincubationmustbestartednolaterthan8hoursfromtimeof collection.

[23]For fecalcoliformsamples for sewagesludge(biosolids)only,theholding timeisextended to24hoursfor the following sample types usingeither EPA Method1680(LTB-EC) or 1681(A-1):Class Acomposted, Class B aerobically digested,andClass B anaerobically digested.

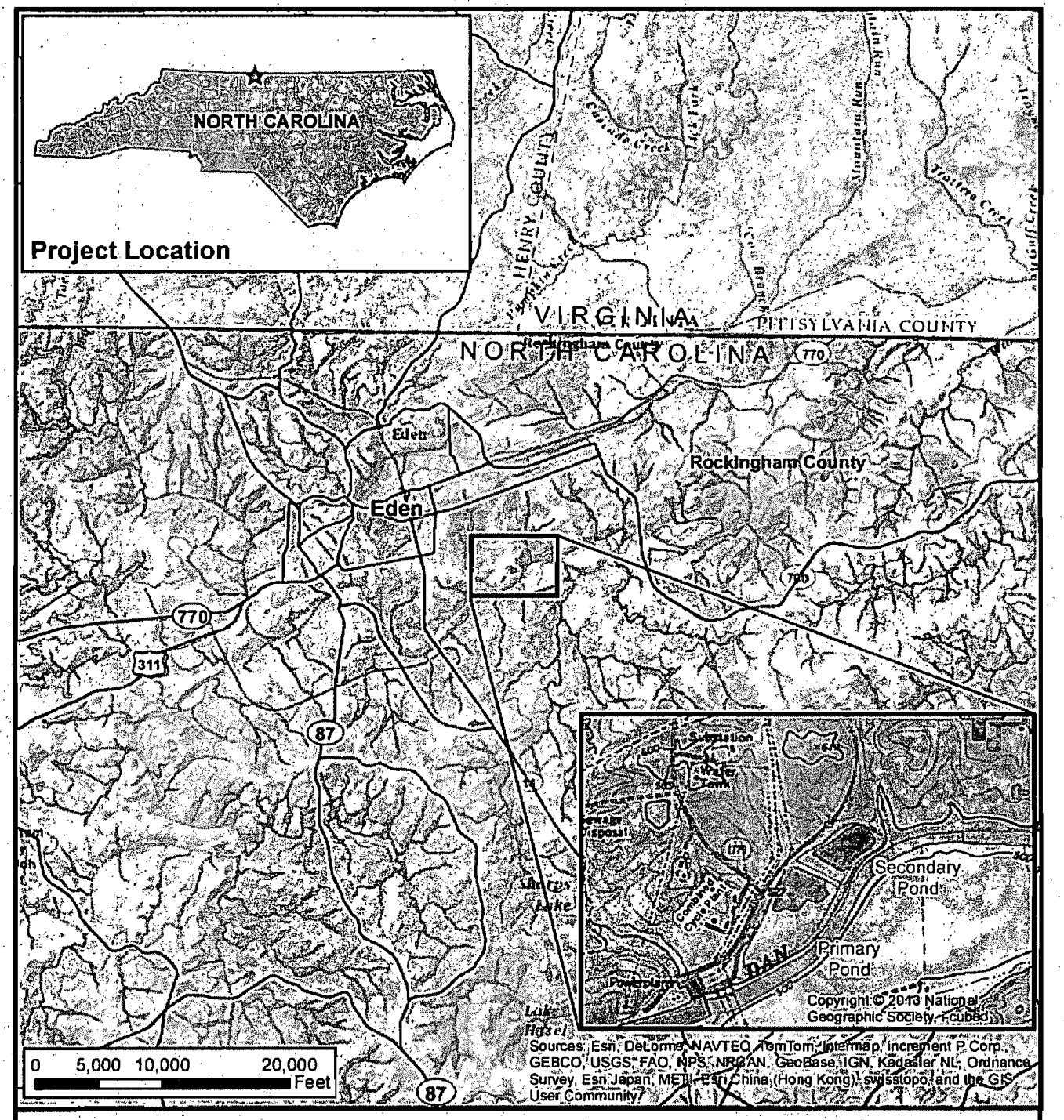
[24]Theimmediatefiltrationrequirementinorthophosphate measurementisto assessthedissolvedorbio-availableformof orthophosphorus(*i.e.*,thatwhichpassesthrougha0.45-micronfilter),hencetherequirementtofilterthesampleimmediatelyuponcollection (*i.e.*, within15minutesof collection).

[38 FR 28758, Oct.16,1973

Appendix B
Analytical Data

Parameter	Units	SW007	SW008	Not in Supplemental Information[1]	SW004[2]	SW003[2]	SW005	Former NPDES Outfall 009	SW001/ SW002	SW006	Drains to Future Outfall SW010
Oil & Grease	mg/l	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
COD	mg/l	< 20	< 20	23	< 20	< 20	< 20	25	< 20	< 20	23
Cl - Chloride (00940)	mg/l	3.7	< 1	< 1	1.4	3.1	1.5	8.7	14	2.8	12
Fluoride	mg/l	< 1	< 1	< 1	< 1	1	< 1	< 1	< 1	< 1	< 1
SO4 - Sulfate (00945)	mg/l	64	82	2	13	13	13	42	37	49	47
Hg - Mercury (71900)	µg/l	< 0.05	< 0.05	< 0.05	0.16	0.21	0.06	< 0.05	< 0.05	0.25	< 0.05
Al - Aluminum (01105)	mg/l	14.6	8.01	0.275	105	92.9	0.491	0.775	0.541	97.7	2.31
Ba - Barium (01007)	mg/l	0.168	0.115	0.007	0.587	0.563	0.019	0.047	0.074	0.686	0.085
B - Boron (01022)	mg/l	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.198	< 0.05	< 0.05	< 0.05
Ca-Calcium	mg/l	13	37.2	1.55	14	17.7	9.19	24.3	22.1	36.3	28.9
Hardness	mg/l ($CaCO_3$)	77.8	125	4.4	141	144	25.7	82.4	69.4	201	93.2
Fe - Iron (01045)	mg/l	25	13.2	0.319	188	162	0.733	3.83	3.86	182	4.32
Mg-Magnesium	mg/l	11	7.8	0.129	25.8	24.3	0.668	5.28	3.44	26.8	5.11
Mn - Manganese (01055)	mg/l	0.71	0.323	0.014	2.37	2.52	0.035	0.541	1.73	2.37	0.618
Zn - Zinc (01092)	mg/l	0.105	0.056	0.301	0.539	0.702	0.691	0.332	0.04	0.652	0.036
Sb - Antimony (01097)	µg/l	< 1	< 1	< 1	< 1	< 1	1.53	< 1	< 1	< 1	< 1
As - Arsenic (01002)	µg/l	1.31	< 1	1.41	3.72	4.99	1.35	32.5	< 1	4.29	< 1
Cd - Cadmium (01027)	µg/l	< 1	< 1	< 1	< 1	< 1	1.85	< 1	< 1	< 1	< 1
Cr - Chromium (01034)	µg/l	41.5	22.7	< 1	130	111	6	1.54	1.36	127	5.41
Cu - Copper (01042)	µg/l	18.2	15.2	8.26	103	104	75	33.6	2.17	116	5.89
Pb - Lead (01051)	µg/l	11.8	2.74	18.3	66.2	81.8	21.9	4.2	< 1	79.4	1.55
Molybdenum (Mo)	µg/l	< 1	4.23	< 1	< 1	< 1	4.1	14.2	1.72	< 1	2.14
Ni - Nickel (01067)	µg/l	22.4	11.2	< 1	77.4	76.2	2.39	2.61	2.69	74.8	4.26
Se - Selenium (01147)	µg/l	< 1	< 1	6.91	1.99	4.72	10.6	2.96	< 1	6.41	< 1
Tl - Thallium (01059)	µg/l	0.344	< 0.2	< 0.2	0.81	0.892	< 0.2	< 0.2	< 0.2	0.992	< 0.2
TDS - Total Diss. Solids (70300)	mg/l	100	240	< 25	530	810	76	170	140	600	190
TSS-Total Suspended Solids	mg/l	440	310	7	2700	1700	23	31	28	2600	62
pH	s.u.	6.5	6.44	6.77	7.27	7.08	7.35	7.47	7.82	7.37	7.55
Temperature	°C	27.7	27.8	26.7	27.9	29.3	25.8	23.1	27	24.1	25.9
Specific conductance	µS/cm	169	197	18.7	58.5	77.9	78.3	253	193.3	179.7	244

Notes: [1] Roof drain from the retired powerhouse building
[2] SW003, SW004 were obtained from areas undergoing temporary construction

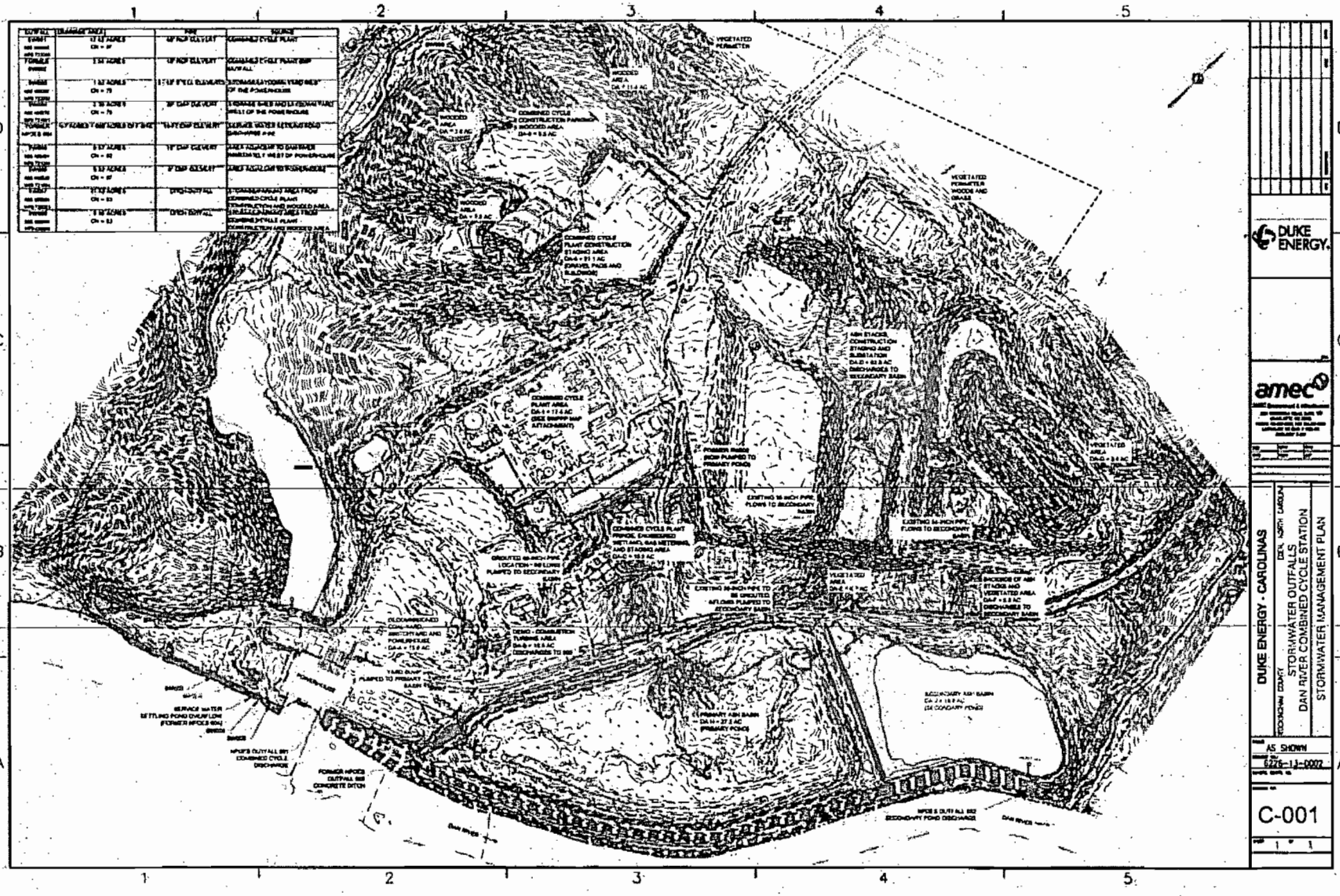


amec

SITE LOCATION MAP - REGIONAL

STORMWATER PERMITTING
DUKE ENERGY DAN RIVER COMBINED CYCLE STATION
ROCKINGHAM COUNTY, NORTH CAROLINA

PREPARED BY	DATE	CHECKED BY	DATE	JOB NUMBER	FIGURE
JMB	7/23/2014	JMB	7/23/2014	6226-13-0002	1



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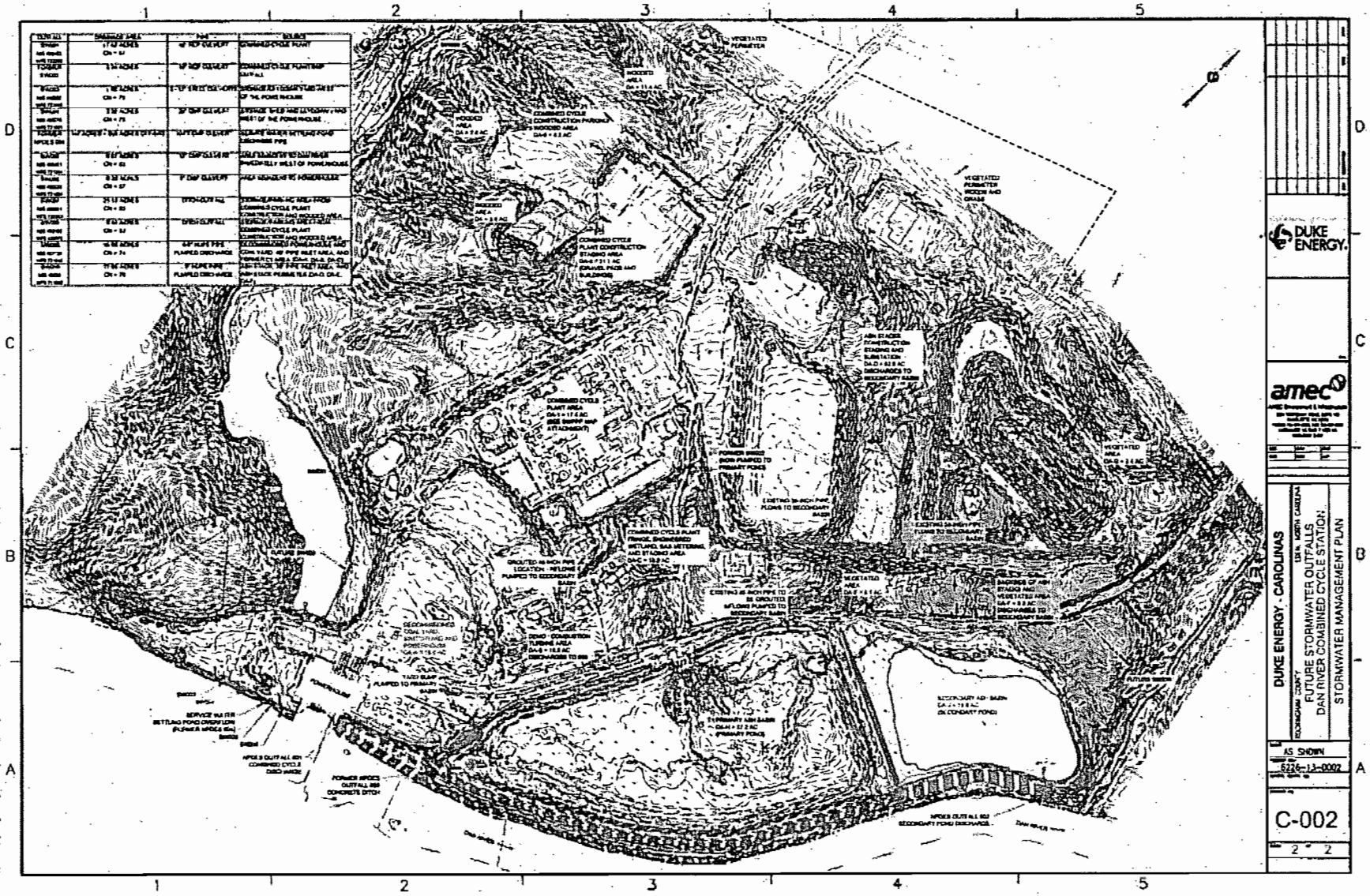


EPARFI00365

DUKE ENERGY.

Duke Energy
Dan River Combined Cycle Station
864 South Edgewood Road
Eden, NC 27288
(336) 635-3000 OFFICE

July 29, 2014

Dr. Sergei Chernikov
State of North Carolina
Department of Environment and Natural Resources
Division of Water Resources
Water Quality Permitting Section - NPDES
1617 Mail Service Center
Raleigh, North Carolina 27699-1617

Subject: Duke Energy Carolinas LLC – NPDES Permit Modification
Dan River Combined Cycle Station - #NC0003468

Dear Dr.Chernikov:

Duke Energy Carolinas, LLC requests the following:

- The subject permit be modified to address ash dike seeps. Enclosed is information pertinent to the ash dike seeps. Please find attached a location map, flow measurements and analytical data.
- A new NPDES outfall be created that allows for wastewater generated from dredging the station intake to be discharged into the settling pond.
- Previous Outfall 009 needs to be re-evaluated for possible inclusion in the NPDES permit based on feedback received from NC DENR during a recent inspection. This outfall was removed from the NPDES permit on January 13, 2013.

A check in the amount of $1030 is also enclosed for the major permit modification fee.

Also enclosed is a revised groundwater monitoring plan, which includes a receptor survey, sampling & analysis plan and a flow directional map.

Thank you in advance for your assistance on this matter. Should you have questions regarding these requests, please contact Allen Stowe at (704) 382-4309 or Allen.Stowe@duke-energy.com.

Sincerely,

Glenn E. Harris

Glenn Harris
General Manager II, CC/CTs

Attachments

Allen Stowe/drcccovnpdespermodl2014

bc w/attachments: Dana Newcomb – Dan River Combined Cycle Station
Penny Stafford
Allen Stowe

bc w/o attachments: Jason Allen
Joanie Cooke
Sean DeNeale
Mitch Griggs
Linda Hickok
Dan Kemp
Tom Leap
Alan Madewell
Mike Olive
Ed Sullivan
John Velte

Document Number: 8-11
Record Type Code: ENV-50-02
UPS:

Check Date: Jul 18 2014	Vendor Number: 0000071949	Name: STATE OF NORTH CAROLINA DEPARTMENT OF				Check Number: 1000120726
Invoice Number	**Invoice Date**	**Voucher ID**	**Gross Amount**	**Discounts Taken**	**Late Charge**	**Paid Amount**
NPDESPERMITNC0003468 NPDES PERMIT NC 0003468	Jul 14 2014	10659750	1,030.00	0.00	0.00	1,030.00

Check Number:	Date	Total Gross Amount	Total Discounts	Total Late Charges	Total Paid Amount
1000120726	Jul 18 2014	$1,030.00	$0.00	$0.00	$1,030.00

DUKE ENERGY NAME AND LOGO ARE ON BACK. HOLD AT AN ANGLE TO VIEW. VOID IF ABSENT.

DUKE ENERGY.

Duke Energy Business Services
400 South Tryon Street
Charlotte, NC 28285

JPMORGAN CHASE BANK, N.A.
Syracuse, NY

1000120726
50-937/213

Corporate Accounts Payable
ST25B | 400 South Tryon Street
Charlotte, NC 28285

Date 7/18/14

Pay *One thousand thirty and xx / 100 Dollars* $**1,030.00

To The Order Of
STATE OF NORTH CAROLINA DEPARTMENT OF
ENVIROMENT AND NATURAL RESOURCES
DIVISION OF WATER QUALITY
1617 MAIL SERVICE CENTER
Raleigh, NC 27699-1617

Authorized Signature

[redacted]

Exemption 4 Confidential Business Information (CBI)

Dan River Combined Cycle Station
Ash Basin
Seep Monitoring – July 2014

Flow measurement devices were installed at seep sampling locations S-2 and S-3 to measure seepage flows and to provide sufficient depth to allow collection of water samples for laboratory analysis. Seep sampling locations S-1 and S-4 were collected without the installation of flow measurement devices (Figure 1).

The flow measurement devices were constructed to impound the seepage in a channel and to direct the collected flow into a PVC pipe for flow measurement. The flow measurement devices were inspected after installation and prior to sampling to confirm sufficient flow and depth for sampling, and to verify that only minimal leakage, if any, was present. Sufficient time was allowed for the impounded seepage flows to reach equilibrium discharge flow before flow measurement and sampling.

Descriptions of the seep sample locations are provided in Table 1.

Seep Flow Measurement Method

The seepage flows were measured using the timed-volumetric method. A volume of water was collected from the discharge of the PVC pipe or from the seep directly into an appropriately sized container. Volumes (in mL) were measured in the field utilizing a graduated container. The amount of time (in seconds) needed to collect the volume of water was recorded and flows (in MGD) were calculated for the timed-volume. The calculated flows (in MGD) at each seep location are presented in Appendix A.

Seepage flow is generally variable. Flow may increase or decrease depending on the amount of rainfall, groundwater levels, weather conditions, and other factors.

Seep Sample Collection Method

Water quality samples were collected at locations S-1, S-2, S-3, and S-4. To minimize effects of stormwater runoff, and infiltration of rainwater into seep flows, seep samples were collected during a period with minimal preceding rainfall. Samples were collected from the discharge flow of the flow measurement devices or directly from the seep into sample bottles while avoiding disturbing and entraining any soil/sediment.

Analytical parameters requested for analysis were: TSS, TDS, Oil & Grease, Cl, SO_4, F, COD, Al, As, B, Ba, Ca, Cd, Cu, Cr, Fe, Mn, Mo, Mg, Ni, Pb, Sb, Se, Tl, Zn, Hardness and Hg. Storage and preservation techniques of the samples after collection, and prior to analyses, were followed according to Appendix B. Analyses were conducted by Duke Energy's Huntersville analytical laboratory (NC Wastewater Certification #248) and Pace Analytical Laboratories (NC Wastewater Certification # 12). Laboratory analytical methods for each parameter are provided in Table 2 and analytical results are presented in Appendix A.

Seep In-situ measurements

In-situ field parameters (temperature, pH, and specific conductance) were measured utilizing calibrated field meters either at the discharge of the seep directly, at the discharge of the flow measurement devices, or in the impoundment created by the device, if sufficient water depth did not exist at the device discharge.

Dan River and Ash Basin (in-process) Water Quality Sample Collection Method

Water quality samples and in-situ measurements from the Dan River were collected at a location upstream (Dan River-Upstream) and downstream (Dan River-Downstream) of the ash basin (Figure 2). Additionally, water samples and in-situ measurements were collected from an in-process ash basin location (Figure 1). The grab samples were collected from the river and basin's surface (0.3 m) directly into appropriate sample bottles. Preservation and analyses methods for the river and ash basin samples are provided in Table 2 and Appendix B.

Recommendations

The low volume of flow at each seep location coupled with the relatively low constituent concentrations in the samples, suggest that there is little potential to influence water quality in the Dan River. If reasonable potential analyses demonstrate that there is no potential to exceed water quality standards, then Duke Energy proposes to re-evaluate the DRCC seep locations listed in this document annually over the next 5-year permit cycle. These annual evaluations would be documented and would verify the condition of the existing seeps and determine the presence of new seeps. DWR will be promptly notified if any new seeps are identified or any significant changes are observed for the existing seeps. If any existing or newly identified seeps are determined to reach the Dan River and demonstrate reasonable potential to exceed a water quality standard, Duke Energy will do one of the following: 1) stop the seep, 2) capture and route the seep so that it is discharged through a NPDES permitted outfall or 3) address the seep using Best Management Plans approved by DWR.

Table 1 – Dan River Combined Cycle Station Ash Basin – Seep Locations and Descriptions

Seep ID	Location Coordinates[4]		Flow Description	Description
	Latitude	Longitude		
S-1	36.493	-79.711	Continuous	Located on west bank of Railroad Branch. Seepage is at the base of the bank. The flow is directly from the base of the bank toward the stream with no well defined channel.
S-2	36.493	-79.711	Continuous	Located east of the Secondary Cell and west of Railroad Branch along the natural gas line right-of-way above the bank of Railroad Branch, north of S-3. The seepage flows through a defined channel approximately 2-ft wide before its confluence with S-3 at the top of the bank on Railroad Branch.
S-3	36.493	-79.711	Continuous	Located east of the Secondary Cell and west of Railroad Branch along the natural gas line right-of-way above the bank of Railroad Branch, south of S-2. The seepage flows through a defined channel approximately 2.5-ft wide before its confluence with S-2 at the top of the bank on Railroad Branch.
S-4	36.486	-79.719	Continuous	Located at the southwest end of the Primary Cell. Seepage is routed to a concrete ditch which extends to the Dan River.

Notes:

1. Flow description for each seep sample location is based on observation during site visits performed by HDR Engineering, Inc. (HDR) in June and July 2014.
2. Flow measurements and analytical samples were collected on July 7 and 14, 2014.
3. Location coordinates for seep sampling locations are approximate.
4. Location coordinates (degrees) in NAD 83 datum.

Table 2 – Laboratory Analytical Methods

Parameter	Method	Reporting Limit	Units	Lab
COD	HACH 8000	20	mg/L	Duke Energy
Chloride	EPA 300.0	1	mg/L	Duke Energy
Fluoride	EPA 300.0	1	mg/L	Duke Energy
Sulfate	EPA 300.0	1	mg/L	Duke Energy
Oil and Grease	EPA 1664B	5	ug/L	Pace Analtyical
Mercury (Hg)	EPA 245.1	0.05	ug/L	Duke Energy
Aluminum (Al)	EPA 200.7	0.005	mg/L	Duke Energy
Barium (Ba)	EPA 200.7	0.005	mg/L	Duke Energy
Boron (B)	EPA 200.7	0.05	mg/L	Duke Energy
Calcium (Ca)	EPA 200.7	0.01	mg/L	Duke Energy
Hardness	EPA 200.7	0.19	mg/L ($CaCO_3$)	Duke Energy
Iron (Fe)	EPA 200.7	0.01	mg/L	Duke Energy
Magnesium (Mg)	EPA 200.7	0.005	mg/L	Duke Energy
Manganese (Mn)	EPA 200.7	0.005	mg/L	Duke Energy
Zinc (Zn)	EPA 200.7	0.005	mg/L	Duke Energy
Antimony (Sb)	EPA 200.8	1	ug/L	Duke Energy
Arsenic (As)	EPA 200.8	1	ug/L	Duke Energy
Cadmium (Cd)	EPA 200.8	1	ug/L	Duke Energy
Chromium (Cr)	EPA 200.8	1	ug/L	Duke Energy
Copper (Cu)	EPA 200.8	1	mg/L	Duke Energy
Lead (Pb)	EPA 200.8	1	ug/L	Duke Energy
Molybdenum (Mo)	EPA 200.8	1	ug/L	Duke Energy
Nickel (Ni)	EPA 200.8	1	ug/L	Duke Energy
Selenium (Se)	EPA 200.8	1	ug/L	Duke Energy
Thallium (Tl) Low Level	EPA 200.8	0.2	ug/L	Duke Energy
TDS	SM2540C	25	mg/L	Duke Energy
TSS	SM2540D	5	mg/L	Duke Energy

Appendix A

Seep Flows and Analytical Results

Seep Flows and Analytical Results
Dan River Seep Monitoring
July 2014

Parameter	Units	S-1	S-2	S-3	S-4	NPDES Outfall 002	Dan River-Upstream	Dan River-Downstream
Oil & Grease	mg/l	< 5	< 5	< 5	< 5	< 5	< 5	< 5
COD	mg/l	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Cl - Chloride (00940)	mg/l	13	14	14	12	9.4	9.3	8.8
Fluoride	mg/l	< 1	< 1	< 1	< 1	< 1	< 1	< 1
SO4 - Sulfate (00945)	mg/l	120	50	52	150	34	6	4.8
Hg - Mercury (71900)	µg/l	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Al - Aluminum (01105)	mg/l	2.35	3.87	2.68	0.231	0.038	1.87	1.9
Ba - Barium (01007)	mg/l	0.069	0.083	0.091	0.074	0.114	0.027	0.026
B - Boron (01022)	mg/l	0.269	0.277	0.268	0.76	0.15	0.199	0.194
Ca-Calcium	mg/l	23.5	21.1	21.9	63.9	18.8	7.43	7.16
Hardness	mg/l ($CaCO_3$)	88.1	81.1	78	209	72	30.1	29.1
Fe - Iron (01045)	mg/l	3.03	8.56	3.46	4.72	0.116	2.26	2.3
Mg-Magnesium	mg/l	7.13	6.91	5.66	12.1	6.11	2.8	2.72
Mn - Manganese (01055)	mg/l	0.518	0.854	0.552	0.694	0.063	0.052	0.05
Zn - Zinc (01092)	mg/l	0.006	0.017	0.007	0.014	< 0.005	< 0.005	0.019
Sb - Antimony (01097)	µg/l	< 1	< 1	< 1	< 1	1.01	< 1	< 1
As - Arsenic (01002)	µg/l	7.21	8.24	3.1	154	33.6	< 1	< 1
Cd - Cadmium (01027)	µg/l	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Cr - Chromium (01034)	µg/l	2.47	2.1	2.85	< 1	< 1	1.5	1.62
Cu - Copper (01042)	µg/l	2.24	5.57	7.08	< 1	< 1	1.7	1.46
Pb - Lead (01051)	µg/l	3.24	2.57	2.37	< 1	< 1	< 1	< 1
Molybdenum (Mo)	µg/l	15.2	9.59	13.6	56.6	14.7	< 1	< 1
Ni - Nickel (01067)	µg/l	2.66	2.31	2.93	1.36	1.83	< 1	< 1
Se - Selenium (01147)	µg/l	< 1	< 1	< 1	< 1	2.88	< 1	< 1
Tl - Thallium (01059)	µg/l	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
TDS - Total Diss. Solids (70300)	mg/l	170	170	230	330	120	87	85
TSS-Total Suspended Solids	mg/l	450	49	120	8	< 5	16	15
pH	s.u.	6.27	7.26	6.17	7.38	6.93	6.56	6.53
Temperature	°C	18.2	20.7	19.8	24	27.7	23.9	24.6
Specific conductance	µS/cm	219.2	214.7	213.8	449	202.5	86.9	82.2
Flow	MGD	0.0015	0.0002	0.0009	0.0012	0.2	405	405

Notes:
1. Flow measurements and analytical samples were collected on July 2 and 14, 2014
2. Flow at locations upstream and downstream of DRSS in the Dan River is the summation of USGS Dan River-Wentworth and USGS Smith River Eden daily average flows for the date of river sampling

EPARFI00374

Appendix B

Sample Preservation and Hold times

Parameter name	Container[1]	Preservation[2,3]	Maximum holding time[4]
Table IB—Inorganic Tests:			
1. Acidity	P, FP, G	Cool, ≤6 °C[18]	14 days.
2. Alkalinity	P, FP, G	Cool, ≤6 °C[18]	14 days.
4. Ammonia	P, FP, G	Cool, ≤6 °C[18], H_2SO_4 to pH <2	28 days.
9. Biochemical oxygen demand	P, FP, G	Cool, ≤6 °C[18]	48 hours.
10. Boron	P, FP, or Quartz	HNO_3 to pH <2	6 months.
11. Bromide	P, FP, G	None required	28 days.
14. Biochemical oxygen demand, carbonaceous	P, FP G	Cool, ≤6 °C[18]	48 hours.
15. Chemical oxygen demand	P, FP, G	Cool, ≤6 °C[18], H_2SO_4 to pH <2	28 days.
16. Chloride	P, FP, G	None required	28 days.
17. Chlorine, total residual	P, G	None required	Analyze within 15 minutes.
21. Color	P, FP, G	Cool, ≤6 °C[18]	48 hours.
23-24. Cyanide, total or available (or CATC) and free	P, FP, G	Cool, ≤6 °C[18], NaOH to pH >10[5,6], reducing agent if oxidizer present	14 days.
25. Fluoride	P	None required	28 days.
27. Hardness	P, FP, G	HNO_3 or H_2SO_4 to pH <2	6 months.
28. Hydrogen ion (pH)	P, FP, G	None required	Analyze within 15 minutes.
31, 43. Kjeldahl and organic N	P, FP, G	Cool, ≤6 °C[18], H_2SO_4 to pH <2	28 days.
Table IB—Metals:[7]			
18. Chromium VI	P, FP, G	Cool, ≤6 °C[18], pH = 9.3-9.7[20]	28 days.
35. Mercury (CVAA)	P, FP, G	HNO_3 to pH <2	28 days.
35. Mercury (CVAFS)	FP, G; and FP-lined cap[17]	5 mL/L 12N HCl or 5 mL/L BrCl[17]	90 days.[17]
3, 5-8, 12, 13, 19, 20, 22, 26, 29, 30, 32-34, 36, 37, 45, 47, 51, 52, 58-60, 62, 63, 70-72, 74, 75. Metals, except boron, chromium VI, and mercury	P, FP, G	HNO_3 to pH <2, or at least 24 hours prior to analysis[19]	6 months.
38. Nitrate	P, FP, G	Cool, ≤6 °C[18]	48 hours.
39. Nitrate-nitrite	P, FP, G	Cool, ≤8 °C[18], H_2SO_4 to pH <2	28 days.
40. Nitrite	P, FP, G	Cool, ≤8 °C[18]	48 hours.
41. Oil and grease	G	Cool to ≤6 °C[18], HCl or H_2SO_4 to pH <2	28 days.
42. Organic Carbon	P, FP, G	Cool to ≤6 °C[18], HCl, H_2SO_4, or H_3PO_4 to pH <2	28 days.
44. Orthophosphate	P, FP, G	Cool, to ≤6 °C[18,24]	Filter within 15 minutes; Analyze within 48 hours.
46. Oxygen, Dissolved Probe	G, Bottle and top	None required	Analyze within 15 minutes.
47. Winkler	G, Bottle and top	Fix on site and store in dark	8 hours.
48. Phenols	G	Cool, ≤6 °C[18], H_2SO_4 to pH <2	28 days.
49. Phosphorous (elemental)	G	Cool, ≤6 °C[18]	48 hours.
50. Phosphorous, total	P, FP, G	Cool, ≤6 °C[18], H_2SO_4 to pH <2	28 days.
53. Residue, total	P, FP, G	Cool, ≤6 °C[18]	7 days.
54. Residue, Filterable	P, FP, G	Cool, ≤6 °C[18]	7 days.
55. Residue, Nonfilterable (TSS)	P, FP, G	Cool, ≤6 °C[18]	7 days.
56. Residue, Settleable	P, FP, G	Cool, ≤6 °C[18]	48 hours.
57. Residue, Volatile	P, FP, G	Cool, ≤6 °C[18]	7 days.
61. Silica	P or Quartz	Cool, ≤6 °C[18]	28 days.
64. Specific conductance	P, FP, G	Cool, ≤6 °C[18]	28 days.
65. Sulfate	P, FP, G	Cool, ≤6 °C[18]	28 days.
66. Sulfide	P, FP, G	Cool, ≤6 °C[18], add zinc acetate plus sodium hydroxide to pH >9	7 days.
67. Sulfite	P, FP, G	None required	Analyze within 15 minutes.
68. Surfactants	P, FP, G	Cool, ≤6 °C[18]	48 hours.
69. Temperature	P, FP, G	None required	Analyze.
73. Turbidity	P, FP, G	Cool, ≤6 °C[18]	48 hours.

[1]"P" is for polyethylene; "FP" is fluoropolymer (polytetrafluoroethylene (PTFE); Teflon®), or other fluoropolymer, unless stated otherwise in this Table II; "G" is glass; "PA" is any plastic that is made of a sterilizable material (polypropylene or other autoclavable plastic); "LDPE" is low density polyethylene.

[2]Except where noted in this Table II and the method for the parameter, preserve each grab sample within 15 minutes of collection. For a composite sample collected with an automated sample (e.g., using a 24-hour composite sample; see 40 CFR 122.21(g)(7)(i) or 40 CFR Part 403, Appendix E), refrigerate the sample at ≤6 °C during collection unless specified otherwise in this Table II or in the method(s). For a composite sample to be split into separate aliquots for preservation and/or analysis, maintain the sample at ≤6 °C, unless specified otherwise in this Table II or in the method(s), until collection, splitting, and preservation is completed. Add the preservative to the sample container prior to sample collection when the preservative will not compromise the integrity of a grab sample, a composite sample, or aliquot split from a

composite sample within 15 minutes of collection. If a composite measurement is required but a composite sample would compromise sample integrity, individual grab samples must be collected at prescribed time intervals (e.g., 4 samples over the course of a day, at 6-hour intervals). Grab samples must be analyzed separately and the concentrations averaged. Alternatively, grab samples may be collected in the field and composited in the laboratory if the compositing procedure produces results equivalent to results produced by arithmetic averaging of results of analysis of individual grab samples. For examples of laboratory compositing procedures, see EPA Method 1664 Rev. A (oil and grease) and the procedures at 40 CFR 141.34(f)(14)(iv) and (v) (volatile organics).

[3]When any sample is to be shipped by common carrier or sent via the U.S. Postal Service, it must comply with the Department of Transportation Hazardous Materials Regulations (49 CFR part 172). The person offering such material for transportation is responsible for ensuring such compliance. For the preservation requirement of Table II, the Office of Hazardous Materials, Materials Transportation Bureau, Department of Transportation has determined that the Hazardous Materials Regulations do not apply to the following materials: Hydrochloric acid (HCl) in water solutions at concentrations of 0.04% by weight or less (pH about 1.96 or greater; Nitric acid (HNO_3) in water solutions at concentrations of 0.15% by weight or less (pH about 1.62 or greater); Sulfuric acid (H_2SO_4) in water solutions at concentrations of 0.35% by weight or less (pH about 1.15 or greater); and Sodium hydroxide (NaOH) in water solutions at concentrations of 0.080% by weight or less (pH about 12.30 or less).

[4]Samples should be analyzed as soon as possible after collection. The times listed are the maximum times that samples may be held before the start of analysis and still be considered valid. Samples may be held for longer periods only if the permittee or monitoring laboratory has data on file to show that, for the specific types of samples under study, the analytes are stable for the longer time, and has received a variance from the Regional Administrator under Sec. 136.3(e). For a grab sample, the holding time begins at the time of collection. For a composite sample collected with an automated sampler (e.g., using a 24-hour composite sampler; see 40 CFR 122.21(g)(7)(i) or 40 CFR part 403, Appendix E), the holding time begins at the time of the end of collection of the composite sample. For a set of grab samples composited in the field or laboratory, the holding time begins at the time of collection of the last grab sample in the set. Some samples may not be stable for the maximum time period given in the table. A permittee or monitoring laboratory is obligated to hold the sample for a shorter time if it knows that a shorter time is necessary to maintain sample stability. See 136.3(e) for details. The date and time of collection of an individual grab sample is the date and time at which the sample is collected. For a set of grab samples to be composited, and that are all collected on the same calendar date, the date of collection is the date on which the samples are collected. For a set of grab samples to be composited, and that are collected across two calendar dates, the date of collection is the dates of the two days; e.g., November 14-15. For a composite sample collected automatically on a given date, the date of collection is the date on which the sample is collected. For a composite sample collected automatically, and that is collected across two calendar dates, the date of collection is the dates of the two days; e.g., November 14-15. For static-renewal toxicity tests, each grab or composite sample may also be used to prepare test solutions for renewal at 24 h, 48 h, and/or 72 h after first use, if stored at 0-6 °C, with minimum head space.

[5]ASTM D7365-09a specifies treatment options for samples containing oxidants (e.g., chlorine). Also, Section 9060A of Standard Methods for the Examination of Water and Wastewater (20th and 21st editions) addresses dechlorination procedures.

[6]Sampling, preservation and mitigating interferences in water samples for analysis of cyanide are described in ASTM D7365-09a. There may be interferences that are not mitigated by the analytical test methods or D7365-09a. Any technique for removal or suppression of interference may be employed, provided the laboratory demonstrates that it more accurately measures cyanide through quality control measures described in the analytical test method. Any removal or suppression technique not described in D7365-09a or the analytical test method must be documented along with supporting data.

[7]For dissolved metals, filter grab samples within 15 minutes of collection and before adding preservatives. For a composite sample collected with an automated sampler (e.g., using a 24-hour composite sampler; see 40 CFR 122.21(g)(7)(i) or 40 CFR Part 403, Appendix E), filter the sample within 15 minutes after completion of collection and before adding preservatives. If it is known or suspected that dissolved sample integrity will be compromised during collection of a composite sample collected automatically over time (e.g., by interchange of a metal between dissolved and suspended forms), collect and filter grab samples to be composited (footnote 2) in place of a composite sample collected automatically.

[8]Guidance applies to samples to be analyzed by GC, LC, or GC/MS for specific compounds.

[9]If the sample is not adjusted to pH 2, then the sample must be analyzed within seven days of sampling.

[10]The pH adjustment is not required if acrolein will not be measured. Samples for acrolein receiving no pH adjustment must be analyzed within 3 days of sampling.

[11]When the extractable analytes of concern fall within a single chemical category, the specified preservative and maximum holding times should be observed for optimum safeguard of sample integrity (*i.e.*, use all necessary preservatives and hold for the shortest time listed). When the analytes of concern fall within two or more chemical categories, the sample may be preserved by cooling to ≤6 °C, reducing residual chlorine with 0.008% sodium thiosulfate, storing in the dark, and adjusting the pH to 6-9; samples preserved in this manner may be held for seven days before extraction and for forty days after extraction. Exceptions to this optional preservation and holding time procedure are noted in footnote 5 (regarding the requirement for thiosulfate reduction), and footnotes 12, 13 (regarding the analysis of benzidine).

[12]If 1,2-diphenylhydrazine is likely to be present, adjust the pH of the sample to 4.0 ±0.2 to prevent rearrangement to benzidine.

[13]Extracts may be stored up to 30 days at <0 °C.

[14]For the analysis of diphenylnitrosamine, add 0.008% $Na_2S_2O_3$ and adjust pH to 7-10 with NaOH within 24 hours of sampling.

[15]The pH adjustment may be performed upon receipt at the laboratory and may be omitted if the samples are extracted within 72 hours of collection. For the analysis of aldrin, add 0.008% $Na_2S_2O_3$.

[16]Place sufficient ice with the samples in the shipping container to ensure that ice is still present when the samples arrive at the laboratory. However, even if ice is present when the samples arrive, immediately measure the temperature of the samples and confirm that the preservation temperature maximum has not been exceeded. In the isolated cases where it can be documented that this holding temperature cannot be met, the permittee can be given the option of on-site testing or can request a variance. The request for a variance should include supportive data which show that the toxicity of the effluent samples is not reduced because of the increased holding temperature. Aqueous samples must not be frozen. Hand-delivered samples used on the day of collection do not need to be cooled to 0 to 6 °C prior to test initiation.

[17]Samples collected for the determination of trace level mercury (<100 ng/L) using EPA Method 1631 must be collected in tightly-capped fluoropolymer or glass bottles and preserved with BrCl or HCl solution within 48 hours of sample collection. The time to preservation may be extended to 28 days if a sample is oxidized in the sample bottle. A sample collected for dissolved trace level mercury should be filtered in the laboratory within 24 hours of the time of collection. However, if circumstances preclude overnight shipment, the sample should be filtered in a designated clean area in the field in accordance with procedures given in Method 1669. If sample integrity will not be maintained by shipment to and filtration in the laboratory, the sample must be filtered in a designated clean area in the field within the time

period necessary to maintain sample integrity. A sample that has been collected for determination of total or dissolved trace level mercury must be analyzed within 90 days of sample collection.

[18]Aqueous samples must be preserved at ≤6 °C, and should not be frozen unless data demonstrating that sample freezing does not adversely impact sample integrity is maintained on file and accepted as valid by the regulatory authority. Also, for purposes of NPDES monitoring, the specification of "≤°C" is used in place of the "4 °C" and "<4 °C" sample temperature requirements listed in some methods. It is not necessary to measure the sample temperature to three significant figures (1/100th of 1 degree); rather, three significant figures are specified so that rounding down to 6 °C may not be used to meet the ≤6 °C requirement. The preservation temperature does not apply to samples that are analyzed immediately (less than 15 minutes).

[19]An aqueous sample may be collected and shipped without acid preservation. However, acid must be added at least 24 hours before analysis to dissolve any metals that adsorb to the container walls. If the sample must be analyzed within 24 hours of collection, add the acid immediately (see footnote 2). Soil and sediment samples do not need to be preserved with acid. The allowances in this footnote supersede the preservation and holding time requirements in the approved metals methods.

[20]To achieve the 28-day holding time, use the ammonium sulfate buffer solution specified in EPA Method 218.6. The allowance in this footnote supersedes preservation and holding time requirements in the approved hexavalent chromium methods, unless this supersession would compromise the measurement, in which case requirements in the method must be followed.

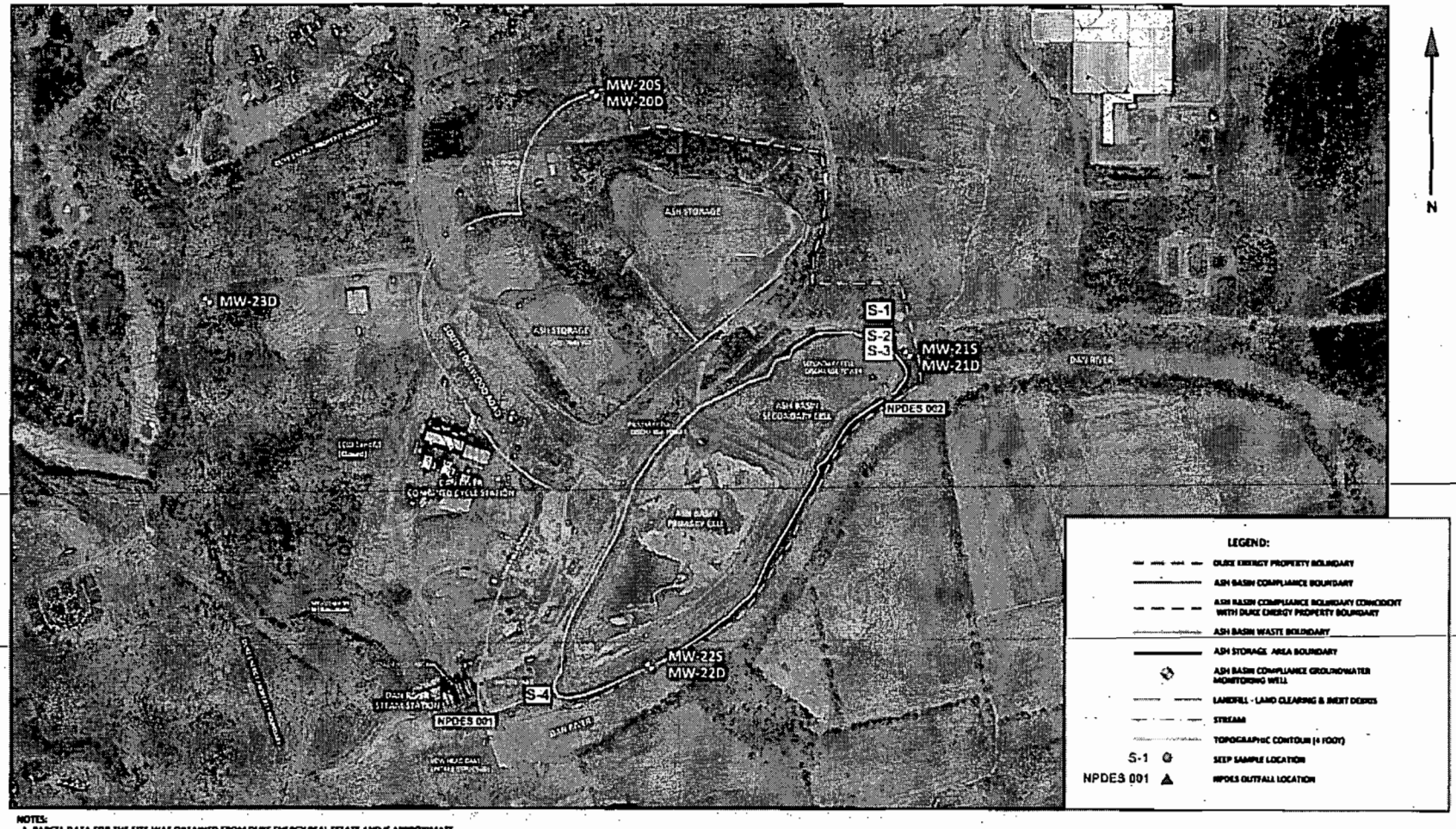
[21]Holding time is calculated from time of sample collection to elution for samples shipped to the laboratory in bulk and calculated from the time of sample filtration to elution for samples filtered in the field.

[22]Sample analysis should begin as soon as possible after receipt; sample incubation must be started no later than 8 hours from time of collection.

[23]For fecal coliform samples for sewage sludge (biosolids) only, the holding time is extended to 24 hours for the following sample types using either EPA Method 1680 (LTB-EC) or 1681 (A-1): Class A composted, Class B aerobically digested, and Class B anaerobically digested.

[24]The immediate filtration requirement in orthophosphate measurement is to assess the dissolved or bio-available form of orthophosphorus (*i.e.*, that which passes through a 0.45-micron filter), hence the requirement to filter the sample immediately upon collection (*i.e.*, within 15 minutes of collection).

[38 FR 28758, Oct. 16, 1973



NOTES:

1. PARCEL DATA FOR THE SITE WAS OBTAINED FROM DUKE ENERGY REAL ESTATE AND IS APPROXIMATE.
2. ASH BASIN WASTE BOUNDARY AND ASH STORAGE AREA BOUNDARIES ARE APPROXIMATE.
3. AS-BUILT MONITORING WELL LOCATIONS PROVIDED BY DUKE ENERGY.
4. SHALLOW MONITORING WELLS (S) - WELL SCREEN INSTALLED ACROSS THE SURFICIAL WATER TABLE.
5. DEEP MONITORING WELLS (D) - WELL SCREEN INSTALLED IN THE TRANSITION ZONE BETWEEN COMPETENT BEDROCK AND THE REGOLITH.
6. ORTHOPHOTOGRAPHY WAS PROVIDED BY DUKE ENERGY (DATED 2014).
7. TOPOGRAPHIC CONTOURS WERE OBTAINED FROM NCDOT WEB SITE (DATED 2010) AND ARE APPROXIMATE.
8. THE ASH BASIN COMPLIANCE BOUNDARY IS ESTABLISHED ACCORDING TO THE DEFINITION FOUND IN 15A NCAC 02L .0107 (a.)
9. HYDROGRAPHY WAS OBTAINED FROM THE USGS NATIONAL MAP VIEWER AND DOWNLOAD PLATFORM ON JULY 8, 2014 (http://nationalmap.gov/viewer.html)
10. SEEP SAMPLING LOCATIONS ARE APPROXIMATE.
11. NPDES OUTFALL AND WATER QUALITY SAMPLE LOCATIONS PROVIDED BY DUKE ENERGY.

SCALE (FEET)
300' 0 300' 600'
1" = 600'

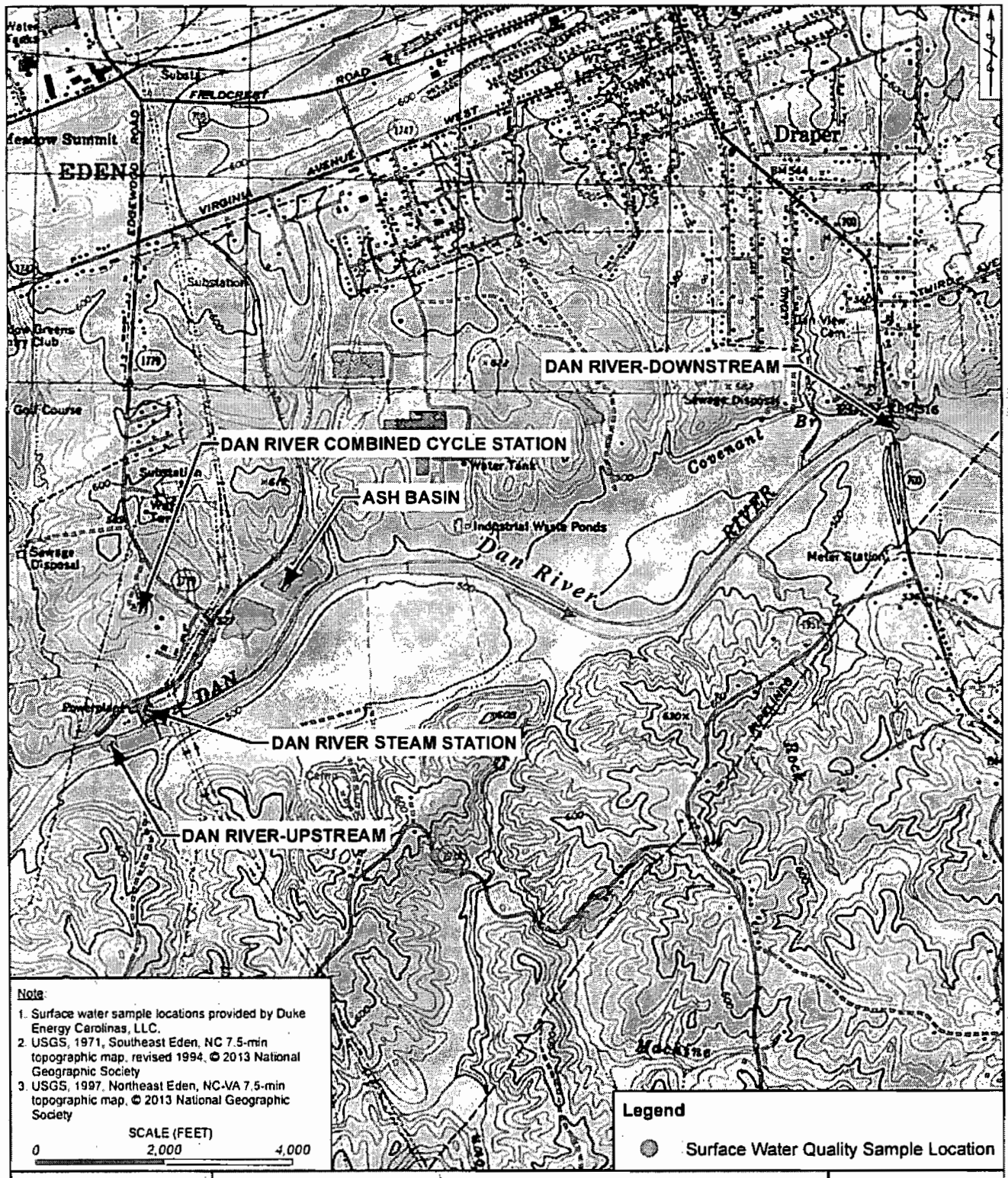
HDR

IDENTIFIED SEEPS AND WATER QUALITY SAMPLE LOCATION MAP
DUKE ENERGY CAROLINAS, LLC
DAN RIVER COMBINED CYCLE STATION ASH BASIN
NPDES PERMIT #NC0003468
ROCKINGHAM COUNTY, NORTH CAROLINA

DATE
JULY 31, 2014

FIGURE
1

EPARFI00379



SURFACE WATER QUALITY SAMPLE LOCATION MAP
DAN RIVER COMBINED CYCLE STATION
DUKE ENERGY CAROLINAS, LLC
ROCKINGHAM COUNTY, NORTH CAROLINA

DATE
July 31, 2014

FIGURE
2

Dan River Ash Basin (NPDES Permit NC0003468)
Groundwater Monitoring Program
Reports and Recommendations

Groundwater monitoring is conducted around the ash basin system at the Dan River Combined Cycle Station under NPDES Permit NC0003468. The following items are presented to describe potential on-site and off-site receptors, the nature of the groundwater flow regime around the Dan River site, and the Dan River groundwater monitoring program.

- **Item 1** - Receptor Survey Dan River Combined Cycle Station Ash Basin
- **Item 2** - Generalized Groundwater Flow Direction Figure
- **Item 3** - Groundwater Monitoring Program Sampling, Analysis, and Reporting Plan

The referenced items and documents are included to describe the current state of the groundwater monitoring program and any changes to the existing monitoring plan. Changes to the current program (including installation of additional observation or monitoring wells) which are proposed by Duke Energy in the future may be allowed following consultation with NC DENR and should not require a re-opening of the Dan River NPDES permit.

Item 1 - Receptor Survey Dan River Combined Cycle Station Ash Basin

A receptor survey has been completed to identify private water supply wells, public water supplies, surface water bodies, and wellhead protection areas (if present) within a 0.5-mile radius of the Dan River ash basin compliance boundary. The report presents the methodology and findings of the survey. This report is included as Enclosure 1.

Item 2 - Generalized Groundwater Flow Direction Figure

The Dan River ash basin site and the generalized groundwater flow directions for the shallow water table are presented in a figure contained in Enclosure 2. The figure presents the generalized groundwater flow direction around the ash basin with arrows depicting probable generalized groundwater flow directions for the shallow water table. These generalized flow directions were developed based on the site hydrogeologic conceptual groundwater flow model, site topography, and historic site groundwater elevation data.

Item 3 - Groundwater Monitoring Program Sampling, Analysis, and Reporting Plan

The groundwater monitoring program sampling, analysis, and reporting plan (Plan) was developed to support the requirement for groundwater monitoring around the Dan River ash

basin. The Plan describes the groundwater monitoring network, methodologies of field sampling, record-keeping protocols, analytical procedures, data quality objectives, data validation, and reporting that will be used to support the Dan River ash basin groundwater monitoring program. This document is included as Enclosure 3.

As stated in the Plan, it is recommended that sample reporting requirements be changed to require reporting within 60 days of the date of sample collection. It is recommended that the compliance monitoring wells at the Dan River site continue to be sampled at a frequency of three times per year and analyzed for the same constituents that have been historically analyzed for the NPDES-required groundwater monitoring.

We also plan to develop a groundwater flow model of the site predicting expected groundwater flow paths from areas around the ash pond system to the appropriate receiving water body. The groundwater flow model would be used to verify the current understanding of the groundwater flow directions at the site and could be used to evaluate exceedances if any are found to be related to impacts from the ash basin. We propose that model will be developed and the groundwater flow modeling report be submitted to NCDENR within 120 days of the NPDES permit being issued. As plans are made to develop the groundwater flow model, the installation of additional observation wells in or around the ash basin system may be beneficial to enhance the model. If Duke's evaluation deems additional observation wells to be beneficial, we will communicate our recommendations to NCDENR prior to well installation.

NCDENR Aquifer Protection Section (APS) developed a policy for compliance evaluation of groundwater results at ash basins with no prior groundwater monitoring and published a memorandum providing that policy on June 17, 2011. The memorandum titled *Policy for Compliance Evaluation of Long-Term Permitted Facilities with No Prior Groundwater Monitoring Requirements* outlined the process for evaluating compliance of groundwater monitoring results based on the requirements in 15A NCAC 2L .0106.

The memorandum acknowledges the factors that monitoring well placement and existing conditions at the ash basins have on determination of exceedances of 2L Standards in groundwater monitoring results at ash basins.

The memorandum included a flow chart showing the process for determining if a measured groundwater concentration greater than 15A NCAC 02L .0202 would cause the facility to be non-compliant and would result in implementation of corrective action.

Duke recommends continued utilization of the June 17, 2011, NCDENR memorandum to evaluate exceedances of 2L Standards at the Dan River ash basin. For exceedances that are not

the result of naturally occurring site conditions, the process prescribed in the memorandum requires the permittee to comply with corrective action requirements as specified in 15A NCAC 02L .0106.

Enclosures: Enclosure 1 – Receptor Survey Dan River Combined Cycle Station Ash Basin
Enclosure 2 – Generalized Groundwater Flow Direction Figure
Enclosure 3 – Groundwater Monitoring Program Sampling, Analysis, and Reporting Plan

Enclosure 1

Receptor Survey

Dan River Ash Basin System

(NPDES Permit NC0003468)

RECEPTOR SURVEY
DAN RIVER COMBINED CYCLE STATION ASH BASIN
NPDES PERMIT NC0003468

Dan River Combined Cycle Station
900 South Edgewood Road
Eden, North Carolina

Prepared for:
DUKE ENERGY CAROLINAS, LLC
Charlotte, North Carolina

Prepared by:
HDR ENGINEERING, INC. OF THE CAROLINAS
Charlotte, North Carolina

July 31, 2014

REPORT VERIFICATION

PROJECT: **RECEPTOR SURVEY**
DAN RIVER COMBINED CYCLE STATION ASH BASIN
NPDES PERMIT NC0003468

This document has been reviewed for accuracy and quality commensurate with the intended application.

Prepared by: Justin B Schumacher Date: 7/31/2014

Checked by: [illegible] Date: 7/31/2014

Approved by: Brooke Ahrens Date: 7/31/2014

Project Manager: Brooke Ahrens, PE

RECEPTOR SURVEY
DAN RIVER COMBINED CYCLE STATION ASH BASIN
NPDES PERMIT NC0003468

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FIGURES

Figure 1 Receptor Survey Map

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Section 1
Introduction

Duke Energy Carolinas, LLC (Duke Energy) owns and formerly operated the Dan River Steam Station, a coal-fired electric generating station, located near the town of Eden in Rockingham County, North Carolina. The station used the ash basin for disposal of ash generated by the coal combustion process and other water treatment at the coal-fired plant. Duke Energy now operates a natural gas-fired combined cycle electric generating station (DRCCS) at the site (Figure 1).

The discharge from the ash basin is permitted by the North Carolina Department of Environment and Natural Resources (NCDENR) Division of Water Quality (DWQ) under the National Pollution Discharge Elimination System (NPDES) Permit NC0003468.

HDR Engineering, Inc. of the Carolinas (HDR) has completed a receptor survey to identify water supply wells, public water supplies, surface water bodies, and wellhead protection areas (if present) within a 0.5 mile radius of the DRCCS ash basin compliance boundary (Figure 1). The compliance boundary for groundwater quality in relation to the ash basin is defined in accordance with 15A NCAC 02L .0107(a) as being established at either 500 feet from the waste boundary or at the property boundary, whichever is closer to the source.

The survey activities performed and the findings of those activities are presented in Sections 3 and 4, respectively.

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Section 2
Background

2.1 Plant and Ash Basin Description

The former Dan River Steam Station was a coal-fired electricity-generating facility located in Rockingham County, North Carolina, near the town of Eden. All three coal-fired units were retired in 2012. The site is located on the north bank of the Dan River.

The ash basin system is located adjacent to the Dan River and consists of a Primary Cell, a Secondary Cell, and associated embankments and outlet works, as shown on Figure 1. The ash basin is impounded by earthen dikes, and an earthen/ash divider dike separates the Primary Cell from the Secondary Cell.

The original ash basin was constructed in 1956 and laterally expanded in 1967. In 1980 the height of the earthen dikes was raised and an intermediate dike was constructed to form the current Primary Cell and Secondary Cell. The ash basin was an integral part of the coal-fired unit's wastewater treatment system. During operation of the coal-fired units, the ash basin received inflows from the ash removal system, station yard drain sump, and stormwater flows. The ash from the coal combustion was sluiced to the ash basin through a pipe, discharging in the southwest corner of the Primary Cell. Flow was discharged from the Primary Cell through a concrete discharge tower into the Secondary Cell. The discharge flow from the Secondary Cell to the Dan River is through a concrete discharge tower.

Since February 2014, the Primary Cell only collects storm water and water pumped from plugged pipes under the basin collecting as a pool approximately 20-feet wide and 10-feet deep adjacent to the discharge tower. On March 1, 2013, the DRCCS wastewater was rerouted from the Primary Cell to Outfall 001 due to the new NPDES permit going into effect. The Secondary Cell continues to operate and receives flows from storm water, re-routed yard sumps, DRCCS drains, and treated domestic sewage. The discharge flow from the Secondary Cell to the Dan River is through a concrete discharge tower and Outfall 002.

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2.2 Description of Surrounding Properties

Properties located within a 0.5 mile radius of the DRCSS ash basin compliance boundary are located in and southeast of Eden, Rockingham County, North Carolina. The majority of the land is undeveloped property. Residential properties are located north and northwest of the ash basin compliance boundary within the 0.5 mile radius. One residence is located on the south side of Dan River. Two industrial properties are located northeast of DRCCS; one of these properties has a wastewater treatment plant discharging into the Dan River. Farm land is located southeast of the station. Figure 1 depicts the properties surrounding DRCCS.

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Section 3
Receptor Survey Activities

3.1 NCDENR Records Review

HDR reviewed the NCDENR Department of Environmental Health (DEH) Public Water Supply Section's (PWSS) Public Water Supply Water Sources Geographic Information System (GIS) point data set (pwsws.shp) obtained from the NC OneMap GeoSpatial Portal (http://data.nconemap.com/geoportal/catalog/main/home.page) to identify public water supply sources within a 0.5 mile radius of the DRCCS ash basin compliance boundary.

On July 8, 2014, HDR reviewed the NCDENR Division of Water Resources (DWR) Source Water Assessment Program (SWAP) online database for public water supply sources to identify any wells located within a 0.5 mile radius of the ash basin compliance boundary, to confirm the location of wells included in the Public Water Supply Water Sources GIS point data set, and to identify any wellhead protection areas located within a 0.5 mile radius of the compliance boundary. The NCDENR SWAP database provides detailed assessments of all public drinking water intakes and wellhead protection areas in North Carolina. The website address is: (http://swap.ncwater.org/website/swap/viewer.htm).

On July 10, 2014, Mr. Justin Schumacher with HDR contacted Mr. Sean McGuire, GIS Specialist with the NCDENR PWSS, by telephone. Mr. McGuire stated that as of July 10, 2014, the data contained in the Public Water Supply Water Sources GIS point data set obtained from the NC OneMap GeoSpatial Portal was current through November 18, 2009. The most current GIS data set of public water supply locations available from North Carolina state agencies was available by request since the report update is in process. The GIS point data for the public water supply wells includes, but is not limited to information such as public water supply (PWS) system identification numbers, ownership information, PWS source type, well depth, and well yield.

Mr. McGuire indicated the Public Water Supply Water Sources GIS point data set and the SWAP online database is scheduled to be updated and released to the public in July 2014. As of

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the date of this report, the Public Water Supply Water Sources GIS point data set and the SWAP online database was not updated. HDR recommends review of the new data set and online database once they are made available.

3.2 Rockingham County Records Review

HDR contacted the Rockingham County Environmental Health Department to inquire about the location and details (if available) for registered water supply wells located in Rockingham County within a 0.5 mile radius of the ash basin compliance boundary. On July 8, 2014, Mr. Justin Schumacher with HDR met with Ms. Angel Wyatt with the Rockingham County Environmental Health Department.

3.3 Public Water Supplier Records Review

HDR contacted the City of Eden, to inquire about municipal water supply to properties located in their service area within a 0.5 mile radius of the ash basin compliance boundary. On July 7, 2014, Mr. Justin Schumacher spoke with Mr. Terry Shelton, Director of Environmental Services regarding the extent of the city water service.

HDR contacted the Dan River Water Inc., a private water utility company, to inquire about municipal water supply to properties located in their service area of Rockingham County south of the Dan River and within a 0.5 mile radius of the ash basin compliance boundary. On July 8, 2014, Mr. Schumacher with HDR spoke with Ms. Linda Carter.

3.4 HDR Field Survey

HDR personnel performed a field reconnaissance on July 9, 2014, to attempt to identify water supply wells and surface waters located within a 0.5 mile radius of the ash basin compliance boundary. A windshield survey was conducted from public roadways to identify water meters, fire hydrants, valves, and any potential well heads/well houses. Prior to conducting the field reconnaissance, HDR personnel reviewed orthophotography obtained from NC OneMap GeoSpatial portal (dated 2010) to identify any potential well heads/well houses and surface waters within a 0.5 mile radius of the ash basin compliance boundary.

EPARFI00392

In addition, HDR personnel contacted Duke Energy site personnel to identify water supply wells potentially located on Duke Energy property. During a site visit on June 18, 2014, HDR personnel observed the property to the east of DRCCS from the southeastern Duke Energy property boundary.

3.5 USGS Hydrography Review

HDR reviewed the United States Geological Survey (USGS) National Hydrography Dataset (NHD) obtained from the USGS National Map Viewer (http://viewer.nationalmap.gov/viewer/) to identify any surface waters within a 0.5 mile radius of the ash basin compliance boundary. Hydrography data obtained from the USGS NHD is included on Figure 1.

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Section 4
Findings

Details of the findings from the local and state records review and field survey activities are provided in Sections 4.1 through 4.4. A general summary of the receptor survey findings is provided in Section 4.5.

4.1 NCDENR Records

No public water supply wells were identified in the Public Water Supply Water Sources GIS point data set (obtained from NC OneMap GeoSpatial Portal) or on the NCDENR SWAP online database within a 0.5 mile radius of the ash basin compliance boundary.

No wellhead protection areas were identified on the NCDENR SWAP online database within a 0.5 mile radius of the ash basin compliance boundary.

4.2 Rockingham County Records

The Rockingham County Environmental Health Department has no records of private or public water supply wells located within a 0.5 mile radius of the ash basin compliance boundary. Ms. Wyatt retrieved record files for the property owners south of the Dan River and within the 0.5 mile radius of the ash basin compliance boundary but did not find record of water supply well information. Ms. Wyatt informed Mr. Schumacher that Rockingham County's records for wells only date back to 2000 for private and/or public water supply wells.

4.3 Public Water Supplier Records

Mr. Shelton confirmed that the City of Eden provides municipal water service to the DRCCS site and properties located to the north of the Dan River in Rockingham County within the 0.5 mile radius of the ash basin compliance boundary.

Ms. Carter of Dan River Water Inc. confirmed that water service was provided along Town Creek Road south of the Dan River in Rockingham County.

EPARFI00394

4.4 HDR Field Survey

HDR field personnel identified two private water supply wells located outside of Duke Energy's property within a 0.5 mile radius of the ash basin compliance boundary during the field reconnaissance and the June 8th site visit. The wells are included on Figure 1 as "field identified" private water supply wells.

Duke Energy personnel familiar with DRCCS reported that no water supply wells are present on Duke Energy's property. A service water pond for cooling water is located adjacent to the river. All drinking water is supplied by the City of Eden.

Indicative of municipal water supply, water meters, fire hydrants, and valve markings were identified at properties with structures located in Rockingham County within a 0.5 mile radius of the ash basin compliance boundary and north of the Dan River.

From the public roadway, HDR personnel did not identify indications of municipal water supply for the properties located in Rockingham County within a 0.5 mile radius of the ash basin compliance boundary and south of Dan River. One well is located beside a house along Town Creek Road and one well is located on the property to the east of the DRCCS property boundary near the Dan River. No record of the private water supply wells identified was on file with the Rockingham County Environmental Health Department. The approximate location of the private water supply wells are shown on Figure 1. No other wells were identified within a 0.5 mile radius of the ash basin compliance boundary.

Several surface water bodies were identified and/or confirmed during HDR's field reconnaissance. The surface water bodies located within a 0.5 mile radius of the ash basin compliance boundary generally flow toward the Dan River.

4.5 Summary of Receptor Survey Findings

A summary of the receptor survey findings is provided below. The identified water supply wells and surface water bodies are shown on Figure 1.

- Two private water supply wells were identified within a 0.5 mile radius of the ash basin compliance boundary.
- No public water supply wells were identified within a 0.5 mile radius of the ash basin compliance boundary.
- Several tributaries of the Dan River were identified within a 0.5 mile radius of the ash basin.
- No wellhead protection areas were identified within a 0.5 miles radius of the ash basin compliance boundary.

EPARFI00396

FIGURES

NOTES:
1. PARCEL DATA FOR THE SITE WAS OBTAINED FROM DUKE ENERGY REAL ESTATE AND IS APPROXIMATE.
2. ASH BASIN WASTE BOUNDARY AND ASH STORAGE AREA BOUNDARIES ARE APPROXIMATE.
3. ORTHOPHOTOGRAPHY WAS OBTAINED FROM NC ONEMAP GIS WEB SITE (DATED 2010).
4. THE COMPLIANCE BOUNDARY IS ESTABLISHED ACCORDING TO THE DEFINITION FOUND IN 15A NCAC 02L .0107 (a).
5. PRIVATE WATER SUPPLY WELLS WERE IDENTIFIED DURING HDR'S FIELD RECONNAISSANCE ON JULY 10, 2014, AND SITE VISIT ON JUNE 18, 2014.
6. HYDROGRAPHY WAS OBTAINED FROM THE USGS NATIONAL MAP VIEWER AND DOWNLOAD PLATFORM ON JULY 8, 2014 (http://nationalmap.gov/viewer.html)

SCALE (FEET)
600' 0 600' 1,200'
1" = 1,200'

HDR

RECEPTOR SURVEY MAP
DUKE ENERGY CAROLINAS, LLC
DAN RIVER COMBINED CYCLE STATION ASH BASIN
NPDES PERMIT #NC0003468
ROCKINGHAM COUNTY, NORTH CAROLINA

DATE
JULY 31, 2014

FIGURE
1

EPARFI00398

Enclosure 2

Generalized Groundwater Flow Direction Figure

Dan River Ash Basin System

(NPDES Permit NC0003468)

July 31, 2014

Mr. Sean DeNeale
Duke Energy Carolinas, LLC
Mail Code EC13Z
P.O. Box 1006
Charlotte, NC 28201-1006

Via Email: sean.deneale@duke-energy.com

Subject: Generalized Groundwater Flow Directions Figure
Duke Energy Carolinas, LLC
Dan River Combined Cycle Station Ash Basin

Dear Mr. DeNeale:

HDR is pleased to provide the attached figure presenting generalized groundwater flow directions for the shallow water table aquifer adjacent to the ash basin at the Duke Energy Carolinas, LLC (Duke Energy) Dan River Combined Cycle Station.

This letter provides the background on the development of this information.

1.0 Background

Duke Energy owns and formerly operated the Dan River Steam Station, a coal-fired electric generating station, located in Rockingham County. The coal-fired plant was retired in 2012. The station used an ash basin for disposal of ash generated by the coal combustion process and other water treatment at the coal-fired plant. Duke Energy now operates a natural gas-fired combined-cycle electric generating station at the site.

In 2011, Duke Energy provided Altamont Environmental, Inc. (Altamont) information on the groundwater monitoring wells installed at the ash basin and information on the water levels in the ash basin. Altamont utilized this information along with consideration of adjacent bodies of water and site topography to develop generalized groundwater direction flow arrows for the areas adjacent to the ash basins. This information was presented in the report titled *Generalized Groundwater Flow Direction Maps for Ash Basins, Duke Energy Carolinas, LLC, Fossil Stations, December 12, 2011*. The report contained figures with similar generalized groundwater flow arrows for all seven of the Duke Energy Carolinas fossil station ash basins. The report was prepared by Altamont staff and was sealed by William M. Miller, PE. The information from that report is used with the permission of Duke Energy.

hdrinc.com

440 S. Church Street, Suite 900, Charlotte, NC 28202
T 704-338-6700

As stated in Section 3.0 of the report:

> *The purpose of the Generalized Ash Basin Groundwater Flow Direction Maps, Figures 1 through 7, is to provide Duke with an interpretation of the generalized groundwater flow directions in the areas surrounding the ash basins. The maps were developed utilizing existing data that were readily available and with data collected as part of on-going monitoring at the ash basins. No additional field investigation was conducted as part of the development of the maps.*
>
> *The maps are not intended to provide absolute groundwater flow direction data at a specific location. Rather, they are an interpretation of the generalized groundwater flow direction for the shallow water table based on readily available data.*
>
> *As described in the following sections (Section 4.0, Section 5.0, and Section 6.0), there may be hydrogeologic conditions present at the ash basins that cause groundwater flow conditions to differ from the generalized groundwater flow directions shown on Figures 1 through 7.*

The generalized groundwater flow directions were determined based on a consideration of the information described above, most notably that the sites are located in the Piedmont physiographic province (Piedmont). In addition, the generalizations of typical Piedmont hydrogeology found in *A Master Conceptual Model for Hydrogeological Site Characterization in the Piedmont and Mountain Region of North Carolina* (LeGrand 2004) apply to these sites.

As stated in Section 5.0 of the report, the possible effects of pumping from adjacent water supply wells were not considered in the development of the generalized groundwater flow direction arrows.

The groundwater elevations used in development of the generalized groundwater direction flow arrows were from the compliance groundwater monitoring wells (compliance wells) wells monitored in association with the National Pollution Discharge Elimination System (NPDES) permits and from groundwater monitoring wells voluntarily (voluntary wells) installed by Duke Energy. No groundwater elevation data readings were performed on the voluntary wells after January 2012. The compliance wells were installed in 2010 and 2011.

Section 7.0 of the Altamont report discusses the development of the generalized groundwater flow direction arrows and the relative level of confidence in the interpretation of the generalized flow direction. The text below was copied from that report:

> *Groundwater flow direction arrows are used to depict the interpreted direction of generalized groundwater flow. Three different colors of arrows were used to indicate the relative level of confidence in the interpretation of the generalized groundwater flow direction.*

The relative level of confidence in the interpretation of flow direction was determined by:

- *The distance from groundwater monitoring wells or surface water elevation data*
- *The number of groundwater data elevation points utilized*
- *Consideration of the surface topography*

Descriptions of the relative confidence levels indicated by groundwater flow direction arrow colors are as follows:

- *Black arrows represent high confidence in the groundwater flow direction interpretation. The black arrows were used in areas in which there were several known groundwater or surface water elevation data points and the surface topography supported the interpretation of groundwater flow characteristic of typical Piedmont groundwater flow.*
- *Gray arrows represent moderate confidence in the groundwater flow direction interpretation. The gray arrows were used in areas where at least one groundwater or surface water elevation point was known or in areas where there was strong surface topographic data to support the groundwater flow direction interpretation.*
- *White arrows represent estimated groundwater flow direction interpretation. The white arrows were used in areas where there was little or no groundwater or surface water elevation data and there was not conclusive surface topographic data to support a gray arrow.*

2.0 Scope of HDR Review and Results

Since limited groundwater elevation data readings were performed on the voluntary wells after January 2012, HDR reviewed the historic groundwater level data available from the compliance groundwater monitoring wells in conjunction with the current approximate ash basin pond elevation data.

HDR found the generalized groundwater flow direction arrows presented in the Altamont report to generally represent the probable direction of groundwater flow for the shallow water table aquifer. As stated in the Altamont report, the generalized groundwater flow direction arrows present an

interpretation of flow direction based on data from the shallow water table aquifer and do not consider the possible effects of pumping from adjacent water supply wells.

After the pipe break at the Primary Cell of the Dan River ash basin in early 2014, the elevation of the water in the Primary Cell has decreased from the elevation used in the Altamont report (536 feet). Duke Energy reports that no free water is currently contained in the Primary Cell. Based on the topography of the site and the proximity of the adjacent Dan River to the ash basin, it is unlikely that there would be a significant change in the direction of the groundwater flow as represented by the generalized groundwater flow direction arrows developed by Altamont due to the decrease in water level in the Primary Cell.

The generalized groundwater flow directions for the area adjacent to the Dan River ash basin are found on the attached figure *Dan River Combined Cycle Station Ash Basin Figure DRCCS-1.*

HDR appreciates the opportunity to provide continued support to Duke Energy. Should you have any questions regarding this submittal or need further information, please do not hesitate to contact me.

Respectfully submitted,

HDR Engineering, Inc. of the Carolinas

NORTH CAROLINA PROFESSIONAL SEAL 17661 ENGINEER WILLIAM M. MILLER

William M. Miller, P.E.
Senior Engineer

cc: Ty Ziegler, HDR
Scott Spinner, HDR

Attachments:

Dan River Combined Cycle Station Ash Basin Figure DRCCS-1

GROUNDWATER FLOW DIRECTION ARROW LEGEND:

GENERALIZED GROUNDWATER FLOW DIRECTION (HIGH CONFIDENCE)
- Supported by several groundwater elevation data points and strong topographic data

GENERALIZED GROUNDWATER FLOW DIRECTION (MODERATE CONFIDENCE)
- Supported by at least one groundwater elevation data point and/or strong topographic data

GENERALIZED GROUNDWATER FLOW DIRECTION (ESTIMATED)
- Groundwater flow direction estimated due to lack of groundwater data and/or strong topographic data

NOTES FOR GENERALIZED GROUNDWATER FLOW DIRECTION ARROWS:
1. GENERALIZED GROUNDWATER FLOW DIRECTION ARROWS PRESENT PROBABLE GENERALIZED GROUNDWATER FLOW DIRECTION FOR THE SHALLOW WATER TABLE AQUIFER BASED ON MONITORING WELL WATER LEVELS, TOPOGRAPHIC AND HYDROLOGIC FEATURES SHOWN ON THIS FIGURE. THESE GENERALIZED GROUNDWATER FLOW DIRECTION ARROWS WERE DEVELOPED IN THE REPORT TITLED "GENERALIZED GROUNDWATER FLOW DIRECTION MAPS FOR ASH BASINS, DUKE ENERGY CAROLINAS, LLC, FOSSIL STATIONS, DECEMBER 12, 2011", WILLIAM M. MILLER, P.E. ALTAMONT ENVIRONMENTAL, ASHEVILLE, NC, PROJECT NUMBER 2370.07.
2. AS NOTED IN THIS REPORT, THESE GENERALIZED GROUNDWATER FLOW DIRECTION ARROWS DO NOT CONSIDER THE EFFECTS OF PUMPING FROM POTENTIAL WATER SUPPLY WELLS. INFORMATION FROM THIS REPORT USED WITH PERMISSION OF DUKE ENERGY CAROLINAS, LLC.
3. SEE HDR LETTER REPORT WILLIAM M. MILLER (HDR) TO KIM HUTCHINSON (DUKE ENERGY), DATED JULY 31, 2014.

LEGEND:

- DUKE ENERGY PROPERTY BOUNDARY
- ASH BASIN COMPLIANCE BOUNDARY
- ASH BASIN COMPLIANCE BOUNDARY COINCIDENT WITH DUKE ENERGY PROPERTY BOUNDARY
- ASH BASIN WASTE BOUNDARY
- ASH STORAGE AREA BOUNDARY
- ASH BASIN COMPLIANCE GROUNDWATER MONITORING WELL
- ASH BASIN VOLUNTARY GROUNDWATER MONITORING WELL
- LANDFILL - LAND CLEARING & INERT DEBRIS
- STREAM
- TOPOGRAPHIC CONTOUR (4 FOOT)

NOTES:
1. PARCEL DATA FOR THE SITE WAS OBTAINED FROM DUKE ENERGY REAL ESTATE AND IS APPROXIMATE.
2. ASH BASIN WASTE BOUNDARY AND ASH STORAGE AREA BOUNDARIES ARE APPROXIMATE.
3. AS-BUILT MONITORING WELL LOCATIONS PROVIDED BY DUKE ENERGY.
4. SHALLOW MONITORING WELLS (S) - WELL SCREEN INSTALLED ACROSS THE SURFICIAL WATER TABLE.
5. DEEP MONITORING WELLS (D) - WELL SCREEN INSTALLED IN THE TRANSITION ZONE BETWEEN COMPETENT BEDROCK AND THE REGOLITH.
6. ORTHOPHOTOGRAPHY WAS PROVIDED BY DUKE ENERGY (DATED 2014).
7. TOPOGRAPHIC CONTOURS WERE OBTAINED FROM NCDOT WEB SITE (DATED 2010) AND ARE APPROXIMATE.
8. THE ASH BASIN COMPLIANCE BOUNDARY IS ESTABLISHED ACCORDING TO THE DEFINITION FOUND IN 15A NCAC 02L .0107 (a).

SCALE (FEET)
300' 0 300' 600'
1" = 600'

HDR

GENERALIZED GROUNDWATER FLOW DIRECTIONS
DUKE ENERGY CAROLINAS, LLC
DAN RIVER COMBINED CYCLE STATION ASH BASIN
NPDES PERMIT #NC0003468
ROCKINGHAM COUNTY, NORTH CAROLINA

DATE
JULY 31, 2014

FIGURE
DRCCS-1

EPARFI00404

Enclosure 3

Groundwater Monitoring Program Sampling, Analysis, and Reporting Plan

Dan River Ash Basin System

(NPDES Permit NC0003468)

Dan River Combined Cycle Station Ash Basin

Groundwater Monitoring Program Sampling, Analysis, and Reporting Plan

NPDES Permit NC0003468

July 31, 2014

DUKE ENERGY®

Report Verification

PROJECT: **GROUNDWATER MONITORING PROGRAM**
DAN RIVER COMBINED CYCLE STATION
ASH BASIN
NPDES PERMIT NC0003468

TITLE: **GROUNDWATER MONITORING**
SAMPLING, ANALYSIS, AND REPORTING PLAN

This document has been reviewed for accuracy and quality commensurate with the intended application.

Prepared by: Scott Spinner Date: 7/31/2014

Checked by: Justin Schumacher Date: 7/31/2014

Approved by: Brooke Ahrens Date: 7/31/2014

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EPARFI00408

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EPARFI00411

Section 1 - Introduction

This Groundwater Monitoring Program Sampling, Analysis, and Reporting Plan (Plan) is developed to support the Duke Energy Carolinas, LLC (Duke Energy) requirement for groundwater monitoring around the Dan River Combined Cycle Station (DRCCS) ash basin operated under National Pollution Discharge Elimination System (NPDES) Permit NC0003468.

This Plan describes the groundwater monitoring network, methodologies of field sampling, record-keeping protocols, laboratory analytical methods, data quality objectives, data validation, and reporting that will be used for the DRCCS ash basin groundwater monitoring program.

EPARFI00412

Section 2 - Site Description

2.1 Plant Description

The Dan River Steam Station was a coal-fired electricity-generating facility located in Rockingham County, North Carolina, near the town of Eden. The three-unit coal-fired station is located on the north bank of the Dan River and began commercial operation in 1949. The coal-fired units were retired from service in 2012. Duke Energy currently operates a natural-gas fired combined cycle plant (DRCCS) located at the site just northwest of the ash basin system (Figure 1).

2.2 Ash Basin Description

The ash basin system is located adjacent to the Dan River and consists of a Primary Cell, a Secondary Cell, and associated embankments and outlet works as shown on Figure 1. The ash basin is impounded by earthen dikes, and an earthen/ash divider dike separates the Primary Cell from the Secondary Cell. The Primary Cell has an approximately 10-foot deep pool of water adjacent to the discharge tower, and stormwater falling within the cell's drainage area is the only contributing flow to the Primary Cell. The Secondary Cell has a water surface elevation of approximately 524 feet and a surface area of approximately 12.2 acres. The approximate elevation of the Dan River adjacent to the MW-22S/D monitoring well pair is 482 feet.

The original ash basin was constructed in 1956 and laterally expanded in 1967. In 1980, the height of the earthen dikes was raised, and an intermediate dike was constructed to form the current Primary Cell and Secondary Cell. The ash basin was an integral part of the coal-fired unit's wastewater treatment system. During operation of the coal-fired units, the ash basin received inflows from the following sources:

- Ash removal system
- Station yard drain sump
- Stormwater flows

During operation of the coal-fired units, the ash from the coal combustion was sluiced to the ash basin through a pipe, discharging in the southwest corner of the Primary Cell. Flow was discharged from the Primary Cell through a concrete discharge tower into the Secondary Cell.

On March 1, 2013, the combined cycle plant wastewater was rerouted from the Primary Cell to Outfall 001 due to the new NPDES permit going into effect. Since February 2014, the Primary Cell only collects rainwater and water pumped from plugged pipes under the basin collecting as a pool approximately 20-feet wide and 10-feet deep adjacent to the discharge tower. The Secondary Cell continues to operate and receives flows from storm water, re-routed yard sumps, DRCCS drains, and treated domestic sewage. The discharge flow from the Secondary Cell to the Dan River is through a concrete discharge tower and Outfall 002.

Section 3 - Site Geology and Hydrogeology

3.1 Geologic/Soil Framework

The DRCCS and the ash basin are located within the Dan River Triassic Basin in the Piedmont physiographic province (Piedmont) (North Carolina Geological Survey 1985). Based on the location of the site on the geologic map of the Charlotte 1° x 2° Quadrangle, North and South Carolina (Goldsmith et al. 1988), the underlying bedrock at the site mainly consists of conglomerate, sandstone, and mudstones with intrusive diabase dikes and sills.

The soils that overlie the bedrock in the area have generally formed from the in-place weathering of the parent bedrock. The fractured bedrock is overlain by a mantle of unconsolidated material known as regolith. The regolith, where present, includes the soil zone; a zone of weathered, decomposed bedrock known as saprolite; and alluvium. Saprolite, the product of chemical and mechanical weathering of the underlying bedrock, is typically composed of silt and coarser granular material up to boulder size and may reflect the texture of the rock from which it was formed. The weathering products of felsic rocks may be sandy textured and rich in quartz content while mafic rocks form a more clayey saprolite (LeGrand 2004).

Based on a review of the monitoring well installation logs provided by Duke Energy, the soils comprising the saprolite layer on site were characterized as ranging from silty clay to silty gravel. Bedrock encountered on site consists of mudstone, fine-grained sandstone, and shale (MACTEC and AMEC).

3.2 Hydrogeologic Framework

The groundwater system in the Piedmont Province in most cases is comprised of two interconnected layers or mediums: 1) residuum/saprolite and weathered rock (regolith) overlying, and 2) fractured crystalline bedrock (Heath 1980; Harned and Daniel 1992). Within the regolith layer, a thoroughly weathered and structureless material termed residuum occurs near the ground surface with the degree of weathering decreasing with depth. The residuum grades into a coarser-grained material that retains the structure of the parent bedrock and is termed saprolite. Beneath the saprolite, partially weathered bedrock occurs with depth until sound bedrock is encountered. This mantle of residual soil, saprolite, and weathered rock is a hydrogeologic unit that covers and crosses various types of rock (LeGrand 1988). It provides an intergranular medium through which the recharge and discharge of water from the underlying fractured rock occurs. The bedrock layer consists of fractured, nonporous crystalline bedrock. The fractures control both the hydraulic conductivity and storage capacity of the rock mass.

A transition zone at the base of the regolith has been interpreted to be present in many areas of the Piedmont. The zone consists of partially weathered/fractured bedrock and lesser amounts of saprolite that grades into bedrock and has been described as "being the most permeable part of the system, even slightly more permeable than the soil zone" (Harned and Daniel 1992). The zone thins and thickens within short distances and its boundaries may be difficult to distinguish.

It has been suggested that the zone may serve as a conduit of rapid flow and transmission of contaminated water (Harned and Daniel 1992).

Piedmont topography is characterized by gently rounded sloped hills and valleys. Recharge typically occurs on upland areas and slopes while groundwater discharge is concentrated in surface water bodies and lowland areas. LeGrand's (1988, 2004) conceptual model of the groundwater setting in the Piedmont incorporates the above two medium systems into an entity that is useful for the description of groundwater conditions. That entity is the surface drainage basin that contains a perennial stream or river (LeGrand 1988). Each basin is similar to adjacent basins and the conditions are generally repetitive from basin to basin. Within a basin, movement of groundwater is generally restricted to the area extending from the drainage divides to a perennial stream or river (Slope-Aquifer System; LeGrand 1988, 2004). Rarely does groundwater move beneath a perennial stream or river to another more distant stream (LeGrand 2004).

Therefore, in most cases in the Piedmont, the groundwater system is a two-medium system (LeGrand 1988) restricted to the local drainage basin. The groundwater occurs in a system composed of two interconnected layers: residuum/saprolite and weathered rock overlying fractured crystalline rock separated by the transition zone. Typically, the residuum/saprolite is partly saturated and the water table fluctuates within it. Water movement is generally through the fractured bedrock. The near-surface fractured crystalline rocks can form extensive aquifers. The character of such aquifers results from the combined effects of the rock type, fracture system, topography, and weathering. Topography exerts an influence on both weathering and the opening of fractures while the weathering of the crystalline rock modifies both transmissive and storage characteristics. The aquifer system in the Piedmont typically exists in an unconfined or semi-confined condition in the bedrock zone. Under natural conditions, the general direction of groundwater flow can be approximated from the surface topography. Groundwater moves both vertically down through the regolith and parallel to the bedrock surface to areas where groundwater discharges as seepage into streams, lakes, or other surface water bodies.

The DRCCS is located adjacent to and north of the Dan River which flows from southwest to northeast along the ash basin dike (Figure 2). Two unnamed tributaries of the Dan River are located along the eastern and western sides of the site property. A surface water divide is located generally along South Edgewood Road, with surface water on the east side of South Edgewood Road draining towards the unnamed tributary located on the east side of the property and surface water on the west side of Edgewood Road draining towards the unnamed tributary located to the west of the property. Based on the slope aquifer system, groundwater on the east side of South Edgewood Road is expected to flow toward the unnamed tributary and the Dan River.

Section 4 - Monitoring Program

4.1 Regulatory Requirements for Groundwater Monitoring

The NPDES program regulates wastewater discharges to surface waters to ensure that surface water quality standards are maintained. DRCCS operates under NPDES Permit No. NC0003468 which authorizes discharge of cooling water (Outfall 001) and ash basin discharge (Outfall 002) to the Dan River in accordance with effluent limitations, monitoring requirements, and other conditions set forth in the permit. The NPDES permitting program requires that permits be renewed every 5 years.

The DRCCS NPDES permit requires groundwater monitoring to be conducted. Permit Condition A(11), Attachment XX, Version 1.1, dated June 15, 2011, to the NPDES permit lists the groundwater monitoring wells to be sampled, the parameters to be analyzed, and the requirements for sampling frequency and reporting the results. Attachment XX also provides requirements for well location and well construction. A copy of Attachment XX is included as Appendix B.

The compliance boundary for groundwater quality at the DRCCS ash basin site is defined in accordance with 15A NCAC 02L .0107(a) as being established at either 500 feet from the waste boundary or at the property boundary, whichever is closer to the source.

Sampling at the compliance groundwater wells commenced in January 2011. Analytical results have been submitted to the Department of Water Resources (DWR) before the last day of the month following the date of sampling for all compliance monitoring wells. In the future, analytical results will be submitted to the DWR within 60 days of the date of sampling for all compliance monitoring wells.

4.2 Description of Groundwater Monitoring System

The groundwater monitoring system for the DRCCS ash basin system consists of the following monitoring wells: MW-20S, MW-20D, MW-21S, MW-21D, MW-22S, MW-22D, and MW-23D. The locations for the monitoring wells were selected in consultation with the North Carolina Department of Environment and Natural Resources (NCDENR) Department of Water Resources (DWR) Aquifer Protection Section. The locations of the compliance monitoring wells, the approximate ash basin boundary, and the compliance boundary are shown on Figure 2. Well construction data is provided in Table 1. A summary of the monitoring well location data is included in Appendix C. Based on the slope-aquifer system conceptual model, groundwater at the site is expected to flow from the northern portions of the site south to the ash basin and on to the Dan River. As described below, the wells provide monitoring data on the groundwater adjacent to the ash basin.

Monitoring wells MW-20S and MW-21S were installed to monitor the surficial aquifer. These wells were installed by rotary drilling methods using hollow stem augers with the well screen installed above auger refusal to monitor the shallow aquifer within the saprolite layer. These wells were installed with screen lengths of 15 feet and 5 feet, respectively. The wells were

installed with the screen interval for MW-20S from 4 feet to 19 feet below ground surface (bgs) with a total depth from top of well casing (TOC) of 22.11 feet, and the screen interval for MW-21S from 3.5 feet to 8.5 feet bgs with a total depth from TOC of 11.56 feet.

Monitoring wells MW-20D and MW-21D were installed to monitor the transition zone of the surficial aquifer. These monitoring wells were installed by rotary drilling methods using hollow stem augers and by rock coring techniques (HQ diameter barrel) with the well screen installed in the uppermost region of the fractured rock transition zone. These wells were installed with 5-foot-long screens. The wells were installed with the screen interval for MW-20D from 36.5 feet to 41.5 feet bgs with a total depth from TOC of 44.20 feet, and the screen interval for MW-21D from 13.6 feet to 18.6 feet bgs with a total depth from TOC of 21.40 feet.[1]

Monitoring wells MW-22S and MW-22D are located at the toe of the earthen dike impounding the Primary Cell where large-diameter stone prevented installation by the drilling techniques used for wells MW-20S, MW-20D, MW-21S, and MW-21D. Wells MW-22S and MW-22D were installed by using an air-powered ODEX drilling system. Well MW-22S was installed to monitor the surficial aquifer with a 10-foot-long screen from 12.35 feet to 22.35 feet bgs with a total depth from TOC of 24.86 feet. MW-22D was installed to monitor the transition zone and was installed with a 5-foot-long screen from 31.95 to 36.95 feet bgs with a total depth from TOC of 39.41 feet.[2]

Monitoring well MW-23D is located approximately 1,400 feet west of the compliance boundary and was installed by Duke Energy to represent background water quality at the site. MW-23D was installed by rotary drilling methods using hollow stem augers and by rock coring techniques (HQ diameter barrel) with the well screen installed in the uppermost region of the fractured rock transition zone. This well was installed with a 10-foot-long screen from 6.7 to 16.7 feet bgs with a total depth from TOC of 20.11 feet.

Monitoring wells MW-20S and MW-20D are located north of the ash storage area. Monitoring wells MW-21S and MW-21D are located east of the Secondary Cell. Monitoring wells MW-22S and MW-22D are located south of the Primary Cell.

The monitoring wells at DRCCS are equipped with dedicated bladder-type pumps.

Groundwater monitoring wells MW-8, MW-9, MW-9D, MW-10, MW-10D, MW-11, and MW-11D were installed by Duke Energy prior to the installation of the compliance monitoring wells as part of a voluntary monitoring system. No samples are currently being collected from these wells under the compliance monitoring program.

4.3 Monitoring Frequency

The monitoring wells will be sampled three times per year in January, May, and September.

---

[1] Ash Basin Monitoring Well Installation Report, Dan River Steam Station, MACTEC Project No. 6228-10-5284, January 31, 2011

[2] Ash Basin Monitoring Well Installation Report, Dan River Steam Station, AMEC Project No. 6228-10-5284, January 3, 2012

4.4 Sample Parameters and Methods

The monitoring program consists of sampling and analysis for parameters and constituents identified in Attachment XX of the NPDES permit (Appendix B).

The parameters and constituents and the analytical methods are presented in Table 2.

The analytical results for the detection monitoring program will be compared to the 2L Standards or the site-specific background concentrations for the parameter or constituent.

4.5 Data Quality Objectives

The overall Quality Assurance (QA) objective is to ensure that reliable data of known and acceptable quality are provided. All measurements will be documented to yield results that are representative of the groundwater quality. Data will be calculated and reported in units as required by the NCDENR.

The analytical QA objectives for precision, accuracy, and completeness have been established by the laboratory(s) in accordance with the Environmental Protection Agency (EPA) or other accepted agencies for each measurement variable where possible. The objectives are outlined in the Duke Energy Analytical Laboratory Procedures Manual and are available upon request.

Appropriate methods have been selected to meet applicable standards for groundwater quality. Instances may occur, however, in which the condition of the sample will not allow detection of the desired limits for various parameters either because of matrix interference or high analyte concentrations requiring sample dilution. The laboratory(s) will provide sufficient documentation with each data package to notify reviewers about any analytical problems with the data, if needed.

Section 5 - Sampling Procedures

5.1 Sampling Equipment

Development, purging, and sampling equipment shall be selected to ensure that materials are compatible with the sample parameters and comply with state and federal regulatory requirements for sampling. Positive-gas-displacement fluorocarbon resin bladder pumps are installed in each monitoring well as dedicated purging and sampling systems.

5.1.1 Equipment Cleaning Procedures

Dedicated sampling equipment has been installed in each monitoring well. In the event non-dedicated equipment is used between monitoring wells, equipment will be cleaned before use and between wells in accordance with standard EPA-approved cleaning procedures for field equipment. This standard is outlined in the Standard Operating Procedures and Quality Assurance Manual, Engineering Support Branch, EPA Region IV, February 1, 1991.

5.2 Groundwater Sampling

5.2.1 Development of Monitoring Wells

All seven monitoring wells addressed in this sampling plan have been developed.

If new monitoring wells are installed, they will be developed prior to initial sampling. Development removes silt that has settled into the bottom of the well following installation and removes fine silt and clay particles from the well screen and sand pack surrounding the screen. Well development is necessary to eliminate potential clogging and enhance well performance. Development involves removing an estimated ten or more well volumes from the well using a positive-gas-displacement fluorocarbon resin bladder pump with up-and-down agitation to loosen particles from the well screen. After development of a well, a true well depth is recorded referencing the top of well casing (TOC).

5.2.2 Groundwater Level and Total Depth Measurements

Water level measurements shall be collected and recorded to determine the groundwater elevations and groundwater flow direction and to calculate the volume of standing water in the well. All monitoring wells have been surveyed to determine the elevation of the TOC. All depth and water level measurements shall be referencing the TOC and recorded to the nearest one - hundredth of a foot.

Water level measurements shall be made with an electronic measuring device consisting of a spool of dual-conductor wire and sensor. When the sensor comes in contact with water, the circuit is closed and a meter light and/or buzzer are attached to the spool to signal the contact. The sensor is lowered further until it rests on the bottom of the well to determine the total depth of the well referencing the TOC. The depth and water level measurements shall be used to verify that the well has not filled with silt and to calculate the volume of water in the well.

The volume of well water (in gallons) is calculated using the following equation:

$$V = h * \pi * r^2 * (7.48052 \text{ gal/ft}^3)$$

Where:

V = volume of water in the well screen and casing (gallons)

h = height of standing water (feet) = total well depth - water level

r = radius of well casing (feet)

For example, a 2-inch-diameter casing will have a volume of 0.1631 gallons per foot.

In dedicated sampling systems, an accurate well depth is determined as indicated above after development of the well and prior to installation of the dedicated bladder pump. The well depth will be re-measured any time the dedicated sampling system is removed for repair or replacement. The well depth, water level measurement, and calculated well volume are recorded on the Groundwater Monitoring Data Sheet (Figure 4).

5.2.3 Well Purging and Sampling

The selection of purging technique is dependent on the hydrogeologic properties of the aquifer and hydraulic characteristics of each well. Hydraulic conductivity, water column, well volume, screen length, and other information are evaluated to select the purging technique to acquire groundwater representative of the aquifer conditions. The Groundwater Monitoring Data Sheet (Figure 4) is used to record purging methods and measurements.

A multi-parameter water quality monitoring instrument is used to measure field stabilization or indicator parameters for determining representative groundwater during purging. These instruments measure pH, specific conductance, temperature, dissolved oxygen (DO), and oxidation-reduction potential (ORP). Instrument calibration must be performed and documented before and after each sampling event. The pH subsystem will be calibrated with two pH standards (pH 7.0 and 4.0) bracketing the expected groundwater pH. The specific conductance subsystem will be calibrated using two standards bracketing the expected groundwater conductivity. Calibration results will be recorded on a Field Sampling Calibration Form (Figure 5).

Various well purging techniques are described below. The purging method utilized at any particular well will be selected after considering the characteristics of the well and the purging method(s) used during previous sampling events.

CONVENTIONAL PURGING

This technique entails removing one equivalent well volume and measuring the indicator parameters (temperature, pH, and specific conductance). When the parameters have stabilized to within ±0.2 pH units and ±10 percent for temperature and conductivity over three to five well volumes, representative groundwater has been achieved for sampling. It is acceptable to begin sampling after five complete well volumes have been removed, even when indicator parameters have not stabilized. Groundwater is pumped into a graduated container to measure the volume

of water purged. Under normal rates of recovery, samples should be collected immediately after purging in accordance with EPA guidelines.

For low-yield wells incapable of yielding three to five well volumes in a reasonable amount of time (e.g., 2 hours or less), groundwater is purged to the elevation of the pump intake while measuring indicator parameters. Typically, low-yield wells are evacuated to dryness one time and sampled when sufficient water level recovery occurs. Turbidity is not a required stabilization parameter, but turbidity levels of 10 nephelometric turbidity units (NTU) or less should be targeted.

LOW-FLOW PURGING

Low-flow purging and sampling are appropriate when the recharge rate of the well approximates or equals the discharge rate of the pump with minimal drawdown of the water column (≤1 foot).

During low-flow purging and sampling, groundwater is pumped into a flow-through chamber at flow rates that minimize or stabilize water level drawdown within the well. Indicator parameters are measured over time (usually at 5-minute intervals). When parameters have stabilized within ±0.2 pH units and ±10 percent for temperature, conductivity, and DO; and ±10 millivolts (mV) for ORP over three consecutive readings; representative groundwater has been achieved for sampling. Turbidity is not a required stabilization parameter, but turbidity levels of 10 NTU or less should be targeted.

MODIFIED LOW-FLOW PURGING

This technique is considered a viable option particularly in the Piedmont region due to the likely presence of fine-grained soils where water level drawdown cannot be stabilized while pumping. When the well recharge rate is less than the pump discharge rate, excessive drawdown (>1 foot) of the water column occurs and mixes with stagnant water located above the screened interval. One equivalent well volume is removed initially before measuring indicator parameters. Frequently, removal of the initial well volume reduces the hydraulic head and allows for matching of the recharge rate with the pumping rate providing stabilization of drawdown. Indicator parameters should be measured at 5-minute intervals using a flow-through chamber attached to a multi-parameter water quality instrument. When parameters have stabilized to within ±0.2 pH units and ±10 percent for temperature, conductivity, and DO; and ±10 mV for ORP over three consecutive readings; representative groundwater has been achieved for sampling. Turbidity is not a required stabilization parameter, but turbidity levels of 10 NTU or less should be targeted.

VERY LOW-YIELD WELL PURGING

This technique provides the best option for monitoring wells that historically purge to dryness and do not sufficiently recharge to provide adequate volume for sample collection. Wells that yield less than 100 milliliters per minute (mL/min) frequently incur significant drawdown during well purging. Therefore, if the well yield is less than 100 mL/min, the volume of the pumping system (i.e., the pump bladder, tubing, and flow-through chamber) shall be calculated and two pumping system volumes shall be removed. Indicator parameters will be measured and recorded initially, and then sample collection will begin.

5.3 Sample Collection

Groundwater samples are collected after representative groundwater has been determined by purging and stabilizing the indicator parameters.

Sampling personnel wear clean, disposable, non-powdered nitrile gloves at each location. Samples are collected in the order of the volatilization sensitivity of the parameters:

- Metals, metalloids, and selenium
- Sulfate, nitrate, and chloride
- Total dissolved solids

After collection, samples will be preserved and stored according to parameter-specific methods and delivered to the laboratory under proper Chain-of-Custody (COC) procedures. All pertinent notations, water-level measurements, removed well volumes, and indicator parameters shall be documented on the Groundwater Monitoring Data Sheet (Figure 4).

5.4 Sample Containers, Volume, Preservation, and Holding Time

All sample containers supplied by the laboratory for the collection of groundwater samples shall be new and pre-cleaned as approved by EPA procedures appropriate for the parameters of interest. Table 3 summarizes the sample containers, sample volume, preservation procedures, and holding times required for each type of sample and parameter. Sample containers will be kept closed until used. All sample containers will be provided by Duke Energy or vendor laboratories.

5.5 Sample Tracking

The COC procedures allow for tracing the possession and handling of individual samples from the time of field collection through laboratory analysis and report preparation. Samples shall be pre-logged prior to sample collection. This process assigns a unique tracking number for each sample and generates corresponding labels. An example of the COC Record is provided as Figure 6.

5.6 Sample Labeling

Sample containers shall be pre-labeled and organized prior to field activities as part of the pre-sampling staging process. As samples are collected, the sampling personnel shall write the following information directly on the label: sampling date and time, and initials of sample collector. This information is also recorded on the Groundwater Monitoring Data Sheet (Figure 4) and the COC Record (Figure 6).

5.7 Field Documentation

Field documentation from each sampling event is recorded on the Groundwater Monitoring Data Sheets (Figure 4), the Field Sampling Calibration Form (Figure 5), and the COC Record (Figure 6). Additionally, a Groundwater Sampling Site Checklist (Figure 7) is completed indicating information about the monitoring well such as proper identification (ID) tag and condition of

protective casing and pad. Field notations shall be made during the course of the field work to document the following information:

- Identification of well
- Well depth
- Static water level depth and measurement technique
- Presence of immiscible layers and detection method
- Well yield – high or low
- Purge volume or pumping rate
- Sample identification numbers
- Well evacuation procedure/equipment
- Sample withdrawal procedure/equipment
- Date and time of collection
- Types of sample containers used
- Identification of replicates or blind samples
- Preservative(s) used
- Parameters requested for analysis
- Field analysis data and methods
- Sample distribution and transporter
- Field observations during sampling event
- Name of sample collector(s)
- Climatic conditions including estimate of air temperature

The Groundwater Monitoring Data Sheets (Figure 4), the Field Sampling Calibration Form (Figure 5), and the COC Record and Analysis Request Form (Figure 6) will be filed by project and date. Recorded entries will be made on electronic forms or on paper forms with indelible ink. Errors on paper documents will be corrected by drawing a line through the error, initialing and dating the correction, and starting a new entry on the next line (if necessary).

5.8 Chain-of-Custody Record

The COC Record (Figure 6) accompanies the sample(s), traces sample possession from time of collection to delivery to the laboratory(s), and clearly identifies which sample containers have been designated for each requested analysis. The record includes the following types of information:

- Sample identification number
- Signature of collector
- Date and time of collection
- Sample type (e.g., groundwater, immiscible layer)
- Identification of well
- Number of containers
- Parameters requested for analysis
- Preservative(s) used
- Signature of persons involved in the chain of possession
- Inclusive dates of possession

5.9 Sample Custody, Shipment, and Laboratory Receipt

For the purpose of these procedures, a sample is considered in custody if it is:

- In actual possession of the responsible person
- In view, after being in physical possession
- Locked or sealed in a manner so that no one can tamper with it after having been in physical custody or in a secured area restricted to authorized personnel

All samples shall be maintained in the custody of the sampling crew during the sampling event. At the end of each sampling day and prior to the transfer of the samples off site, entries shall be completed on the COC form for all samples. Upon transfer of custody, the COC form is signed by a sampling crew member including the date and time. If outside vendor laboratories are utilized, samples shall be delivered to these facilities by Duke Energy personnel or courier.

All COC forms received by the laboratory(s) shall be signed and dated by the respective supervising scientist(s) or their designee (at the Duke Energy lab) or the laboratory sample custodian (at vendor labs) immediately following receipt by the laboratory.

The analysts at the laboratory(s) maintain a sample tracking record that will follow each sample through all stages of laboratory processing. The sample tracking records show the date of

sample extraction or preparation and analysis. These records are used to determine compliance with holding time limits during lab audits and data validation.

Custody procedures followed by Duke Energy laboratory personnel are described in detail in the Duke Energy Laboratory Services Procedures Manual.

Section 6 - Analytical Methods

The main analytical laboratory used in this program is the Duke Energy Laboratory Services Laboratory: N.C. Drinking Water (NC37804) and Wastewater (#248) Certifications. The organizational structure and staff qualifications of the laboratory are discussed in its generic Quality Assurance Program (QAP). The QAP and the Analytical Laboratory Procedures Manual are available for review upon request.

Vendor laboratories that meet EPA and North Carolina certification requirements may be used for analyses with approval by Duke Energy.

The analytical methods used for the samples analyzed for this Groundwater Monitoring Program are listed in Table 2. Specific conductance, field pH, and temperature are measured in the field according to the Duke Energy Groundwater Monitoring and Sample Collection Procedure or the instrument manufacturer instructions.

EPARFI00426

Section 7 - Internal Quality Control Checks

Internal laboratory quality control (QC) checks used by the laboratories are described in each laboratory's generic QAP and procedures manual. Using the internal laboratory QC checks, the laboratories demonstrate the ability to produce acceptable results using the methods specified.

Internal quality control checks for sampling procedures and laboratory analyses will be conducted with each sampling event. These checks will consist of the preparation and submittal of field blanks, trip (travel) blanks, and/or field replicates for analysis of all parameters at frequencies described in the laboratory(s) procedures manuals.

The field QC blanks and replicates that may be included as internal QC checks are described below. The specific type and number of blanks used may vary depending on the sampling event and will be determined by the Duke Energy field sampling personnel:

- Field Blanks: A field blank consists of a sample container filled in the field with organic-free, deionized, or distilled water prepared and preserved in the same manner as the samples. The field blank is transported to the laboratory with the samples and analyzed along with the field samples for the constituents of interest to check for contamination imparted to the samples by the sample container, preservative, or other exogenous sources. Field blanks are typically utilized for each sampling event. The field blanks are typically analyzed for major anions, cations, and metals.

- Trip Blanks: A trip (travel) blank is a sample container filled with organic-free water in the laboratory that travels unopened with the sample bottles. Trip blanks are typically utilized when sampling for volatile organic compounds. The trip blank is returned to the laboratory with the field samples and analyzed along with the field samples for parameters of interest.

- Equipment Blanks: If non-dedicated equipment is used between wells, it is recommended that equipment blanks be collected. The field equipment is cleaned following documented cleaning protocols. An aliquot of the final control rinse water is passed over the cleaned equipment directly into a sample container and submitted for analyses.

- Field Replicates: A field replicate is a duplicate sample prepared at the sampling locations from equal portions of all sample aliquots combined to make the sample. Both the field replicate and the sample are collected at the same time, in the same container type, preserved in the same way, and analyzed by the same laboratory as a measure of sampling and analytical precision.

Section 8 - Validation of Field Data Package

The field data package includes all of the field records and measurements developed by the sampling team personnel. The field data package validation will be performed by Duke Energy personnel. The procedure for validation consists of the following:

- A review of field data contained on the Groundwater Monitoring Data Sheets for completeness.
- Verification that equipment blanks, field blanks, and trip blanks were properly prepared, identified, and analyzed.
- A check of the Field Sampling Calibration Form for equipment calibration and instrument conditions.
- A review of the COC Record for proper completion, signatures of field personnel and the laboratory sample custodian, dates and times, and for verification that the correct analyses were specified.

Section 9 - Validation of Laboratory Data

The laboratory will perform a validation review of the submitted samples and analytical results to ensure that the laboratory QA/QC requirements are acceptable.

Section 10 - Report Submittal

A report of the monitoring results for monitoring wells MW-20S, MW-20D, MW-21S, MW-21D, MW-22S, MW-22D, and MW-23D will be submitted to the NCDENR DWQ within 60 days of the date of sampling. The monitoring results will be submitted on NCDENR Form GW-59CCR.

The DWR will be notified in the event that vendor lab analyses have not been completed within this time frame. All Groundwater Monitoring Data Sheets, Field Calibration Forms, COC Records, Laboratory QA data, and Data Validation Checklists shall be kept on file by Duke Energy and are available upon request.

Section 11 - References

AMEC. 2012. Ash Basin Monitoring Well Installation Report, Dan River Steam Station, AMEC Project No. 6228-10-5284, January 3, 2012.

Goldsmith, R., Milton, D.J., and Horton, J.W, Jr. 1988. Geologic map of the Charlotte 1o x 2o quadrangle, North Carolina and South Carolina: United States Geological Survey, Miscellaneous Investigations Series, Map I-1251-E, scale 1:250,000.

Harned, D.A. and Daniel, C.C., III. 1992. The Transition Zone Between Bedrock and Regolith: Conduit for Contamination? p. 336-348, in Daniel, C. C., III, White, R. K., and Stone, P. A., eds., Groundwater in the Piedmont: Proceedings of a Conference on Ground Water in the Piedmont of the Eastern United States, October 16-18, 1989, Clemson University, 693p.

Heath, R.C. 1980. Basic elements of ground-water hydrology with references to conditions in North Carolina: U. S. Geological Survey Water-Resources Open-File Report 80-44, 86p.

Heath, Ralph. C. 1994. Ground-Water Recharge in North Carolina: Prepared for the Groundwater Section, Division of Environmental Management, North Carolina Department of Environment, Health, and Natural Resources 45, 52p.

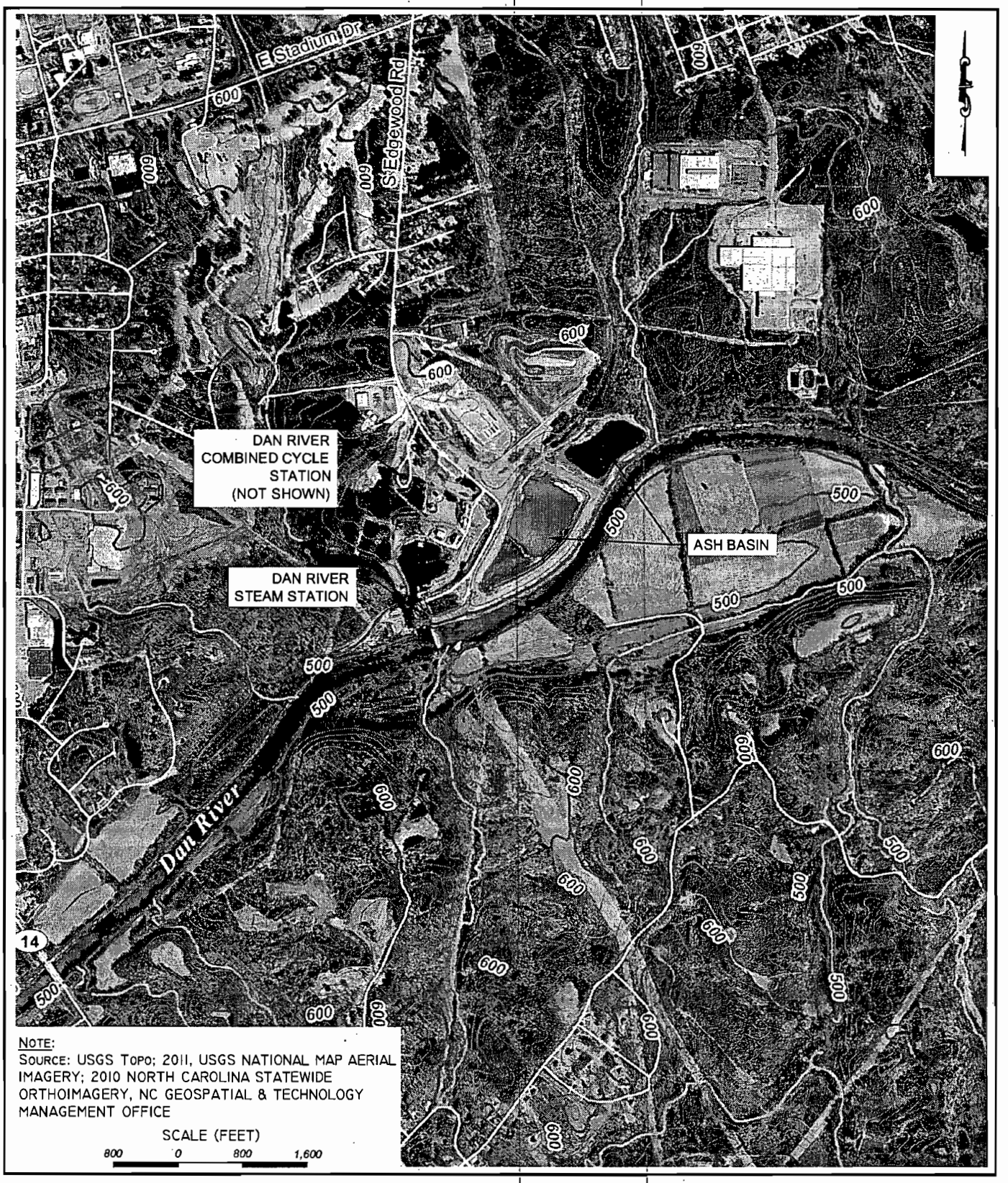
LaGrand, H.E. 1988. Region 21, Piedmont and Blue Ridge, p.201-208, in Black, W., Rosenhein, J.S., and Seaber, P.R., eds., Hydrogeology: Geological Society of America, The Geology of North America, v. O-2, Boulder, Colorado, 524p.

LeGrand, Harry, Sr. 2004. A Master Conceptual Model for Hydrogeological Site Characterization in the Piedmont and Mountain Region of North Carolina, North Carolina Department of Environment and Natural Resources.

MACTEC. 2011. Ash Basin Monitoring Well Installation Report, Dan River Steam Station, MACTEC Project No. 6288-10-5284, January 31, 2011.

North Carolina Geological Survey. 1985. Geologic map of North Carolina: Raleigh, North Carolina Geological Survey, scale 1:500,000.

Figures



NOTE:
SOURCE: USGS TOPO; 2011, USGS NATIONAL MAP AERIAL IMAGERY; 2010 NORTH CAROLINA STATEWIDE ORTHOIMAGERY, NC GEOSPATIAL & TECHNOLOGY MANAGEMENT OFFICE

SCALE (FEET)
800 0 800 1,600

HDR
License Number: F-0118
448 South Church Street Charlotte, NC 28202

SITE LOCATION MAP
DAN RIVER COMBINED CYCLE STATION ASH BASIN
DUKE ENERGY CAROLINAS, LLC
ROCKINGHAM COUNTY, NORTH CAROLINA

DATE
JULY 31, 2014

FIGURE
1

EPARFI00433

NOTES:
1. PARCEL DATA FOR THE SITE WAS OBTAINED FROM DUKE ENERGY REAL ESTATE AND IS APPROXIMATE.
2. ASH BASIN WASTE BOUNDARY AND ASH STORAGE AREA BOUNDARIES ARE APPROXIMATE.
3. AS-BUILT MONITORING WELL LOCATIONS PROVIDED BY DUKE ENERGY.
4. SHALLOW MONITORING WELLS (S) - WELL SCREEN INSTALLED ACROSS THE SURFICIAL WATER TABLE.
5. DEEP MONITORING WELLS (D) - WELL SCREEN INSTALLED IN THE TRANSITION ZONE BETWEEN COMPETENT BEDROCK AND THE REGOLITH.
6. ORTHOPHOTOGRAPHY WAS PROVIDED BY DUKE ENERGY (DATED 2014).
7. TOPOGRAPHIC CONTOURS WERE OBTAINED FROM NCDOT WEB SITE (DATED 2010) AND ARE APPROXIMATE.
8. THE ASH BASIN COMPLIANCE BOUNDARY IS ESTABLISHED ACCORDING TO THE DEFINITION FOUND IN 15A NCAC 02L .0107 (a).

SCALE (FEET)
300' 0 300' 600'
1" = 600'

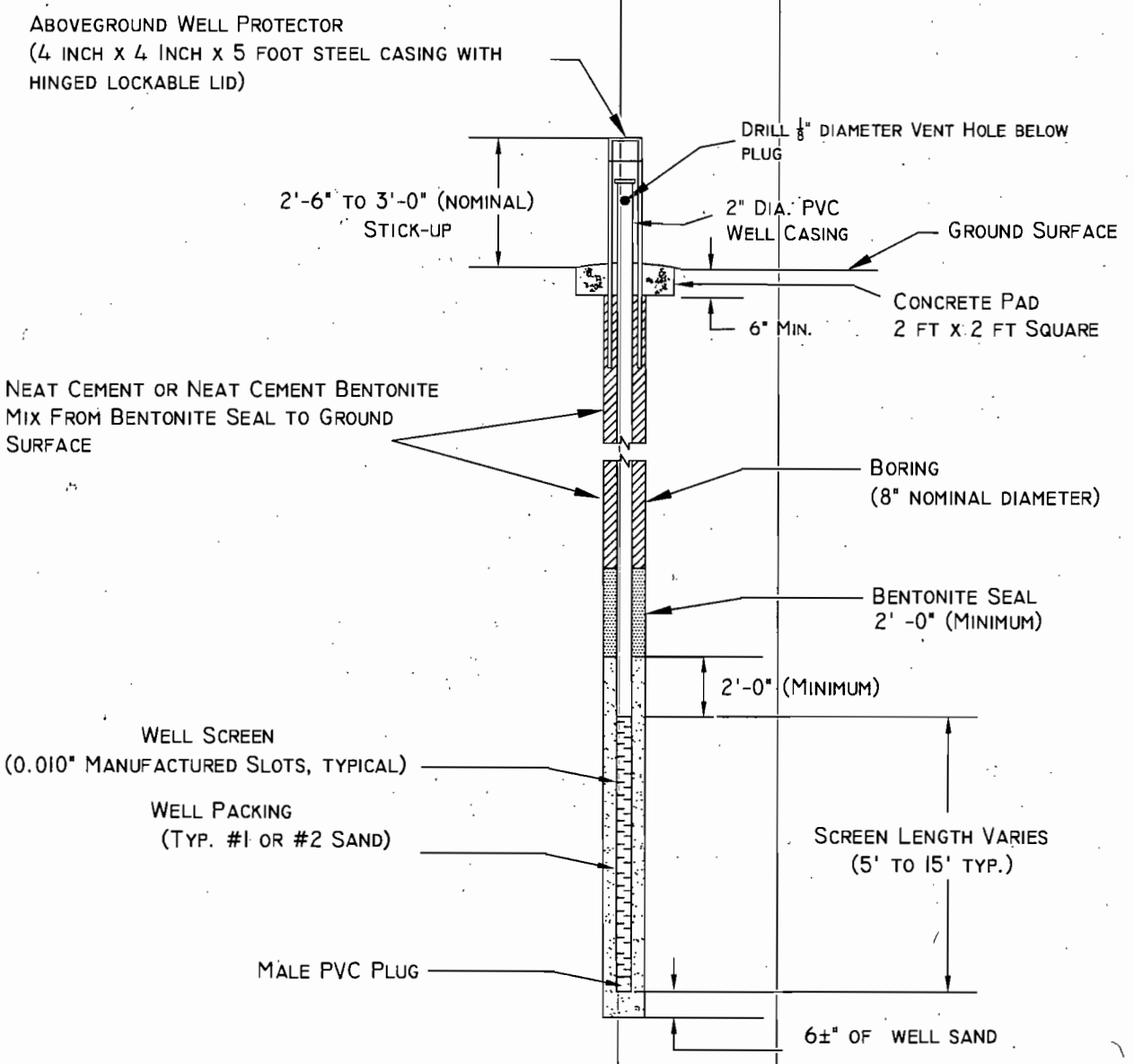
HDR

COMPLIANCE MONITORING WELLS
DUKE ENERGY CAROLINAS, LLC
DAN RIVER COMBINED CYCLE STATION ASH BASIN
NPDES PERMIT #NC0003468
ROCKINGHAM COUNTY, NORTH CAROLINA

DATE
JULY 31, 2014

FIGURE
2

EPARFI00434



Typical Well Construction Details
(no scale)

INFORMATION PROVIDED BY DUKE ENERGY CAROLINAS, LLC

HDR

License Number: F-0118
440 South Church Street Charlotte, NC 28202

TYPICAL MONITORING WELL CONSTRUCTION DETAILS

DATE
JULY 31, 2014

FIGURE
3

EPARFI00435

DUKE ENERGY

GROUNDWATER MONITORING DATA SHEET FOR CONVENTIONAL SAMPLING

PROCEDURE NO	3175.1

SITE NAME	Dan River Combined Cycle Station	PERMIT #	NC0003468	SITE ID	N/A
PROJECT NAME	Ash Basin Groundwater Monitoring	FIELD CREW			
SAMPLING DATE(s)	☐ ☐ ☐ ☐	WELL/LOCATION NAME			

MONITORING WELL INFORMATION

WELL DIAMETER (in)		TOC ELEV (ft msl)		MIDDLE OF WETTED SCREEN (ft toc)	
WELL DEPTH (ft TOC)		GS ELEV (ft msl)		PUMP INTAKE DEPTH (ft TOC)	
SCREEN LENGTH (ft)		ELEV REF		SCREEN INTERVAL (ft TOC)	TO

EQUIPMENT INFORMATION

LEVEL METER SERIAL#		SAMPLING EQUIPMENT		PURGE METHOD	
		TUBING DIAMETER (in)			

PUMP CONTROLLER SETTINGS								
PRESSURE		(psi)	RECHARGE		(sec)	DISCHARGE		(sec)

SAMPLING INFORMATION

INITIAL DEPTH TO WATER (ft TOC)		WATER COLUMN (ft)		*Well Volume = water column X conversion factor* (Conversion factor dependent on well diameter and selected well volume units)
WATER ELEVATION (ft msl)		WELL VOLUME (gal)		
DETECTED ODOR	None	CONVERSION FACTOR	0.1631	
APPEARANCE	Normal			

PURGE VOLUME (gal)	WATER LEVEL AFTER PURGE * (ft)	COMPLETE EVACUATION (YES/NO)	☑ TEMP (deg C)	☑ SPECIFIC COND. (umho/cm)	☑ pH (SU)	☑ TURBIDITY (NTU)	☐ ORP (mV -NEH)	☐ DISSOLVED OXYGEN (mg/L)	☐ (gal) WELL VOL (recalculates on current water level)

TOTAL PURGE VOLUME	* Optional measurement to recalculate well volume when purging results in substantial drawdown of water column	SAMPLE COLLECTED BY	DATE	TIME	CHLORINE (mg/l)
0.00			@		NA

QC By:	

WELL CONDITION

PROTECTIVE CASING		
WELL PAD		
WELL CASING		
WELL TAG		

ADDITIONAL WELL CONDITION NOTES

SAMPLING NOTES

FIGURE 4: EXAMPLE GROUNDWATER MONITORING DATA SHEET

FIELD SAMPLING CALIBRATION FORM

STUDY: Dan River Combined Cycle Station Ash Basin Groundwater Monitoring

DATE (s): | **SURFACE UNIT READER:**

COLLECTORS: | **SURFACE UNIT SERIAL #:**

ANALYZER MODEL#: | **ANALYZER SERIAL #:**

OTHER EQUIPMENT: | **WEATHER CONDITIONS:**

PROCEDURE #: HYDROLAB 3210.3 **VALIDATED BY:**

Calibration Date / Time		DATE:		TIME:		DATE:		TIME:	
		BP (mmHg)				BP (mmHg)			
Parameter	Calibation Standard	Instrument Value		Standard Value	Calibration Results	Instrument Value		Standard Value	Calibration Results
SPEC. COND. (uS/cm)	SS	0.0	—/—▶	0.0	Instrument Zeroed	0.0	—/—▶	0.0	Zero Pass
	SS		—▶	350			—/—▶	350	
	SS		—/—▶	150			—/—▶	150	
pH (units)	B (7.00)		—▶	7.00			—/—▶		
	B (4.00)		—▶	4.00			—/—▶		
	B (10.00)		—/—▶	10.00			—/—▶		
			Buffer Temp.	25.00			Buffer Temp.		
Mid-Day Ck	B (7.00)		—▶						
Time:			Buffer Temp.						
☑ ORP (mV)	SS (7.00)		—▶	285			—/—▶	285	
	SS (4.00)	N/A	—/—▶	462		N/A	—/—▶	462	
			ORP Temp.	25.00			ORP Temp.	25.00	
☐ DO (mg/L)	W								
	W								
	AW		—▶				—/—▶		
☐ TURB (ntu)	SS		—/—▶				—/—▶		
Temp Cert Device #									
TEMP (deg C)	NIST	N/A	—/—▶	N/A	Adjustment Not Available	N/A	—/—▶	N/A	Adjustment Not Available
AMMONIUM (mg/L)	SS	N/A	—/—▶	N/A		N/A	—/—▶	N/A	
	SS	N/A	—/—▶	N/A		N/A	—/—▶	N/A	

INSTRUMENT MAINTENANCE	DATE / TIME		
Conductance Subsystem		*pH Subsystem*	
☐ Cleaned Electrodes		☐ Cleaned Electrodes	
☐ Tested - OK		☐ Replaced ref Electrode KCL	
☐ See Notes		☐ Replaced Ref. Electrode Tip	
		☐ Tested - OK	☐ See Notes
Dissolved Oxygen Subsystem		*Ammonium Subsystem*	
☐ Replaced Teflon Membrane		☐ Cleaned Electrode Tip	
☐ Replaced DO electrolyte		☐ Installed New Electrode	
☐ Cleaned Electrode		☐ Removed Electrode / Installed Plug	
☐ See Notes		☐ Tested - OK	☐ See Notes
Oxidation Reduction Subsystem		*Turbidity Subsystem*	
☐ Cleaned Electrode		☐ Cleaned Electrode & Wiper	
☐ Tested - OK	☐ See Notes	☐ Tested - OK	☐ See Notes
Temperature Subsystem		*Depth Subsystem*	
☐ Cleaned Electrode		☐ Reset / Calibrated	
☐ Tested - OK	☐ See Notes	☐ Tested - OK	☐ See Notes

KEY: B = Buffer; SS = Standard solution; W = Winkler; AW = Average Winkler; —▶ = Adjusted To; —/—▶ = Not Adjusted To; N/A = Not Applicable

NOTES:

FIGURE 5: EXAMPLE FIELD SAMPLING CALIBRATION FORM

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST FORM

Duke Energy

For Detailed Instructions, see:
http://dewww/essenv/coc/

Duke Energy Analytical Lab Services
Mail Code MGO3A2 (Building 7405)
13339 Hagers Ferry Rd
Huntersville, N. C. 28078
(704) 875-5245
Fax: (704) 875-5038

Analytical Laboratory Use Only

LIMS #

Logged By | Date & Time

Vendor | Cooler Temp (C)

PO #

MR #

Samples Originating From: NC √ SC

SAMPLE PROGRAM: Groundwater √ NPDES Drinking Water UST RCRA Waste

[15]Preserv.: 1=HCL 2=H_2SO_4 3=HNO_3 4=Ice 5=None

[19]Page 1 of 1

DISTRIBUTION
ORIGINAL to LAB,
COPY to CLIENT

Customer must Complete

1)Project Name		2)Phone No:
3)Client		4)Fax No:
5)Business Unit: 20036	6)Process:	7)Resp. To:
8)Project ID:	9)Activity ID:	10)Mail Code:

Customer to complete all appropriate NON-SHADED areas.

Customer to complete appropriate columns to right

LAB USE ONLY [11]Lab ID	[12]Chem Desktop No.	[13]Sample Description or ID	[14]Collection Information Date	Time	Signature	[17]Comp.	[18]Grab	[16]Analyses Required	[20]Total # of Containers
									6

Customer to sign & date below

21)Relinquished By	Date/Time	Accepted By	Date/Time
Relinquished By	Date/Time	Accepted By	Date/Time
Relinquished By	Date/Time	Accepted By	Date/Time
23)Seal/Locked By	Date/Time	Sealed/Lock Opened By	Date/Time

24)Comments

Customer, please indicate desired turnaround

[22]Requested Turnaround
14 Days √
*7 Days
* 48 Hr
*Other
* Add. Cost Will Apply

FIGURE 6 - CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST FORM

NORTH CAROLINA GROUNDWATER SAMPLING SITE CHECKLIST

LOCATION / SITE Dan River Combined Cycle Station / Ash Basin Groundwater Monitoring PERMIT # NC0003468 **SAMPLE DATE**
SITE CONTACT **FIELD CREW**
WEATHER
PAGE 1 OF 1

	MW-20S	MW-20D	MW-21S	MW-21D	MW-22S	MW-22D	MW-23D								
ACCESS TO WELLS															
Access cleared into well															
Access cleared around well															
Tall grass or weeds - needs mowing															
Road washing out / muddy / needs grading															
Fallen tree blocking access															
WELL SECURITY															
Well found locked															
Well found unlocked															
WELL LOCK CONDITION															
Lock in good condition															
Lock rusted, difficult to open / needs replacing															
Replaced damaged lock															
WELL CASINGS															
Casing in good condition															
Damaged casing / still functional															
Damaged casing / repair required															
CONCRETE PADS															
Pad in good condition															
Minor cracks															
Major cracks / broken / repair required															
Undermined / washing out															
Fire ants around concrete pad															
WELL PROTECTIVE CASINGS															
Casing in good condition															
Damaged casing / still functional															
Damaged casing / repair required															
Broken hinge on protective lid															
Wasp nest inside protective casing															
Ants inside protective casing															
WELL CAPS															
Well cap in good conditon															
Damaged / needs replacement															
Replaced damaged well cap															
FLUSH MOUNT WELLS															
Vault in good condition															
Water inside vault															
Vault bolt holes broken or stripped															
Bolts stripped															
Vault lid cracked or broken															
WELL ID TAGS															
Well tag in good condition															
Well tag missing															
Well tag damaged / illegible															
Lacks required information - Driller Reg #															
Lacks required information - Completion date															
Lacks required information - Total well depth															
Lacks required information - Depth to screen															
Lacks required information - Non potable tag															

NOTE:

FIGURE 7: GROUNDWATER SAMPLING SITE CHECKLIST

Tables

Table 1
Monitoring Well Information
Dan River Combined Cycle Station Ash Basin

	MW-20S	MW-20D	MW-21S	MW-21D	MW-22S	MW-22D	MW-23D
North (ft)	1,000,690.53	1,000,692.39	998,981.03	998,974.10	996,917.37	996,920.04	999,329.97
East (ft)	1,788,917.72	1,788,922.72	1,790,997.03	1,790,995.70	1,789,291.54	1,789,298.66	1,786,365.57
Top of PVC Casing Elevation (ft)	562.28	562.23	498.80	498.90	504.52	505.19	528.22
Well Diameter	2"	2"	2"	2"	2"	2"	2"
Well Stick-up (ft)	2.57	2.81	2.77	2.67	2.47	2.97	3.24
Type of Casing	PVC	PVC	PVC	PVC	PVC	PVC	PVC
Total Depth below TOC (ft)	22.11	44.20	11.56	21.40	24.86	39.41	20.11
Screen Length (ft)	15	5	5	5	10	5	10
Screen Interval (ft below TOC)	7.11 - 22.11	39.20 - 44.20	6.56 - 11.56	16.40 - 21.40	14.86 - 24.86	34.41 - 39.41	10.11 - 20.11

Notes:

1. ft indicates feet.
2. TOC indicates top of casing.
3. As-built well coordinates (NAD 83) and top of PVC casing elevations (NAVD 88) provided by Duke Energy.
4. Well diameter, type of casing, and screen lengths were obtained from Well Construction Records provided by Duke Energy.
5. Well total depth below TOC and well stick-up measurements provided by Duke Energy.

EPARFI00441

Table 2
Sample Parameters and Analytical Methods
Dan River Combined Cycle Station Ash Basin

PARAMETER	UNITS	ANALYTICAL METHOD
In Situ Parameters		
Field pH	pH Units	Hydrolab
Conductivity	µmhos/cm	Hydrolab
Temperature	°C	Hydrolab
Water Level	ft	Water Level Meter
Laboratory Analyses		
Antimony	µg/L	TRM / EPA 200.8
Arsenic	µg/L	TRM / EPA 200.8
Barium	µg/L	TRM / EPA 200.7
Boron	µg/L	TRM / EPA 200.7
Cadmium	µg/L	TRM / EPA 200.8
Chloride	µg/L	EPA 300.0
Chromium (total)	µg/L	TRM / EPA 200.7
Copper	µg/L	TRM / EPA 200.7
Iron	µg/L	TRM / EPA 200.7
Lead	µg/L	TRM / EPA 200.8
Manganese	µg/L	TRM / EPA 200.7
Mercury	µg/L	EPA 245.1
Nickel	µg/L	TRM / EPA 200.7
Nitrate (as Nitrogen)	µg/L	EPA 300.0
Selenium	µg/L	TRM / EPA 200.8
Sulfate	µg/L	EPA 300.0
Thallium	µg/L	TRM / EPA 200.8
Total Dissolved Solids	µg/L	SM 2450C
Zinc	µg/L	TRM / EPA 200.7

Notes:

1. µmhos/cm indicates micro-mhos per centimeter.
2. ft indicates feet.
3. µg/L indicates micrograms per liter.
4. TRM indicates total recoverable metals.
5. EPA indicates Environmental Protection Agency.
6. SM indicates Standard Method.

Table 3
Sample Containers, Preservatives, and Holding Times
Dan River Combined Cycle Station Ash Basin

PARAMETER	CONTAINERS	PRESERVATIVES	HOLDING TIMES
In Situ Parameters			
Field pH	In Situ	None	Analyze Immediately
Conductivity	In Situ	None	Analyze Immediately
Temperature	In Situ	None	Analyze Immediately
Laboratory Analyses			
Antimony	500 ml HDPE	pH<2 HNO_3	6 months
Arsenic	500 ml HDPE	pH<2 HNO_3	6 months
Barium	500 ml HDPE	pH<2 HNO_3	6 months
Boron	500 ml HDPE	pH<2 HNO_3	6 months
Cadmium	500 ml HDPE	pH<2 HNO_3	6 months
Chloride	500 ml HDPE	Cool 4° C	28 days
Chromium (total)	500 ml HDPE	pH<2 HNO_3	6 months
Copper	500 ml HDPE	pH<2 HNO_3	6 months
Iron	500 ml HDPE	pH<2 HNO_3	6 months
Lead	500 ml HDPE	pH<2 HNO_3	6 months
Manganese	500 ml HDPE	pH<2 HNO_3	6 months
Mercury	500 ml HDPE	pH<2 HNO_3	6 months
Nickel	500 ml HDPE	pH<2 HNO_3	6 months
Nitrate (as Nitrogen)	500 ml HDPE	Cool 4° C	28 days
Selenium	500 ml HDPE	pH<2 HNO_3	6 months
Sulfate	500 ml HDPE	Cool 4° C	28 days
Thallium	500 ml HDPE	pH<2 HNO_3	6 months
Total Dissolved Solids	500 ml HDPE	Cool 4° C	28 days
Zinc	500 ml HDPE	pH<2 HNO_3	6 months

Notes:

1. ml indicates milliliter.
2. HNO_3 indicates nitric acid.
3. HDPE indicates high density polyethylene.

EPARFI00443

A

Appendix A - Boring Logs and Monitoring Well Construction Records

MACTEC

engineering and constructing a better tomorrow

January 31, 2011

Mr. Thomas Wiest, Project Manager
Duke Energy Corporation
3195 Pine Hall Road
Belews Creek, North Carolina 27009

Subject: **Ash Basin Monitoring Well Installation Report**
Dan River Steam Station
900 South Edgewood Road
Eden, Rockingham County, North Carolina
MACTEC Project No.: 6288-10-5284

Dear Mr. Wiest:

MACTEC is pleased to provide this report on behalf of our client, AE Drilling, LLC. The purpose of this report is to present the results of monitoring well installation and evaluation activities conducted in November and December 2010 at the above-referenced site (Figure 1). The well installation and testing was conducted in general accordance with the requirements outlined in the Ash Basin Groundwater Monitoring Well Installation Project Work Summary (Work Summary) provided by Duke Energy (Duke). The following Figure, Tables and Appendices have been included:

Figure 1:	Monitoring Well Locations
Table 1:	Summary of Well Construction Details
Table 2:	Summary of Slug Test Results
Appendix A:	Rock Core Photographs
Appendix B:	Soil and Rock Boring Logs
Appendix C:	NCDENR Monitoring Well Construction Records
Appendix D:	Monitoring Well Development Records
Appendix E:	Photographs of Completed Well Pairs
Appendix F:	Slug Test Data

Two Type II groundwater monitoring well pairs and one Type II single groundwater monitoring well (a total of 5 wells) were installed between November 23, 2010 and December 21, 2010 at the locations shown on Figure 1. The well locations were pre-determined by Duke and marked in the field with wooden stakes and survey flagging. Each well pair consisted of one shallow well (using the identifier "S") set into overburden soils and one deep well (using the identifier "D) set into

MACTEC Engineering and Consulting, Inc.
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bedrock. Please note that a shallow well was not installed at location MW-23 because bedrock was encountered prior to groundwater, indicating a local absence of a surficial aquifer in this location. Standard Penetration Testing (SPT) and split-spoon sampling was performed at five-foot intervals from the surface to bedrock during installation of the deep well at each well pair. Soils observed in the split-spoon samples were logged in the field in accordance with the Unified Soil Classification System (ASTM D2487/D2488). Upon auger refusal, each deep boring was extended a minimum of 10 feet into competent bedrock using HQ-sized rock core techniques.

Rock core samples were logged in the field in accordance with the Field Guide for Rock Core Logging and Fracture Analysis established by Midwest Geosciences. As specified in the Work Summary, split-spoon sampling and rock coring were not performed during installation of the shallow wells. Photographs of rock cores obtained during installation of the three deep wells are included as Appendix A.

Shallow wells were installed using 4.25-inch ID hollow stem augers; deep wells were installed using 4.25-inch ID hollow stem augers to refusal, then HQ-sized rock core approximately 10 feet into competent bedrock. Total depths for shallow wells ranged from 8.8 feet below ground surface (bgs) in MW-21S to 19 feet bgs in MW-20S. Total depths for bedrock wells ranged from 17 feet bgs in MW-23D to 41.5 feet bgs in MW-20D. Shallow wells were constructed with 5 to 15 feet of 0.010-slot 2-inch diameter PVC well screen and riser with well screens set so that most of screen is below the static water table at the time of installation. Deep wells were constructed with 5-foot well screens (except well MW-23D, in which a 10-foot screen was installed) set across low-RQD bedrock core intervals to facilitate maximum water flow through each well. Filter sand was placed in the annular space between the augers and the casing from the total depth of the boring to at least one foot above the screen. A bentonite seal was placed on top of the filter pack and the well was grouted to the surface. Please note that shallow well depths were typically adjusted after installation, but prior to placement of bentonite, to account for rise in hydraulic head observed at each location. In these instances, additional filter sand was placed between the bottom of the borehole and the bottom of the well. Each well was completed with a stand-up well cover that extends approximately 30 inches above-grade and set into a 2-foot by 2-foot concrete pad. Monitoring well ID tags were secured to the outside of the stand-up covers and well numbers were etched into the wet concrete pad. Soil boring logs and well construction records for the five monitoring wells installed during this work have been included as Appendix B and C, respectively.

EPARFI00446

Subsequent to installation, each well was developed using a submersible or bladder pump to remove fine-grained material. In general, each well was purged until the development water appeared visually clear, at which time, water quality parameters (temperature, pH, conductivity and turbidity) were recorded in 5-gallon increments until turbidity readings were less than or equal to 50 NTUs. Purge water generated during well development ranged from 10 gallons to 200 gallons and was discharged to the ground surface adjacent to each well. Monitoring well development records are included as Appendix D. Photographs of the completed monitoring well pairs are included as Appendix E.

Rising head slug tests were performed on each well on December 27 and 28, 2010. Prior to the tests an In-situ Level Troll pressure transducer and 4-foot long stainless steel slug were placed into the well. The water level in the well was recorded as a "Background" test until the well recharged to within 90% of the original measurement. Subsequent to normalization, the rising head test was started, the slug was removed and the change in head versus time was measured using a Rugged-reader data logger. Slug test data was analyzed using Aqtesolv software to estimate hydraulic conductivity in each well. A summary of slug test data is presented in Table 2. Copies of raw data generated during completion of the rising head slug tests are included in Appendix F. Electronic slug test data is included on the attached compact disc.

Please contact the undersigned at (704) 357-8600, if you have questions or comments concerning this project.

Sincerely,

MACTEC ENGINEERING AND CONSULTING, INC.

Jacqueline Williams

Mark P. Filardi, P.G.
Senior Geologist

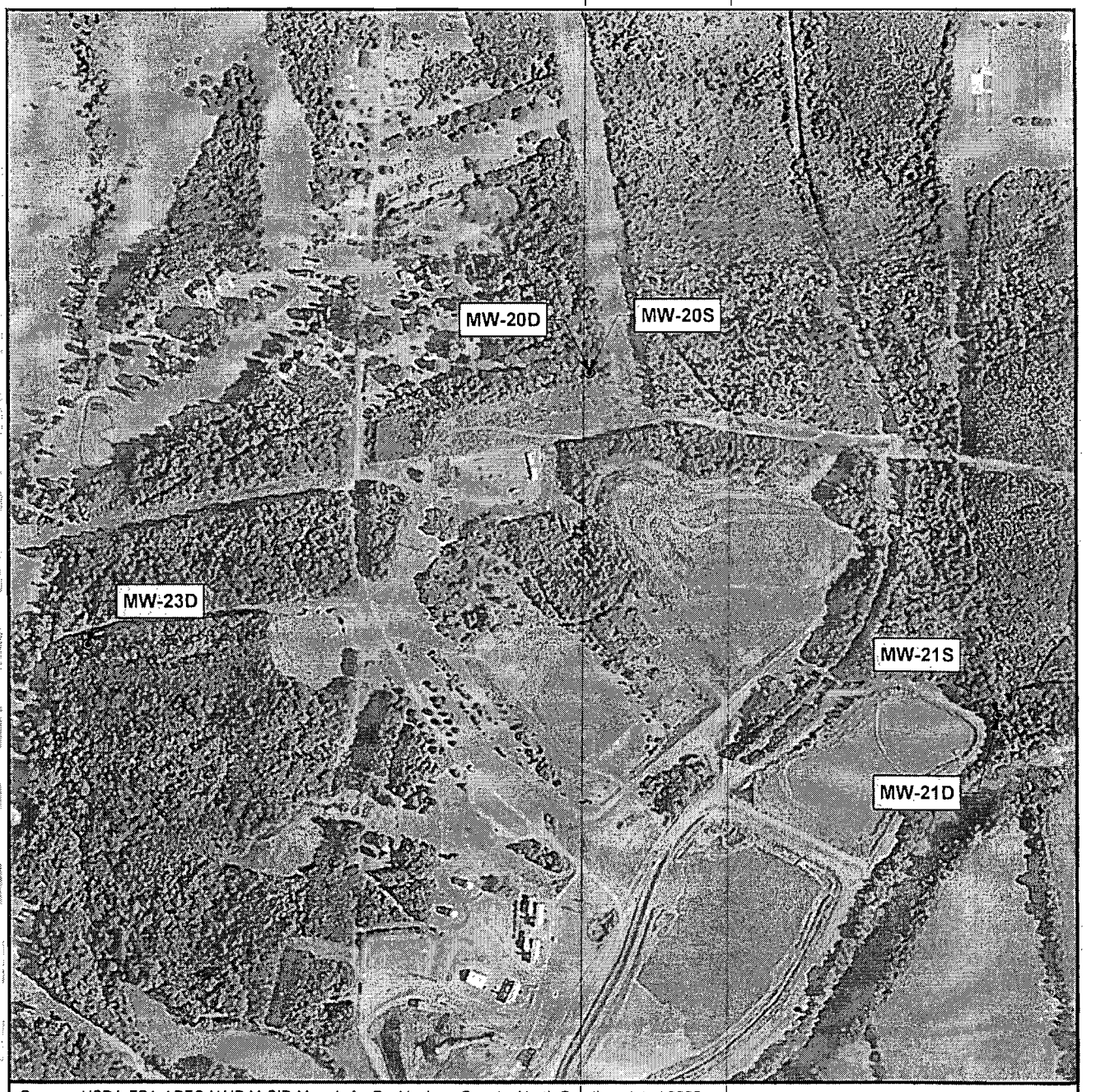
Robert C. Foster III, P.G.
Principal

NORTH CAROLINA LICENSED SEAL GEOLOGIST ROBERT C. FOSTER III

Enclosures For Mark P. Filardi
With Permission

cc: William M. Miller, PE, PLS, Altamont Environmental
Mark Lassiter, PG, AE Drilling, LLC

FIGURE



Source: USDA-FSA-APFO NAIP MrSID Mosaic for Rockingham County, North Carolina, dated 2009.

● Monitoring Well Location

N

0 500 1,000 2,000 3,000 4,000 Feet

MACTEC

MONITORING WELL LOCATIONS
DUKE ENERGY
DAN RIVER STEAM STATION
ROCKINGHAM COUNTY, NORTH CAROLINA

PREPARED BY	DATE	CHECKED BY	DATE	JOB NUMBER	FIGURE
SJM	2/7//2011	RCF	2-9-11	6228-10-5284	1

TABLES

Table 1
Summary of Well Construction Details
Dan River Steam Station, Eden, North Carolina

Well Number	Coordinates		Drilling Method	Construction Details				Measured Details			
	Latitude	Longitude		Well Diameter (I.D. in.)	Borehole Depth (ft bgs)	Well Depth (ft bgs)	Screen Interval (ft bgs)	Top of Casing Elevation (NAVD 88)	Well Depth (ft below TOC)	Depth to Water (ft below TOC)	Height of Water Column (ft)
MW-20S	36.4972458	-79.71803198	HSA	2	20	19	4 - 19	562.28	22.31	4.72	17.59
MW-20D	36.49725101	-79.71801502	HSA/Rock Core	2	45	41.5	36.5 - 41.5	562.23	44.42	3.72	40.70
MW-21S	36.49259198	-79.71091746	HSA	2	11.8	8.8	3.5 - 8.5	498.80	11.76	5.21	6.55
MW-21D	36.49257293	-79.71092181	HSA/Rock Core	2	18.8	18.8	13.6 - 18.6	498.90	21.61	1.51	20.10
MW-23D	36.4934582	-79.72667936	HSA/Rock Core	2	22	17.0	6.7 - 16.7	528.22	20.20	12.09	8.11

ft bgs = feet below ground surface
HSA = Hollow-stem Auger

Prepared by Date: MDF 1-31-11
Checked by Date: ZCF 1-31-11

Table 2
Summary of Slug-Test Data
Dan River Steam Station, Eden, North Carolina

WELL ID	Test Date	Aquifer Model	Rising Head Test		Borehole Depth (ft bgs)	Well Depth (ft bgs)	Screen Interval (ft bgs)	Well Diameter (I.D. in.)
			Solution Method	K-value (cm/sec)				
MW-20S	12/28/2010	unconfined	Bouwer-Rice	2.40 E-04	20	19	4 - 19	2
MW-20D	12/28/2010	confined	Bouwer-Rice	1.51 E-03	45	41.5	36.5 - 41.5	2
MW-21S	12/27/2010	unconfined	Bouwer-Rice	2.22 E-03	11.8	8.8	3.5 - 8.5	2
MW-21D	12/27/2010	confined	Bouwer-Rice	7.37 E-05	18.8	18.8	13.6 - 18.6	2
MW-23D	12/27/2010	confined	Bouwer-Rice	4.69 E-05	22	17	6.7 - 16.7	2

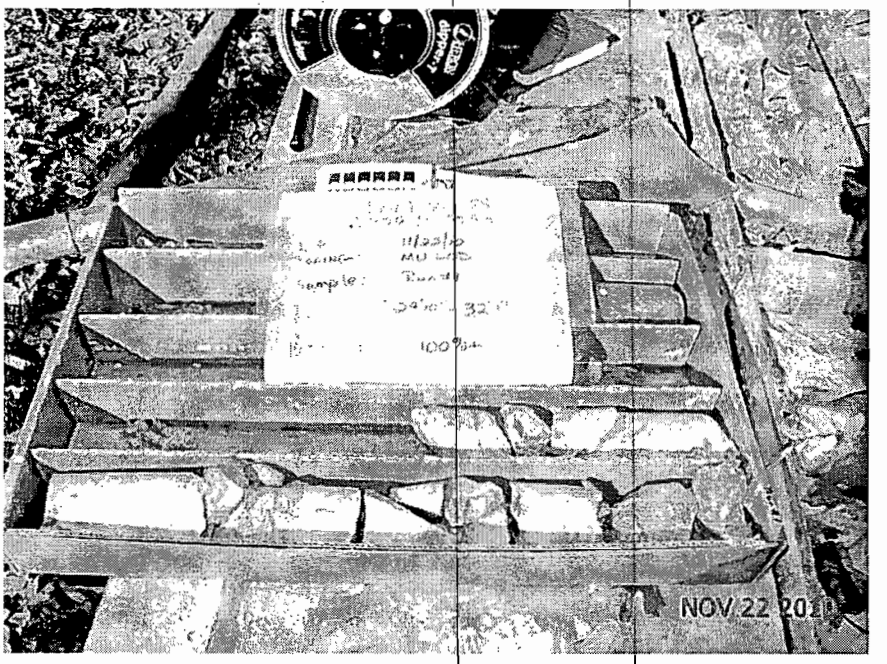
Note: In calculating the hydraulic conductivity values, an unconfined aquifer model was assigned to wells screened (S-series) within the surficial aquifer. A confined aquifer model was presumed for wells screened (D-series) in the bedrock aquifer. The saturated thicknesses (Appendix F) were derived from lithologic data from well borings including likely water-bering zones.

Prepared By Date: Chb 2-15-11
Checked By Date: RCF 2-16-11

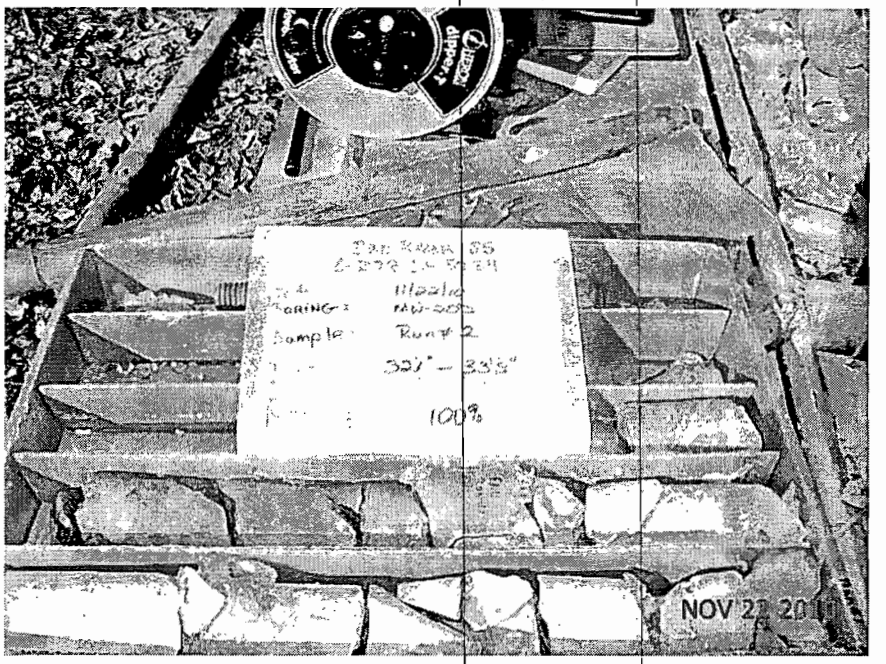
APPENDICES

APPENDIX A

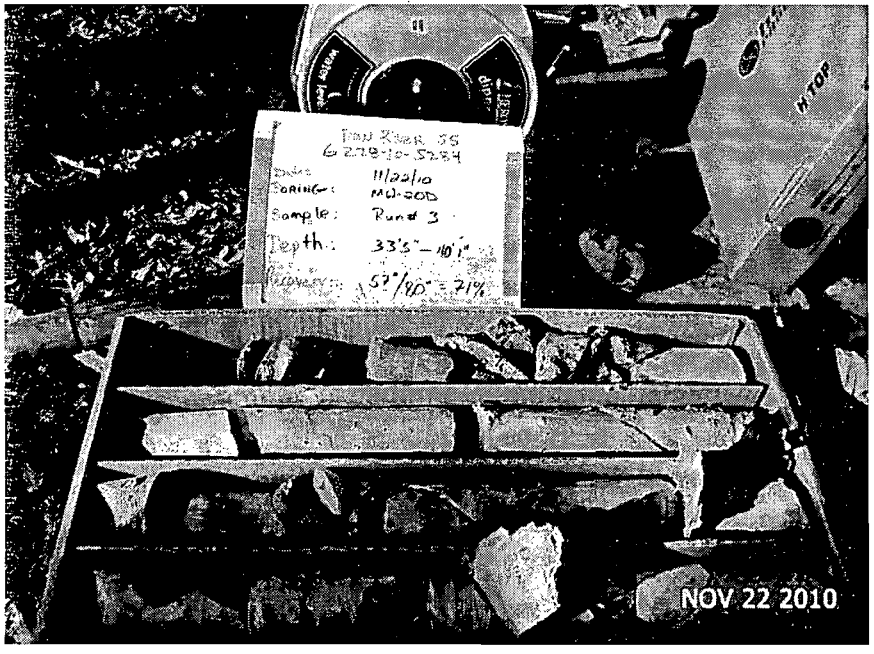
ROCK CORE PHOTOGRAPHS



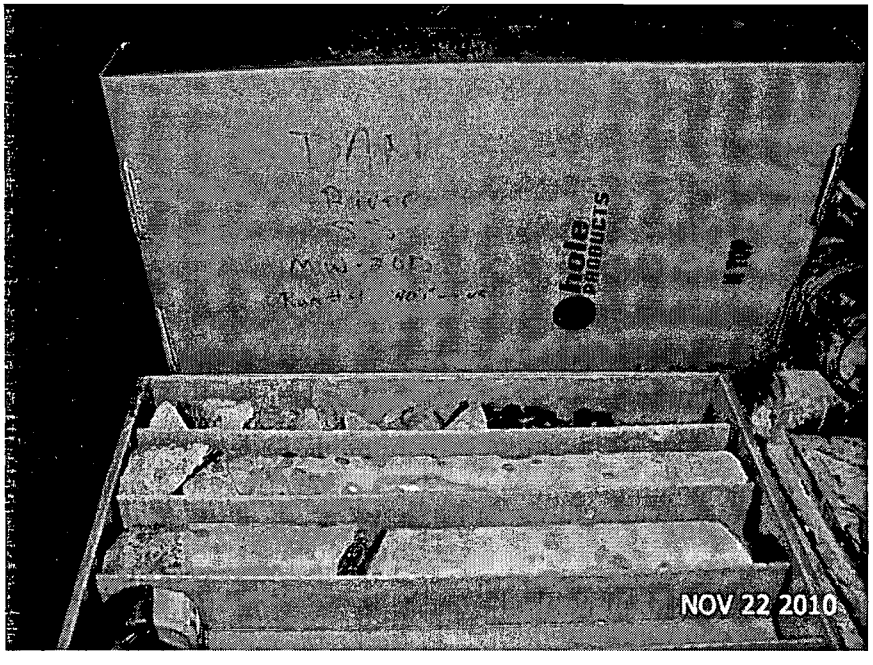
Photograph 1: Well MW-20D (core run 1).



Photograph 2: Well MW-20D (core run 2).



Photograph 3: Well MW-20D (core run 3).

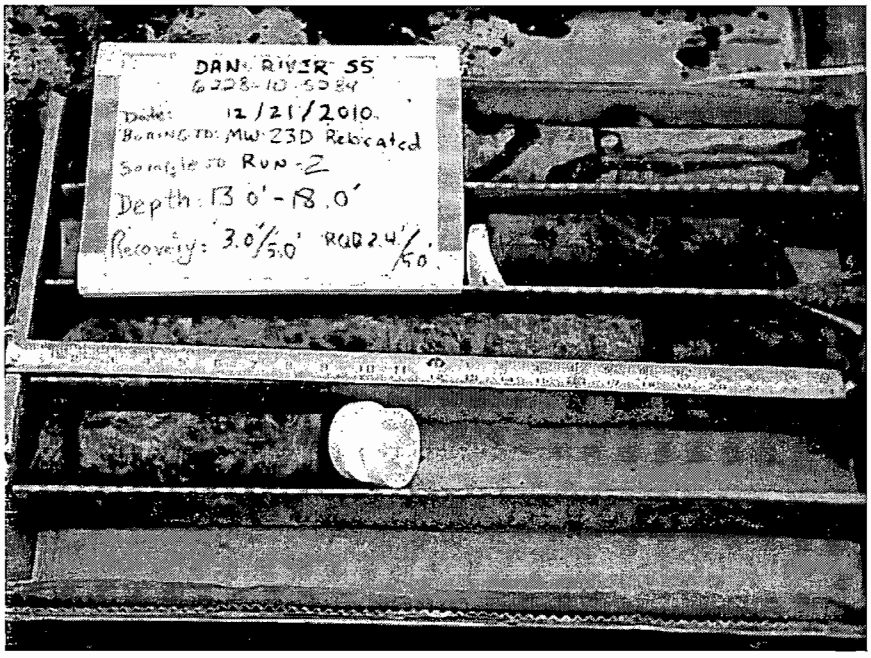


Photograph 4: Well MW-20D (core run 4).

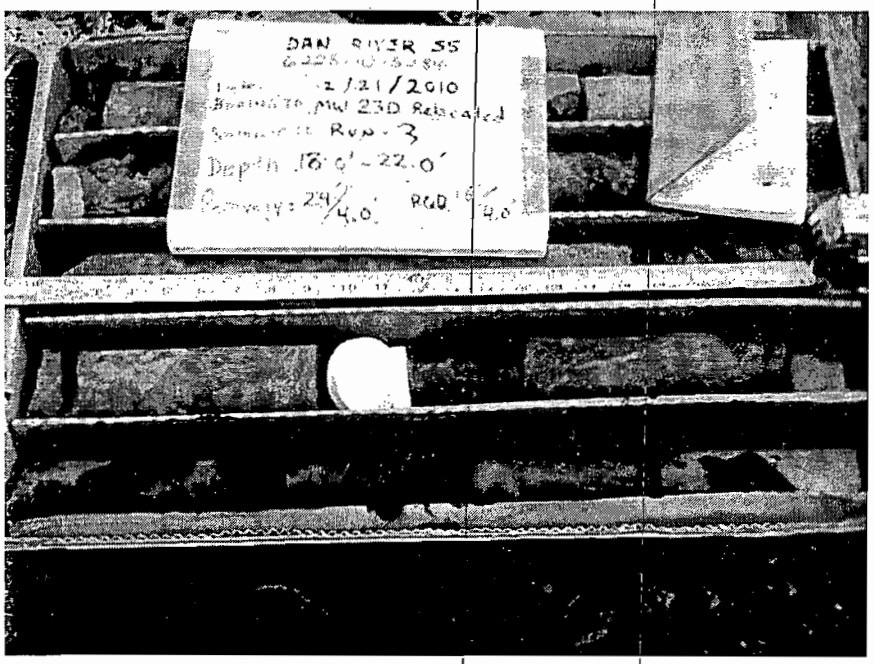
Photograph 5: Well MW-21D (core run 1).

Photograph 6: Well MW-21D (core run 2).

Photograph 7: Well MW-23D (core run 1).



Photograph 8: Well MW-23D (core run 2).



Photograph 9: Well MW-23D (core run 3).

APPENDIX B

SOIL AND ROCK BORING LOGS

DEPTH (ft)	SOIL CLASSIFICATION SEE KEY SYMBOL SHEET FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS BELOW.	LEGEND	ELEV (ft)	SAMPLES IDENT	SAMPLES TYPE	SAMPLES N-COUNT 1st 6" 2nd 6" 3rd 6"	REMARKS
0	Reddish brown (7.5 YR 5/8) silty clay (CL)						
5	Light brown (10 YR 7/3) fine sandy silt (ML)						
10							
15	Gray (Gley 1 6/N) silty fine sand (SM)						
20	Boring terminated at 20 feet below land surface						
25							
30							
35							
40							
45							

SOIL DAN RIVER.GINT.GPJ 2/8/11

DRILLER: Dan Bergman/AE Drilling
EQUIPMENT: CME 750 ATV
METHOD: 4.25" (ID) HSA
HOLE DIA.: 8" HSA
REMARKS:

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BEWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

SOIL TEST BORING RECORD

PROJECT: Dan River Steam Station
WELL ID: MW-20S

November 23, 2010
PROJ. NO.: 6228-10-5284.05

MACTEC

DEPTH (ft)	SOIL CLASSIFICATION SEE KEY SYMBOL SHEET FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS BELOW.	LEGEND	ELEV (ft)	SAMPLES IDENT	TYPE	N-COUNT 1st 6" 2nd 6" 3rd 6"	REMARKS
0	Reddish brown (7.5 YR 5/8) silty clay (CL), dry, stiff						
5				SS-1		3-5-7	
10	Light brown (10 YR 7/3) fine sandy silt (ML), dry, very hard			SS-2		50/4	poor recovery around 6 inches below spoon SS-2
15	Gray (Gley 1 6/N) silty fine sand (SM), dry, very dense, consolidation increases with depth			SS-3		24-50/5	
20	Gray (Gley 1 6/N) silty fine sand (SM), firm, wet (saturated), with consolidated material			SS-4		22-5-8	
25	Gray (Gley 1 5/N) silt (ML), wet (saturated), very hard			SS-5		40-40-34	
				SS-6		50/5	
30	Mudstone (Bedrock), gray (Gley 1 5/N), fresh, slightly decomposed, moderate field strength, moderately fractured			RC-1			RC 1 (Rec= 133%, RQD= 39%) may be fractures present, but most of fractures are mechanical
	Mudstone (Bedrock), gray (Gley 1 5/N), fresh, moderate field strength, moderately fractured			RC-2			RC 2 (Rec= 100%, RQD= 50%) fractures present, some calcareous precipitate on fracture surfaces
35				RC-3			RC 3 (Rec= 71%, RQD= 49%)
	Fine grained sandstone (Bedrock), gray (Gley 1 5/N)						
40	Mudstone (Bedrock), gray (Gley 1 5/N)			RC-4			40.1-41 feet, clay layers in bedding planes RC 4 (Rec= 100%, RQD= 80%)
45							

SOIL DAN RIVER GINT.GPJ 2/1/11

DRILLER: Dan Bergman/AE Drilling
EQUIPMENT: CME 750 ATV
METHOD: 4.25" (ID) HSA, HQ Rock Core
HOLE DIA.: 8" HSA, HQ Rock Core
REMARKS:

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BEWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

SOIL TEST BORING RECORD

PROJECT: Dan River Steam Station
WELL ID: MW-20D

November 19, 2010
PROJ. NO.: 6228-10-5284.05 **PAGE 1 OF 1**

MACTEC

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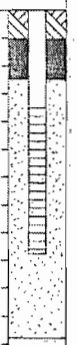
DEPTH (ft)	SOIL CLASSIFICATION SEE KEY SYMBOL SHEET FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS BELOW.	LEGEND	ELEV (ft)	SAMPLES: IDENT	TYPE	N-COUNT 1st 6"	2nd 6"	3rd 6"	REMARKS
0	Reddish brown (7.5 YR 4/6) plastic clay (CH)								
5									
10									
	Boring terminated at 11.8 feet below ground surface								
15									
20									
25									
30									
35									
40									
45									



SOIL DAN RIVER GINT.GPJ 2/8/11

DRILLER: Dan Bergman/AE Drilling
EQUIPMENT: CME 750 ATV
METHOD: 4.25" (ID) HSA
HOLE DIA.: 8" HSA
REMARKS:

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BEWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

SOIL TEST BORING RECORD

PROJECT: Dan River Steam Station
WELL ID: MW-21S

November 24, 2010
PROJ. NO.: 6228-10-5284.05 PAGE 1 OF 1

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DEPTH (ft)	SOIL CLASSIFICATION SEE KEY SYMBOL SHEET FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS BELOW:	LEGEND	ELEV (ft)	SAMPLES IDENT	SAMPLES TYPE	SAMPLES N-COUNT 1st 6" 2nd 6" 3rd 6"	REMARKS
0	Reddish brown (7.5 YR 4/6) plastic clay (CH), moist, firm						
5				SS-1		2-3-4	
	Reddish brown (7.5 YR 4/6) plastic clay (CH); wet (saturated), very hard; with loosely consolidated friable fine sandstone			SS-2		50/3	
10	Mudstone (Bedrock), gray (Gley 1 4/N), intensely fractured and moderately decomposed from 9 to 11 feet, fresh and slightly fractured from 11 to 15 feet			RC-1			RC 1 (Rec= 100%, RQD= 58%) fracture at 11.7
15	Mudstone/fine sandstone (Bedrock), fresh, slightly fractured			RC-2			fracture at 14.5 RC 2 (Rec= 100%, RQD= 80%) fracture at 16 fracture at 16.5
20							
25							
30							
35							
40							
45							

SOIL DAN RIVER GINT.GPJ 2/4/11

DRILLER: Dan Bergman/AE Drilling
EQUIPMENT: CME 750 ATV
METHOD: 4.25" (ID) HSA, HQ Rock Core
HOLE DIA.: 8" HSA, HQ Rock Core
REMARKS:

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BEWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

SOIL TEST BORING RECORD

PROJECT: Dan River Steam Station
WELL ID: MW-21D

November 23, 2010
PROJ. NO.: 6228-10-5284.05 **PAGE 1 OF 1**

MACTEC

DEPTH (ft)	SOIL CLASSIFICATION SEE KEY SYMBOL SHEET FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS BELOW.	LEGEND	ELEV (ft)	SAMPLES IDENT	TYPE	N-COUNT 1st 6" 2nd 6" 3rd 6"	REMARKS
0	Dark gray (5 YR 4/1) with little yellowish red (5 YR 5/6), weathered shale/residuum sampled as lean silt (ML), moist; very stiff, some relict rock structure (thinly bedded), little friable angle grain sized shale fragments, trace roots;						
5				SS-1		3-6-12	petroleum-like odor
	Dark gray (5 YR 4/1) silty gravel (GM), very dense, moist, angular grain sized shale fragments, moderately indurated, some relict rock structure			SS-2 RC-1		50/0.3	RC 1 (Rec= 56%, RQD= 12%)
10	Shale/mudstone (Bedrock), black (Gley 1 2.5/N), strong, aphanitic, thinly bedded, fresh, competent, moderately fractured						two 45 degree joints at 11 feet one 45 degree joint, very narrow, partially healed, iron stained vertical closed/healed joint from 12 to 12.5 feet
				RC-2			RC 2 (Rec= 60%, RQD= 48%) some healed dessication cracks in Run 2 two 45 degree joints at 15.5 feet
15							40 degree joint at 17 feet 28 degree joint with iron staining at 17.8 feet
				RC-3			RC 3 (Rec= 60%, RQD= 40%)
20							two 45 degree bedding plane fractures at 21.5 to 22
25							
30							
35							
40							
45							

SOIL_DAN RIVER.GINT.GPJ 2/1/11

DRILLER: William Burnette/AE Drilling
EQUIPMENT: CME 750 ATV
METHOD: 4.25" (ID) HSA, HQ Rock Core
HOLE DIA.: 8" HSA, HQ Rock Core
REMARKS:

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BEWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

SOIL TEST BORING RECORD

PROJECT: Dan River Steam Station
WELL ID: MW-23D

December 21, 2010
PROJ. NO.: 6228-10-5284.05 **PAGE 1 OF 1**

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APPENDIX C

NCDENR MONITORING WELL CONSTRUCTION RECORDS

NON RESIDENTIAL WELL CONSTRUCTION RECORD

North Carolina Department of Environment and Natural Resources- Division of Water Quality

WELL CONTRACTOR CERTIFICATION # 3485-A

1. WELL CONTRACTOR: JOHN GORMAN
Well Contractor (Individual) Name

A E DRILLING SERVICES, LLC
Well Contractor Company Name

Two United Way
Street Address

Greenville SC 29607
City or Town State Zip Code

(864) 288-1986
Area code Phone number

2. WELL INFORMATION:

WELL CONSTRUCTION PERMIT#

OTHER ASSOCIATED PERMIT#(if applicable)

SITE WELL ID #(if applicable) MW-205

3. WELL USE (Check One Box) Monitoring ☒ Municipal/Public ☐
Industrial/Commercial ☐ Agricultural ☐ Recovery ☐ Injection ☐
Irrigation ☐ Other ☐ (list use)

DATE DRILLED 11-22-10

4. WELL LOCATION:
900 S. Edgewood Drive
(Street Name, Numbers, Community, Subdivision, Lot No., Parcel, Zip Code)

CITY: Eden COUNTY: Rockingham

TOPOGRAPHIC / LAND SETTING: (check appropriate box)
☐ Slope ☐ Valley ☒ Flat ☐ Ridge ☐ Other

LATITUDE 36.497246
LONGITUDE 79.718032

Latitude/longitude source: ☐ GPS ☐ Topographic map
(location of well must be shown on a USGS topo map and attached to this form if not using GPS)

5. FACILITY (Name of the business where the well is located.)

Duke Energy – Dan River Steam Station
900 S. Edgewood Rd
Eden, NC 27288

City or Town State Zip Code

Mike Cook
Contact Name

Mailing Address

City or Town State Zip Code

(336) 445 0325
Area code Phone number

6. WELL DETAILS:

a. TOTAL DEPTH: 19.0

b. DOES WELL REPLACE EXISTING WELL? YES ☐ NO ☒

c. WATER LEVEL Below Top of Casing: 4.72 FT. +
(Use "+" if Above Top of Casing)

d. TOP OF CASING IS 2.57 FT. Above Land Surface*
*Top of casing terminated at/or below land surface may require a variance in accordance with 15A NCAC 2C .0118.

e. YIELD (gpm): N/M METHOD OF TEST

f. DISINFECTION: Type N/A Amount

g. WATER ZONES (depth):

Top	Bottom	Top	Bottom
Top	Bottom	Top	Bottom
Top	Bottom	Top	Bottom

7. CASING:

Depth		Diameter	Thickness/ Weight	Material
Top +3.0	Bottom 4.0 Ft.	2"	SCHD 40	PVC
Top	Bottom Ft.			
Top	Bottom Ft.			

8. GROUT:

Depth		Material	Method
Top 0.0	Bottom 2.0 Ft.	PORTLAND	TREMIE
Top 2.0	Bottom 3.0 Ft.	Bent.	
Top	Bottom Ft.		

9. SCREEN:

Depth		Diameter	Slot Size	Material
Top 4.0	Bottom 19.0 Ft.	2 in.	.01 in.	PVC
Top	Bottom Ft.	in.	in.	
Top	Bottom Ft.	in.	in.	

10. SAND/GRAVEL PACK:

Depth		Size	Material
Top 3.0	Bottom 19.0 Ft.	#1	SAND
Top	Bottom Ft.		
Top	Bottom Ft.		

11. DRILLING LOG

Top	Bottom	Formation Description
0	20	sandy silt & silty sand

12. REMARKS:

I DO HEREBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15A NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

SIGNATURE OF CERTIFIED WELL CONTRACTOR DATE 11-28-10

JOHN GORMAN
PRINTED NAME OF PERSON CONSTRUCTING THE WELL

Submit the original to the Division of Water Quality within 30 days. Attn: Information Mgt., 1617 Mail Service Center – Raleigh, NC 27699-1617 Phone No. (919) 807-6300

Form GW-1b
Rev. 11/08

EPARFI00467

NON RESIDENTIAL WELL CONSTRUCTION RECORD

North Carolina Department of Environment and Natural Resources- Division of Water Quality

WELL CONTRACTOR CERTIFICATION # 3485-A

1. WELL CONTRACTOR: JOHN GORMAN
Well Contractor (Individual) Name

A E DRILLING SERVICES, LLC
Well Contractor Company Name

Two United Way
Street Address

Greenville SC 29607
City or Town State Zip Code

(864) 288-1986
Area code Phone number

2. WELL INFORMATION:

WELL CONSTRUCTION PERMIT#:

OTHER ASSOCIATED PERMIT#(if applicable):

SITE WELL ID #(if applicable) MW-20D

3. WELL USE (Check One Box) Monitoring ☒ Municipal/Public ☐
Industrial/Commercial ☐ Agricultural ☐ Recovery ☐ Injection ☐
Irrigation ☐ Other ☐ (list use)

DATE DRILLED 11-22-10

4. WELL LOCATION:
900 South Edgewood Drive
(Street Name, Numbers, Community, Subdivision, Lot No., Parcel, Zip Code)

CITY: Eden COUNTY: Rockingham

TOPOGRAPHIC / LAND SETTING: (check appropriate box)
☐ Slope ☐ Valley ☒ Flat ☐ Ridge ☐ Other

LATITUDE 36.497251
LONGITUDE -79.716015

Latitude/longitude source: ☐ GPS ☐ Topographic map
(location of well must be shown on a USGS topo map and attached to this form if not using GPS)

5. FACILITY (Name of the business where the well is located.)
Duke Energy - Dan River Steam Station
Facility Name Facility ID# (if applicable)

900 S. Edgewood Rd
Street Address

Eden NC 27288
City or Town State Zip Code

Mike Cook
Contact Name

Mailing Address

City or Town State Zip Code

(336) 445-0325
Area code Phone number

6. WELL DETAILS:

a. TOTAL DEPTH: 41.5

b. DOES WELL REPLACE EXISTING WELL? YES ☐ NO ☒

c. WATER LEVEL Below Top of Casing: 3.72 FT. +
(Use "+" If Above Top of Casing)

d. TOP OF CASING IS 2.81 FT. Above Land Surface*
*Top of casing terminated at/or below land surface may require a variance in accordance with 15A NCAC 2C .0118.

e. YIELD (gpm): N/M METHOD OF TEST

f. DISINFECTION: Type N/A Amount

g. WATER ZONES (depth):
Top Bottom Top Bottom
Top Bottom Top Bottom
Top Bottom Top Bottom

7. CASING:

	Depth		Diameter	Thickness/ Weight	Material
Top 13.0	Bottom 36.5	Ft.	2"	SCH40	PVC
Top	Bottom	Ft.			
Top	Bottom	Ft.			

8. GROUT:

	Depth		Material	Method
Top 0.0	Bottom 27.5	Ft.	Portland	Tremie
Top 27.5	Bottom 34	Ft.	Bent.	
Top	Bottom	Ft.		

9. SCREEN:

	Depth		Diameter	Slot Size	Material
Top 36.5	Bottom 41.5	Ft.	2 in.	.01 in.	PVC
Top	Bottom	Ft.	in.	in.	
Top	Bottom	Ft.	in.	in.	

10. SAND/GRAVEL PACK:

	Depth		Size	Material
Top 34.0	Bottom 45.0	Ft.	#1	SAND
Top	Bottom	Ft.		
Top	Bottom	Ft.		

11. DRILLING LOG

Top	Bottom	Formation Description
0	30	silt and sand
30	45	mudstone (bedrock)

12. REMARKS:

I DO HEREBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15A NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

SIGNATURE OF CERTIFIED WELL CONTRACTOR 11-28-10 DATE

JOHN GORMAN
PRINTED NAME OF PERSON CONSTRUCTING THE WELL

Submit the original to the Division of Water Quality within 30 days. Attn: Information Mgt., 1617 Mail Service Center – Raleigh, NC 27699-1617 Phone No. (919) 807-6300

Form GW-1b
Rev. 11/08

EPARFI00468

NON RESIDENTIAL WELL CONSTRUCTION RECORD

North Carolina Department of Environment and Natural Resources- Division of Water Quality

WELL CONTRACTOR CERTIFICATION # 3485 A

1. WELL CONTRACTOR:
John Gorman
Well Contractor (Individual) Name
A E DRILLING SERVICES, LLC
Well Contractor Company Name
Two United Way
Street Address
Greenville SC 29607
City or Town State Zip Code
(864) 288-1986
Area code Phone number

2. WELL INFORMATION:
WELL CONSTRUCTION PERMIT#
OTHER ASSOCIATED PERMIT#(if applicable)
SITE WELL ID #(if applicable) MW-21D

3. WELL USE (Check One Box) Monitoring ☒ Municipal/Public ☐
Industrial/Commercial ☐ Agricultural ☐ Recovery ☐ Injection ☐
Irrigation ☐ Other ☐ (list use)
DATE DRILLED 11-23-10

4. WELL LOCATION:
900 S. Edgewood
(Street Name, Numbers, Community, Subdivision, Lot No., Parcel, Zip Code)
CITY: Eden COUNTY: Rockingham
TOPOGRAPHIC / LAND SETTING: (check appropriate box)
☒ Slope ☐ Valley ☐ Flat ☐ Ridge ☐ Other
LATITUDE 36.492573
LONGITUDE -79.710922
Latitude/longitude source: ☐ GPS ☐ Topographic map
(location of well must be shown on a USGS topo map and attached to this form if not using GPS)

5. FACILITY (Name of the business where the well is located.)
Duke Energy - Dan River Steam Station
Facility Name Facility ID# (if applicable)
900 S. Edgewood Rd
Street Address
Eden NC 27288
City or Town State Zip Code
Mike Cook
Contact Name
Mailing Address
City or Town State Zip Code
(336) 445-0335
Area code Phone number

6. WELL DETAILS:
a. TOTAL DEPTH: 18.6
b. DOES WELL REPLACE EXISTING WELL? YES ☐ NO ☒
c. WATER LEVEL Below Top of Casing: 1.51' FT. +
(Use "+" if Above Top of Casing)

d. TOP OF CASING IS 2.67' FT. Above Land Surface*
*Top of casing terminated at/or below land surface may require a variance in accordance with 15A NCAC 2C .0118.
e. YIELD (gpm): N/M METHOD OF TEST
f. DISINFECTION: Type N/A Amount
g. WATER ZONES (depth):
Top Bottom Top Bottom
Top Bottom Top Bottom
Top Bottom Top Bottom

7. CASING:	Depth		Diameter	Thickness/ Weight	Material
Top 13.0	Bottom 13.4	Ft.	2"	SCH40	PVC
Top	Bottom	Ft.			
Top	Bottom	Ft.			

8. GROUT:	Depth		Material	Method
Top 0.0	Bottom 9.0	Ft.	Portland	tremie
Top 9	Bottom 13	Ft.	Bent.	
Top	Bottom	Ft.		

9. SCREEN:	Depth		Diameter	Slot Size	Material
Top 13.4	Bottom 18.4	Ft.	2 In.	.01 In.	PVC
Top	Bottom	Ft.	In.	In.	
Top	Bottom	Ft.	In.	In.	

10. SAND/GRAVEL PACK:	Depth		Size	Material
Top 12.5	Bottom 18.6	Ft.	#1	SAND
Top	Bottom	Ft.		
Top	Bottom	Ft.		

11. DRILLING LOG Top	Bottom	Formation Description
0	9	Plastic clay
9	19	mudstone

12. REMARKS:

I DO HEREBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15A NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

[signature] 11-28-10
SIGNATURE OF CERTIFIED WELL CONTRACTOR DATE

JOHN GORMAN
PRINTED NAME OF PERSON CONSTRUCTING THE WELL

Submit the original to the Division of Water Quality within 30 days. Attn: Information Mgt., 1617 Mail Service Center – Raleigh, NC 27699-1617 Phone No. (919) 807-6300

Form GW-1b
Rev. 11/08

EPARFI00469

NON RESIDENTIAL WELL CONSTRUCTION RECORD

North Carolina Department of Environment and Natural Resources- Division of Water Quality

WELL CONTRACTOR CERTIFICATION # 3485-A

1. WELL CONTRACTOR: JOHN GORMAN
Well Contractor (Individual) Name

A E DRILLING SERVICES, LLC
Well Contractor Company Name

Two United Way
Street Address

Greenville SC 29607
City or Town State Zip Code

(864) 288-1986
Area code Phone number

2. WELL INFORMATION:

WELL CONSTRUCTION PERMIT#

OTHER ASSOCIATED PERMIT#(if applicable)

SITE WELL ID #(if applicable) MW-215

3. WELL USE (Check One Box) Monitoring ☒ Municipal/Public ☐
Industrial/Commercial ☐ Agricultural ☐ Recovery ☐ Injection ☐
Irrigation ☐ Other ☐ (list use)

DATE DRILLED 11-23-10

4. WELL LOCATION:
900 S. Ed
(Street Name, Numbers, Community, Subdivision, Lot No., Parcel, Zip Code)

CITY: Eden COUNTY Rockingham

TOPOGRAPHIC / LAND SETTING: (check appropriate box)
☒ Slope ☐ Valley ☐ Flat ☐ Ridge ☐ Other

LATITUDE 36.492592
LONGITUDE -79.710917

Latitude/longitude source: ☐ GPS ☐ Topographic map
(location of well must be shown on a USGS topo map and attached to this form if not using GPS)

5. FACILITY (Name of the business where the well is located.)

Duke Energy - Dan River Steam Station
Facility Name Facility ID# (if applicable)

900 S. Edgewood Rd
Street Address

Eden NC 27288
City or Town State Zip Code

Mike Cook
Contact Name

Mailing Address

City or Town State Zip Code

(336) 445-0325
Area code Phone number

6. WELL DETAILS:

a. TOTAL DEPTH: 8.8

b. DOES WELL REPLACE EXISTING WELL? YES ☐ NO ☒

c. WATER LEVEL Below Top of Casing: 5.21 FT. +
(Use "+" if Above Top of Casing)

d. TOP OF CASING IS 2.77 FT. Above Land Surface*
*Top of casing terminated at/or below land surface may require a variance in accordance with 15A NCAC 2C .0118.

e. YIELD (gpm): N/M METHOD OF TEST

f. DISINFECTION: Type N/A Amount

g. WATER ZONES (depth):

Top	Bottom	Top	Bottom
Top	Bottom	Top	Bottom
Top	Bottom	Top	Bottom

7. CASING:

Depth		Diameter	Thickness/ Weight	Material
Top 2.0	Bottom 3.5 Ft.	2"	SCH40	PVC
Top	Bottom Ft.			
Top	Bottom Ft.			

8. GROUT:

Depth		Material	Method
Top 0.0	Bottom 1.0 Ft.	Portland	Tremie
Top 1	Bottom 2.5 Ft.	Bent	
Top	Bottom Ft.		

9. SCREEN:

Depth		Diameter	Slot Size	Material
Top 3.5	Bottom 8.5 Ft.	2 in.	.01 in.	PVC
Top	Bottom Ft.	in.	in.	
Top	Bottom Ft.	in.	in.	

10. SAND/GRAVEL PACK:

Depth		Size	Material
Top 2.5	Bottom 11.8 Ft.	#1	SAND
Top	Bottom Ft.		
Top	Bottom Ft.		

11. DRILLING LOG

Top	Bottom	Formation Description
0	11.8	Plastic clay

12. REMARKS:

I DO HEREBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15A NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

SIGNATURE OF CERTIFIED WELL CONTRACTOR DATE 11-18-10

JOHN GORMAN
PRINTED NAME OF PERSON CONSTRUCTING THE WELL

Submit the original to the Division of Water Quality within 30 days. Attn: Information Mgt., 1617 Mail Service Center – Raleigh, NC 27699-1617 Phone No. (919) 807-6300

Form GW-1b
Rev. 11/08

EPARFI00470

NON RESIDENTIAL WELL CONSTRUCTION RECORD

North Carolina Department of Environment and Natural Resources- Division of Water Quality

WELL CONTRACTOR CERTIFICATION #: 3485A

1. WELL CONTRACTOR: JOHN GORMAN
Well Contractor (Individual) Name

A E DRILLING SERVICES, LLC
Well Contractor Company Name

Two United Way
Street Address

Greenville SC 29607
City or Town State Zip Code

(864) 288-1986
Area code Phone number

2. WELL INFORMATION:

WELL CONSTRUCTION PERMIT#:

OTHER ASSOCIATED PERMIT#(if applicable):

SITE WELL ID #(if applicable): MW-23D

3. WELL USE (Check One Box) Monitoring ☒ Municipal/Public ☐
Industrial/Commercial ☐ Agricultural ☐ Recovery ☐ Injection ☐
Irrigation ☐ Other ☐ (list use)

DATE DRILLED: 11-21-10

4. WELL LOCATION: Dan River Steam Station
900 Edgewood
(Street Name, Numbers, Community, Subdivision, Lot No., Parcel, Zip Code)

CITY: Eden COUNTY: Rockingham

TOPOGRAPHIC / LAND SETTING: (check appropriate box)
☒ Slope ☐ Valley ☐ Flat ☐ Ridge ☐ Other

LATITUDE: 36.493458
LONGITUDE: 79.726679

Latitude/longitude source: ☐ GPS ☐ Topographic map
(location of well must be shown on a USGS topo map and attached to this form if not using GPS)

5. FACILITY (Name of the business where the well is located.)

Duke Energy – Dan River Steam Station (if applicable)
900 S. Edgewood Rd
Eden, NC 27288

City or Town State Zip Code

Mike Cook
Contact Name

Mailing Address

City or Town State Zip Code

(336) 445 0325
Area code Phone number

6. WELL DETAILS:

a. TOTAL DEPTH: 17.0'

b. DOES WELL REPLACE EXISTING WELL? YES ☐ NO ☒

c. WATER LEVEL Below Top of Casing: 12.09 FT. +
(Use "+" if Above Top of Casing)

d. TOP OF CASING IS 3.24 FT. Above Land Surface*
*Top of casing terminated at/or below land surface may require a variance in accordance with 15A NCAC 2C .0118.

e. YIELD (gpm): N/M METHOD OF TEST

f. DISINFECTION: Type N/A Amount

g. WATER ZONES (depth):

Top	Bottom	Top	Bottom

7. CASING:

Depth		Diameter	Thickness/ Weight	Material
Top 13.5	Bottom 6.7 Ft.	2"	SCH 40	PVC
Top	Bottom Ft.			
Top	Bottom Ft.			

8. GROUT:

Depth		Material	Method
Top 0.0	Bottom 2.8 Ft.	Portland	TREMIE
Top	Bottom Ft.		
Top	Bottom Ft.		

9. SCREEN:

Depth		Diameter	Slot Size	Material
Top 6.7	Bottom 16.7 Ft.	2 in.	.01 in.	PVC
Top	Bottom Ft.	in.	in.	
Top	Bottom Ft.	in.	in.	

10. SAND/GRAVEL PACK:

Depth		Size	Material
Top 4.8	Bottom 17.0' Ft.	#2	SAND
Top	Bottom Ft.		
Top	Bottom Ft.		

11. DRILLING LOG

Top	Bottom	Formation Description
0	8	silt, weathered bedrock
8	22	shale bedrock

12. REMARKS:

I DO HEREBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15A NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

John Mo 12-21-10
SIGNATURE OF CERTIFIED WELL CONTRACTOR DATE

PRINTED NAME OF PERSON CONSTRUCTING THE WELL

Submit the original to the Division of Water Quality within 30 days. Attn: Information Mgt.,
1617 Mail Service Center – Raleigh, NC 27699-1617 Phone No. (919) 807-6300

Form GW-1b
Rev. 11/08

EPARFI00471

APPENDIX D

MONITORING WELL DEVELOPMENT RECORDS

MACTEC

MONITORING WELL DEVELOPMENT DATA

Project Name: DAN RIVER
Date: 11-23-10
Project Number: 6228-10-5284.05
Personnel: JCG

Well Number: MW-205
Date of Installation: 11-22-10
Installation Method: 4.25" H.S.A.
Well Depth: 19.0' feet bgs
Screen Length: 15.0' feet

Static Water Level: 5.42 feet bgs
1 Well Volume: 0.86 gallons
5 Well Volumes: 4.3 gallons
Depth to Sediment Before Development: 19.0 feet bgs
Depth to Sediment After Development: 19.0 feet bgs

Development Technique: Submersible Pump
Development Equipment: HARibo and whale

PARAMETER	BEFORE	DURING		AFTER
pH	6.74	6.33	6.30	6.32
Temperature (°C)	15.3	16.0	16.0	15.9
Specific Conductance (mS/cm)	.263	.277	.294	.298
Turb.	264	170	58	48

Quantity of Water Removed: 200 gallons
Character of Water After Development: clear

Additional Comments: None

MACTEC

MONITORING WELL DEVELOPMENT DATA

Project Name: DAN RIVER Date: 11-23-10

Project Number: 6228-10-5284.05 Personnel: JCG

Well Number: MW-20D

Date of Installation: 11-23-10

Installation Method: HSA + HQ

Well Depth: 41.5 feet bgs

Screen Length: 5.0' feet

Static Water Level: 6.71 feet bgs

1 Well Volume: ~~4.5~~ 4.4 gallons

5 Well Volumes: ~~22.5~~ 22.0 gallons

Depth to Sediment Before Development: 41.5 feet bgs

Depth to Sediment After Development: 41.5 feet bgs

Development Technique: Submersible Pump

Development Equipment: HARIBA & WHALE

PARAMETER	BEFORE	DURING		AFTER
	5	10	15	20
pH	7.23	7.73	7.74	7.76
Temperature (°C)	14.3	14.3	14.4	14.4
Specific Conductance (mS/cm)	.360	.351	.350	.350
TURB.	401	31	13	6

Quantity of Water Removed: 88 gallons

Character of Water After Development: clear

Additional Comments: well will not pump dry.

MACTEC

MONITORING WELL DEVELOPMENT DATA

Project Name: Dan River
Date: 11-23-10
Project Number: 6228-10-5284.05
Personnel: JCG

Well Number: MW-215
Date of Installation: 11-23-10
Installation Method: 4.25" H.S.A.
Well Depth: 8.76 feet bgs
Screen Length: 5.0' feet

Static Water Level: 5.44 feet bgs
1 Well Volume: 0.42 gallons
5 Well Volumes: 2.1 gallons
Depth to Sediment Before Development: 8.76 feet bgs
Depth to Sediment After Development: 8.76 feet bgs

Development Technique: Submersible Pump
Development Equipment: HARiba and whale

PARAMETER	BEFORE	DURING		AFTER
pH	7.41	7.13	7.14	7.19
Temperature (°C)	19.4	19.4	19.3	19.3
Specific Conductance (mS/cm)	.266	.246	.247	.247
Turb.	81	80	74	36

Quantity of Water Removed: 55 gallons
Character of Water After Development: clear

Additional Comments: None

MACTEC

MONITORING WELL DEVELOPMENT DATA

Project Name: DAN River Date: 11-23-10

Project Number: 6228-10-5284.05 Personnel: JCG

Well Number: MW-21D

Date of Installation: 11-23-10

Installation Method: 4.25" HSA & HQ

Well Depth: 18.6 feet bgs

Screen Length: 5.0 feet

Static Water Level: 5.4 feet bgs

1 Well Volume: 1.6 gallons

5 Well Volumes: 8.4 gallons

Depth to Sediment Before Development: 18.6 feet bgs

Depth to Sediment After Development: 18.6 feet bgs

Development Technique: Submersible Pump

Development Equipment: HDPE hose and valve

PARAMETER	BEFORE	DURING		AFTER
pH	7.51	7.35	7.6	7.65
Temperature (°C)	18.0	18.1	17.6	17.6
Specific Conductance (mS/cm)	.854	.790	.877	.865
Turb.	353	214	40	11

Quantity of Water Removed: 40 gallons

Character of Water After Development: clear

Additional Comments: None

MACTEC

MONITORING WELL DEVELOPMENT DATA

Project Name: Dan River Steam Station Date: 12/21/10

Project Number: 6228-10-5284.05 Personnel: Rodney Clark

Well Number: MW-23D

Date of Installation: 12/21/10

Installation Method: 4¼" HSA & HQ core

Well Depth: 17.0' feet bgs

Screen Length: 10' feet

Static Water Level: 7.6' feet bgs

1 Well Volume: 1.6 gallons

5 Well Volumes: 8.0 gallons

Depth to Sediment Before Development: 17.0 feet bgs

Depth to Sediment After Development: 17.0' feet bgs

Development Technique: Submersible Pump

Development Equipment: Waterra pump & ½" poly tubing

PARAMETER	BEFORE	2 vol DURING	4 vol	AFTER 6 vol
pH	7.76	7.69	7.63	7.61
Temperature (°C)	9.6°c	9.8°c	11.5°c	9.9°c
Specific Conductance (mS/cm)	0.344 mS/cm	0.340	0.331	0.329
turbidity	721 NTU	999	999	785

Quantity of Water Removed: Appx 10 gallons

Character of Water After Development: dark & cloudy / began to clear

Additional Comments: alternate MW-23D location / well purged dry after appx 1 vol / allowed time to recharge & purged again / developed from 1500 to 1730

APPENDIX E

PHOTOGRAPHS OF COMPLETED WELL PAIRS

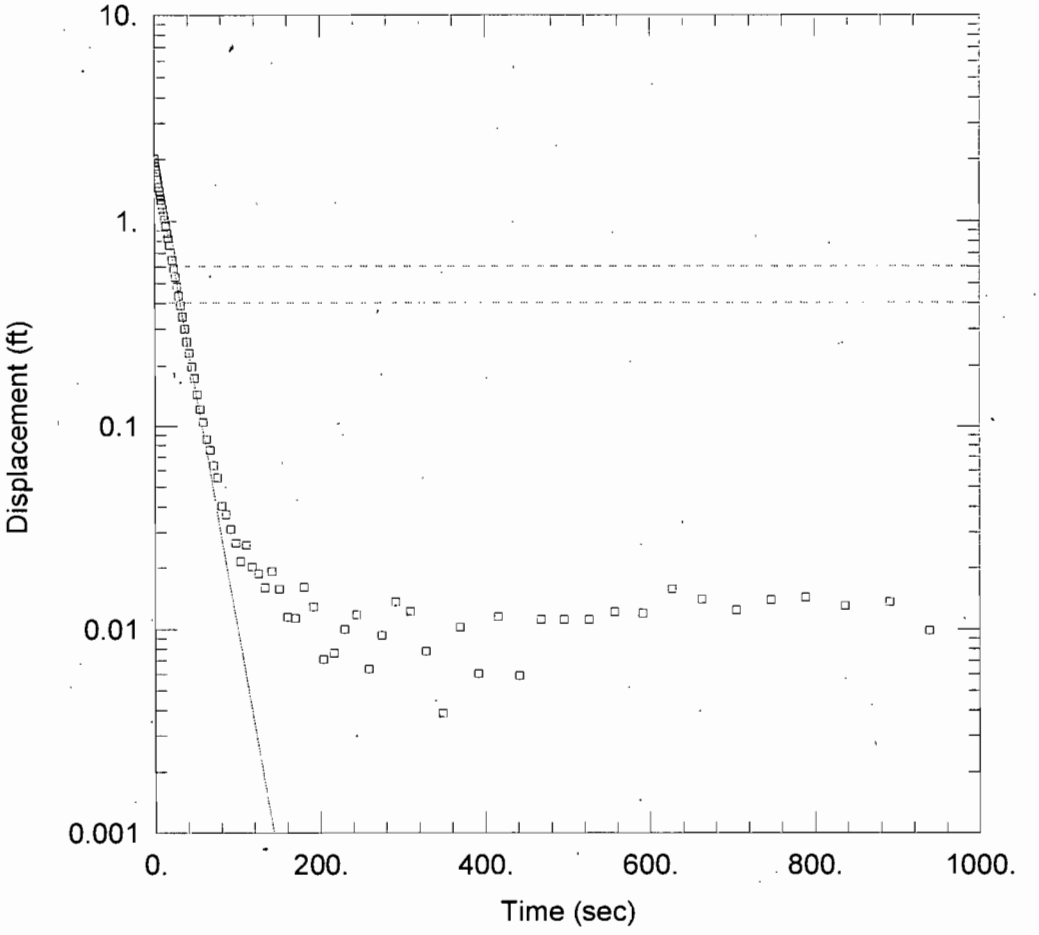
Photograph 1: Wells MW-20S and MW-20D.

Photograph 2: Wells MW-21S and MW-21S.

Photograph 3: Well MW-23D.

APPENDIX F

SLUG TEST DATA



MW-21S RISING HEAD TEST

PROJECT INFORMATION

Company: MACTEC
Client: Duke Energy
Project: 6228-09-4964
Location: Dan River Steam Station
Test Well: MW-21S
Test Date: 12/27/10

AQUIFER DATA

Saturated Thickness: 6.55 ft

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-21S)

Initial Displacement: 2.014 ft
Total Well Penetration Depth: 6.55 ft
Casing Radius: 0.086 ft

Static Water Column Height: 6.55 ft
Screen Length: 5. ft
Well Radius: 0.34 ft

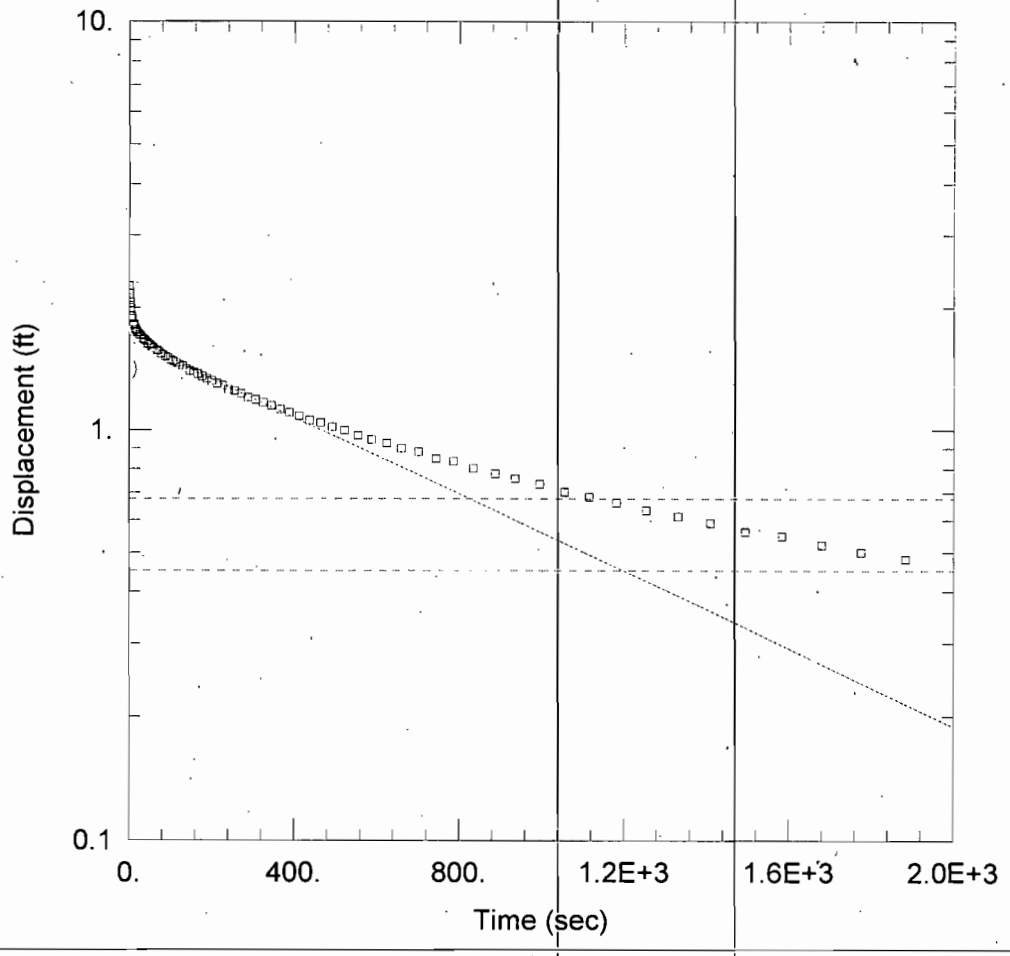
SOLUTION

Aquifer Model: Unconfined

K = 0.002221 cm/sec

Solution Method: Bouwer-Rice

y0 = 2.033 ft



MW-21D RISING HEAD TEST

PROJECT INFORMATION

Company: MACTEC
Client: Duke Energy
Project: 6228-10-5284.02
Location: Dan River Steam Station
Test Well: MW-21D
Test Date: 12/27/10

AQUIFER DATA

Saturated Thickness: 10. ft

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-21D)

Initial Displacement: 2.255 ft
Total Well Penetration Depth: 20.1 ft
Casing Radius: 0.086 ft

Static Water Column Height: 20.1 ft
Screen Length: 5. ft
Well Radius: 0.16 ft

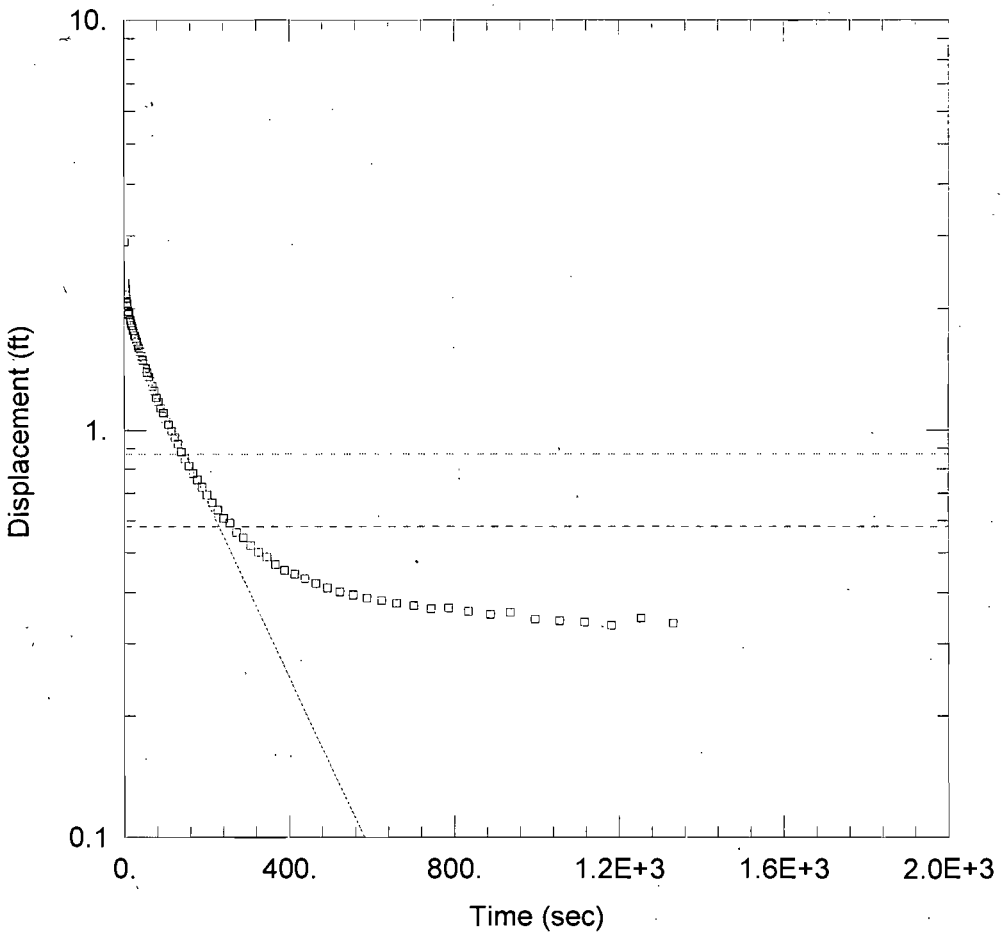
SOLUTION

Aquifer Model: Confined

Solution Method: Bouwer-Rice

K = 7.365E-5 cm/sec

y0 = 1.657 ft



MW-20S RISING HEAD TEST

PROJECT INFORMATION

Company: MACTEC
Client: Duke Energy
Project: 6228-09-4964
Location: Dan River Steam Station
Test Well: MW-20S
Test Date: 12/28/10

AQUIFER DATA

Saturated Thickness: 5.5 ft

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-20S)

Initial Displacement: 2.903 ft
Total Well Penetration Depth: 17.59 ft
Casing Radius: 0.086 ft

Static Water Column Height: 17.59 ft
Screen Length: 15. ft
Well Radius: 0.34 ft

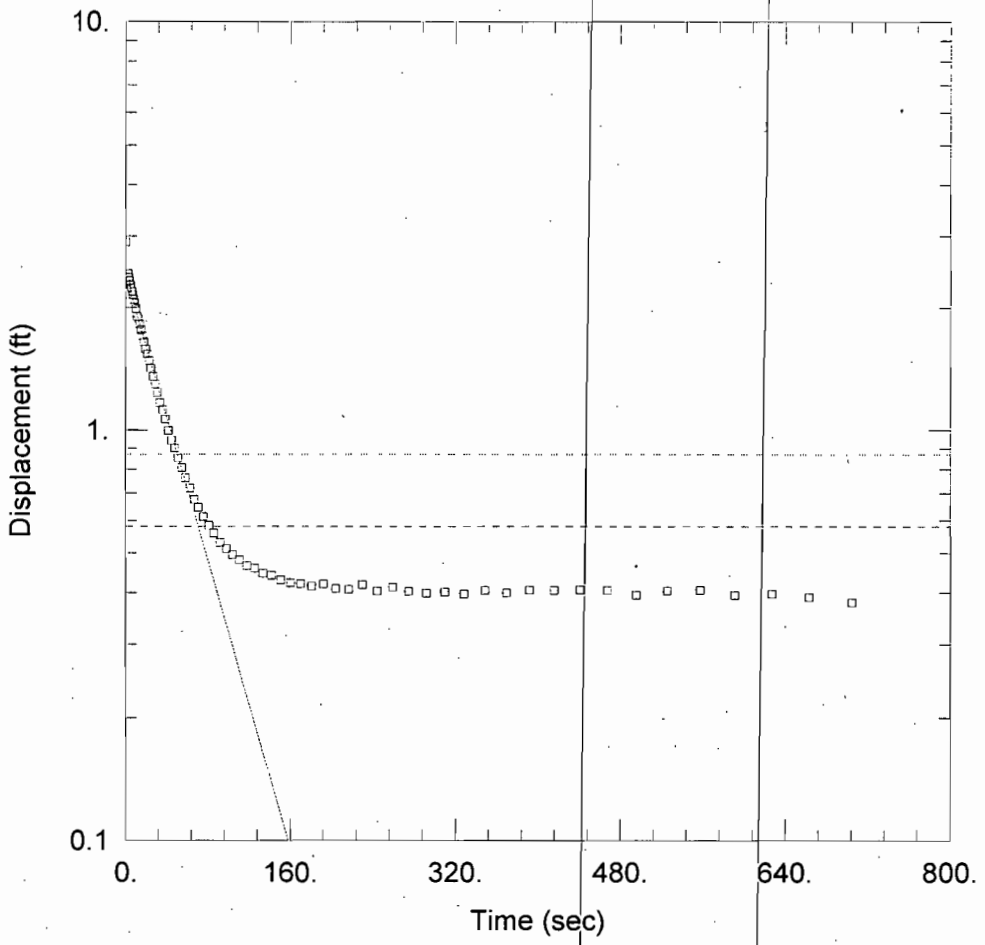
SOLUTION

Aquifer Model: Unconfined

K = 0.0002402 cm/sec

Solution Method: Bouwer-Rice

y0 = 1.824 ft



MW-20D RISING HEAD TEST

PROJECT INFORMATION

Company: MACTEC
Client: Duke Energy
Project: 6228-09-4964
Location: Dan River Steam Station
Test Well: MW-20D
Test Date: 12/28/10

AQUIFER DATA

Saturated Thickness: 14.5 ft

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-20D)

Initial Displacement: 2.903 ft
Total Well Penetration Depth: 40.7 ft
Casing Radius: 0.086 ft

Static Water Column Height: 40.7 ft
Screen Length: 5. ft
Well Radius: 0.16 ft

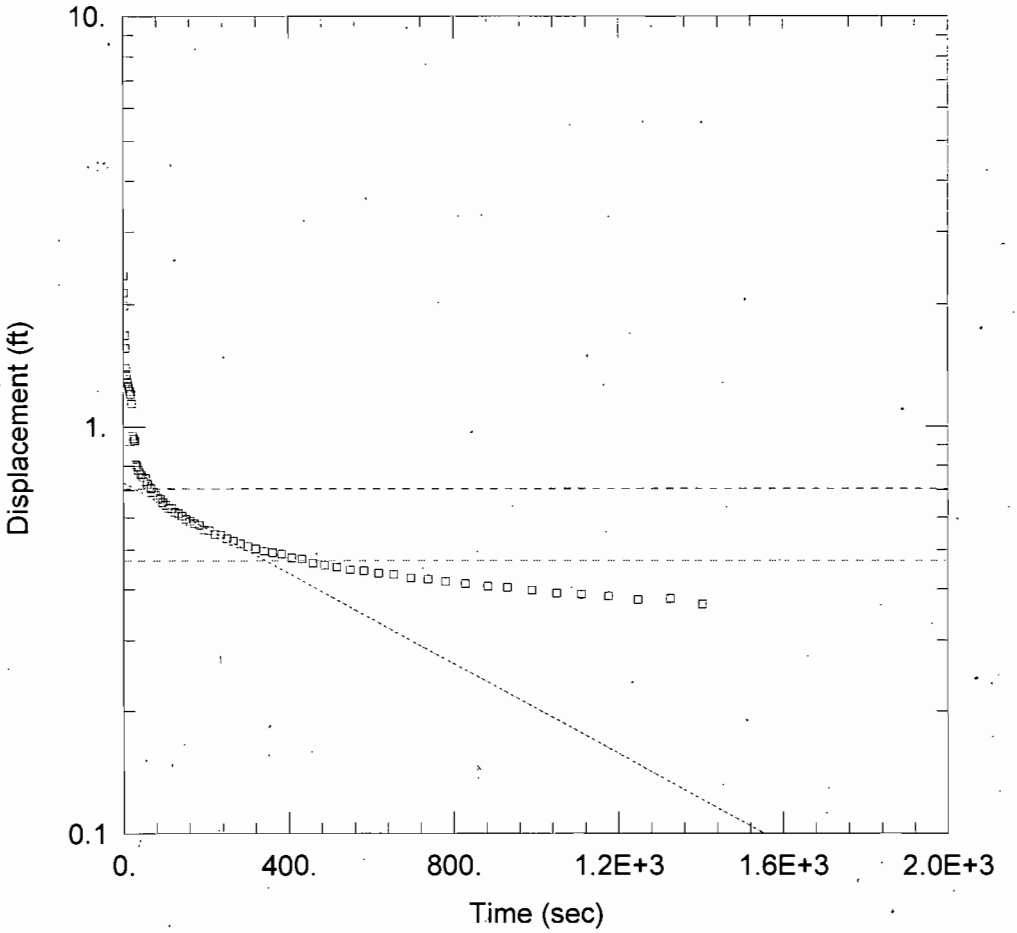
SOLUTION

Aquifer Model: Confined

Solution Method: Bouwer-Rice

K = 0.001513 cm/sec

y0 = 2.395 ft



MW-23D RISING HEAD TEST

PROJECT INFORMATION

Company: MACTEC
Client: Duke Energy
Project: 6228-10-5284.02
Location: Dan River Steam Station
Test Well: MW-23D
Test Date: 12/27/10

AQUIFER DATA

Saturated Thickness: 8.11 ft

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-23D)

Initial Displacement: 2.349 ft
Total Well Penetration Depth: 8.11 ft
Casing Radius: 0.086 ft

Static Water Column Height: 8.11 ft
Screen Length: 8.11 ft
Well Radius: 0.16 ft

SOLUTION

Aquifer Model: Confined

Solution Method: Bouwer-Rice

K = 4.693E-5 cm/sec

y0 = 0.7298 ft

amec

January 3, 2012

Mr. Thomas Wiest, Project Manager
Duke Energy Corporation
3195 Pine Hall Road
Belews Creek, North Carolina 27009

Subject: **Ash Basin Monitoring Well Installation Report**
Dan River Steam Station
900 South Edgewood Road
Eden, Rockingham County, North Carolina
AMEC Project No.: 6288-10-5284

Dear Mr. Wiest:

AMEC E & I, Inc. (AMEC) is pleased to provide this report on behalf of our client, AE Drilling, LLC. The purpose of this report is to present the results of monitoring well installation and evaluation activities conducted in November and December 2011 at the above-referenced site (Figure 1). The well installation and testing was conducted in general accordance with the requirements outlined in the Ash Basin Groundwater Monitoring Well Installation Project Work Summary (Work Summary) provided by Duke Energy (Duke), dated November 11, 2011. The following Figure, Tables and Appendices are included in this report:

Figure 1:	Monitoring Well Locations
Table 1:	Summary of Well Construction Details
Table 2:	Summary of Slug Test Results
Appendix A:	NCDENR Monitoring Well Construction Records
Appendix B:	Monitoring Well Development Records
Appendix C:	Photograph of Completed Well Pair
Appendix D:	Slug Test Data

One pair of groundwater monitoring wells (MW-22S and MW-22D) was installed between November 22 and 23, 2011 at the locations shown on Figure 1. The well locations were pre-determined by Duke and marked in the field with wooden stakes and survey flagging. The well pair consisted of one shallow well (using the identifier "S") set into overburden soils and one deep well (using the identifier "D) set into

Correspondence:
AMEC E&I, Inc.
2801 Yorkmont Road, Suite 100
Charlotte, North Carolina 28208
Tel 704-357-8600
Fax 704-357-8638

the bedrock. The wells were installed using an air-powered, ODEX drilling system, which involves placement of temporary steel casing. Therefore, no soil or rock samples were collected. A Project Geologist logged soil and rock "cuttings" in the field.

Well MW-22S was installed to monitor the shallow groundwater. MW-22S was installed as a Type II well using two-inch diameter schedule 40 polyvinyl chloride (PVC) screen and casing. MW-22S was installed to a depth of 22.5 feet with a 10-foot screen with manufactured 0.010-inch slots. The well screen was centered in the borehole to provide adequate packing between the well screen and the formation. The annulus surrounding the screen of well MW-22S was backfilled with fine sand (gravel pack #1). The sand pack extended about one foot above the top of the screen. Above the sand pack, the drilling contractor installed a six-foot thick bentonite seal hydrated with potable water. Neat cement grout was placed in the annular space between the PVC casing and the borehole above the bentonite seal and extended to ground surface.

Well MW-22D was installed to monitor the groundwater in the zone where the regolith transitions into bedrock. Well MW-22D was installed as a Type II well using two-inch diameter Schedule 40 PVC screen and casing. Well MW-22D was installed to a depth of 37.2 feet with a five-foot well screen with manufactured 0.010-inch slots. AMEC personnel and the Duke representative collaborated by telephone to attempt to set the well screen in the most conductive hydrogeologic interval of the transition zone with the screen below the static groundwater level. The well screen was centered in the borehole to provide adequate packing between the well screen and the formation. The annulus surrounding the screen of well MW-22S was backfilled with fine sand (gravel pack #2). The sand pack extended about one foot above the top of the screen. Because the well borehole was advanced through about 12 feet of riprap fill, it was necessary to seal the riprap fill interval of the borehole using bentonite. Above the sand pack, the drilling contractor installed a 28.3-foot thick bentonite seal hydrated with water. Neat cement grout was placed in the annular space between the PVC casing and the borehole above the bentonite seal and extended to ground surface.

Each well was completed with a stand-up well cover that extends approximately 30 inches above-grade and set into a 2-foot by 2-foot concrete pad. Monitoring well ID tags were secured to the outside of the stand-up covers and well numbers were etched into the uncured concrete pad. The well construction records for the two monitoring wells installed during this work are included as Appendix A.

Subsequent to installation, each well was developed using a submersible pump to remove fine-grained material. In general, each well was evacuated of water, allowed to recharge and was evacuated repeatedly. Water quality parameters (pH, conductivity, DO and ORP) were recorded at regular intervals. AMEC attempted to measure and record Turbidity readings, but the slow recharge of the wells resulted in a low volume of discharged water and elevated turbidity readings. Purge water generated during well development was discharged to the ground surface adjacent to each well. Monitoring well development records are included as Appendix B. A photograph of the completed monitoring well pair is included as Appendix C.

Rising head slug tests were performed on each well on December 1, 2011. Initially, an In-situ Level Troll pressure transducer and either a 2-foot (MW-22D) or 4-foot (MW-22S) long stainless steel slug were placed into each well. The water level in each well was recorded as a "falling head" test until the water in the well discharged to within 90% of the original measurement. Reporting falling head test data is not recommended for wells MW-22S or MW-22D, because the well screens are not fully submerged which will allow displaced water to flow into well sand pack and result in unrealistic hydraulic conductivity (K) values.

Subsequent to water level stabilization, the rising head test was started by removing the slug and recording the change in head (rising) versus time using a Rugged-reader data logger. Slug test data was analyzed using Aqtesolv software to estimate hydraulic conductivity in each well.

Appendix D includes the slug test data for wells MW-22S and MW-22D. The measured K value calculated from the rising head test in well MW-22S (1.91 E-04 cm/sec) seems appropriate for the type of overburden soils at the site. The measured static water column height (1.5 feet) in well MW-22D limited the volume of available water to be offset by insertion and removal of the slug. As a result, the maximum displacement was measured at 0.257 feet of water during the rising head test. It is AMEC's opinion that the rate of inflow of water into the well measured during the rising head test for this well is probably more representative of the hydraulic conductivity of the sand pack than the surrounding formation material. The measured K value calculated from the rising head test in well MW-22D is 1.71 E-03 cm/sec.

It is our recommendation that the wells be further developed by pumping until turbidity readings of the water removed from the wells are less than or equal to 50 NTUs. Following development, well MW-22D should be purged to complete dryness and a rising head test be performed for an extended period time

(possibly one or two days, as needed) to allow for stabilization of the water level to within 90% of the static fluid level. A summary of slug test data is presented in Table 2. Electronic slug test data is included on the attached compact disc.

Please contact the undersigned at (704) 357-8600, if you have questions or comments concerning this project.

Sincerely,

AMEC E & I, INC.

Jacqueline Williams

Michael D. Flanik, P.G.
Project Geologist

For Michael D. Flanik
With Permission

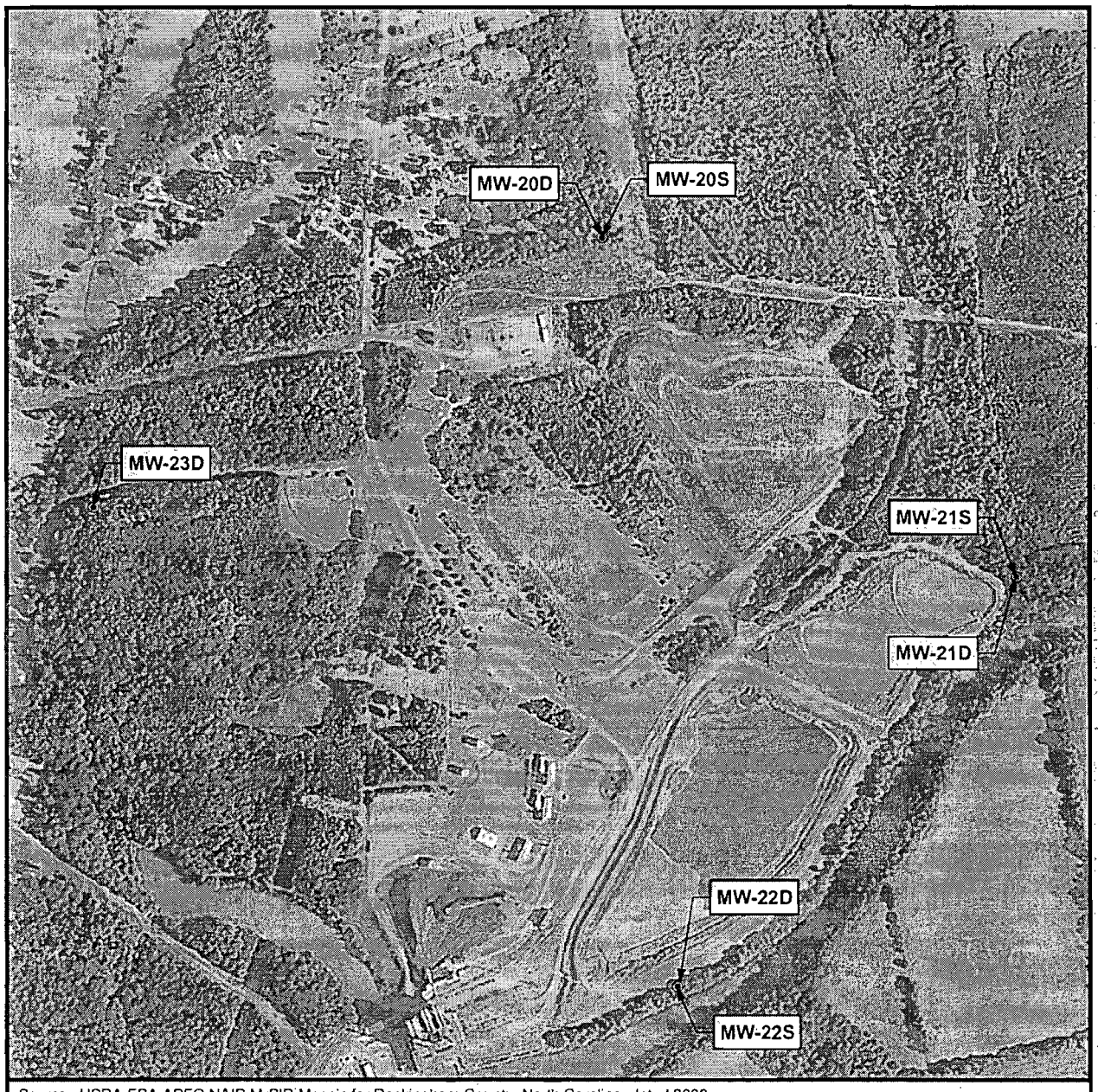
Robert C. Foster
Principal

NORTH CAROLINA LICENSED SEAL 4335 GEOLOGIST ROBERT C. FOSTER

Enclosures

cc: William M. Miller, PE, Altamont Environmental
Mark Lassiter, PG, AE Drilling, LLC
Ed Sullivan, Duke Energy
Sherri Knight, NCDENR, WSRO DWQ
George Tolbert, Duke Energy

FIGURE



Source: USDA-FSA-APFO NAIP MrSID Mosaic for Rockingham County, North Carolina, dated 2009.

● Monitoring Well Location

N

0 500 1,000 2,000 3,000 4,000 Feet

amec

MONITORING WELL LOCATIONS
DUKE ENERGY
DAN RIVER STEAM STATION
ROCKINGHAM COUNTY, NORTH CAROLINA

PREPARED BY	DATE	CHECKED BY	DATE	JOB NUMBER	FIGURE
SJM	12-14-11	RUF	1-3-12	6228-10-5284	1

TABLES

Table 1
Summary of Well Construction Details
Dan River Steam Station, Eden, North Carolina

Well Number	Coordinates		Drilling Method	Construction Details				Measured Details			
	Latitude	Longitude		Well Diameter (I.D. in.)	Borehole Depth (ft bgs)	Well Depth (ft bgs)	Screen Interval (ft bgs)	Top of Casing Elevation (NAVD 88)	Well Depth (ft below TOC)	Depth to Water (ft below TOC)	Height of Water Column (ft)
MW-22S	36.486891	-79.716668	ODEX	2	23	22.55	12.35 - 22.35	504.52	25.07	19.02	6.05
MW-22D	36.486898	-79.716644	ODEX	2	38	37.15	31.95 - 36.95	505.19	39.65	38.15	1.50

ft bgs = feet below ground surface
Dan River water elevation measured at 481.7 feet NAVD 88 on December 14, 2011 at 3:00 pm.

Prepared by Date: MEF 12-15-11
Checked by Date: RCF 1-3-12

EPARFI00494

Table 2
Summary of Slug Test Data
Dan River Steam Station, Eden, North Carolina

WELL ID	Test Date	Aquifer Model	Rising Head Test		Borehole Depth (ft bgs)	Well Depth (ft bgs)	Screen Interval (ft bgs)	Well Diameter (I.D. in.)
			Solution Method	K-value (cm/sec)				
MW-22S	12/1/2011	unconfined	Bouwer-Rice	1.91 E-04	23	22.55	12.35 - 22.35	2
MW-22D	12/1/2011	unconfined	Bouwer-Rice	1.71 E-03	38	37.15	31.95 - 36.95	2

Note: In calculating the hydraulic conductivity values, an unconfined aquifer model was assigned to both wells. The saturated thicknesses (Appendix D) were derived from lithologic data from well borings including likely water-bering zones.

Prepared By Date: MDF 12-15-11
Checked By Date: RCF 1-3-12

APPENDICES

APPENDIX A

NCDENR MONITORING WELL CONSTRUCTION RECORDS

NON RESIDENTIAL WELL CONSTRUCTION RECORD

North Carolina Department of Environment and Natural Resources- Division of Water Quality

WELL CONTRACTOR CERTIFICATION # 2209

1. WELL CONTRACTOR:
Randy Phillips
Well Contractor (Individual) Name
A E DRILLING SERVICES, LLC
Well Contractor Company Name
TWO UNITED WAY
Street Address
GREENVILLE SC 29607
City or Town State Zip Code
(864) 288-1986
Area code Phone number

2. WELL INFORMATION:
WELL CONSTRUCTION PERMIT#
OTHER ASSOCIATED PERMIT#(if applicable)
SITE WELL ID #(if applicable) MW-22S

3. WELL USE (Check One Box) Monitoring ☑ Municipal/Public ☐
Industrial/Commercial ☐ Agricultural ☐ Recovery ☐ Injection ☐
Irrigation ☐ Other ☐ (list use)
DATE DRILLED 11-22-11 - 11-23-

4. WELL LOCATION:
900 South Edgewood Road
(Street Name, Numbers, Community, Subdivision, Lot No., Parcel, Zip Code)
CITY: Eden COUNTY Rockingham
TOPOGRAPHIC / LAND SETTING: (check appropriate box)
☐ Slope ☐ Valley ☐ Flat ☐ Ridge ☑ Other Berm
LATITUDE 36 ° ' " DMS OR 36.486891 DD
LONGITUDE 75 ° ' " DMS OR -79.716668 DD
Latitude/longitude source: ☐ GPS ☐ Topographic map
(location of well must be shown on a USGS topo map and attached to this form if not using GPS)

5. FACILITY (Name of the business where the well is located.)
Dan River Steam Station
Facility Name Facility ID# (if applicable)
900 South Edgewood Road
Street Address
Eden NC 27288
City or Town State Zip Code
Duke Energy Company
Contact Name
500 South Church Street
Mailing Address
Charlotte NC 28201
City or Town State Zip Code
(336) 445-0325
Area code Phone number

6. WELL DETAILS:
a. TOTAL DEPTH: 22.5'
b. DOES WELL REPLACE EXISTING WELL? YES ☐ NO ☑
c. WATER LEVEL Below Top of Casing: 25.07 + FT.
(Use "+" if Above Top of Casing)

d. TOP OF CASING IS 2.5 FT. Above Land Surface*
*Top of casing terminated at/or below land surface may require a variance in accordance with 15A NCAC 2C .0118.
e. YIELD (gpm): n/m METHOD OF TEST
f. DISINFECTION: Type n/a Amount
g. WATER ZONES (depth):
Top Bottom Top Bottom
Top Bottom Top Bottom
Top Bottom Top Bottom

7. CASING:

Depth		Diameter	Thickness/ Weight	Material
Top 0	Bottom 12 Ft.	2"	Sch40	PVC
Top	Bottom Ft.			
Top	Bottom Ft.			

8. GROUT:

Depth		Material	Method
Top 4	Bottom 10.7 Ft.	Bentonite/	Tremie
Top 0	Bottom 4 Ft.	Cement	Tremie
Top	Bottom Ft.		

9. SCREEN:

Depth		Diameter	Slot Size	Material
Top 12	Bottom 22 Ft.	2 in.	.010 in.	PVC
Top	Bottom Ft.	in.	in.	
Top	Bottom Ft.	in.	in.	

10. SAND/GRAVEL PACK:

Depth		Size	Material
Top 10.7	Bottom 22.5 Ft.	#1	Sand
Top	Bottom Ft.		
Top	Bottom Ft.		

11. DRILLING LOG (cuttings)

Top	Bottom	Formation Description
0	4	Crushed stone (fill)
4	7	Rip rap (fill)
7	12	Brown silt
12	22	Brown sandy silt

12. REMARKS:

I DO HEREBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15A NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

SIGNATURE OF CERTIFIED WELL CONTRACTOR DATE 12-14-11

Randy Phillips
PRINTED NAME OF PERSON CONSTRUCTING THE WELL

Submit within 30 days of completion to: Division of Water Quality - Information Processing, 1617 Mail Service Center, Raleigh, NC 27699-161 Phone: (919) 807-6300

Form GW-1b
Rev. 2/09

EPARFI00498

NON RESIDENTIAL WELL CONSTRUCTION RECORD

North Carolina Department of Environment and Natural Resources- Division of Water Quality

WELL CONTRACTOR CERTIFICATION # 2209

1. WELL CONTRACTOR:

Randy Phillips
Well Contractor (Individual) Name

A E DRILLING SERVICES, LLC
Well Contractor Company Name

TWO UNITED WAY
Street Address

GREENVILLE SC 29607
City or Town State Zip Code

(864) 288-1986
Area code Phone number

2. WELL INFORMATION:

WELL CONSTRUCTION PERMIT#

OTHER ASSOCIATED PERMIT#(if applicable)

SITE WELL ID #(if applicable) MW-22D

3. WELL USE (Check One Box) Monitoring ☑ Municipal/Public ☐ Industrial/Commercial ☐ Agricultural ☐ Recovery ☐ Injection ☐ Irrigation ☐ Other ☐ (list use)

DATE DRILLED 11-22-11- 11-23-

4. WELL LOCATION:

900 South Edgewood Road
(Street Name, Numbers, Community, Subdivision, Lot No., Parcel, Zip Code)

CITY: Eden COUNTY Rockingham

TOPOGRAPHIC / LAND SETTING: (check appropriate box), ☐ Slope ☐ Valley ☐ Flat ☐ Ridge ☑ Other Berm

LATITUDE 36 ° ' " DMS OR 36.486678 DD

LONGITUDE 75 ° ' " DMS OR -79.716644 DD

Latitude/longitude source: ☐ GPS ☐ Topographic map
(location of well must be shown on a USGS topo map and attached to this form if not using GPS)

5. FACILITY (Name of the business where the well is located.)

Dan River Steam Station
Facility Name Facility ID# (if applicable)

900 South Edgewood Road
Street Address

Eden NC 27288
City or Town State Zip Code

Duke Energy Company
Contact Name

500 South Church Street
Mailing Address

Charlotte NC 28201
City or Town State Zip Code

(336.0) 445-0325
Area code Phone number

6. WELL DETAILS:

a. TOTAL DEPTH: 37.2'

b. DOES WELL REPLACE EXISTING WELL? YES ☐ NO ☑

c. WATER LEVEL Below Top of Casing: 38.15+ FT.
(Use "+" if Above Top of Casing)

d. TOP OF CASING IS 2.97 FT. Above Land Surface*
*Top of casing terminated at/or below land surface may require a variance in accordance with 15A NCAC 2C .0118.

e. YIELD (gpm): n/m METHOD OF TEST

f. DISINFECTION: Type n/a Amount

g. WATER ZONES (depth):

Top	Bottom	Top	Bottom

7. CASING:

Depth		Diameter	Thickness/ Weight	Material
Top 0	Bottom 31.9	Ft. 2"	Sch40	PVC
Top	Bottom	Ft.		
Top	Bottom	Ft.		

8. GROUT:

Depth		Material	Method
Top 3'	Bottom 31.3	Ft. Bentonite/	Tremie
Top 0'	Bottom 3'	Ft. Cement	Tremie
Top	Bottom	Ft.	

9. SCREEN:

Depth		Diameter	Slot Size	Material
Top 31.9	Bottom 36.9	Ft. 2' in.	.010 in.	PVC
Top	Bottom	Ft. in.	in.	
Top	Bottom	Ft. in.	in.	

10. SAND/GRAVEL PACK:

Depth		Size	Material
Top 31.3	Bottom 37.5	Ft. #2	Sand
Top	Bottom	Ft.	
Top	Bottom	Ft.	

11. DRILLING LOG (cuttings)

Top	Bottom	Formation Description
0	5	Crushed stone (fill)
5	8	Brown clayey silt (fill) w/riprap
8	12	Shale/Silt stone (fill) w/riprap
12	15	Brown sandy silt with roots
15	20	Brown sandy silt with roots
20	22	no cuttings
22	37.5	Grayish brown sandstone

12. REMARKS:

I DO HEREBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15A NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

SIGNATURE OF CERTIFIED WELL CONTRACTOR DATE 12-14-11

Randy Phillips
PRINTED NAME OF PERSON CONSTRUCTING THE WELL

Submit within 30 days of completion to: Division of Water Quality - Information Processing, 1617 Mail Service Center, Raleigh, NC 27699-161; Phone : (919) 807-6300

Form GW-1b
Rev. 2/09

EPARFI00499

APPENDIX B

MONITORING WELL DEVELOPMENT RECORDS

AMEC E&I, INC.

MONITORING WELL DEVELOPMENT FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-10-5284.05 MONITORING WELL NUMBER MW-22S

SITE NAME Dam River DATE 11/28/11 WEATHER CONDITIONS Mostly cloudy, mid-60's

FIELD PERSONNEL Mike Flanik

TOTAL WELL DEPTH (TWD) 22.55 FT. (measured / well tag / drillers log – circle one) stickup

SCREENED INTERVAL 22.35 - 12.35 MEASURING POINT FOR DEPTH GS

DEPTH TO GROUNDWATER (DGW) 20.19 - (2.5') = 17.69' bgs

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 4.86

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = .792 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1"= 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 2.37 FIVE STANDING WELL VOLUMES = 3.96

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE whale

TOTAL VOLUME OF WATER REMOVED: NM GAL.

WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS

LOCKING CAP YES X NO

PROTECTIVE POST/ABUTMENT YES NO X

NONPOTABLE LABEL YES X NO X NF

ID PLATE YES X NO

WELL INTEGRITY SATISFACTORY YES X NO

WELL YIELD LOW X MODERATE HIGH

Clarity	Time	Volume	Turbidity (NTU)	pH	Cond	Notes DO	ORP
DK Brown	1505	0	—	6.36	0.512	2.19	4
	Pump	clogged,	Driller	surges			
	1535	NM	—	6.47	.469	2.53	-3
	Pump	runs	for 5	seconds	then	cuts	off
	1530	NM	—	6.59	.495	4.63	-17
	1535	NM	—	6.60	.472	5.09	-12
Tan - Lt brown	1617	NM	—	6.72	.471	10.54	-24
	1626	NM	825	6.81	.481	9.76	-23
Tan	1715	NM	—	6.58	.489	3.69	-12
	Well	runs	Dry				

WL = 22' BTOC

well was turned on and off to remove as much sediment & to develop as much as possible

(—) = Too turbid for reading or instrument clogged
NM = not measured

EPARFI00501

AMEC E&I, INC.

MONITORING WELL DEVELOPMENT FIELD DATA WORKSHEET

AMEC PROJECT NUMBER 6228-10-5284.05 MONITORING WELL NUMBER MW-22D

SITE NAME Dan River DATE 11/28/11 WEATHER CONDITIONS mostly cloudy, mid 60's

FIELD PERSONNEL Mike Flanik

TOTAL WELL DEPTH (TWD) 37.15 FT. (measured / well tag / drillers log – **circle one**) Bgs

SCREENED INTERVAL 36.95 - 31.95 MEASURING POINT FOR DEPTH GS

DEPTH TO GROUNDWATER (DGW) 17.19

LENGTH OF WATER COLUMN (LWC) = TWD – DGW = 19.96

CASING DIAMETER 2 IN.

ONE STANDING WELL VOLUME = 3.25 gal.

(NOTE ½" = 0.0102G/FT: ¾" = 0.023 G/FT: 1" = 0.041G/FT: 2" = 0.163 G/FT: 4" = 0.653 G/FT: 6" = 1.46 G/FT)

THREE STANDING WELL VOLUMES = 9.75 FIVE STANDING WELL VOLUMES = 16.25

METHOD OF WELL EVACUATION: BAILER / PUMP / OTHER: TYPE Whale

TOTAL VOLUME OF WATER REMOVED: NM GAL.

WELL TYPE: FLUSH MOUNT / ABOVE GRADE COMMENTS

LOCKING CAP YES X NO

PROTECTIVE POST/ABUTMENT YES NO X

NONPOTABLE LABEL YES X NO ~~X~~ MF

ID PLATE YES X NO

WELL INTEGRITY SATISFACTORY YES X NO

WELL YIELD LOW X MODERATE HIGH

Time	Volume	Turbidity (NTU)	pH	Notes cond	DO	ORP
1355	0	—	6.85	.666	6.14	82
1400	—	194	6.82	.499	7.6	72
1403	Dry					
1415	→					
1430	Pump Removed					
1600						
1630						
well dry & doesn't recover.						
enough to pump						

GS = -2.5' below TOC

WL = 37.79' BTOC

WL = 37.55 "

WL = 38.45 BTOC

WL = 38.43 BTOC

WL = 38.37 BTOC

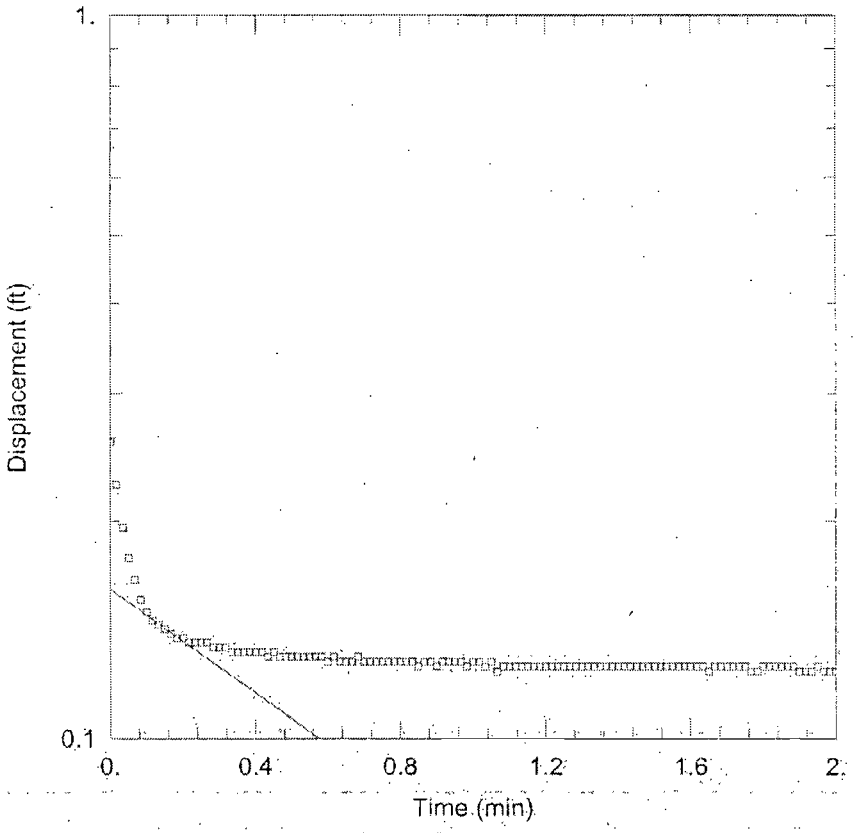
EPARFI00502

APPENDIX C

PHOTOGRAPH OF COMPLETED WELL PAIR

Photograph 1: Wells MW-22S and MW-22D.

APPENDIX D
SLUG TEST DATA



MW-22D RISING HEAD TEST

PROJECT INFORMATION

Company: AMEC E&I
Client: Duke Energy
Project: 6234-11-5499
Location: Dan River
Test Well: MW-22D
Test Date: 12/1/11

AQUIFER DATA

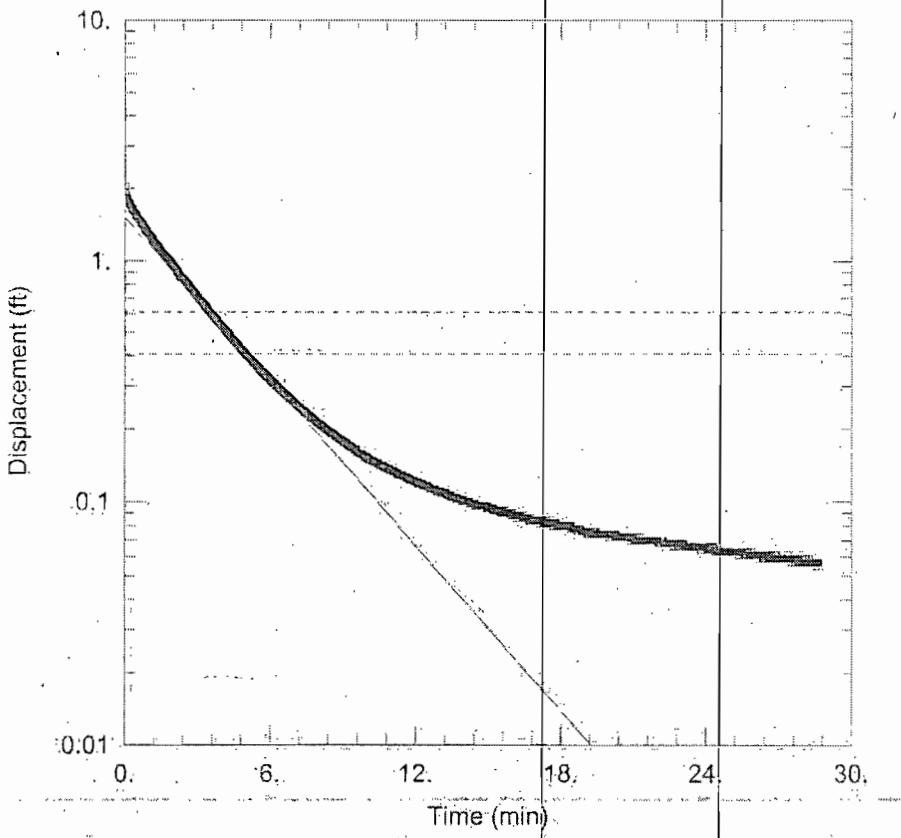
Saturated Thickness: 1.5 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-22D)

Initial Displacement: 0.257 ft
Total Well Penetration Depth: 5. ft
Casing Radius: 0.086 ft
Static Water Column Height: 1.5 ft
Screen Length: 5. ft
Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.001715 cm/sec
y0 = 0.1613 ft



MW-22S RISING HEAD TEST

PROJECT INFORMATION

Company: AMEC E&I
Client: Duke Energy
Project: 6234-11-5499
Location: Dan River
Test Well: MW-22S
Test Date: 12/1/11

AQUIFER DATA

Saturated Thickness: 6.05 ft

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-22S)

Initial Displacement: 2.041 ft
Total Well Penetration Depth: 10. ft
Casing Radius: 0.086 ft

Static Water Column Height: 6.05 ft
Screen Length: 10. ft
Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Unconfined

K = 0.000191 cm/sec

Solution Method: Bouwer-Rice

y0 = 1.511 ft

B

Appendix B - Permit Condition A(11) Attachment XX, Version 1.1, June 15, 2011

A. (6) GROUNDWATER MONITORING WELL CONSTRUCTION AND SAMPLING

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

2. WELL CONSTRUCTION. Within 120 days of permit issuance, monitoring wells, as proposed on Attachment XX, shall be installed to monitor groundwater quality.

   a. Monitoring wells shall be constructed in accordance with 15A NCAC 02C .0108 (Standards of Construction for Wells Other than Water Supply) and any other jurisdictional laws and regulations pertaining to well construction. The general locations for all monitoring wells are indicated on Attachment XX.

   b. Within 30 days of completion of well construction, a completed Well Construction Record (Form GW-1) must be submitted for each monitoring well to Division of Water Quality, Aquifer Protection Section, 1636 Mail Service Center, Raleigh, NC 27699-1636.

   c. The Winston-Salem Regional Office, telephone number (336) 771-5000, shall approve the location of new monitoring wells prior to installation. The regional office shall be notified at least 48 hours prior to the construction of any monitoring well and such notification to the Aquifer Protection Section's regional supervisor shall be made from 8:00 a.m. until 5:00 p.m. on Monday through Friday, excluding State Holidays.

   d. Within 60 days of completion of the monitoring wells, the Permittee shall submit two original copies of a site map with a scale no greater than 1-inch equals 500 feet. At a minimum, the map shall include the following information:

      i. The location and identity of each monitoring well.

      ii. The location of major components of the waste disposal system.

      iii. The location of property boundaries within 500 feet of the disposal areas.

      iv. The latitude and longitude of the established horizontal control monument.

      v. The elevation of the top of the well casing (i.e., measuring point) relative to a common datum.

      vi. The depth of water below the measuring point at the time the measuring point is established.

      vii. The location of compliance and review boundaries.

      viii. The date the map is prepared and/or revised.

      ix. Topographic contours in no more than ten (10) foot intervals

   e. The above information should be overlaid on the most recent aerial photograph taken of the site. Control monuments shall be installed in such a manner and made of such materials that the monument will not be destroyed due to activities taking place on the property. The map and any supporting documentation shall be sent to the Division of Water Quality, Aquifer Protection Section, 1636 Mail Service Center, Raleigh, NC 27699-1636.

   f. The well(s) must be constructed by a North Carolina Certified Well Contractor, the property owner, or the property lessee according to General Statutes 87-98.4. If the construction is not performed by a certified well contractor, the property owner or lessee, provided they are a natural person, must physically perform the actual well construction activities.

g. The monitoring wells shall be regularly maintained. Such maintenance shall include ensuring that the well caps are rust-free and locked at all times, the outer casing is upright and undamaged, and the well does not serve as a conduit for contamination.

3. GROUNDWATER SAMPLING AND COMPLIANCE. Monitoring wells shall be sampled after construction and thereafter at the frequencies and for the parameters as specified in Attachment XX. All maps, well construction forms, well abandonment forms and monitoring data shall refer to the permit number and the well nomenclature as provided on Attachment XX.

a. Per 15A NCAC 02H .0800, a Division certified laboratory shall conduct all laboratory analyses for the required effluent, groundwater or surface water parameters.

b. The measurement of water levels shall be made prior to purging the wells. The depth to water in each well shall be measured from the surveyed point on the top of the casing. The measurement of pH shall be made after purging and prior to sampling for the remaining parameters.

c. The measuring points (top of well casing) of all monitoring wells shall be surveyed to provide the relative elevation of the measuring point for each monitoring well. The measuring points (top of casing) of all monitoring wells shall be surveyed relative to a common datum.

d. For monitoring wells that are not located at the Compliance Boundary, the Compliance Monitoring Form (GW-59CCR) is not required. However, predictive calculations or modeling shall be submitted to the Regional Office annually (i.e. 12 months after permit issuance) demonstrating groundwater quality standards at the Compliance Boundary.

e. Two copies of the monitoring well sampling shall be submitted on a Compliance Monitoring Form (GW-59CCR), and received no later than the last working day of the month following the sampling month. Copies of the laboratory analyses shall be kept on site, and made available upon request. The Compliance Monitoring Form (GW-59CCR) shall include this permit number and the appropriate well identification number. All information shall be submitted to the following address:

Division of Water Quality
Information Processing Unit
1617 Mail Service Center
Raleigh, North Carolina 27699-1617

f. For groundwater samples that exceed the ground water quality standards in 15A NCAC 02L .0202, the Regional Office shall be contacted within 30 days after submission of the groundwater monitoring report; an evaluation may be required to determine the impact of the waste disposal activities. Failure to do so may subject the permittee to a Notice of Violation, fines, and/or penalties.

4. COMPLIANCE BOUNDARY. The compliance boundary for the disposal system shall be specified in accordance with 15A NCAC 02L .0107(a). This disposal system was individually permitted prior to December 30, 1983; therefore, the compliance boundary is established at either 500 feet from the effluent disposal area, or at the property boundary, whichever is closest to the effluent disposal area. An exceedance of groundwater standards at or beyond the compliance boundary is subject to remediation action according to 15A NCAC 02L .0106(c) as well as enforcement actions in accordance with North Carolina General Statute 143-215.6A through 143-215.6C.

ATTACHMENT XX – GROUNDWATER MONITORING PLAN

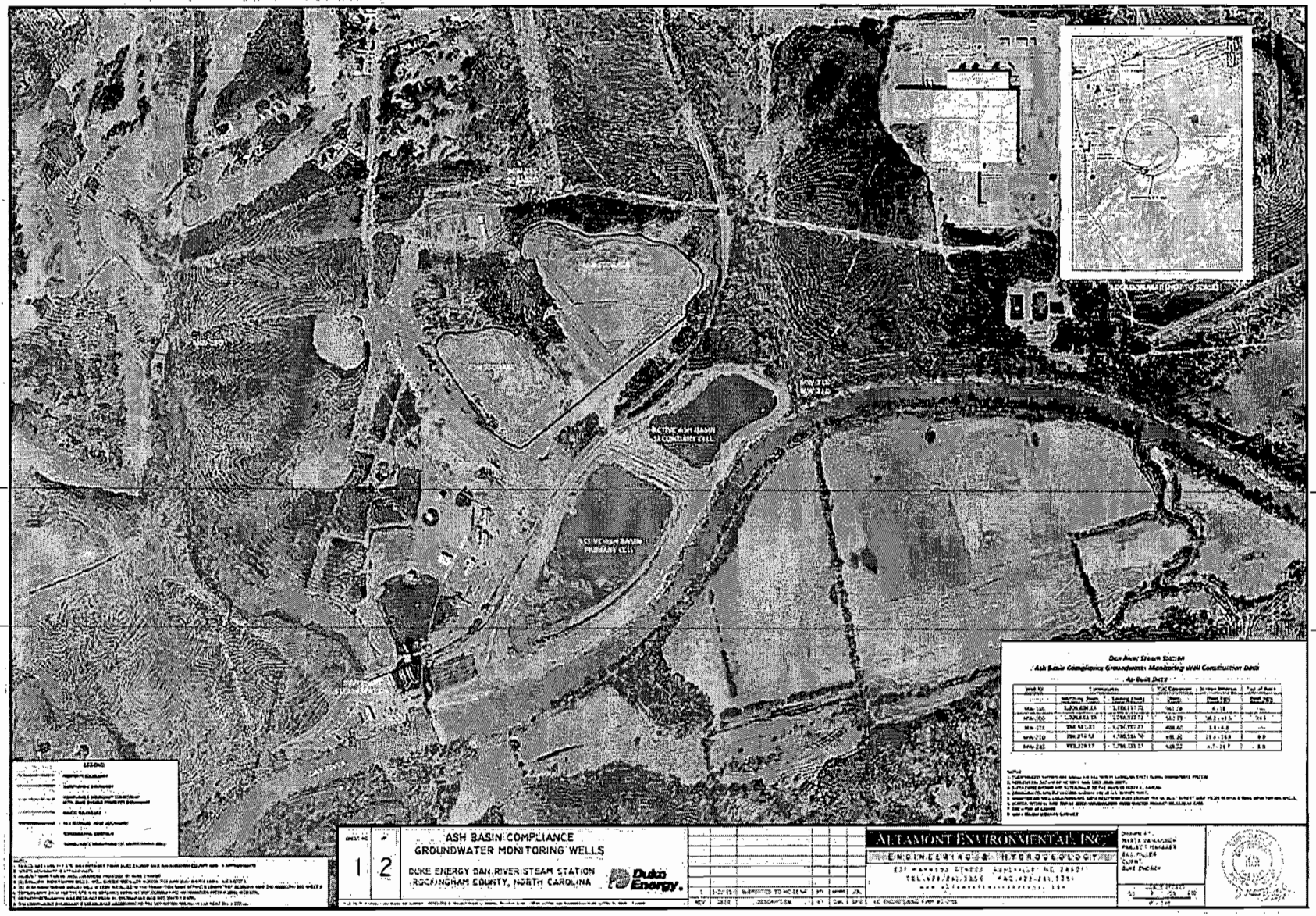
Permit Number: NC0003468 **Version 1.1**

WELL NOMENCLATURE	PARAMETER DESCRIPTION				FREQUENCY
Monitoring Wells: MW-20S, MW-20D, MW-21S, MW-21D, MW-22S, MW-22D, MW-23D	**Antimony**	**Chromium**	**Nickel**	**Thallium**	January, May, September
	Arsenic	**Copper**	**Nitrate**	**Water Level**	
	Barium	**Iron**	**pH**	**Zinc**	
	Boron	**Lead**	**Selenium**		
	Cadmium	**Manganese**	**Sulfate**		
	Chloride	**Mercury**	**TDS**		

Note 1: For locations of monitoring wells, see attached map.

Note 2: Monitoring revisions may be considered, as applicable, if there are no significant detections prior to permit renewal.

EPARFI00512



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C

Appendix C - Monitoring Well Locations

003018-378566 Dan River Steam Station Monitoring Well Locations					
Description	**Northing**	**Easting**	**Elevation**	**Description**	**Elevation**
TOP OF PVC MW-20D	1000692.39	1788922.72	562.23	MAG NAIL SET MW-20D	559.42
TOP OF PVC MW-20S	1000690.53	1788917.72	562.28	MAG NAIL SET MW-20S	559.71
TOP OF PVC MW-21D	998974.10	1790995.70	498.90	MAG NAIL SET MW-21D	496.23
TOP OF PVC MW-21S	998981.03	1790997.03	498.80	MAG NAIL SET MW-21S	496.03
TOP OF PVC MW-22D	996920.04	1789298.66	505.19	MAG NAIL SET MW-22D	502.22
TOP OF PVC MW-22S	996917.37	1789291.54	504.52	MAG NAIL SET MW-22S	502.05
TOP OF PVC MW-23D	999329.97	1786365.57	528.22	MAG NAIL SET MW-23D	524.98
Note1: Coordinates shown are based on the North Carolina State Plane Coordinate System					
Note2: Horizontal Datum of NC Grid NAD 1983 (NSRS 2007)					
Note3: Elevations shown are referenced to the NAVD 88 vertical datum					
Note4: Coordinates and elevations shown are in U.S. Survey Foot					
Note5: Coordinates and elevations shown only for as-built wells as requested by NCDENR					
Note6: Mag nails set in concrete base of each well for future elevation checks					

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(704)875-9092

ANALYTICAL RESULTS

Project: Dan River 6226-13-0002
Pace Project No.: 92163378

Sample: OW-313D (33') **Lab ID: 92163378002** Collected: 06/28/13 11:05 Received: 06/29/13 09:30 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
Antimony	**1.2**	mg/kg	0.71	0.40	1	07/03/13 20:00	07/07/13 19:01	7440-36-0	
Arsenic	**44.3**	mg/kg	1.4	0.45	1	07/03/13 20:00	07/07/13 19:01	7440-38-2	
Barium	**377**	mg/kg	0.71	0.028	1	07/03/13 20:00	07/07/13 19:01	7440-39-3	
Boron	**18.0**	mg/kg	7.1	0.17	1	07/03/13 20:00	07/07/13 19:01	7440-42-8	B
Cadmium	ND	mg/kg	0.14	0.085	1	07/03/13 20:00	07/07/13 19:01	7440-43-9	
Chromium	**12.7**	mg/kg	0.71	0.042	1	07/03/13 20:00	07/07/13 19:01	7440-47-3	
Cobalt	**6.8**	mg/kg	0.71	0.20	1	07/03/13 20:00	07/07/13 19:01	7440-48-4	
Iron	**4200**	mg/kg	14.1	0.65	1	07/03/13 20:00	07/07/13 19:01	7439-89-6	
Manganese	**62.1**	mg/kg	0.71	0.042	1	07/03/13 20:00	07/07/13 19:01	7439-96-5	
Molybdenum	**0.91**	mg/kg	0.71	0.028	1	07/03/13 20:00	07/07/13 19:01	7439-98-7	
Selenium	**2.7**	mg/kg	1.4	0.54	1	07/03/13 20:00	07/07/13 19:01	7782-49-2	
Thallium	ND	mg/kg	1.4	0.37	1	07/03/13 20:00	07/07/13 19:01	7440-28-0	
Vanadium	**44.1**	mg/kg	0.71	0.057	1	07/03/13 20:00	07/07/13 19:01	7440-62-2	
6010 MET ICP, SPLP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
	Leachate Method/Date: EPA 1312; 07/06/13 15:15								
Antimony	ND	mg/L	0.0050	0.0050	1	07/08/13 17:50	07/09/13 21:15	7440-36-0	
Arsenic	**0.11**	mg/L	0.010	0.010	1	07/08/13 17:50	07/10/13 13:01	7440-38-2	
Barium	**0.20**	mg/L	0.050	0.050	1	07/08/13 17:50	07/09/13 21:15	7440-39-3	
Boron	**0.11J**	mg/L	0.20	0.050	1	07/08/13 17:50	07/09/13 21:15	7440-42-8	
Cadmium	ND	mg/L	0.0010	0.0010	1	07/08/13 17:50	07/10/13 13:01	7440-43-9	
Chromium	**0.015**	mg/L	0.0050	0.0050	1	07/08/13 17:50	07/09/13 21:15	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.0050	1	07/08/13 17:50	07/09/13 21:15	7440-48-4	
Iron	**1.2**	mg/L	0.050	0.050	1	07/08/13 17:50	07/09/13 21:15	7439-89-6	
Manganese	**0.019**	mg/L	0.0050	0.0050	1	07/08/13 17:50	07/09/13 21:15	7439-96-5	
Molybdenum	ND	mg/L	0.0050	0.0050	1	07/08/13 17:50	07/09/13 21:15	7439-98-7	
Selenium	**0.016**	mg/L	0.010	0.010	1	07/08/13 17:50	07/10/13 13:01	7782-49-2	
Thallium	ND	mg/L	5.5	0.0055	1	07/08/13 17:50	07/09/13 21:15	7440-28-0	
Vanadium	**0.062**	mg/L	0.0050	0.0050	1	07/08/13 17:50	07/09/13 21:15	7440-62-2	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**38.0**	%	0.10	0.10	1		07/02/13 15:04		

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EDEN NORTH CAROLINA COAL ASH SPILL
ASH RESULTS

The attached data represents a composite sample that was collected from the ash pond on February 6, 2014 by EPA START (Team 1). Ash sample measurements are shown in milligrams per kilogram (mg/kg), milligrams per liter (mg/L) and micrograms per kilogram (μg/kg). Specific qualifiers and footnotes are listed below the summary table. This sample represents the chemical profile of the source material and will aid in determining what analytes to look for in down stream samples (water and sediment). It is not being compared to a risk based screening level.

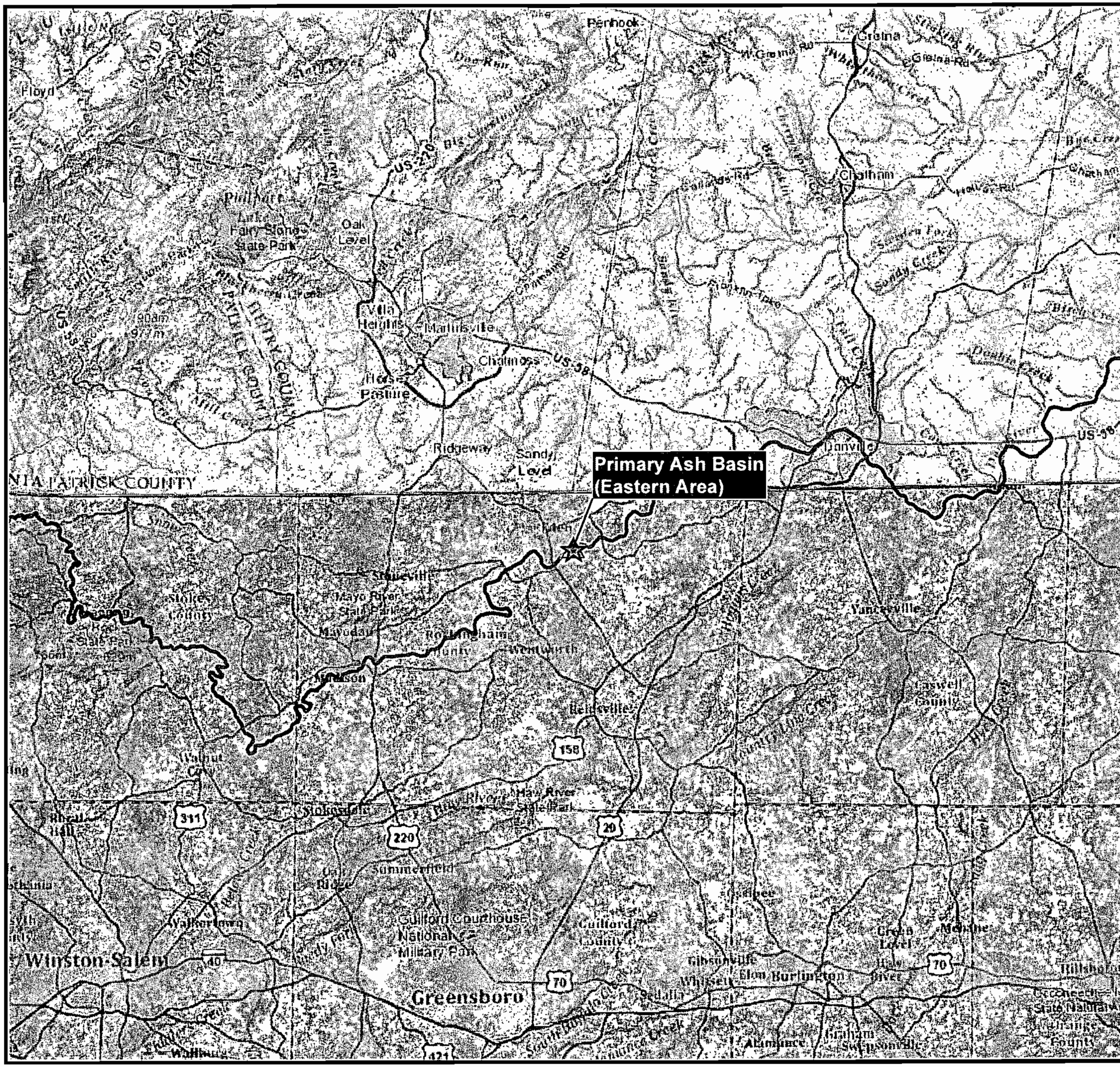
Analyte	Primary Ash Basin	
Sample Information		
Sample ID	EDEN-PRIMARYBASIN-ASH-20140206	
Date	2/6/2014	
Time	0943	
Status	Validation Complete	
Type	Ash	
Total Metals		
Aluminum	9,660	mg/kg
Antimony	0.81J	mg/kg
Arsenic	60.8	mg/kg
Barium	360	mg/kg
Beryllium	4.1	mg/kg
Boron	13.4	mg/kg
Cadmium	0.084U	mg/kg
Calcium	1,810	mg/kg
Chromium	13.3	mg/kg
Cobalt	10.1	mg/kg
Copper	50.5	mg/kg
Iron	5,040	mg/kg
Lead	18.3	mg/kg
Magnesium	848	mg/kg
Manganese	75.0	mg/kg
Mercury	0.19	mg/kg
Molybdenum	1.0	mg/kg
Nickel	17.9	mg/kg
Potassium	1,630	mg/kg
Selenium	4.0	mg/kg
Silica	5,360	mg/kg
Silver	2.1U	mg/kg
Sodium	304	mg/kg
Thallium	1.3U	mg/kg
Vanadium	48.4	mg/kg
Zinc	34.6	mg/kg

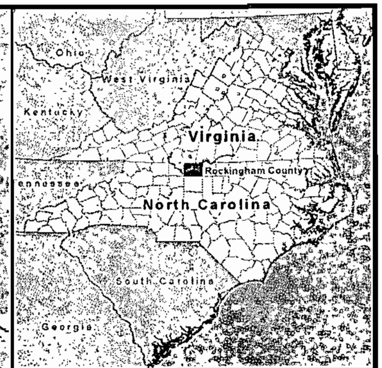
EDEN NORTH CAROLINA COAL ASH SPILL
ASH RESULTS

Analyte	Primary Ash Basin	
Sample Information		
Sample ID	EDEN-PRIMARYBASIN-ASH-20140206	
TCLP Metals		
Arsenic	0.20U	mg/L
Barium	4.1	mg/L
Cadmium	0.020U	mg/L
Chromium	0.10U	mg/L
Lead	0.10U	mg/L
Mercury	0.0020U	mg/L
Selenium	0.20U	mg/L
Silver	0.10U	mg/L
BTEX		
Benzene	656U	µg/kg
Ethylbenzene	656U	µg/kg
m,p-Xylene	1,310U	µg/kg
o-Xylene	656U	µg/kg
Toluene	656U	µg/kg

Notes

EPA	U.S. Environmental Protection Agency
J	Value is estimated
J-	Value is estimated with a possible low bias
µg/kg	micrograms per kilogram
µg/L	micrograms per liter
mg/L	milligrams per liter
U	Analyte was not detected at the listed reporting limit.
UJ	Analyte was not detected at the listed reporting limit, which is an estimated quantitation.





Legend

- ☆ Approximate Spill Location
- ▲ Ash Sample Location
- — Dan River

N / W / E / S

0 — 4.5 — 9 Miles

Map Source: ArcGIS Online World Map Topo, 2014

Ash
Sample Locations
February 6, 2014

EPA United States Environmental Protection Agency

File: C:\GIS_Workspace\Eden_Coal_Ash\Projects\mxd\Reporting\020614\AshSampleLocations_020614.mxd

EPARFI00519