

B. H. Whitley
Director
Regulatory Affairs

Southern Nuclear
Operating Company, Inc.
42 Inverness Center Parkway
Birmingham, AL 35242

Tel 205.992.7079
Fax 205.992.5296



AUG 19 2015

ND-15-1576
E.05.99

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

In re:

Vogtle Electric Generating Plant Unit 3
Docket 52-025
Combined License Number NPF-91

Vogtle Electric Generating Plant Unit 4
Docket 52-026
Combined License Number NPF-92

Notification Required under the Environmental Protection Plan

Ladies and Gentlemen:

On February 10, 2012, the U.S. Nuclear Regulatory Commission (NRC) issued the Vogtle Electric Generating Plant (VEGP) Units 3 and 4 combined licenses (COLs) (License Nos. NPF-91 and NPF-92, respectively) to Southern Nuclear Operating Company (SNC). Appendix B - Environmental Protection Plan (EPP), Section 3 of the COLs, states that SNC shall provide the NRC with a copy of the application for renewal of permits or certifications at the same time the application is submitted to the permitting agency.

On September 20, 2010, the U.S. Army Corps of Engineers (USACE) issued permit SAS-2007-01837 authorizing impacts to jurisdictional wetlands and stream banks associated with the construction of VEGP Units 3 and 4. This permit expires on September 30, 2015.

In order to support ongoing construction activities, SNC is requesting a 5 year extension of permit SAS-2007-01837. As required under the COL, Appendix B, Section 3, SNC is providing the NRC with a copy of the application for renewal (enclosure) concurrent with its submittal to the USACE.

This letter and its enclosures contain no regulatory commitments. Should you have any questions, please contact Casey Groce at (205) 992-6443.

Respectfully submitted,

SOUTHERN NUCLEAR OPERATING COMPANY

B. H. Whitley

BHW/CHG/ljs

Enclosure: SNC Letter ND-15-1441 To: Mr. Shaun Blocker (USACE); Construction
Permit Extension; Department of the Army Permit No. SAS-2007-018737

cc:

Southern Nuclear Operating Company / Georgia Power Company

Mr. S. E. Kuczynski (w/o enclosure)
Mr. J. A. Miller
Mr. D. G. Bost (w/o enclosure)
Mr. M. D. Meier
Mr. M. D. Rauckhorst (w/o enclosure)
Mr. J. T. Gasser (w/o enclosure)
Mr. D. H. Jones (w/o enclosure)
Ms. K. D. Fili (w/o enclosure)
Mr. D. R. Madison
Mr. T.W. Yelverton
Mr. B. H. Whitley
Mr. C. R. Pierce
Mr. D. L. Fulton
Mr. M. J. Yox
Mr. J. C. Harrelson
Mr. T. R. Takats
Mr. W. A. Sparkman
Mr. J. P. Redd
Document Services RTYPE: VND.EV.L00
File AR.01.02.06

Nuclear Regulatory Commission

Mr. V. M. McCree (w/o enclosure)
Mr. M. Delligatti (w/o enclosure)
Mr. L. Burkhardt (w/o enclosure)
Mr. P. Kallan (w/o enclosure)
Mr. C. Patel
Ms. D. L. McGovern
Mr. B. M. Bovol
Ms. R. Reyes
Ms. M. A. Sutton
Mr. M. E. Ernstes
Mr. G. Khouri
Mr. L. M. Cain
Mr. J. D. Fuller
Mr. C. B. Abbott
Ms. S. Temple
Mr. I. A. Anchondo

State of Georgia

Mr. J. H. Turner

Oglethorpe Power Corporation

Mr. M. W. Price
Ms. K. T. Haynes
Ms. A. Whaley

Municipal Electric Authority of Georgia

Mr. J. E. Fuller

Mr. S. M. Jackson

Dalton Utilities

Mr. D. Cope

CB&I

Mr. J. Simmons (w/o enclosure)

Ms. K. Stoner (w/o enclosure)

Mr. C. A. Castell

Westinghouse Electric Company, LLC

Mr. R. Easterling (w/o enclosure)

Mr. J. W. Crenshaw (w/o enclosure)

Mr. C. D. Churchman (w/o enclosure)

Mr. L. Woodcock

Mr. P. A. Russ

Mr. G. F. Couture

Mr. M. Y. Shaqqo

Other

Mr. J. E. Hesler, Bechtel Power Corporation

Ms. L. A. Matis, Tetra Tech NUS, Inc.

Dr. W. R. Jacobs, Jr., Ph.D., GDS Associates, Inc.

Mr. S. Roetger, Georgia Public Service Commission

Ms. S. W. Kernizan, Georgia Public Service Commission

Mr. K. C. Greene, Troutman Sanders

Mr. S. Blanton, Balch Bingham

Mr. R. Grumbir, APOG

Mr. J. R. Bouknight, South Carolina Electric & Gas Company

Mr. D. Kersey, South Carolina Electric & Gas Company

Mr. B. Kitchen, Duke Energy

Mr. S. Franzone, Florida Power & Light

Southern Nuclear Operating Company
Vogtle Electric Generating Plant (VEGP) Units 3 and 4

ND-15-1576

Enclosure 1

Notification Required under the Environmental Protection Plan

**SNC Letter ND-15-1441 To: Mr. Shaun Blocker (USACE); Construction
Permit Extension; Department of the Army Permit No. SAS-2007-018737**

(This Enclosure consists of 62 pages, including this cover page)

File: E.05.50
Log: ND-15-1441

AUG 19 2013

FEDERAL EXPRESS

Vogtle Electric Generating Plant
Construction Permit Extension
Department of Army Permit No. SAS-2007-01837

Shaun Blocker
Project Manager, Coastal Branch
Department of the Army
Savannah District, Corps of Engineers
100 West Oglethorpe Avenue
Savannah, Georgia 31401-3640

Dear Mr. Blocker:

Southern Nuclear Operating Company (SNC) respectfully submits a permit extension request for the Department of the Army Permit No. SAS-2007-01837 (Attachment 1) in accordance with General Condition 1 of the current permit and 33 CFR 325.6(d). This permit is used for the construction of two additional nuclear reactors (Units 3 and 4) at Vogtle Electric Generating Plant (VEGP) associated infrastructure, an access road and water discharge pipes. At the time of permit application, the project proposed impacting 9.23 acres of jurisdictional wetland, 734 linear feet of stream (Georgia side of Savannah River only – equivalent to 1.42 acres of open water), and 0.07 acre of ephemeral stream. Currently, SNC has substantially completed jurisdictional impacts in the areas, as shown in Attachment 2.

In accordance with Special Conditions 1 and 2, the required 77.8 wetland mitigation credits and 2,224 stream mitigation credits were purchased from the Phinizy Swamp and Bath Branch Mitigation Banks from February 25 through April 21 of 2011. Documentation of those purchases are included as Attachment 3.

Additionally provided for your consideration, correspondence from the U.S. Nuclear Regulatory Commission (NRC) to the National Marine Fisheries Service (NMFS) satisfying consultation under Title 50 of the Code of Federal Regulations (CFR) Part 402, subpart B, Section 402.10 (50 CFR 402) relating to the listing of the Atlantic sturgeon (*Acipenser oxyrinchus*) as endangered under the Endangered Species Act is included within Attachment 3. The NMFS response and concurrence with the NRC determination of an unlikely adverse effect to the Atlantic sturgeon is also included within Attachment 4.

SNC in cooperation with our contractor, Chicago Bridge and Iron (CBI) maintains compliance with all general and special conditions detailed in the permit dated September 30, 2010. Both SNC and CB&I ensure compliance with the permit through ongoing and regularly scheduled inspections. These inspection records are maintained onsite and are available for review by USACE.

The current permit expires on September 30, 2015. A 5 year extension to the current permit is requested.

If you have any questions or require additional information, please contact Casey Groce at (205) 992-6443.

Sincerely,



Dale Fulton
Environmental Manager

DLF/CHG

Attachments

bcc: w/o Attachments

M.D. Rauckhorst
B.H. Whitley
T.B. Saunders
T. C. Moorner
T. D. Blalock
M.K. Darby

w/ Attachments

K.S. Dye
D. Williams (CBI)
SNC Document Management
R-Type ENV0101

Attachment 1

Current Department of the Army Permit No. SAS-2007-01837



REPLY TO
ATTENTION OF:

DEPARTMENT OF THE ARMY
SAVANNAH DISTRICT, CORPS OF ENGINEERS
100 W. OGLETHORPE AVENUE
SAVANNAH, GEORGIA 31401-3640

SEP 30 2010



Regulatory Division
SAS-2007-01837

Southern Nuclear Operating Company, Inc.
Manager – Environmental Affairs, Chemistry and Radiological Services
Attention: Mr. Thomas C. Moorer
PO Box 1295
Birmingham, Alabama 35201-1295

Dear Mr. Moorer:

PLEASE READ THIS LETTER CAREFULLY AND COMPLY WITH ITS PROVISIONS.

We are enclosing your final, signed Department of the Army Permit for the expansion of the existing Vogtle Electric Generating Plant by adding two additional nuclear reactors (Units 3 and 4), associated infrastructure, powerlines, building construction, water intake structures, an access road and water discharge pipes. This permit is to authorize impacts to 9.23 acres of jurisdictional wetland, 734 linear feet of stream (only the Georgia side of the Savannah River, equivalent of 1.42 acres of open water), and 0.07 acre of ephemeral stream. This project is located at the existing Plant Vogtle site, along the Savannah River, near the intersection of River Road and Hancock Landing Road, near Waynesboro, in Burke County, Georgia (Latitude 33.141° N, Longitude -81.765° W). You have agreed with the terms and conditions of this final permit. Failure to meet and comply with the time frames and conditions of this permit may result in adverse actions and/or a Cease and Desist All Work Order being taken and/or issued by this office.

You will display the enclosed yellow Engineer Form 4336 in a conspicuous location at the site of work and have a complete copy of the permit with enclosures at the work site at all times.

This office must be notified ten days in advance of your intent to start work on this project. You must also notify this office when the project is completed.

Prior to the start of any construction activities authorized by this permit, you are required to have the mitigation areas posted to prevent any unwarranted disturbance.

IT SHALL NOT BE LAWFUL TO DEVIATE FROM THE PLANS EITHER BEFORE OR AFTER COMPLETION OF THE WORK, unless a plan reflecting the modification has previously been submitted to and approved by this office.

In addition, please note that the permit not only authorizes the work, but also its intended use. No use other than that specified in this permit can be made of permitted work, or structures.

This letter contains a signed permit for your proposed expansion of the existing Vogtle Electric Generating Plant project. If you object to this decision, you may request an administrative appeal under Corps regulations at 33 C.F.R. Part 331. Enclosed you will find a Notification of Appeal Process (NAP) fact sheet and Request for Appeal (RFA) form. If you request to appeal this decision, you must submit a completed RFA form to the South Atlantic Division Office at the following address: US Army Corps of Engineers, South Atlantic Division, Attention: CESAD-PDS-O (Mr. Michael F. Bell, Administrative Appeal Review Officer), 60 Forsyth Street, Room 9M15, Atlanta, Georgia 30303-8803, Tel: (404) 562-5137, Fax: (404) 562-5138.

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete, that it meets the criteria for appeal under 33 C.F.R. Part 331.5, and that it has been received by the (Division/District) Office within 60 days of the date of the NAP. Should you decide to submit an RFA form, it must be received at the above address by November 29, 2010.

It is not necessary to submit an RFA form to the South Atlantic Division Office if you do not object to the decision in this letter.

Thank you in advance for completing our Customer Survey Form. This can be accomplished by visiting our Web Site at www.sas.usace.army.mil/permit.htm (See General Information #6) and completing the online survey form. We value your comments and appreciate you taking the time to complete a survey each time you interact with our office. If you have any other questions concerning your application for your DA Permit, please contact Mr. Shaun Blocker, of my staff, at (912) 652-5086.

Sincerely,



for Carol L. Bernstein
Chief, Coastal Branch

Enclosures

DEPARTMENT OF THE ARMY PERMIT

PERMITTEE: Southern Nuclear Operating Company, Inc.
Manager – Environmental Affairs, Chemistry and Radiological Services
Attention: Mr. Thomas C. Moorer
PO Box 1295
Birmingham, Alabama 35201-1295

PERMIT NUMBER: SAS-2007-01837

ISSUING OFFICE: Savannah District
US Army Corps of Engineers
100 W. Oglethorpe Avenue
Savannah, Georgia 31402-0889

NOTE: The term "you" and its derivatives used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate District or Division office of the US Army Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below.

PROJECT LOCATION: The proposed project is located at the existing Plant Vogtle site, along the Savannah River, near the intersection of River Road and Hancock Landing Road, near Waynesboro, in Burke County, Georgia (Latitude 33.141° N, Longitude -81.765° W).

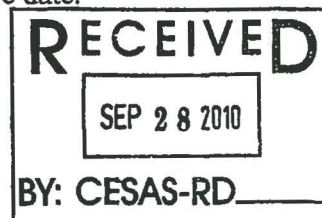
PROJECT DESCRIPTION: The permittee, Southern Nuclear Operating Company, Inc., is authorized to expand the existing Vogtle Electric Generating Plant by adding two additional nuclear reactors (Units 3 and 4), associated infrastructure, powerlines, building construction, water intake structures, an access road and water discharge pipes. The proposed project will impact 9.23 acres of jurisdictional wetland, 734 linear feet of stream (only the Georgia side of the Savannah River, equivalent of 1.42 acres of open water), and 0.07 acre of ephemeral stream.

Compensatory mitigation will consist of the purchase of 77.8 wetland mitigation credits from Phinizy Swamp Mitigation Bank, and 2,224 stream mitigation credits from the Bath Branch Mitigation Bank. Both are United States Army Corps of Engineers (USACE) approved mitigation banks that service the project area.

General Conditions.

1. The time limit for completing the work authorized by this Individual Permit ends on September 30, 2015. If you find that you need more time to complete the authorized activity, you must submit a request for your permit extension at least one month prior to the above date.

Check # 0213320 For \$ 100.00
W / D & FWD F & A on



2. The permittee must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. The permittee is not relieved of this requirement if they abandon the permitted activity, although they may make a good faith transfer to a third party in compliance with General Condition 4 below. Should the permittee wish to cease to maintain the authorized activity or should they desire to abandon it without a good faith transfer, they must obtain a modification of this permit from this office, which may require restoration of the area.

3. If the permittee discovers any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, they must immediately notify the NRC of what was found. The NRC will initiate the federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

4. If the permittee sells the property associated with this permit, they must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.

5. If a conditioned Water Quality Certification has been issued for the permittee's project, they must comply with conditions specified in the certification as Special Conditions to this permit.

6. The permittee must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

Special Conditions.

1. Prior to the commencement of any work in jurisdictional waters of the United States for this activity, the permittee will purchase 77.8 wetland mitigation credits from Phinizy Swamp Mitigation Bank. The permittee or the mitigation bank sponsor must provide this office with documentation of this purchase before any work may commence. The notice should reference the US Army Corps of Engineers file number assigned to this project.

2. Prior to the commencement of any work in jurisdictional waters of the United States for this activity, the permittee will purchase 2,224 stream mitigation credits from Bath Branch Mitigation Bank. The permittee or the mitigation bank sponsor must provide this office with documentation of this purchase before any work may commence. The notice should reference the US Army Corps of Engineers file number assigned to this project.

3. All dredged or borrowed material used as fill on this project will be from clean, uncontaminated sources and free from cultural resources.

4. No construction activity or stockpiling will occur in waters of the United States, including wetland areas, outside of the areas authorized for filling under this permit.

5. Prior to the commencement of construction activities for this project, the limits of the proposed fill areas in jurisdictional waters shall be clearly flagged and staked by the permittee and/or the permittee's contractors. All construction personnel shall be shown the location(s) of all wetland and/or stream areas outside of the construction area to prevent encroachment from heavy equipment into these areas.

6. Borrow site or sites for stockpiling fill dirt shall be prohibited within 200 feet of streambanks, 50 feet of wetlands and open waters or elsewhere runoff from the site would increase sedimentation in waters of the United States unless specifically authorized by this permit or a State of Georgia issued stream buffer variance (see condition 12 below) or construction storm water permit (Authorization to Discharge under the National Pollutant Discharge Elimination System). Normal grading activities such as cutting and filling within 200 feet of streams or 50 feet of wetlands/open waters are authorized.

7. Construction debris, liquid concrete, old riprap, old support materials, or other litter shall not be placed in streams or in areas where migration into streams and/or wetlands could reasonably be expected.

8. Staging areas and equipment maintenance areas will be located at least 200 feet from streambanks to minimize the potential for wash water, petroleum products, or other contaminants from construction equipment entering the streams.

9. The permittee shall ensure that the project's master drainage plan is designed and implemented to avoid inadvertent drainage of wetlands and inadvertent water diversion resulting in a reduction of hydrology in wetlands. The permittee shall also ensure that secondary road ditches and/or small after-project drainage ditches do not inadvertently impact wetlands or waters of the US.

10. The permittee shall minimize bank erosion and sedimentation in construction areas by utilizing Best Management Practices for stream corridors, installing and maintaining significant erosion and sediment control measures, and providing daily reviews of construction and stream protection methods. Check dams and riprap placed in streams and wetlands as erosion control measures are considered a fill and not authorized under this permit unless they were specifically authorized by this permit.

11. All work conducted under this permit shall be located, outlined, designed, constructed and operated in accordance with the minimal requirements as contained in the Georgia Erosion and Sedimentation Control Act of 1975, as amended. Utilization of plans and specifications as contained in "Manual for Erosion and Sediment Control, (Latest Edition)," published by the Georgia Soil and Water Conservation Commission or their equivalent will aid in achieving compliance with the aforementioned minimal requirements.

12. The permittee shall obtain and comply with all appropriate Federal, state, and local authorizations required for this type of activity. A stream buffer variance may be required. Variances are issued by the Director of the Georgia Environmental Protection Division (EPD), as

defined in the Georgia Erosion and Sedimentation Control Act of 1975, as amended. Information concerning variances may be obtained at the Georgia EPD's web site at www.gaepd.org or by contacting the Watershed Protection Branch at (404) 675-6240.

13. The NRC is the lead federal agency for this proposed action. The permittee shall coordinate with the NRC to allow them to meet all lead federal agency responsibilities pursuant to Section 7 of the Endangered Species Act, prior to any work occurring in waters of the US subject to the jurisdiction of the USACE.

14. Use of the permitted activity must not interfere with the public's right to free navigation on the Savannah River, a navigable water of the United States.

15. This permit does not authorize the interference with any existing or proposed Federal Project and the permittee shall not be entitled to compensation for damage or injury to the structures or work authorized herein, which may be caused by or result from existing or future operations undertaken by the United States in the public interest.

16. The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the US Army Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States because of any such removal or alteration.

17. Prior to the commencement of construction activities for this activity, the permittee shall insure that this project complies with all applicable rules, requirements, and/or regulations of the Federal Emergency Management Agency and/or the Georgia Floodplain Management Office with regard to construction activities in designated floodplains and/or floodways prior to commencement of work activity, to include revisions to the National Flood Insurance Program maps if required.

18. The permittee shall comply with all conditions included in the Section 401 Water Quality Certification dated June 1, 2010, from the Georgia Department of Natural Resources – Environmental Protection Division.

19. The permittee shall install and maintain erosion and siltation control measures prior to, during, and upon final stabilization of the fill in jurisdictional waters. These include, but are not limited to, utilization of mulching, hay bales, temporary seeding, permanent vegetation, diking techniques, silt screens, stream bank armoring, and any other erosion control and sediment trapping techniques.

20. Prior to any fill being placed in jurisdictional waters on site, toed-in silt fence with staked haybales shall be installed at the limits of permitted fill in jurisdictional areas to assist in

containing fill. These erosion controls shall be inspected/maintained daily to prevent sedimentation into wetlands and/or streams.

21. Changes in the layout of facilities and infrastructure on upland portions of the project property do not require modification of this permit, and the permittee is not required to coordinate such changes with this office. Minor changes in the footprint of authorized wetland and/or stream impacts may be authorized under this permit provided that (1) the proposed minor change would result in no additional impact(s) to the specific wetland/stream area (i.e. swapping of wetland impact acreage from one permitted wetland fill site to another is not considered a minor change, and (2) the permittee submits a change/modification request and obtains prior written concurrence from the Savannah District. A proposed change to the project resulting in additional wetland and/or stream impact would require formal modification of the permit.

22. The NRC is the lead federal agency for this proposed action. The permittee shall coordinate with the NRC to allow them to meet all lead federal agency responsibilities pursuant to Section 106 of the National Historic Preservation Act, prior to any work occurring in waters of the US subject to the jurisdiction of the USACE.

23. A copy of this permit, including the approved drawings and plans; special conditions; and any amendments shall be maintained at the work site whenever work is being performed. The permittee(s) shall assure that all contractors, subcontractors, and other personnel performing the permitted work are fully aware of the permit's terms and conditions. If the approved permit drawings conflict with the specific conditions, then the specific conditions shall prevail.

24. The permittee shall notify the issuing office, in writing (electronic facsimile is acceptable), at least ten days in advance of their intent to commence work in waters of the United States for the permitted activity. The permittee shall also notify this office, in writing, 30 days after this project is completed using the enclosed Certification of Compliance Form.

25. All work will be performed in accordance with the following attached plans and drawings which are incorporated in and made part of the permit:

- A. Project Drawings Proposed Conditions (4 pages)
- B. Drawing Number – H-993-4
- C. Drawing Number – SVO-7200-XG-003
- D. Drawing Number – SVO-0000-X3-016
- E. Drawing Number – SVO-7200-XG-004
- F. Georgia Department of Natural Resources, Environmental Protection Division, Section 401 Water Quality Certification dated June 1, 2010.

FURTHER INFORMATION:

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to Section 404 of the Clean Water Act (33 U.S.C. 1344).

2. Limits of this Authorization.

- a. This permit does not obviate the need to obtain other federal, state, or local authorizations required by law.
- b. This permit does not grant any property rights or exclusive privileges.
- c. This permit does not authorize any injury to the property or rights of others.
- d. This permit does not authorize interference with any existing or proposed federal projects.

3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:

- a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.
- b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.
- c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.
- d. Design or construction deficiencies associated with the permitted work.
- e. Damage claims associated with any future modification, suspension, or revocation of this permit.

4. Reliance on Applicant's Data. The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

5. Reevaluation of Permit Decision. This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require reevaluation include, but are not limited to, the following:

- a. You fail to comply with the terms and conditions of this permit.
- b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (see 4 above).
- c. Significant new information surfaces which this office did not consider in reaching the original public interest decision. Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7, or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The

referenced enforcement procedures provide for the issuance of an administrative order which requires you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate.

d. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. Extensions. General Condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the US Army Corps of Engineers will normally give favorable consideration to a request for an extension of time limit.

Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.

T.C. Moore
(PERMITTEE)

09/09/2010
(DATE)

This permit becomes effective when the federal official, designated to act for the Secretary of the Army, has signed below.

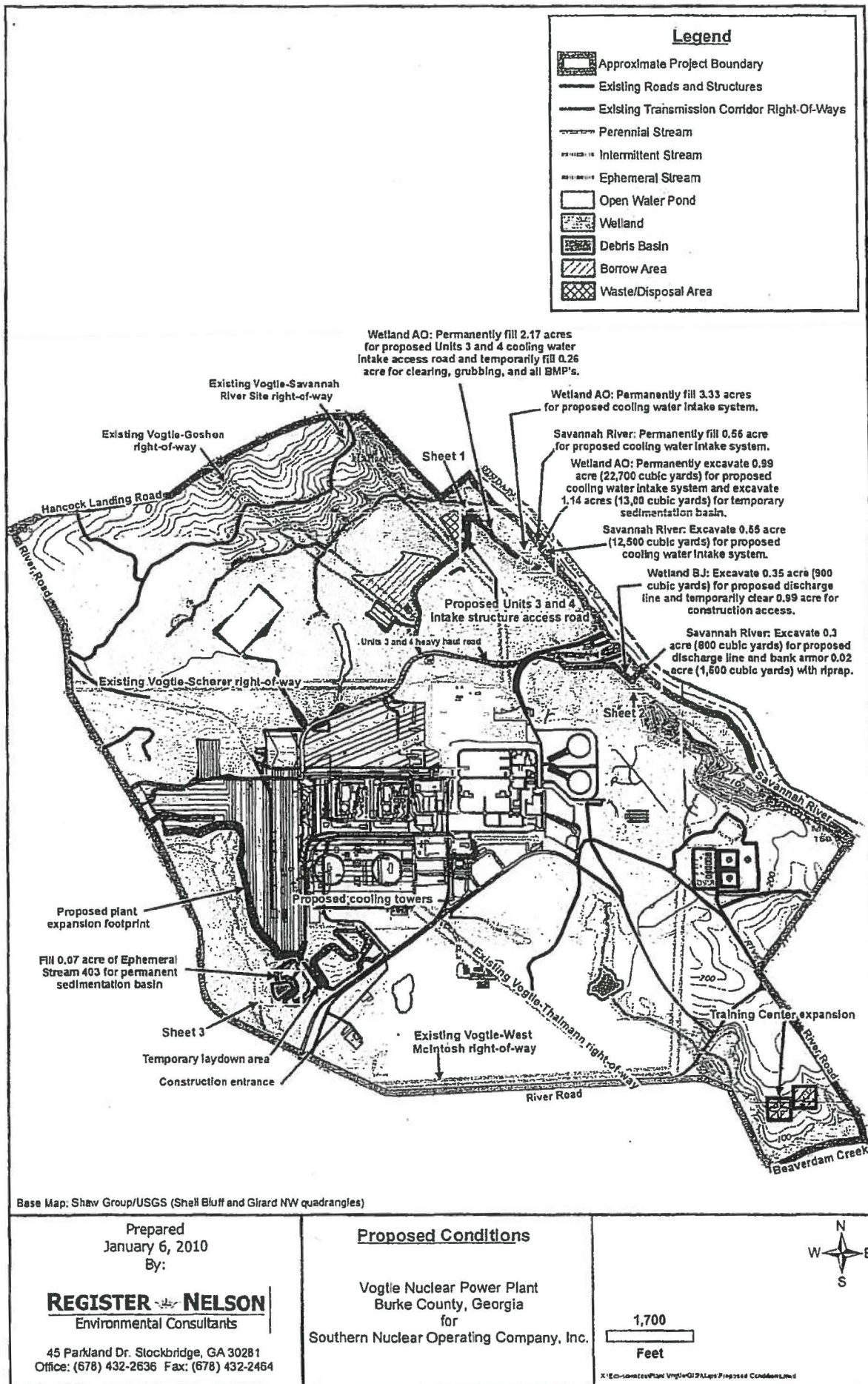
Jeffrey M. Hall
Issued for and in behalf of:
Jeffrey M. Hall
Colonel, US Army
Commanding

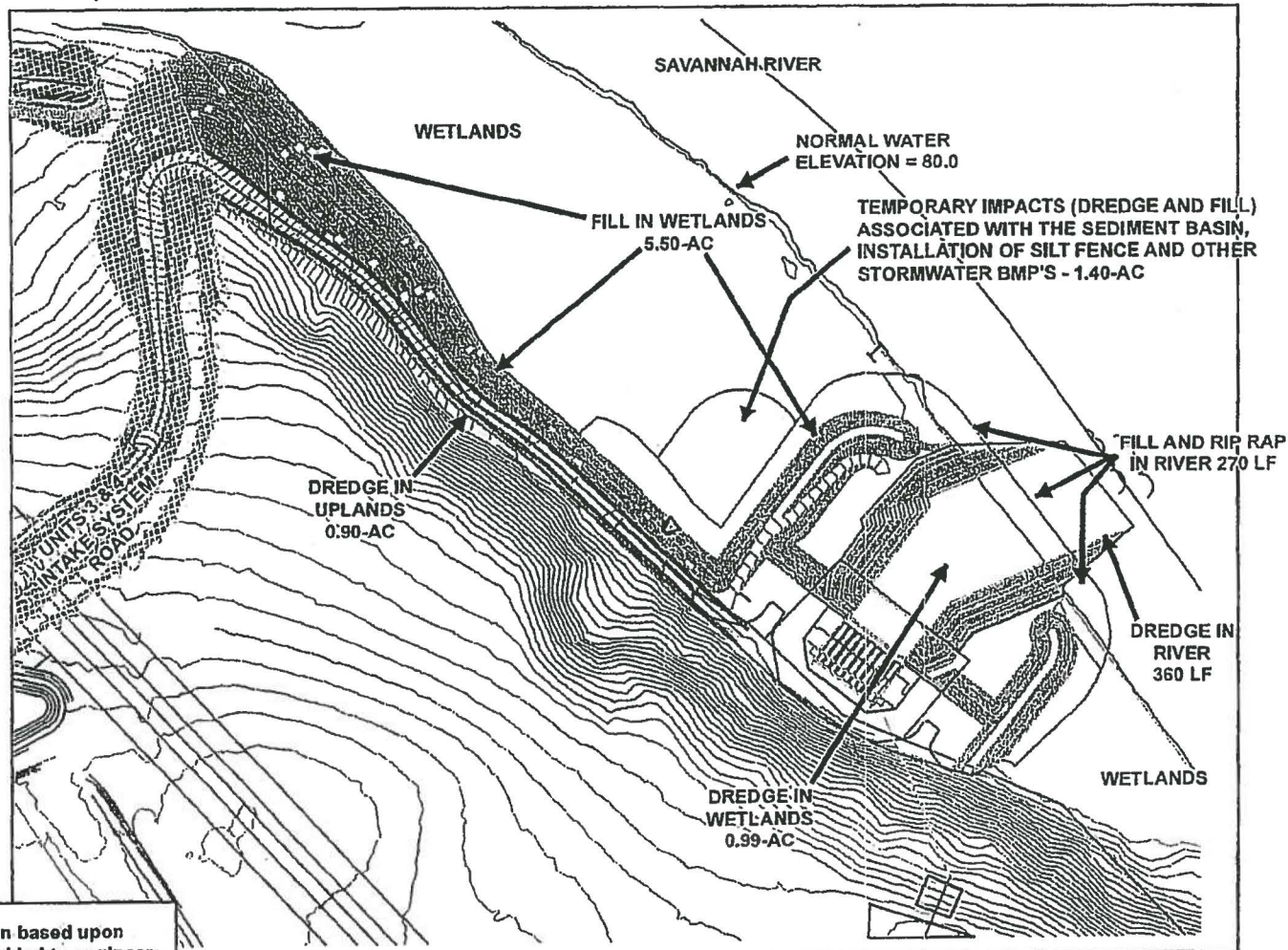
29 Sept 2010
(DATE)

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities with compliance with its terms and conditions, have the transferee sign and date below.

(TRANSFEE)

(DATE)





Wetland depiction based upon
Interpreted data provided to engineer.

Base Map: Provided by The Shaw Group, Inc.

Prepared
January 15, 2010
By:

REGISTER NELSON
Environmental Consultants

45 Parkland Dr. Stockbridge, GA 30281
Office: (678) 432-2636 Fax: (678) 432-2464

Sheet 1
(Proposed Conditions)

Vogtle Nuclear Power Plant
Burke County, Georgia
for

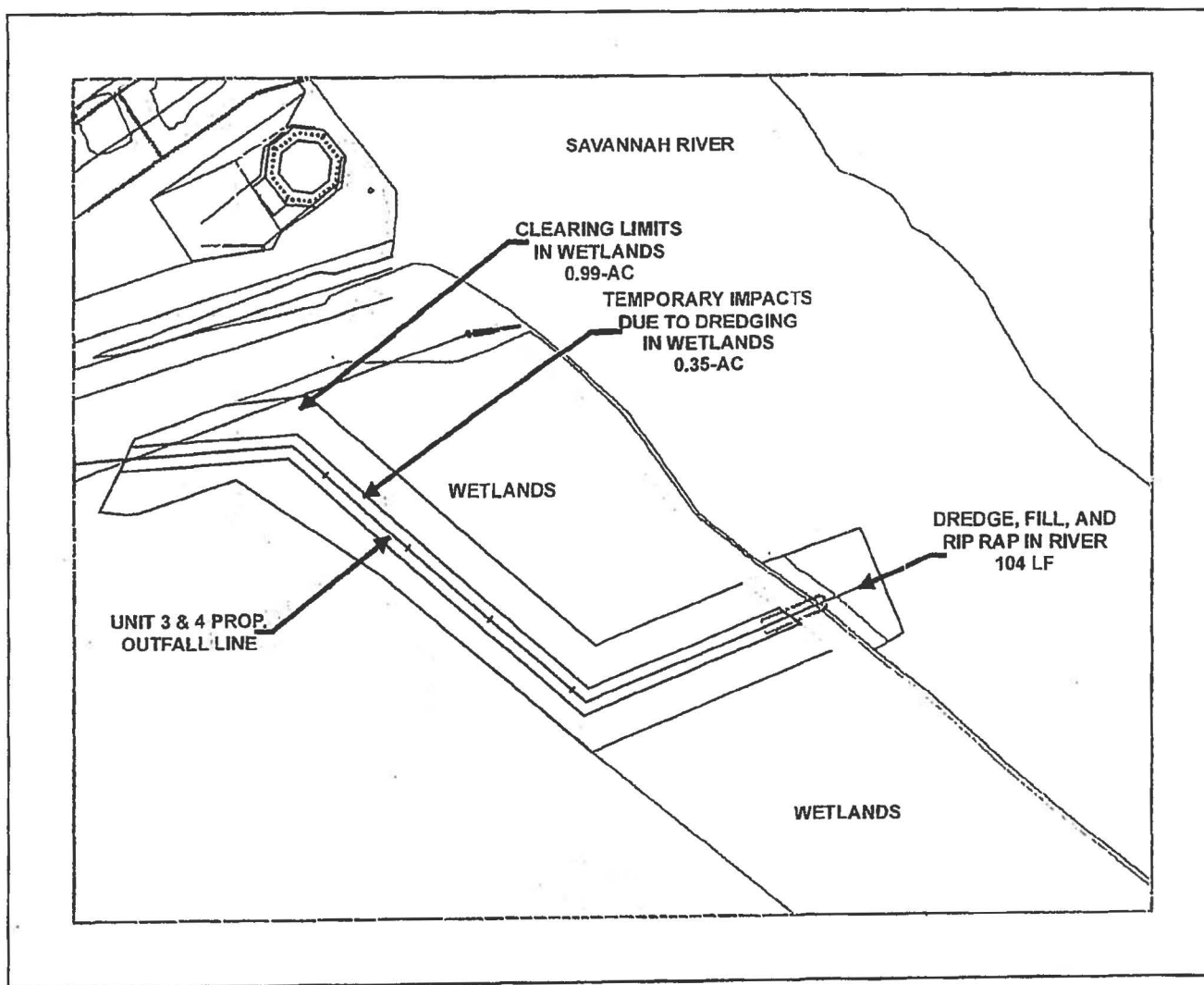
Southern Nuclear Operating Company, Inc.

275

Feet

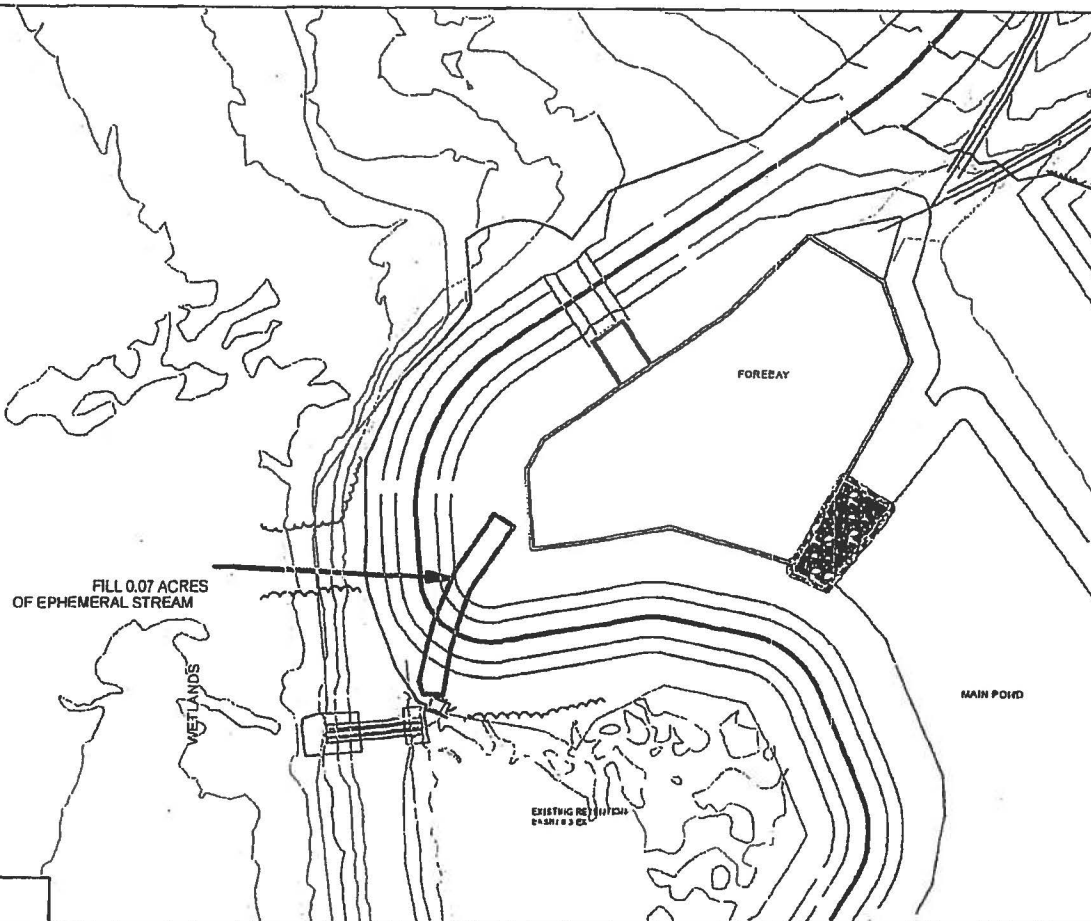


X:\Eco-science\Plant Vogtle\GIS\maps\Sheet_1.mxd



Legend

 Proposed Fill



Wetland depiction based upon
Interpreted data provided to engineer.

PERMANENT SEDIMENT BASIN

Base Map: Provided by The Shaw Group, Inc.

Prepared
January 15, 2010
By:

REGISTER NELSON
Environmental Consultants

45 Parkland Dr. Stockbridge, GA 30281
Office: (678) 432-2636 Fax: (678) 432-2464

Sheet 3 **(Proposed Conditions)**

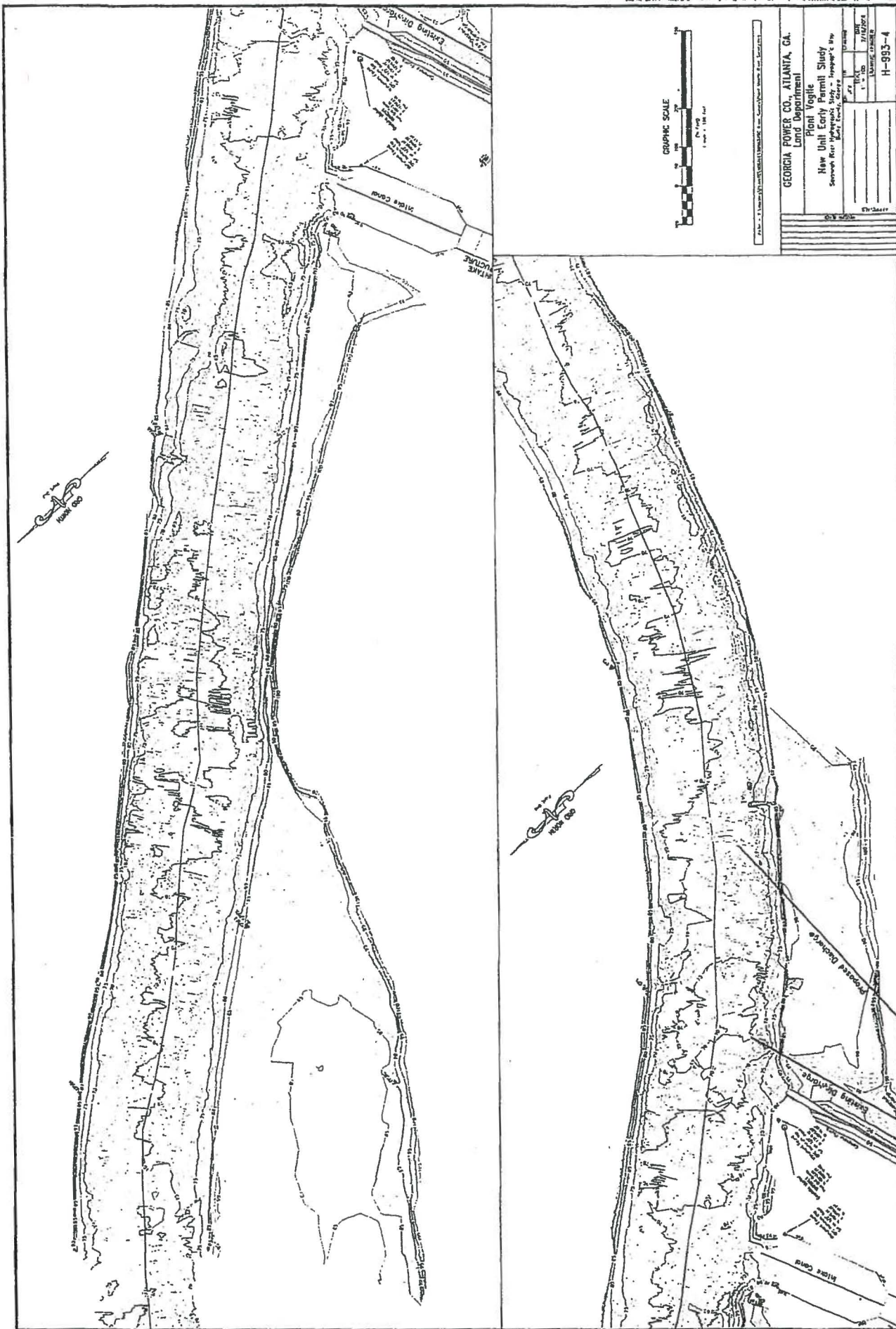
Vogtle Nuclear Power Plant
Burke County, Georgia
for
Southern Nuclear Operating Company, Inc.

150

Feet



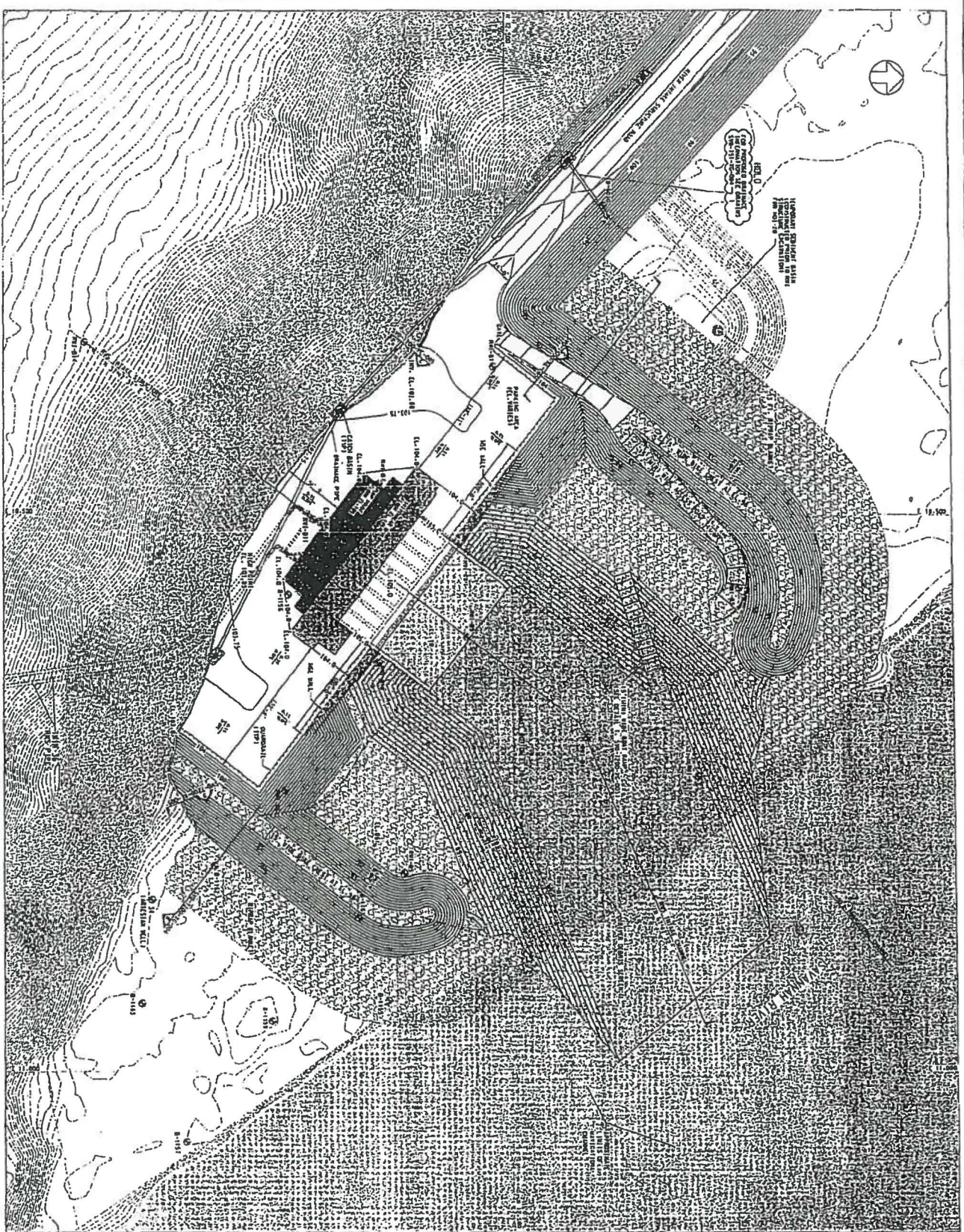
X:\Eco-sciences\Plant Vogtle\GIS\maps\Sheet_3.mxd



GRAPHIC SCALE



GEORGIA POWER CO., ATLANTA, GA.
Lands Department
Plant Vogtle
New Unit Early Permit Study
Savannah River Plant, Georgia
H-993-4



LEGEND:

EXISTING DAM CONCRETE
 8-11-53
 100' PROPOSED ELECTRICAL INTAKE
 100' PROPOSED ELECTRICAL INTAKE
 100' PROPOSED ELECTRICAL INTAKE

NOTES:

1. THE CRIP SYSTEM ENGINE IS AN APPROXIMATE
 2. THE CRIP SYSTEM ENGINE IS AN APPROXIMATE
 3. THE CRIP SYSTEM ENGINE IS AN APPROXIMATE
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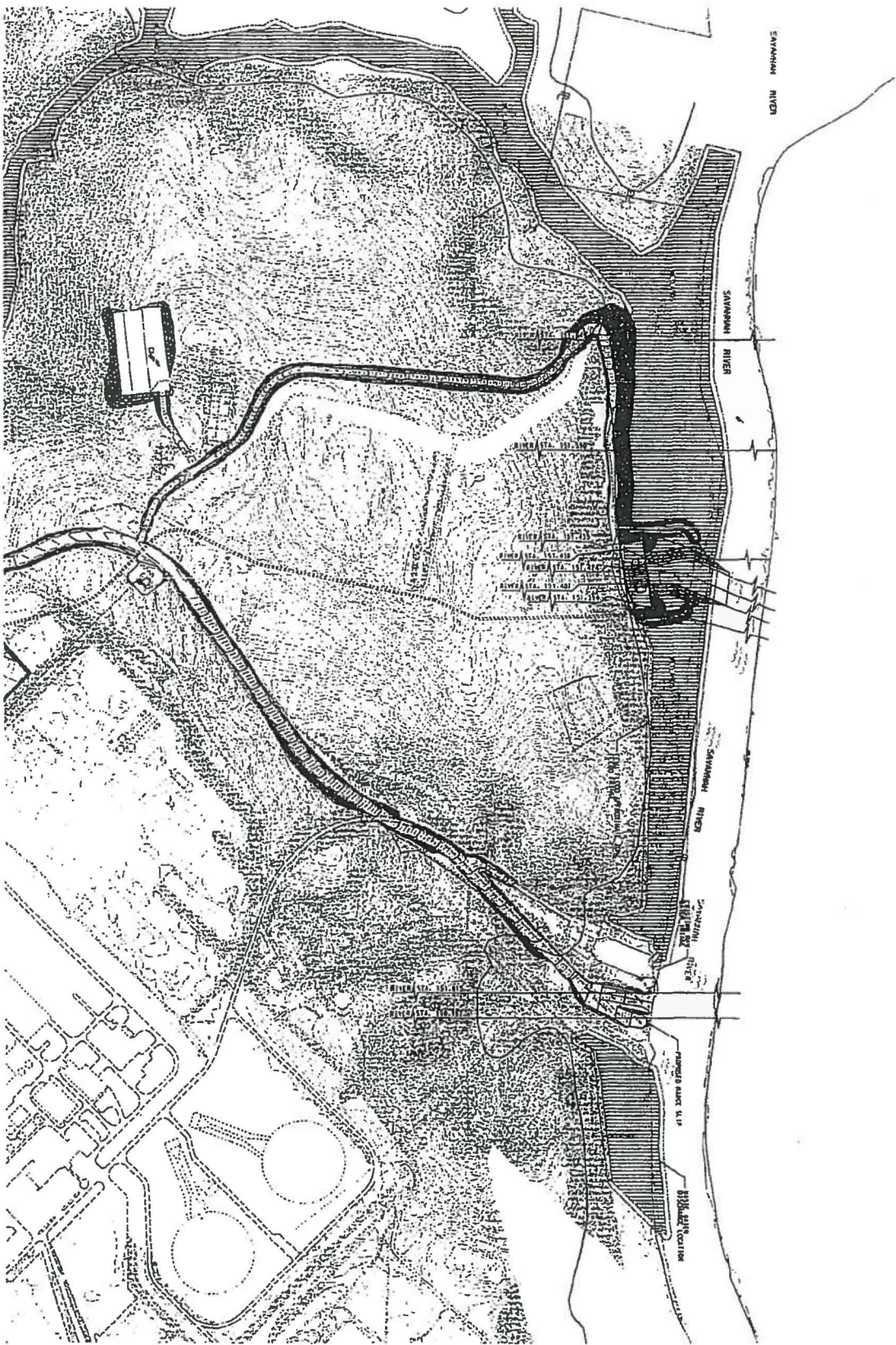
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3	10/1/53	3	10/1/53	3	10/1/53
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5	10/1/53	5	10/1/53	5	10/1/53
6	10/1/53	6	10/1/53	6	10/1/53
7	10/1/53	7	10/1/53	7	10/1/53
8	10/1/53	8	10/1/53	8	10/1/53
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10	10/1/53	10	10/1/53	10	10/1/53



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1. THE PROPOSED DAM IS 1,000 FEET LONG.
2. THE PROPOSED DAM IS 100 FEET HIGH.
3. THE PROPOSED DAM IS 100 FEET WIDE.
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LEGEND
— PROPOSED DAM
— EXISTING DAM
— EXISTING ROAD
— EXISTING RAILROAD

SAFETY CLASSIFICATION: N/A

CONTRACT NO.

DATE

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Georgia Department of Natural Resources

2 Martin Luther King, Jr. Drive, S.E., Suite 1152 East Tower, Atlanta, Georgia 30334-9000

Chris Clark, Commissioner

F. Allen Barnes, Director

Environmental Protection Division

404/656-4713

June 1, 2010

Mr. Thomas C. Moorer
Manager, Environmental Affairs
Southern Nuclear Operating Company, Inc.
PO Box 1295
Birmingham, Alabama 35201-1295

Re: Water Quality Certification
Joint Public Notice 200701837
Expansion- Plant Vogtle
Savannah River Basin
Burke County

Dear Mr. Moorer:

Pursuant to Section 401 of the Federal Clean Water Act, the State of Georgia issues this certification to Southern Nuclear Operating Company, Inc., an applicant for a federal permit or license to conduct an activity in, on or adjacent to the waters of the State of Georgia.

The State of Georgia certifies that there is no applicable provision of Section 301; no limitation under Section 302; no standard under Section 306; and no standard under Section 307, for the applicant's activity. The State of Georgia certifies that the applicant's activity will comply with all applicable provisions of Section 303.

This certification is contingent upon the following conditions:

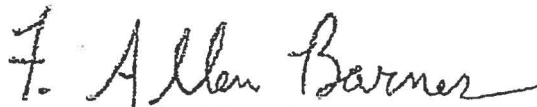
1. All work performed during construction will be done in a manner so as not to violate applicable water quality standards.
2. No oils, grease, materials or other pollutants will be discharged from the construction activities which reach public waters.
3. Section 401 Water Quality Certification shall be effective upon the date of issuance of a Stream Buffer Variance by the Director of EPD as provided in the Georgia Erosion and Sedimentation Act of 1975, as amended, O.C.G.A. 12-7-6(b)(15).

Page 2
JPN 200701837
Burke County

This certification does not relieve the applicant of any obligation or responsibility for complying with the provisions of any other laws or regulations of other federal, state or local authorities.

It is your responsibility to submit this certification to the appropriate federal agency.

Sincerely,

A handwritten signature in cursive script that reads "F. Allen Barnes". The signature is written in dark ink and is positioned above the printed name and title.

F. Allen Barnes
Director

FAB:kp

cc: Mr. Shaun Blocker
Mr. Richard Morgan
Mr. Bob Lord
Ms. Deborah Harris
Mr. Darrell Smith

Regulatory Division

CERTIFICATION OF COMPLIANCE
WITH
DEPARTMENT OF THE ARMY PERMIT

PERMIT NUMBER: SAS-2007-01837

PERMITTEE: Southern Nuclear Operating Company, Inc.
Manager – Environmental Affairs, Chemistry and Radiological Services
Attention: Mr. Thomas C. Moorner
PO Box 1295
Birmingham, Alabama 35201-1295

Within 30 days of completion of the activity authorized by this permit, sign this certification and return it to the following address:

Commanding
US Army Engineer District, Savannah
Attention: Regulatory Division
100 W. Oglethorpe Avenue
Savannah, Georgia 31401-3640

Please note that your permitted activity is subject to compliance inspection by an US Army Corps of Engineers' representative. If you fail to comply with the permit conditions it may be subject to suspension, modification, or revocation.

PROJECT LOCATION: The site is located at the existing Plant Vogtle site, along the Savannah River, near the intersection of River Road and Hancock Landing Road, near Waynesboro, in Burke County, Georgia (Latitude 33.141° N, Longitude -81.765° W).

PROJECT DESCRIPTION: The permittee, Southern Nuclear Operating Company, Inc., is authorized to expand the existing Vogtle Electric Generating Plant by adding two additional nuclear reactors (Units 3 and 4), associated infrastructure, powerlines, building construction, water intake structures, an access road and water discharge pipes. The proposed project will impact 9.23 acres of jurisdictional wetland, 734 linear feet of stream (only the Georgia side of the Savannah River, equivalent of 1.42 acres of open water), and 0.07 acre of ephemeral stream.

Compensatory mitigation will consist of the purchase of 77.8 wetland mitigation credits from Phinizy Swamp Mitigation Bank, and 2,224 stream mitigation credits from the Bath Branch Mitigation Bank. Both are United States Army Corps of Engineers (USACE) approved mitigation banks that service the project area.

I hereby certify that the work authorized by the above referenced permit and the compensatory mitigation have been completed in accordance with the terms and conditions of the said permit.

Signature of Permittee / Date

NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

Applicant: Southern Nuclear Operating Company, Inc. Mr. Thomas C. Moorer	File Number: SAS-2007-01837	Date: 9/29/10
Attached is:		See Section below
<input type="checkbox"/>	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A
<input checked="" type="checkbox"/>	PROFFERED PERMIT (Standard Permit or Letter of permission)	B
<input type="checkbox"/>	PERMIT DENIAL	C
<input type="checkbox"/>	APPROVED JURISDICTIONAL DETERMINATION	D
<input type="checkbox"/>	PRELIMINARY JURISDICTIONAL DETERMINATION	E

SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at <http://usace.army.mil/inet/functions/cw/cecwo/reg> or Corps regulations at 33 CFR Part 331.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **OBJECT:** If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **APPEAL:** If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.

- **ACCEPT:** You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- **APPEAL:** If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

If you have questions regarding this decision and/or the appeal process you may contact:

Shaun Blocker
US Army Corps of Engineers, Savannah District
100 W. Oglethorpe Avenue
Savannah, Georgia 31401-3640
912-652-5086

If you only have questions regarding the appeal process you may also contact:

US Army Corps of Engineers, South Atlantic Division
ATTN: CESAD-PDS-O (Mr. Michael F. Bell,
Administrative Appeal Review Officer)
60 Forsyth Street, Room 9M15
Atlanta, Georgia 30303-8803
Tel: (404) 562-5137 / Fax: (404) 562-5138

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

Signature of appellant or agent:

Date:

Telephone number:

DIVISION ENGINEER:

Commander
US Army Engineer Division, South Atlantic
60 Forsyth Street, Room 9M15
Atlanta, Georgia 30303-8803



This notice of authorization must be
conspicuously displayed at the site of work.

United States Army Corps of Engineers

September 29, 20 10

A permit to expand the existing Vogtle Electric Generating Plant on an approximate 3,169-acre tract of land. The project will impact 9.23 acres of wetland, 734 lf of stream, and 0.07 acre of ephemeral stream.
at the existing Plant Vogtle site, along the Savannah River, near the intersection of River Road and Hancock Landing Road, near Waynesboro, in Burke County, Georgia (Latitude 33.141° N, Longitude -81.765° W).

has been issued to Southern Nuclear Operating Company, Inc - on Sept. 29 20 10
Mr. Thomas C. Moorer

Address of Permittee PO Box 1295, Birmingham, Alabama 35201-1295

Permit Number

SAS-2007-01837


District Commander
For Jeffrey M. Hall
Commanding

COMPLIANCE INSPECTION REQUEST

Permit Number: SAS-2007-01837

Project Name: Vogtle Electric Generating Plant Expansion (Plant Vogtle)

Permittee Name and Address: Southern Nuclear Operating Company, Inc.

Manager – Environmental Affairs, Chemistry and Radiological Services
Attention: Mr. Thomas C. Moorer
PO Box 1295
Birmingham, Alabama 35201-1295

Project Manager: Shaun L. Blocker

Date Permit Issued: September 29, 2010

Authority: ☒ 10 ☒ 404

Location of Project:

City: Waynesboro County: Burke

Waterway: Savannah River

Type Permit: Standard Individual

Project Description: The permittee, Southern Nuclear Operating Company, Inc., is authorized to expand the existing Vogtle Electric Generating Plant by adding two additional nuclear reactors (Units 3 and 4), associated infrastructure, powerlines, building construction, water intake structures, an access road and water discharge pipes.

Wetlands Impact: 9.23 acres of jurisdictional wetland, and 0.07 acre of ephemeral stream.

Stream Impact: 734 linear feet of stream (only the Georgia side of the Savannah River, equivalent of 1.42 acres of open water)

Mitigation: ☒ Yes Amount of Mitigation: 77.8 wetland mitigation credits, and 2,224 stream mitigation credits.

Type of Mitigation: The permittee will purchase 77.8 wetland mitigation credits from Phinizy Swamp Mitigation Bank, and 2,224 stream mitigation credits from the Bath Branch Mitigation Bank. Both are United States Army Corps of Engineers (USACE) approved mitigation banks that service the project area.

Priority:

☒ A Priority 1: Controversial Permits and All Individual
Permits and/or Modifications with mitigation

☐ B Priority 2: Nationwide Permits with Mitigation and Major Individual Permits without mitigation

☐ C Priority 3: Minor Individual Permits and Minor Nationwide Permits without mitigation

☐ D Priority 4: General Permits and Letters of Permission

Requested By:

Date:

Assigned To:

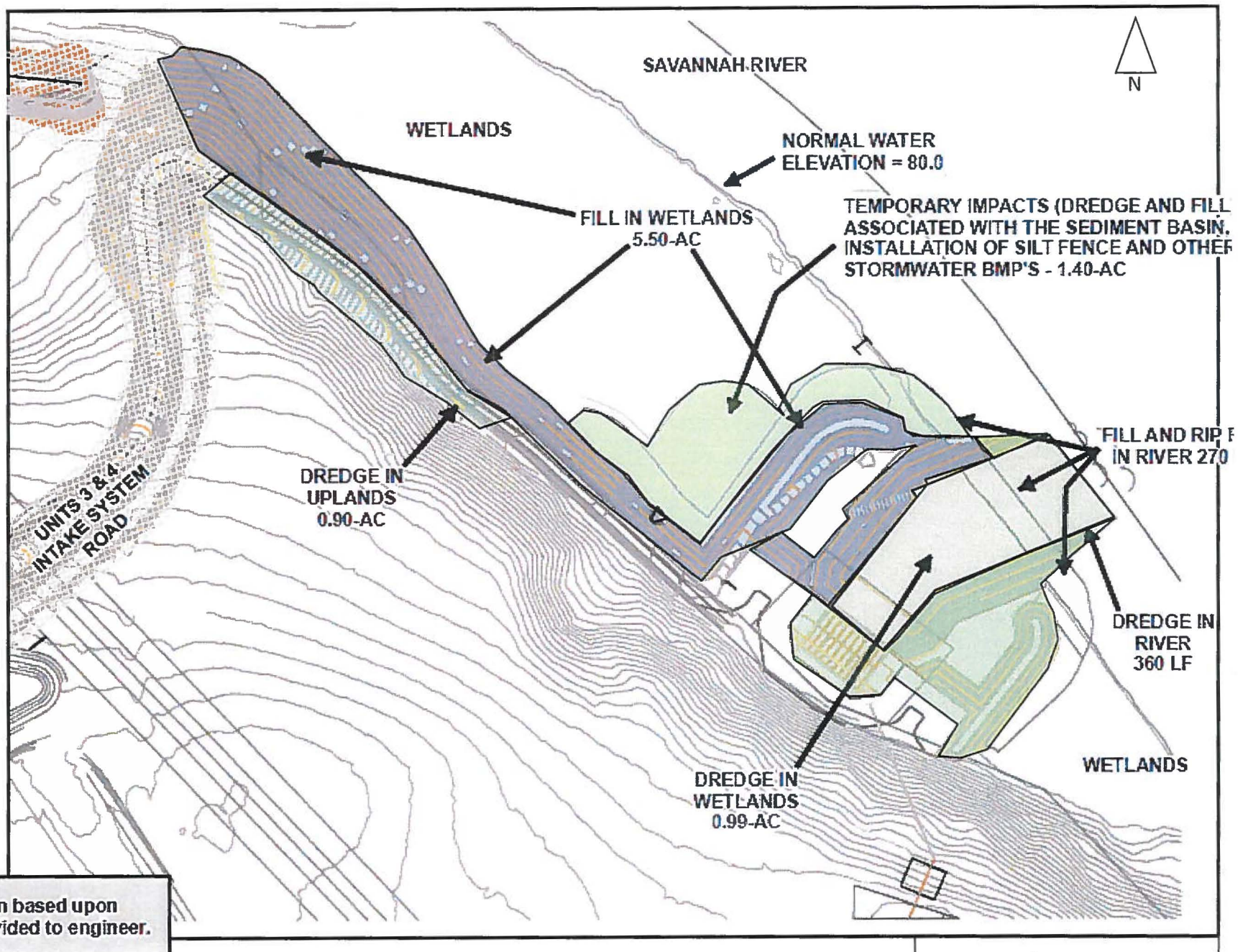
Approved By:

Richard W. Morgan
Chief, Special Projects Section, Coastal Branch
Regulatory Division

Send To: US Army Corps of Engineers, Savannah District
Attention: Regulatory Division, Coastal Branch
100 West Oglethorpe Avenue
Savannah, Georgia 31401-3640
Tel: (912) 652-5768

Attachment 2

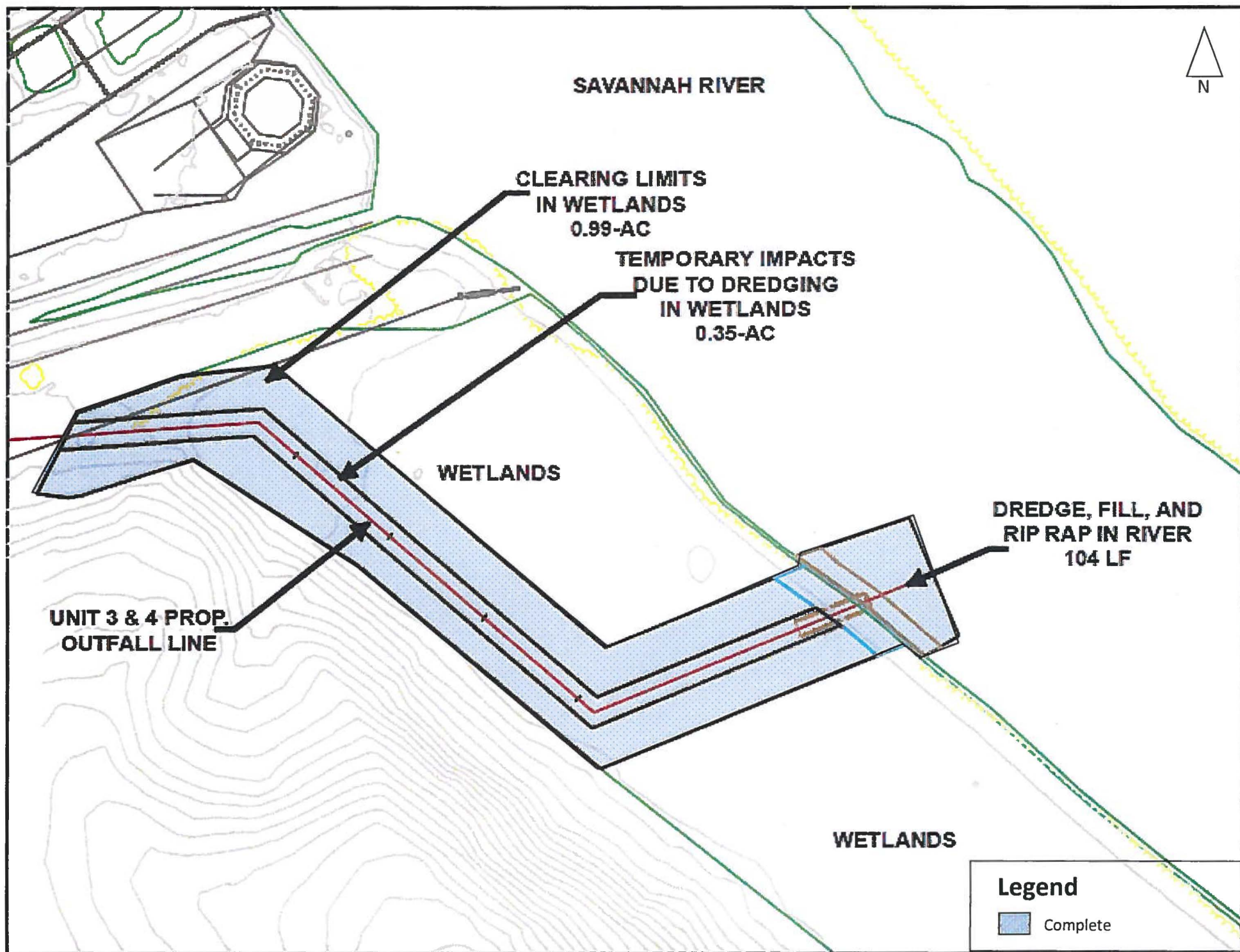
Figures indicating completed work



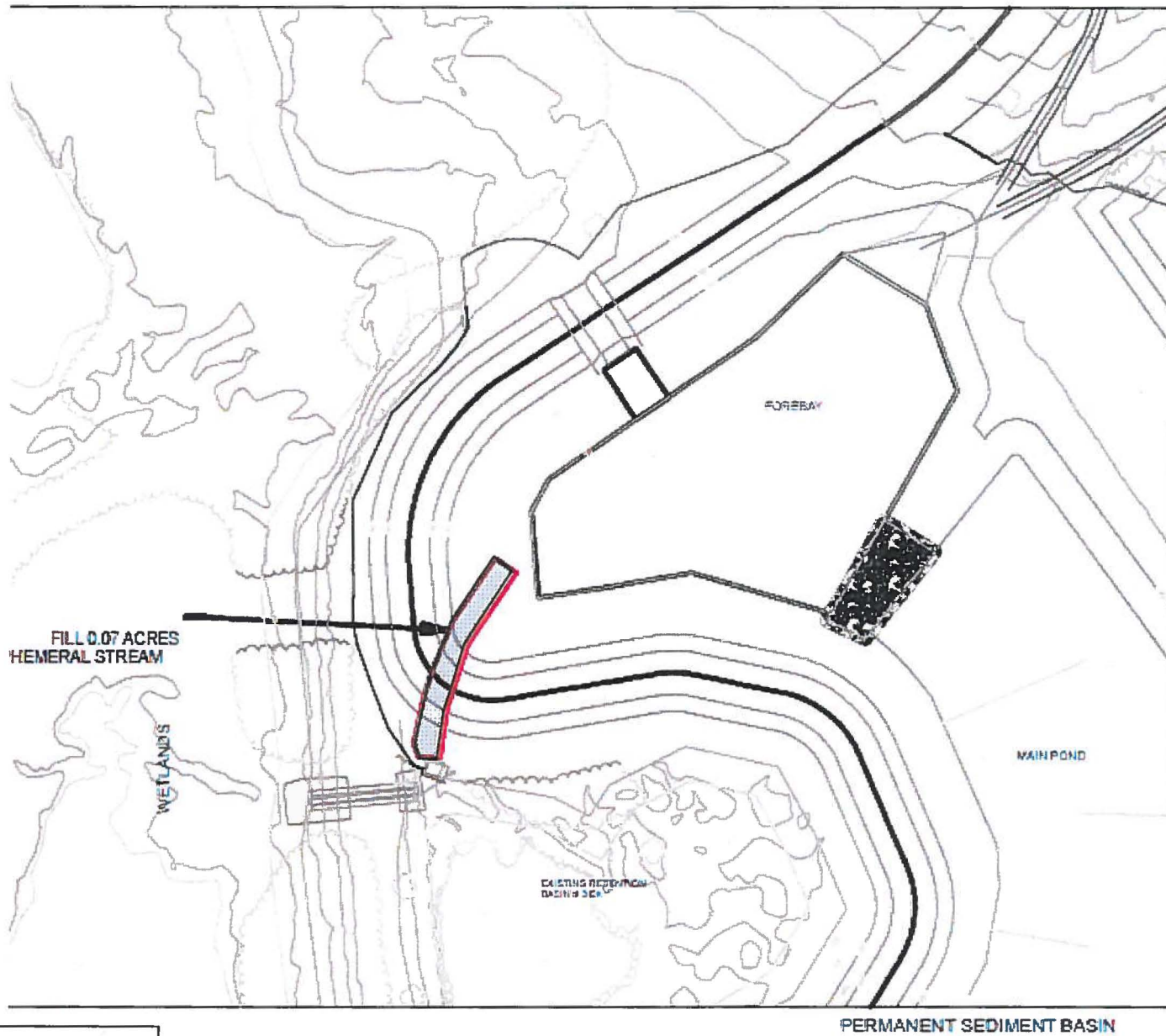
Project Status Map 1

Legend

- Complete
- Ongoing / Not Started



Project Status Map 2



Legend

 Complete

Project Status Map 3 (Previously Proposed Fill)

Attachment 3

Mitigation Credit Documentation

MERRY LAND
PROPERTIES, LLC

2/25/11

Mr. Richard Morgan, RDC
U.S. Army Corps of Engineers, Savannah
Regulatory Division – Coastal Branch
P.O. Box 889
Savannah, GA 31402-0889

Mr. Steve Wright
U.S. Army Corps of Engineers
PO Box 889
Savannah, GA 31402-0889

RE: Bath Branch Stream Mitigation Bank


Dear Mr. Morgan and Mr. Wright:

The Bath Branch Stream Mitigation Bank sold the following mitigation credits:

Date of Sale:	February 25, 2011
Dept. of the Army File No.:	2007-01837
Permittee Name:	Southern Nuclear / Georgia Power
Watershed:	Savannah River
County:	Burke
Type of Credits:	Stream
Number of Credits:	2,224.00
Project within Service area of Bank:	Yes
Impact meets sales restrictions on Bank:	Yes

Enclosed is our credit ledger referencing this sale. If you have any questions or concerns, please feel free to contact me.

Sincerely,



Elliot Grandin
Bath Branch Augusta, LLC

Enclosures

cc: Rand Hanna, Hull Towill, Norman, Barrett & Salley
Rich Williams – GA DOT

MITIGATION MANAGEMENT, LLC

April 21, 2011

Shaun L. Blocker
U.S. Army Corps of Engineers, Regulatory Division
Project Manager, Coastal Branch
100 West Oglethorpe Avenue
Savannah, GA 31401-3640

Subject: Required Credit Sale Statement

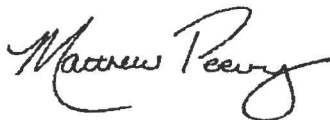
Dear Mr. Blocker:

In accordance with the Savannah District's instructions for reporting credit sales, we are providing the following to document a mitigation bank credit sale:

Date of Sale	April 21, 2011
Permittee USACE File No.	SAS-2007-01837
Permittee	Georgia Power Company
County	Burke
Watershed of Impact	Middle Savannah HUC: 03060106
Stream Credits Sold	0
Wetland Credits Sold	32.27
Project within Service Area of Bank	Primary
Impacts meet Sales Restrictions on Bank	Yes
Mitigation Bank	Brushy Creek Mitigation Bank-USACE File# 200800372

Please contact me with any questions. Also, enclosed is a sales ledger for the Mitigation Bank.

Sincerely,



Matt Peevy
Mitigation Management, LLC
10405 Old Alabama Road Connector
Alpharetta, GA 30022
(404)376-4698

cc: Mr. Matt Peevy, Bank Sponsor
Mr. Steve Wright, USACE Savannah District Regulatory Branch
Mr. Matthew Montz, Southern Nuclear Operating Co.

WWW.MITIGATIONCREDITS.COM

MERRY LAND
PROPERTIES, LLC

4/6/11

Mr. Richard Morgan, RDC
U.S. Army Corps of Engineers, Savannah
Regulatory Division – Coastal Branch
P.O. Box 889
Savannah, GA 31402-0889

Mr. Steve Wright
U.S. Army Corps of Engineers
PO Box 889
Savannah, GA 31402-0889

RE: Phinizy Swamp Wetland Mitigation Bank

Dear Mr. Morgan and Mr. Wright:

The Phinizy Swamp Wetland Mitigation Bank sold the following mitigation credits:

Date of Sale:	April 6, 2011
Dept. of the Army File No.:	2007-01837
Permittee Name:	Southern Nuclear / Georgia Power
Watershed:	Savannah River
HUC:	03060106
Type of Credits:	Wetland
Number of Credits:	45.53
Project within Service area of Bank:	Yes
Impact meets sales restrictions on Bank:	Yes

Enclosed is our credit ledger referencing this sale. If you have any questions or concerns, please feel free to contact me.

Sincerely,



Elliot Grandin
of Merry Land Properties, LLC
sole member of ML South Augusta, LLC, a Georgia corporation
d/b/a Phinizy Swamp Wetland Mitigation Bank

Enclosures

cc: Rand Hanna, Hull Towill, Norman, Barrett & Salley
Richard Williams

Attachment 4

Agency Conference Consultation for the Atlantic sturgeon

March 2, 2011

Mr. David Bernhart
Assistant Regional Administrator
for Protected Resources
National Marine Fisheries Service
Southeast Regional Office
263 13th Avenue South
St. Petersburg, FL 33701

SUBJECT: CONFERENCE CONSULTATION FOR THE ATLANTIC STURGEON
FOR THE VOGTLE ELECTRIC GENERATING PLANT, UNITS 3 AND 4
COMBINED LICENSES APPLICATION

Dear Mr. Bernhart:

The U.S. Nuclear Regulatory Commission (NRC) is reviewing an application, submitted on March 31, 2008, from Southern Nuclear Operating Company, Inc (Southern) and its four co-applicants for combined licenses (COLs) to construct and operate two Westinghouse AP1000 pressurized water reactors at the Vogtle Electric Generating Plant (VEGP) site in Burke County, GA. The COL application referenced an early site permit (ESP) for the VEGP site that was issued to Southern and its co-applicants in 2009. As part of the ESP process, the NRC staff developed a draft and final environmental impact statement.

As part of the NRC's responsibilities under Section 7 of the Endangered Species Act (ESA), the NRC staff prepared a biological assessment (BA) in connection with the VEGP ESP review documenting potential impacts on the shortnose sturgeon (*Acipenser brevirostrum*) as a result of preconstruction site-development activities of the two new units at the VEGP site. That BA, which was submitted to your office on January 25, 2008, concluded that the proposed action is not likely to adversely affect the shortnose sturgeon. The National Marine Fisheries Service (NMFS) concurred with that determination in a letter dated August 11, 2008. In a letter dated September 3, 2010, the NRC confirmed with your office that the ESP-stage consultation encompassed the proposed actions included in the COL application.

The shortnose sturgeon was the only applicable listed or proposed species under the purview of the NMFS during the NRC staff's ESP-stage consultation. On October 6, 2010, NMFS, published in the Federal Register (75 FR 61904), a proposed rule for listing the Carolina and South Atlantic distinct population segments of the Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*) as endangered under the ESA. To address this development, the NRC has prepared the enclosed document which describes the potential effects of the construction and operation of two new nuclear units at the VEGP site on the Atlantic sturgeon and serves as our conference consultation under Title 50 of the Code of Federal Regulations (CFR) Part 402, subpart B, Section 402.10 (50 CFR 402). This document is limited to consultation on the Atlantic sturgeon and does not affect the prior NRC or NMFS assessment regarding the shortnose sturgeon. The NRC is requesting NMFS concurrence with the NRC staff's determination that the proposed action is unlikely to adversely affect the Atlantic sturgeon.

D. Bernhart

- 2 -

If you have any questions regarding this consultation letter or the staff's request, please contact Ms. Mallecia Sutton, NRC Environmental Project Manager via telephone at 301-415-0673 or via e-mail to Mallecia.Sutton@nrc.gov.

Sincerely,

/RA/

Gregory Hatchett, Chief
Environmental Projects Branch 1
Division of Site and Environmental Reviews
Office of New Reactors

Docket Nos.: 52-025
52-026

Enclosure:
As stated

cc w/o encl: See next page

Analysis Regarding Potential Impacts on Atlantic Sturgeon (*Acipenser oxyrinchus oxyrinchus*)

Background

The U.S. Nuclear Regulatory Commission (NRC) is reviewing an application from Southern Nuclear Operating Company, Inc. (Southern), acting on behalf of itself and co-applicants (Georgia Power Company [GPC], Oglethorpe Power Corporation, Municipal Electric Authority of Georgia, and the City of Dalton, Georgia). The application is for combined licenses (COLs) to construct and operate two Westinghouse Electric Company, LLC (Westinghouse) Advanced Passive 1000 (AP1000) pressurized water reactors (i.e., Units 3 and 4) on the site of the Vogtle Electric Generating Plant (VEGP) in Burke County, Georgia. The COL application (Southern 2009) referenced an early site permit (ESP) for the VEGP site that was issued to Southern and the same co-applicants in 2009 (NRC 2009a). As part of the ESP process the NRC staff developed a draft and final environmental impact statement (EIS) (NRC 2007 and 2008a).

As part of the NRC's responsibilities under Section 7 of the Endangered Species Act (ESA), the NRC staff prepared a biological assessment (BA) in connection with the VEGP ESP review. The BA, which documented potential impacts on the shortnose sturgeon (*Acipenser brevirostrum*) as a result of preconstruction site-development activities of two new units at the VEGP site, was submitted to the National Marine Fisheries Service (NMFS) on January 25, 2008, (NRC 2008b). In the BA, the staff concluded that the overall impact of preconstruction-related activities (including constructing the intake and discharge systems and modifying the barge slip) would be temporary and unlikely to adversely impact shortnose sturgeon in the Savannah River. In its draft and final EIS (NRC 2007, 2008a) supporting the review of the ESP application, the NRC staff also analyzed the impacts of operation of two new nuclear units at the VEGP site and concluded that operation is unlikely to adversely impact shortnose sturgeon.

NMFS reviewed the BA and the September 2007 draft ESP EIS (NRC 2007) and, in a letter dated August 11, 2008, (NMFS 2008), concluded that "... effects on the species caused by exclusion from and temporary loss of spawning habitat due to construction activities are expected to be insignificant..." NMFS's basis for this conclusion was that, "... neither the water depths, substrate bottom type, time of year for construction [i.e., outside of the spawning season], nor the shape of the river at this location are conducive to shortnose sturgeon spawning. Shortnose sturgeon generally do not inhabit this section of the Savannah River at this time of year [i.e., outside of the spawning season]; sturgeon are generally found upstream from the site during the proposed construction months and no spawning studies have observed them in the river adjacent to the Vogtle Site." Further, based on its review of the draft ESP EIS, NMFS indicated that, "... the potential effect from thermal discharge will be insignificant as it is expected that fish and other organisms would avoid the elevated temperatures, as they can move through this part of the river unencumbered by any structures or physical features that would retain them in the plume; this also reduces the likelihood of cold shock when moving outside of the plume." NMFS concluded that, "... the risk of sturgeon impingement within the intake structures will be discountable due to the very small chance of sturgeon being trapped." Finally, NMFS concluded "... potential effects from chemical effluents will be insignificant." In summary, after considering impacts of both construction and operation of two new units at the VEGP site, NMFS concluded that the proposed action is not likely to adversely affect shortnose sturgeon.

The shortnose sturgeon was the only applicable listed or proposed species under the purview of the NMFS during the NRC staff's ESP-stage consultation. On October 6, 2010, NMFS

published in the Federal Register (75 FR 61904) a proposed rule for listing the Carolina and South Atlantic distinct population segments of the Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*) as endangered under the ESA. To address this development, this document describes the potential effects of the construction and operation of two new nuclear units at the VEGP site on the Atlantic sturgeon, and serves as our conference consultation under Title 50 of the Code of Federal Regulations (CFR) Part 402, subpart B, Section 402.10 (50 CFR 402). This document is limited to consultation on the Atlantic sturgeon and does not affect the prior NRC or NMFS assessment regarding the shortnose sturgeon. In a letter dated September 3, 2010 (NRC 2010a), NRC notified NMFS of the issuance and request for comments for the Vogtle draft supplemental EIS (SEIS) for the COL application. The letter further stated that no relevant information had changed regarding the project since the earlier BA was submitted. The NRC staff has incorporated by reference the ESP-stage consultation with respect to the shortnose sturgeon, pursuant to 50 CFR 402.12(g). However, because of the similarities between the Atlantic sturgeon and the shortnose sturgeon, material supporting the previous consultation is referenced or included here as appropriate.

Description of the Action

NRC is reviewing an application, submitted on March 31, 2008, from Southern and the aforementioned co-applicants for COLs to construct and operate two Westinghouse AP1000 pressurized water reactors at the VEGP site in Burke County, Georgia. The VEGP site and existing facilities are owned and operated by GPC, Oglethorpe Power Corporation, Municipal Electric Authority of Georgia, and the City of Dalton, Georgia. Southern is the licensee and operator of the existing VEGP, Units 1 and 2 and has been authorized by the VEGP co-owners to apply for COLs for the new Units 3 and 4.

On August 26, 2009, NRC approved issuance to Southern and co-applicants of an ESP and a Limited Work Authorization (LWA) for two additional nuclear units at the VEGP site (NRC 2009a). This approval was supported by information contained in NUREG-1872, Final Environmental Impact Statement for an Early Site Permit (ESP) at the Vogtle Electric Generating Plant Site (ESP EIS) (NRC 2008a) and errata. The ESP EIS considered the environmental issues and impacts of constructing and operating two new nuclear units at the VEGP site. Issuance of the ESP allowed Southern to "bank" the VEGP ESP site for up to 20 years. The LWA authorized Southern to conduct certain limited construction activities at the site in accordance with 10 CFR 50.10 and 52.24(c). As permitted by NRC regulations, Southern's COL application references the ESP.

Southern has performed, or plans to initiate, the following site-preparation activities for the two new Units 3 and 4 at the VEGP site which were considered in the BA prepared for the shortnose sturgeon and in the ESP EIS:

- Prepare the site for construction of the facilities (including such activities as clearing, grading, constructing temporary access roads, and preparing borrow areas),
- Install temporary construction support facilities (including items such as warehouses, shop facilities, utilities, concrete mixing plants, docking and unloading facilities, and construction-support buildings),
- Excavate for facility structures,

- Construct service facilities (including items such as roadways, paving, railroad spurs, fencing, exterior utility and lighting systems, transmission lines, and sanitary sewage treatment facilities), and
- Construct structures, systems, and components that do not prevent or mitigate the consequences of postulated accidents that could cause undue risk to the health and safety of the public. These structures, systems, and components include, but are not limited to the following:
 - Cooling towers
 - Intake and discharge structures
 - Circulating water lines
 - Fire protection equipment
 - Switchyard and onsite interconnections.

The ESP BA concerning the shortnose sturgeon also described modification of a barge slip (NRC 2008b). Since then, Southern has decided not to modify the barge slip because large components will be delivered by rail (Southern 2010a) thus precluding the need to modify the barge slip.

Under 10 CFR Part 52, which contains NRC's reactor licensing regulations and in accordance with the applicable provisions of 10 CFR Part 51, which are the NRC regulations implementing the National Environmental Policy Act of 1969 (NEPA), the NRC is required to prepare a SEIS (NRC 2010b) as part of its review of a COL application referencing an ESP. As required by 10 CFR 51.26, the NRC published a notice of availability of the draft SEIS for public comment in the *Federal Register* (FR) on September 3, 2010, (75 FR 54145). The SEIS, together with the ESP EIS (NRC 2008a), the ESP hearing proceedings, and specifically the NRC staff's prefiled testimony (NRC 2009b), and environmental assessments for three ESP license amendments concerning onsite backfill activities authorized by the LWA, (NRC 2010c, NRC 2010d, NRC 2010e) provide the NRC staff's evaluation of the environmental effects of constructing and operating two AP1000 reactors at the VEGP site.

VEGP Site Description

The VEGP site is located in Burke County, Georgia, adjacent to the Savannah River between river kilometers (RKM) 241 and 244 (river miles [RM] 150 and 152). The site is approximately 24 km (15 mi) east-northeast of Waynesboro, Georgia and 42 km (26 mi) southeast of Augusta, Georgia (see Figure 1). The proposed COL site is completely within the confines of the existing VEGP site with the new units to be constructed and operated adjacent to the existing Units 1 and 2 (Figure 2). A more detailed site description was provided in the ESP BA (NRC 2008b).

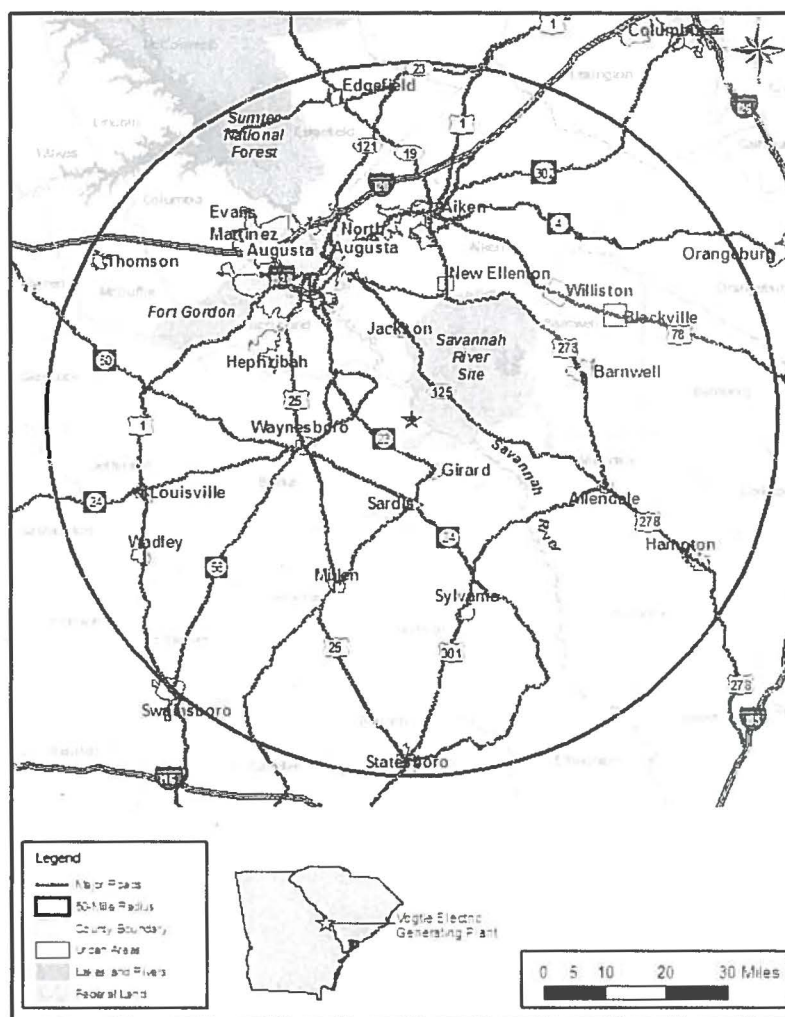


Figure 1. VEGP Site and the Vicinity within an 80-km (50-mi) Radius (Southern 2007)

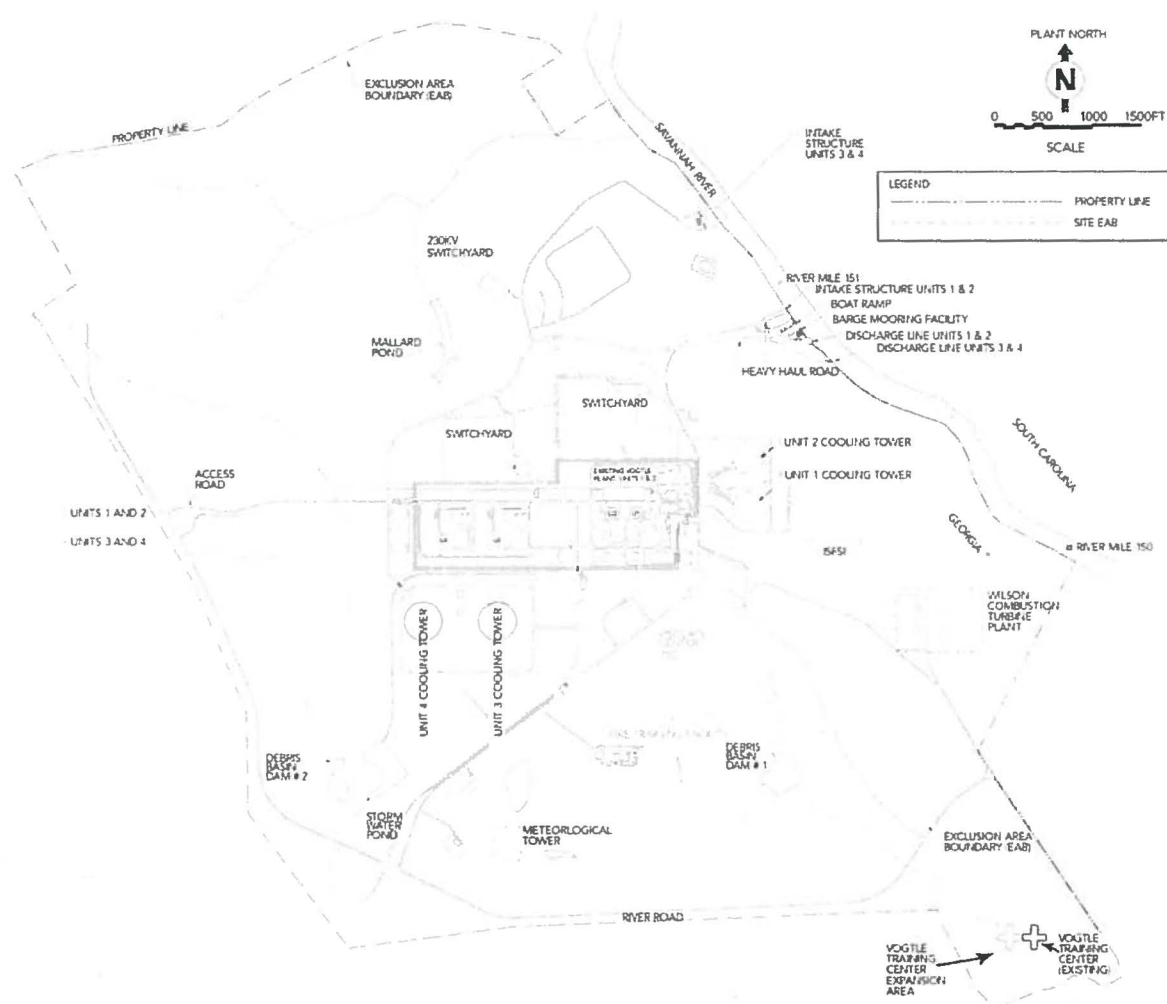


Figure 2. VEGP Site Footprint with the Existing and Proposed Nuclear Units (Southern 2010b)

Potential Environmental Impacts from Preconstruction Site-Preparation Activities

The activities that could potentially affect the habitat for the Atlantic sturgeon during construction of the intake and discharge structures are the same as those described in the ESP BA (NRC 2008b), with the exception of the construction of a barge slip, dredging from the barge slip to the Savannah River Navigation Channel, and maintenance dredging of the Savannah River Navigation Channel, which are no longer planned to occur (Southern 2010a).

On September 29, 2010, the Department of the Army issued an individual Section 10/404 permit (Permit Number SAS-2007-01837) to Southern authorizing impacts to 9.23 acres of jurisdictional wetland, 734 linear feet of stream (only the Georgia side of the Savannah River, equivalent of 1.42 acres of open water), and 0.07 acre of ephemeral stream in the southeast corner of the site near the debris basins (USACE 2010a). Southern also received a Section 401 Water Quality Certification from the Georgia Department of Natural Resources (GDNR) dated June 1, 2010, (USACE 2010a).

The design and location of the cooling water intake structure for proposed Units 3 and 4 has changed since the original BA was sent to NMFS in January 2008. The cooling water intake structure has been repositioned upstream approximately 46 m (150 ft), which places it approximately 650 m (2130 ft) upstream of the existing intakes for Units 1 and 2 and approximately 427 m (1400 ft) downstream of the outlet to the unnamed tributary of Mallard Pond. Southern also described a change in the dimensions of the intake structure (Southern 2010b); this change will lower the intake structure floor from elevation 38.1 m to 32.0 m (125 to 105 ft). In addition, there will be a slight bend (i.e., approximately 30 degrees) about halfway down the canal to orient the mouth of the intake canal perpendicular to the river. Figure 3 illustrates the revised intake structure and the wetlands in its vicinity. The design changes (Southern 2010b) do not substantially modify the width of the intake canal or the length of the canal extending beyond the existing river bank. The new location and design modifications did not alter the basis for the NRC staff's analysis of construction impacts in the COL SEIS.

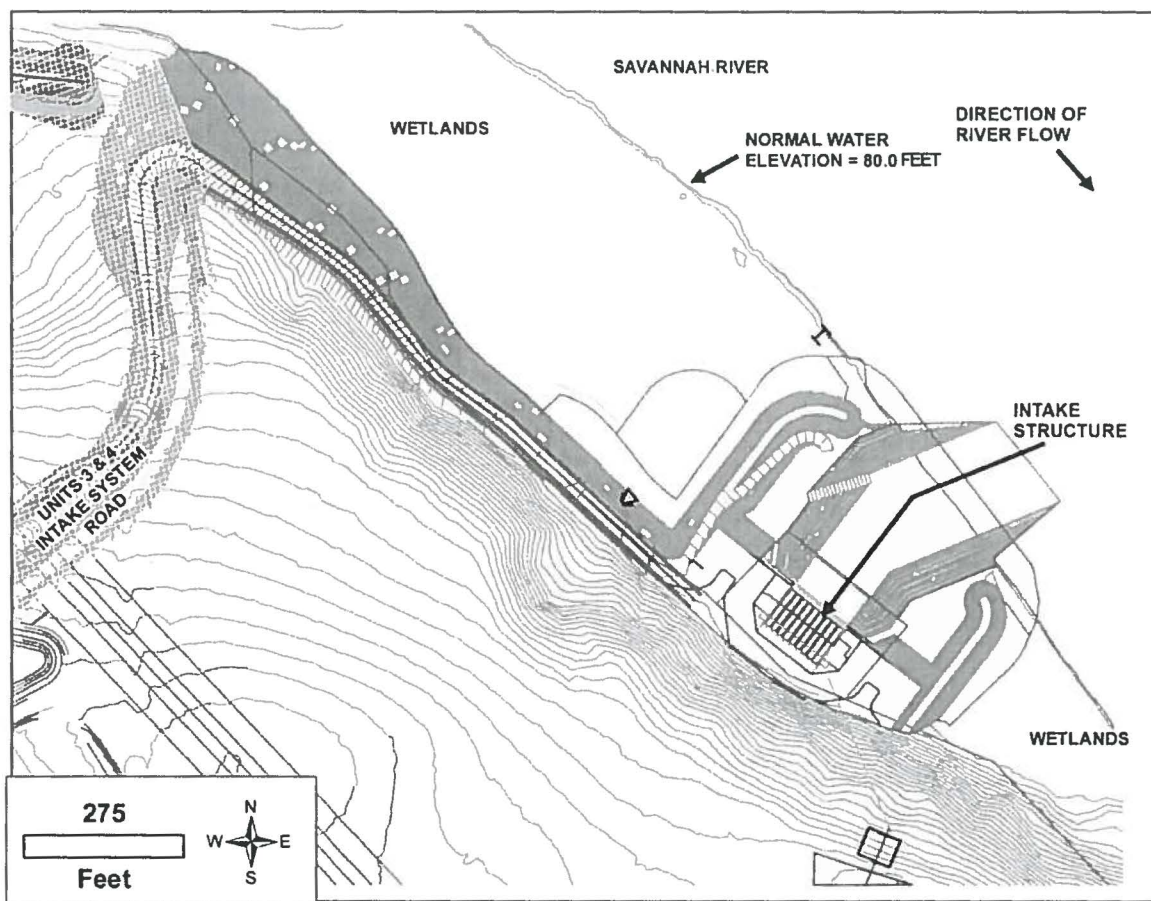


Figure 3. Revised Intake Structure and Surrounding Wetlands (Southern 2010b)

As discussed in the ESP BA (NRC 2008b), the proposed discharge structure will be placed near the southwest bank of the Savannah River, extending about 15 m (50 ft) into the river (Southern 2007). Details related to the design and placement of the discharge structure did not change.

Potential Environmental Impacts of Operational Activities

The potential impacts to the Atlantic sturgeon from the operation of the proposed Units 3 and 4 would include the loss of habitat from the consumption of water from the Savannah River, the entrainment of fish eggs or larvae, impingement against intake screens, the discharge of heated effluents, the discharge of chemicals, and the physical impact of bottom scouring from the discharge into the Savannah River.

Although the design and location of the cooling water intake structure has changed, the orientation of the mouth of the intake canal in relation to the river (perpendicular) has not changed. There is a slight bend in the intake canal (approximately 30 degrees) as shown in Figure 3; however, the orientation of the mouth of the intake canal relative to the river will not change. The new location of the intake canal is in habitat similar to that in the previous location (i.e., on a straight portion of the river and in the same floodplain.) No changes were made to the water withdrawal rates, through-screen velocities, traveling screen mesh size, or the hydraulic zone of influence, which are the main factors that would impact entrainment or impingement rates of aquatic biota during operation of the cooling water intake structure (Southern 2010b).

The staff evaluated the potential for fish, including the Atlantic sturgeon to be affected by the withdrawal of water from the Savannah River in the ESP EIS (NRC 2008a). The combined normal withdrawal rate of 2.35 m³/s (83 cfs) for both VEGP Units 3 and 4 represents 0.9 percent of the average river discharge measured at the Augusta gauge. This is significantly less than the U.S. Environmental Protection Agency (EPA) national performance requirement of 5 percent for a cooling water intake structure located in a freshwater river or stream.

The staff also considered in the ESP EIS, the percentage of water withdrawn during normal operations for the proposed Units 3 and 4 from the Savannah River at Drought Level 3 river flow levels (108 m³/s [3800 cfs]). At normal withdrawal rates, Units 3 and 4 would withdraw 2.2 percent of the river flow at the Drought Level 3 flow rates (NRC 2008a). Historically, these drought levels have occurred for short periods of time and this withdrawal rate is a small fraction of the water in the Savannah River at this location in the river.

As part of the evaluation process for the ESP EIS and the COL SEIS, the NRC staff considered several factors related to the operation of the discharge structure: (1) the physical and thermal characteristics of the plume in relation to the receiving water body, (2) the potential for cold shock, and (3) impacts from the discharge of chemicals from operation of the two proposed units. Regarding the physical and thermal characteristics of the plume in relation to the receiving water body, at the location of the discharge outfall and at a Drought Level 3 flow rate, the Savannah River is approximately 95-m (312-ft) wide (NRC 2008a). In its COL Environmental Report (ER), Southern (2009) indicated that there would be a 3 percent increase in the discharge flow beyond what was assessed in the ESP EIS. Using the same conservative assumptions employed in the ESP EIS analysis, this change would result in only a small increase in the size of the 2.8°C (5°F)-above-ambient isotherm, from 4.6 m (15 ft) to 5.2 m (17 ft) in width and from 29.6 m (97 ft) to 33.6 m (110 ft) in length (NRC 2010b). Because the estimated extent of the thermal plume remains small in relation to the width of the Savannah River at the VEGP site, the staff concluded the thermal plume still would not impede fish passage up and down the river. The staff concluded that consistent with the reasoning

identified by the ESP EIS analysis, fish and other organisms likely would avoid the elevated temperatures and would be able to move through this part of the river unencumbered by any structures or physical features that would retain them in the plume. In addition, the staff determined that the thermal plume would not create a barrier to the upstream or downstream movement of migratory fish (NRC 2010b).

Operation of the proposed Units 3 and 4 could potentially result in cold shock, which occurs when aquatic organisms that have become acclimated to warm water such as fish in a power plant's discharge canal are exposed suddenly to a lower temperature. The staff concluded that cold shock would be less likely to occur at the VEGP site because multiple units would be operating, thus lowering the possibility of simultaneous shutdown of all the units. In addition, the volume of the discharge plume would be very small in comparison with the river flow (NRC 2008a).

Regarding the discharge of chemicals from operation of the two proposed units, the cooling water will be treated with biocides and chemicals to control scaling, corrosion, and solids deposition. Operation of the cooling towers would be based on four cycles of concentration, which means that the total dissolved solids in the make-up water would be concentrated four times before being discharged. Thus, the levels of solids and organics in the cooling tower blowdown would be approximately four times higher than ambient or upstream concentrations. Cooling water chemical treatment for the proposed Units 3 and 4 would be similar to that used for the existing units. The final plant discharge from the proposed Units 3 and 4 would be composed of circulating service water blowdown and other site wastewater streams, including sanitary waste, miscellaneous low-volume waste, and treated liquid radwaste. Blowdown from the cooling towers would be discharged to a common blowdown sump to provide retention time for settling of solids or treatment, if required to remove biocide residuals before the water is discharged to the Savannah River. Calculations performed by Southern and confirmed by the staff give an estimated in-river dilution factor of 60 to 120 during periods of average Savannah River discharge, depending on the time of the year and the river flow rate (NRC 2008a).

The use of chemicals in the existing VEGP Units 1 and 2 is regulated by the GDNr, as set forth in a National Pollutant Discharge Elimination System (NPDES) permit. The chemical concentrations at the outfall for the existing units meet the NPDES limits. The chemical concentrations from Units 3 and 4 are anticipated to be the same as those for Units 1 and 2. No impacts to the aquatic ecology of the Savannah River have been observed from the operation of Units 1 and 2 and no impacts are anticipated from operation of Units 3 and 4. Southern would be required to obtain a NPDES permit from GDNr prior to operation of Units 3 and 4. To protect the aquatic environment, the NPDES permit will specify discharge limits for the various water-treatment chemicals. The NRC staff has determined that impacts to the aquatic environment from chemical discharges to the Savannah River during operation would be minimal (NRC 2008a).

Life History of Atlantic Sturgeon

Based on information published by Marcy et al. (2005), the staff identified the Atlantic sturgeon as being present in the Middle Savannah River Basin. The Atlantic sturgeon is a member of the family Acipenseridae, which is a long-lived group of ancient anadromous and freshwater fishes. Historically, the Atlantic sturgeon was present in 38 rivers in the United States, ranging from St. Croix, Maine, to the Saint Johns River in Florida. Historical spawning populations were confirmed in 35 of the rivers. Currently, Atlantic sturgeon populations are present in 35 rivers and spawning occurs in at least 20 rivers, including the Savannah River (ASSRT 2007)

Although the life history of the Atlantic sturgeon has been studied intensely since the 1970s, important aspects of the life history are still unknown. Generally, the Atlantic sturgeon is anadromous and spends the majority of its life in marine waters, but it reproduces in a freshwater habitat. Spawning is believed to occur in flowing water between the salt wedge and the fall line of large rivers. Like the shortnose sturgeon, spawning adults generally migrate upriver during the spring (February to March) in southern rivers. A fall-spawning migration also may occur in some southern rivers (ASSRT 2007). This appears to have first been reported by Smith (1985) indicating the occurrence of a fall run of fish that are in spawning condition in the south. Smith et al. (1984) note that the fall-run fish are typically smaller than those caught in the spring. Collins et al. (2000) provided additional evidence of a fall spawning period in the Ashepoo, Combahee, and Edisto river basins in South Carolina. This finding was based on movements of two male fish that spent the summer in the lower Edisto River and then moved upriver to RKM 190 during October 1998. In addition, a female Atlantic sturgeon that had recently spawned was captured near RKM 56 of the Edisto River during the fall during this study; however, no spawning sites were confirmed.

Atlantic sturgeon eggs are highly adhesive and are deposited on the bottom substrate, usually on hard surfaces. Hatching occurs within approximately 94 to 140 hours after egg deposition at temperatures of 20°C and 18°C (68°F and 64.4°F), respectively. Embryos (age 1 to 8 days old) tend to seek cover and stay near the bottom after hatching (Kynard and Horgan 2002). When the yolk-sac larval stage is complete (after 8 to 12 days), the larvae move downstream over a 6- to 12-day period to rearing grounds. Larvae are demersal and stay near the bottom of the water column (ASSRT 2007). During the first half of their migration, movement is limited to the night and during the day, they use the bottom (e.g., a gravel matrix) as refugia. As the larvae develop further, migration occurs during both the day and the night (Kynard and Horgan 2002). Juvenile sturgeon eventually arrive in estuarine waters, where they remain for months or years. Sub-adults may move to coastal waters and may make long migrations (ASSRT 2007).

Status of Atlantic Sturgeon in the Savannah River

Atlantic sturgeon have been found in the Savannah River, with records documenting 70 individuals having been captured since 1999 (ASSRT 2007). It appears that they are spawning in the river, although specific spawning locations have not been identified. In 1997, a single running ripe male was found at the base of the dam near Augusta in the late summer (ASSRT 2007) pointing to a potential fall migration in the Savannah also.

Ichthyoplankton studies conducted during a four-year period (1982-1985) near the Savannah River Site which is across the river from the VEGP site resulted in a total of 43 sturgeon larvae being collected. The larvae were taken from the river between RM 120 and 176. Differentiating shortnose sturgeon larvae from Atlantic sturgeon larvae is difficult because of the similarity in appearance; however, a total of 31 of the 43 sturgeon larvae were identified as Atlantic

sturgeon. Of the 31 larvae, four were identified as being collected from near the top of the water column. The remainder were from near the bottom. The Atlantic sturgeon larvae were collected during April. Sampling was conducted from February through July, so a fall spawning season would not have been noticed (Paller et al. 1986). In addition, Collins et al. (2000) documented an early larval *Acipenser* sp., tentatively identified as an Atlantic sturgeon located at RKM 42 (RM 26) in the Savannah River.

Cumulative Impacts

On November 15, 2010, the U.S. Army Corps of Engineers published a draft General Re-Evaluation Report (GRR) (USACE 2010b) and a Tier II EIS (USACE 2010c) related to determining the feasibility of improvements to the Federal navigation project at Savannah Harbor. The GRR and EIS assess mitigation plans for alternative channel depths from -42 to -48 ft mean lower low water. The Savannah Harbor expansion project has the potential to result in the loss of several hundred acres of habitat for fish that use the estuary. Many mitigation measures are being considered in connection with this project, including building a fish-way round the New Savannah Bluff Lock and Dam at Augusta, Georgia, which would open up an additional 32 km (20 mi) of habitat upstream of the dam (USACE 2010c). As explained previously, construction of the proposed units at the VEGP site would temporarily affect less than 0.6 ha (1.5 ac) of sturgeon migratory habitat. Water withdrawal rates during operation would be less than 1 percent of Savannah River flow during average flow conditions and the small zone of influence would have a negligible impact on pelagic spawning (NRC 2008a). Furthermore, the proposed activities associated with the VEGP expansion would not impede the mitigation measures being considered for the Savannah River expansion project. Accordingly, construction and operation of the proposed VEGP units would not have an adverse cumulative impact on important fish species when considered together with the Savannah Harbor expansion project.

Evaluation of Potential Impacts from Preconstruction Site-Preparation Activities

The construction activities previously described are expected to have minimal impacts on the aquatic ecology of the Savannah River. The extent of benthic habitat altered during construction of the intake canal would be small because most of the major construction activities would occur in the floodplain. Likewise, there would be limited disturbance of the benthic habitat during construction of the discharge structure. Disruption of silt and debris and its subsequent movement downstream during construction is expected to be minor because siltation curtains and cofferdams will be used, as discussed in the ESP BA. Noise impacts from pile-driving activities would be transient. Fish, including Atlantic sturgeon that may be inhabiting the river in the vicinity of the construction activities, would likely leave temporarily or avoid the Georgia side of the river. This temporary habitat loss would be a very small percentage of the total aquatic habitat in this area of the Savannah River.

The NRC staff has concluded that, because of the limited scope of the activities and the best management practices employed by Southern, site preparation activities addressed in this analysis would be temporary and would be unlikely to adversely affect Atlantic sturgeon.

Evaluation of Potential Impacts from Operational Activities

The operational impacts previously described are expected to have minimal impact on the aquatic ecology of the Savannah River. The anticipated volume of water to be withdrawn from

the river by the closed-cycle cooling system is a small fraction (1.2 percent) of the water in the river.

The anticipated approach velocities (about 3 cm/sec [0.1 ft/sec]) in the proposed intake canal and a designed through-screen intake velocity of less than 15 cm/sec (0.5 ft/sec) are low enough that healthy Atlantic sturgeon would be able to avoid impingement. Further, the staff is not aware of any documented case of healthy Atlantic sturgeon being impinged at any nuclear power station along the Atlantic coast including stations that employ once-through cooling systems. Sturgeon that migrate both upstream and downstream in the Savannah River are accustomed to flow rates higher than 15 cm/sec (0.5 ft/sec). An impingement study undertaken from March 10, 2008 through February 26, 2009 at VEGP Units 1 and 2 which are similar in design to the proposed Units 3 and 4, resulted in a total of 168 organisms being impinged (GPC 2009). Extrapolation of the results for a full year (365 days) of cooling-water withdrawal provided an estimate of 2580 impinged organisms with a biomass of 15 kg (33.1 lbs). No sturgeon were impinged.

An entrainment study undertaken by Southern from March 10, 2008 through July 29, 2008, resulted in entrainment of a total of 910 fish eggs and larvae from 23 taxa, representing 13 taxonomic families (GPC 2008). No sturgeon eggs or larvae were collected in either the source water or the entrainment samples.

According to the Atlantic Sturgeon Status Review Team, it is believed that the inherent behavior of larval sturgeon to maintain an active migration and to seek deep water plays a role in helping them to avoid intake structures (ASSRT 2007). Thus, they would not be susceptible to entrainment or impingement.

The size of the modeled thermal plume is small in comparison to the width of the Savannah River at the VEGP site; therefore, the plume created by operations at VEGP would not create a barrier to the upstream or downstream migration of fish species, including the Atlantic sturgeon, in the Savannah River.

Chemical discharges at the outfall for the existing Units 1 and 2 meet the limits specified in the NPDES permit and the discharge from the proposed Units 3 and 4 will be similar. No impacts to the aquatic ecology of the Savannah River have been observed from the operation of Units 1 and 2, and no impact from chemical discharges from Units 3 and 4 would be expected for Atlantic sturgeon.

Conclusion

Based on its review of the proposed action and the biology of the Atlantic sturgeon, the staff concludes that the overall impact of the VEGP Units 3 and 4 construction- and operation-related activities would be unlikely to adversely affect Atlantic sturgeon in the Savannah River.

References

10 CFR Part 50. Code of Federal Regulations, Title 10, *Energy*, Part 50, "Domestic Licensing of Production and Utilization Facilities."

10 CFR Part 51. Code of Federal Regulations, Title 10, *Energy*, Part 51, "Environmental Protection Regulations for Domestic Licensing and Related Regulatory Functions."

10 CFR Part 52. Code of Federal Regulations, Title 10, *Energy*, Part 52, "Early Site Permits, Standard Design Certifications, and Combined License for Nuclear Power Plants."

50 CFR Part 402. Code of Federal Regulations, Title 50, *Wildlife and Fisheries*, Part 402, "Interagency cooperation –Endangered Species Act of 1973, as amended."

75 FR 54145 "Environmental Impact Statements; Notice of Availability, EIS No. 20100351, Draft EIS, NRC, GA, Vogtle Electric Generating Plant Units 3 and 4, Construction and Operation, Application for Combined Licenses (COLs)." NUREG 1947. Vol. 75, No. 171. September 3, 2010.

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UNITED STATES DEPARTMENT OF COMMERCE
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MAY 19 2011

F/SER31:NB

Mr. Gregory Hatchett
Nuclear Regulatory Commission
Washington, DC 20555-0001

Re: Conference Consultation for the Atlantic Sturgeon for the Vogtle Electric Generating Plant,
Units 3 and 4 Combined Licenses Application

Dear Mr. Hatchett:

This responds to your letter and biological assessment for the Atlantic Sturgeon (BA) dated March 2, 2011, requesting National Marine Fisheries Service's (NMFS) concurrence with your determinations pursuant to Section 7 of the Endangered Species Act (ESA) for the Nuclear Regulatory Commission's (NRC) Early Site Permit (ESP) application for the Vogtle Electric Generating Plant (VEGP) in Burke County, Georgia. Southern Nuclear Operating Company, Inc (Southern) is applying for a combined licence (COL) to construct new nuclear power reactors on the site of the VEGP. NMFS provided concurrence in a letter dated August 11, 2008, that the project will have no effect on six species of whales, five species of marine turtles, and smalltooth sawfish, and may affect but is not likely to adversely affect shortnose sturgeon. On October 6, 2010, NMFS published in the Federal Register (75 FR 61904) a proposed rule for listing the Carolina and South Atlantic distinct population segments of the Atlantic sturgeon as endangered under the ESA. You determined that the proposed action may affect but is not likely to adversely affect the Atlantic sturgeon. NMFS' determinations regarding the effects of the proposed action are based on the description of the action in this informal consultation. You are reminded that any changes to the proposed action may negate the findings of the present consultation and may require reinitiation of consultation with NMFS.

The project is located at latitude 33.1414°N, longitude 81.7667°W (NAD 83), in Burke County, Georgia, adjacent to the Savannah River between river kilometers 241 and 244, approximately 24 km east-northeast of Waynesboro, Georgia, and 42 km southeast of Augusta, Georgia. The applicant proposes to clear, grade, and construct non-safety-related facilities entirely within the confines of the existing VEGP site. The purpose of the proposed permit is preparation for the construction and operation of two new nuclear power units at VEGP. Construction and operation of the units will require additional licensing by the NRC; therefore, the NRC considers this permit a separate action from the filing of an application for a construction permit or combined license for one or more nuclear power facilities. The ultimate construction and operation of the units, however, are the purpose of the ESP, and the ESP has no independent



utility except to support construction and operation. Therefore, this consultation considers potential effects from the ESP as well as the units' construction and operation.

Since the 2008 NMFS consultation, a few modifications have been made to the project. The intake canal design and location have been changed. None of the project modification would change the effects analysis or require reinitiation of consultation. The 2008 BA and NMFS consultation also addressed modifications to the existing barge slip. Since 2008, Southern has determined that these modifications are unnecessary as large construction components will be delivered by rail instead of by river. The only change made to the discharge methods or structures is that there would be a three percent increase in the discharge flow rate which will modestly increase the estimated extent of the thermal plume. All other work, such as clearing and grading, would take place in the uplands; the applicant has committed to instituting best management practices to mitigate erosion, sedimentation, and dust-generating activities. By eliminating the need to modify the barge slip, impacts to wetlands were reduced from approximately 22.5 acres to 9.23 acres of jurisdictional wetland. The relocation of the intake canal would extend the impacts to shoreline from 510 to 734 linear feet. Benthic habitat consists of "brown, poorly graded gravel with sand" to "poorly graded gravel." A tethered, floating silt curtain would be installed for all aspects of the project. Southern has received a Section 10/404 permit from the Army Corps of Engineers (COE) dated September 29, 2010, for impacts to wetlands and streams, as well as a Section 401 Water Quality Certification from the Georgia Department of Natural Resources dated June 1, 2010 to ensure the proposed COL does not conflict with Georgia water quality issues.

Changes to the intake canal design include: (1) the revised intake location will be 150 ft upstream of the previously proposed location, (2) the dimensions of the intake structure were modified, lowering the structure floor elevation from 125 to 105 ft, and (3) the intake pipe will have a 30 degree bend approximately half way down the canal to orient it perpendicular to the river. According to the NRC, these changes would not substantially change the intake pipe orientation within the river, the type of habitat impacts, or the length the canal will extend beyond the river bank. Construction would still take place in the summer, fall, and early winter to minimize flooding and impacts to anadromous species that enter the river during the high water conditions of February through April. The intake canal would be approximately 240 ft long by 170 ft wide, with an earthen bottom at an elevation of 70 ft above mean sea level (MSL) and vertical sheet piles extending to an elevation of 98 ft MSL. Permanent and temporary sheet piles will be driven for the intake canal using a vibratory or impact hammer. Piling installation will be conducted from the uplands and the intake area cofferdam will be excavated to an elevation of 70 ft. Installation of the inner serrated weir wall and the outer serrated wall and guide vanes at the mouth of the intake would be accomplished from a barge in the Savannah River. According to the 2007 Draft Environmental Impact Statement (DEIS), construction would take place in the summer, fall, and early winter to minimize the impacts to fish and other aquatic organisms that move into the floodplain with the high water conditions of February, March, and April.

The proposed discharge structure would still be placed near the southwest bank of the Savannah River, extending about 50 ft into the river. The discharge pipe would be approximately 3.5 ft in diameter, narrowing to 2 ft before the discharge point. The pipe is expected to be elevated 3 ft above the river bottom. Construction would involve the installation of a temporary sheet-pile cofferdam, which would be installed using a vibratory or impact hammer, and a dewatering system, either a well-point or local pumps. The interior of the cofferdam would be excavated so that the pipe could be installed approximately 3 ft below the invert elevation of the discharge piping and then contoured up the river bank. H-piles used for piping supports would be driven to an elevation of 50 ft MSL. After the pipe is laid, the dewatering system would be removed and the piping would be backfilled and graded to the required river bank slope contours. The cofferdam would be removed and riprap material would be installed to stabilize the riverbed and shoreline in the vicinity of the discharge point.

The DEIS states that the plant would use a closed-cycle wet cooling tower system, which reduces water use by 96 to 98 percent compared to a one-through cooling system, and thereby reduces the likelihood of sturgeon impingement. Units 3 and 4 would have a design through-screen velocity of less than 0.5 fps. According to the 2011 Final Supplemental Environmental Impact Statement (EIS), water withdrawal rates would be minor, totaling less than 1 percent of the Savannah River flow during average flow conditions. The intake canal will be situated perpendicular to the river flow and a canal weir will be located 15 m (50 ft 11 inches) inside the canal, with a serrated weir wall to reduce entrainment mortality. The installation of the weir wall would also reduce the potential of sturgeon larvae entrainment, since their larvae are demersal, tending to stay near the river bottom.

Chemicals, including biocides, would be added to the cooling tower basins for Units 3 and 4. Biofouling would be controlled using chlorination and/or other treatment methods. Operation of the cooling towers would be based on four cycles of concentration; thus, the levels of solids and organics in the cooling tower blowdown would be approximately four times higher than the ambient or upstream concentrations. Blowdown from the cooling towers would be discharged to a common blowdown sump to provide retention time for settling of solids or to be treated, if required, to remove biocide residuals before the water is discharged to the river. Calculations give an estimated in-river dilution factor of 60 to 120 times during periods of average Savannah River discharge, depending on the time of year and river flow rate.

In regards to water temperature, the following information comes directly from the DEIS for the ESP: (1) The discharge from the discharge structure would enter the Savannah River at previously described at 123.1 m (404 ft) downstream through a single submerged port, (2) water quality standards for temperature are not to exceed 32.2°C (90°F), and at no time is the temperature of the receiving waters to be increased more than 2.8°C (5°F). The 3 percent increase in the area of discharge anticipated since the 2008 EIS, will increase the extent of the above ambient isotherm. The effluent from new Units 3 and 4 would discharge directly into the Savannah River; the maximum downstream distance of the 2.8°C (5°F) above the ambient isotherm will increase from 29.6 m (97 ft) to 33.6 m (110 ft) from the outfall pipe. The width will also increase from 4.6 m (15 ft) to 5.3 m (17 ft). According to the NRC March 2011 letter, the river at the discharge location is 95 m (312 ft) wide, even at a Drought Level 3 river flow.

Therefore, the increase above the ambient isotherm remains small in proportion to the width of the river.

Atlantic sturgeon, proposed for listing under the ESA, can be found in or near the action area and may be affected by the project. There is no designated critical habitat in or near the project area. NMFS has identified the following potential effects to Atlantic sturgeon and concluded that they are not likely to be adversely affected by the proposed ESP.

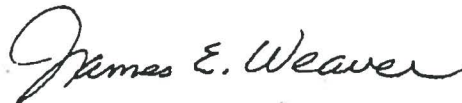
Possible effects include the risk of injury from construction activities. Due to the species' mobility and the implementation of best management practices, such as the timing of the project (i.e., outside of the spawning season), risk of injury effects will be discountable. Turbidity curtains will be used during all phases of work and will remain in place until the proposed project is complete, and will then be removed. Effects on the species caused by exclusion from, and temporary loss of, spawning habitat due to construction activities are expected to be insignificant; neither the water depths, substrate bottom type, time of year for construction, nor the shape of the river at this location are conducive to Atlantic sturgeon spawning. Atlantic sturgeon generally do not inhabit this section of the Savannah River at this time of year; spawning sturgeon are generally found upstream from the site. No spawning studies have detected them in the river adjacent to the Vogtle site, although presumably their spawning migrations go past the site.

NMFS believes the potential effects from the proposed water intake and discharge are not likely to adversely affect Atlantic sturgeon. Based on the water intake location within a separate canal off the river and the use of through-screen velocities of less than 0.5 fps, the risk of impingement from the water intake structures to Atlantic sturgeon would be discountable. According to NRC March 2011 letter, impingement studies were conducted at VEGP in 2008 and 2009, resulting in no sturgeon egg, larvae, or adult sturgeon impingement from the existing Units 1 and 2 water intake structures. Since the proposed water intake structures are of similar design, effects from water intake structures would be discountable. The potential effect of a heat barrier within the river from the thermal discharge will be insignificant as it is expected that fish and other organisms would avoid the elevated temperatures, as they can move through this part of the river unencumbered by any structures or physical features that would retain them in the plume; this also reduces the likelihood of cold shock when moving outside of the plume. Potential effects from chemical effluent discharge will be insignificant due to the fact that "no impacts to the aquatic ecology of the Savannah River from these chemicals [i.e., biocides] have been observed" from operating Units 1 and 2. Discharge from Units 3 and 4 will be similar and thus expected to have insignificant effects on Atlantic sturgeon.

In conclusion, NMFS concurs with your determination that the proposed action is not likely to adversely affect Atlantic sturgeon, a species proposed for listing under the ESA. Consultation must be reinitiated if a take occurs or new information reveals effects of the action not previously considered, or the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat in a manner or to an extent not previously considered, or if a new species is listed or critical habitat designated that may be affected by the identified action.

We have enclosed additional information on other statutory requirements that may apply to this action, as well as information on NMFS' Public Consultation Tracking System (PCTS) that allows you to track the status of ESA consultations. We look forward to further cooperation with you on other projects to ensure the conservation of our threatened and endangered marine species and designated critical habitat. If you have any questions on this consultation or PCTS, please contact Nicole Bailey, ESA Consultant, at (727) 824-5336, or by e-mail at Nicole.Bailey@noaa.gov.

Sincerely,


for Roy E. Crabtree, Ph.D.
Regional Administrator

Enclosures (2)

File: 1514-22. F.4

Ref: I/SER/2011/00884

**PCTS Access and Additional Considerations for ESA Section 7 Consultations
(Revised 7-15-2009)**

Public Consultation Tracking System (PCTS) Guidance: PCTS is an online query system at <https://pcts.nmfs.noaa.gov/> that allows federal agencies and U.S. Army Corps of Engineers' (COE) permit applicants and their consultants to ascertain the status of NMFS' Endangered Species Act (ESA) and Essential Fish Habitat (EFH) consultations, conducted pursuant to ESA section 7, and Magnuson-Stevens Fishery Conservation and Management Act's (MSA) sections 305(b)(2) and 305(b)(4), respectively. Federal agencies are required to enter an agency-specific username and password to query the Federal Agency Site. The COE "Permit Site" (no password needed) allows COE permit applicants and consultants to check on the current status of Clean Water Act section 404 permit actions for which NMFS has conducted, or is in the process of conducting, an ESA or EFH consultation with the COE.

For COE-permitted projects, click on "Enter Corps Permit Site." From the "Choose Agency Subdivision (Required)" list, pick the appropriate COE district. At "Enter Agency Permit Number" type in the COE district identifier, hyphen, year, hyphen, number. The COE is in the processing of converting its permit application database to PCTS-compatible "ORM." An example permit number is: SAJ-2005-000001234-IPS-1. For the Jacksonville District, which has already converted to ORM, permit application numbers should be entered as SAJ (hyphen), followed by 4-digit year (hyphen), followed by permit application numeric identifier with no preceding zeros. For example: SAJ-2005-123; SAJ-2005-1234; SAJ-2005-12345.

For inquiries regarding applications processed by COE districts that have not yet made the conversion to ORM (e.g., Mobile District), enter the 9-digit numeric identifier, or convert the existing COE-assigned application number to 9 numeric digits by deleting all letters, hyphens, and commas; converting the year to 4-digit format (e.g., -04 to 2004); and adding additional zeros in front of the numeric identifier to make a total of 9 numeric digits. For example: AL05-982-F converts to 200500982; MS05-04401-A converts to 200504401. PCTS questions should be directed to Eric Hawk at Eric.Hawk@noaa.gov. Requests for username and password should be directed to PCTS.Usersupport@noaa.gov.

EFH Recommendations: In addition to its protected species/critical habitat consultation requirements with NMFS' Protected Resources Division pursuant to section 7 of the ESA, prior to proceeding with the proposed action the action agency must also consult with NMFS' Habitat Conservation Division (HCD) pursuant to the MSA requirements for EFH consultation (16 U.S.C. 1855 (b)(2) and 50 CFR 600.905-.930, subpart K). The action agency should also ensure that the applicant understands the ESA and EFH processes; that ESA and EFH consultations are separate, distinct, and guided by different statutes, goals, and time lines for responding to the action agency; and that the action agency will (and the applicant may) receive separate consultation correspondence on NMFS letterhead from HCD regarding their concerns and/or finalizing EFH consultation.

Marine Mammal Protection Act (MMPA) Recommendations: The ESA section 7 process does not authorize incidental takes of listed or non-listed marine mammals. If such takes may occur an incidental take authorization under MMPA section 101 (a)(5) is necessary. Please contact NMFS' Permits, Conservation, and Education Division at (301) 713-2322 for more information regarding MMPA permitting procedures.



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SEA TURTLE AND SMALLTOOTH SAWFISH CONSTRUCTION CONDITIONS

The permittee shall comply with the following protected species construction conditions:

- a. The permittee shall instruct all personnel associated with the project of the potential presence of these species and the need to avoid collisions with sea turtles and smalltooth sawfish. All construction personnel are responsible for observing water-related activities for the presence of these species.
- b. The permittee shall advise all construction personnel that there are civil and criminal penalties for harming, harassing, or killing sea turtles or smalltooth sawfish, which are protected under the Endangered Species Act of 1973.
- c. Siltation barriers shall be made of material in which a sea turtle or smalltooth sawfish cannot become entangled, be properly secured, and be regularly monitored to avoid protected species entrapment. Barriers may not block sea turtle or smalltooth sawfish entry to or exit from designated critical habitat without prior agreement from the National Marine Fisheries Service's Protected Resources Division, St. Petersburg, Florida.
- d. All vessels associated with the construction project shall operate at "no wake/idle" speeds at all times while in the construction area and while in water depths where the draft of the vessel provides less than a four-foot clearance from the bottom. All vessels will preferentially follow deep-water routes (e.g., marked channels) whenever possible.
- e. If a sea turtle or smalltooth sawfish is seen within 100 yards of the active daily construction/dredging operation or vessel movement, all appropriate precautions shall be implemented to ensure its protection. These precautions shall include cessation of operation of any moving equipment closer than 50 feet of a sea turtle or smalltooth sawfish. Operation of any mechanical construction equipment shall cease immediately if a sea turtle or smalltooth sawfish is seen within a 50-ft radius of the equipment. Activities may not resume until the protected species has departed the project area of its own volition.
- f. Any collision with and/or injury to a sea turtle or smalltooth sawfish shall be reported immediately to the National Marine Fisheries Service's Protected Resources Division (727-824-5312) and the local authorized sea turtle stranding/rescue organization.
- g. Any special construction conditions, required of your specific project, outside these general conditions, if applicable, will be addressed in the primary consultation.

Revised: March 23, 2006

