PMVogtleCOLPEm Resource

From: Sweeney, Brian J. [X2SWEENE@southernco.com]
Sent: Friday, January 08, 2010 5:34 PM
To: Joshi, Ravindra; Sutton, Mallecia; Notich, Mark
Cc: Sparkman, Wesley A.
Subject: SNC Letter ND-10-0023 Transmitting Responses to NRC Environmental RAIs (Transmittal # 1)
Attachments: ND-10-0023 Env RAI Ltr Resp.pdf

SNC Letter ND-10-0023, dated January 8, 2010, that provide responses to NRC RAI letter, dated December 10, 2009, on Environmental issues for the VEGP Units 3 and 4 COL Application was submitted to the NRC Document Control Desk via FedEx today. The electronic document for this submittal has a very large Enclosure Attachment 2. Therefore, this letter is being provided to you in five separate email transmittals. This is the first transmittal and consists of the submittal letter minus Enclosure Attachment 2.

Brian Sweeney
Southern Nuclear
205-992-6692

Hearing Identifier: Vogtle_COL_Public
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52-026

ND-10-0023

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

Southern Nuclear Operating Company
Vogtle Electric Generating Plant Units 3 and 4 Combined License Application
Response to Request for Additional Information Letter on Environmental Issues

Ladies and Gentlemen:

By letter dated March 28, 2008, Southern Nuclear Operating Company (SNC) submitted an application for combined licenses (COLs) for proposed Vogtle Electric Generating Plant (VEGP) Units 3 and 4 to the U.S. Nuclear Regulatory Commission (NRC) for two Westinghouse AP1000 reactor plants, in accordance with 10 CFR Part 52. During the NRC's detailed review of this application, and an NRC site audit conducted on September 28 - October 1, 2009, the NRC identified a need for additional information, involving environmental issues, required to complete their review of Part 3 of the COL application, "Applicant's Environmental Report – Combined License Stage." By letter dated December 10, 2009, the NRC provided SNC with a request for additional information (RAI) letter concerning this information need. That RAI letter contained twelve RAI questions. The enclosure to this letter provides SNC's response to those RAIs.

If you have any questions regarding this letter, please contact Mr. Wes Sparkman at (205) 992-5061.

Mr. Charles R. Pierce states he is the AP1000 Licensing Manager of Southern Nuclear Operating Company, is authorized to execute this oath on behalf of Southern Nuclear Operating Company and to the best of his knowledge and belief, the facts set forth in this letter are true.

Respectfully submitted,

SOUTHERN NUCLEAR OPERATING COMPANY

Charles R. Pierce

Charles R. Pierce

Sworn to and subscribed before me this 8th *day of* January, *2010*

Notary Public: Deborah A. Jurovka

My commission expires: October 24, 2012

CRP/BJS/dmw

Enclosure: Response to NRC RAI Letter Dated December 10, 2009 on the VEGP Units 3 and 4 COL Application Involving Environmental Issues

cc: Southern Nuclear Operating Company
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Mr. D. H. Jones, Site Vice President, Vogtle 3 & 4 (w/o enclosure)
Mr. T. E. Tynan, Vice President - Vogtle (w/o enclosure)
Mr. D. M. Lloyd, Vogtle 3 & 4 Project Support Director (w/o enclosure)
Mr. M. K. Smith, Technical Support Director (w/o enclosure)
Mr. M. J. Ajluni, Nuclear Licensing Manager
Mr. J. D. Williams, Vogtle 3 & 4 Site Support Manager
Mr. W. A. Sparkman, COL Project Engineer
Mr. T. C. Moorer, Environmental Affairs, Chemistry, and HP Manager
Mr. J. T. Davis, Vogtle 3 & 4 Site Licensing Manager
Document Services RTYPE: AR01.1053
File AR.01.02.06

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Ms. T. E. Simms, Project Manager of New Reactors
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Ms. M. A. Sutton, Environmental Project Manager
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Mr. L. M. Cain, Senior Resident Inspector of VEGP

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Southern Nuclear Operating Company

ND-10-0023

Enclosure

Response to NRC RAI Letter Dated December 10, 2009

on the

VEGP Units 3 and 4 COL Application

Involving

Environmental Issues

RAI Number	RAI	Additional Background Information
General		
G1 Multiple sections and resource areas	If SNC is aware of new information concerning onsite or offsite infrastructure alterations (in connection with how the large reactor components and other materials will be delivered to the site), please describe those alterations and explain whether that information is significant with respect to the conclusions in the ESP review regarding the applicable resource areas. If available, provide a copy of the Shaw / Westinghouse transportation study.	If SNC plans or is aware of planned infrastructure alterations for transport of components (whether by road, rail, or barge), describe them. Explain whether any modifications or upgrades that will be required -- especially those with the potential to affect land use, terrestrial or aquatic ecological resources, cultural resources, water quality or other resources areas – are significant with respect to the conclusions in the ESP proceeding regarding those resource areas.
SNC Response:		
As discussed in detail with the staff at the September 2009 Site New and Significant Information Audit, the Shaw/Westinghouse Consortium is responsible for the transportation of large reactor components and other materials to the Vogtle site to support construction of Vogtle Units 3 and 4. The Consortium has been evaluating for some time the barge vs. rail transportation options to support a final decision on transportation and to develop a Transportation Plan. In a letter dated October 1, 2009, the Consortium informed SNC that rail was the “preferred” option for delivery of heavy equipment and components to the Vogtle site for construction of Vogtle Units 3 and 4. SNC responded to the Consortium in SNC Letter ND-10-0024, dated January 6, 2010, stating that SNC does not object to the rail option, provided it does not result in schedule delays. SNC further requested that the Consortium notify SNC of its final decision, and confirm, in writing, whether the Savannah River Navigation Channel will be used to transport any components, equipment or other materials to the Vogtle 3 and 4 site. A response to this correspondence is expected in the near future. The Consortium began work with Norfolk-Southern Railroad in the spring of 2009 on a Transportation Plan and a final plan is expected in early 2010. SNC understands, at this time, that there will be no substantive changes made to the Norfolk-Southern Main Line infrastructure from Savannah, Georgia to Millen, Georgia, where the line connects with the spur line to Plant Vogtle to support rail shipments. In addition, it is understood that no major infrastructure changes or upgrades would be necessary for the Vogtle spur line to support the shipments. Modifications will be needed for the onsite rail yard to support storage and unloading of equipment and materials delivered by rail. The ESP currently describes an onsite rail spur and rail yard to support delivery of material to the site including commodities for the batch plant and other uses. The ESP layout will need to be modified to support the additional needs for unloading and management of heavy components and equipment. These changes are not anticipated to significantly alter the original onsite rail footprint described in the ESP. The rail yard is located in an area of the site previously disturbed by Vogtle Units 1 and 2 construction and evaluated in the Vogtle ESP. No significant environmental impact is expected from these changes and SNC does not believe that this action has potential to alter conclusions stated in the Vogtle Final Environmental Impact Statement (FEIS). The Consortium is developing design information on the onsite rail changes and that information should be available in early 2010. (Cont’d.)		

RAI Number	RAI	Additional Background Information
In summary, none of the changes associated with rail transportation are expected to have any significant potential to affect land use, terrestrial or aquatic ecological resources, cultural resources, water quality or other resource areas and are not believed to be significant with respect to the conclusions in the ESP proceeding regarding those resource areas. No significant environmental impact is expected to result from these changes to the transportation process. Based on the above information, SNC believes that, while these transportation changes are new information, they do not result in significant environmental impact and do not have potential to negatively alter the conclusions on transportation currently stated in the Vogtle FEIS.		
G2 SEIS 1.5	Provide a current update to the list of permits and authorizations presented in ER Tables 1.5-1 through 1.5-5.	Provide a current update to the list of permits and authorizations presented in ER Tables 1.5-1 through 1.5-5. Include the status of any permit applications under review by the appropriate state or federal agencies.
SNC Response:		
An update to information contained in VEGP 3 and 4 COL Application ER Tables 1.5-1 through 1.5-5 is included in Attachment 1 to this Enclosure.		
G3 SEIS 11.5	If there are changes to the estimates of irreversible commitments of resources as described in Section 11.5 of the Vogtle ESP EIS (NUREG-1872), please describe whether and how those changes are significant.	
SNC Response:		
SNC reviewed Section 11.5 of the Vogtle ESP EIS (NUREG-1872) for any new information. Based on that review, Section 11.5 remains accurate and no additional information is currently available. The estimates were developed using the U.S. Department of Energy's (DOE's), *Study of Construction Technologies and Schedules, O&M Staffing and Cost, Decommissioning Costs and Funding Requirements for Advanced Reactor Designs,* dated May 27, 2004. A review of available DOE literature did not indicate the referenced document has been revised.		

RAI Number	RAI	Additional Background Information
Aquatic Ecology		
AE 4.4.2.1 ESRP 4.3.2 which refers to 3.4.2	If SNC intends any changes to the construction process for the intake, discharge, and barge structures from the description provided in the FEIS for the ESP, please identify whether those changes are significant. Specifically indicate any changes to the amount of river bottom to be disturbed at each location in square feet. If SNC is aware of any new information regarding planned wetlands mitigation, summarize that information.	
SNC Response:		
SNC reviewed the ESP FEIS and the response to RAI E3.9-4 included in SNC Letter AR-07-0061, dated January 30, 2007 (ADAMS Accession Number ML070810702) regarding anticipated construction processes for the intake, discharge and barge slip. Based on this review, SNC believes that there are no significant changes from what was previously stated and that these structures will be constructed in a manner very similar to those described in the ESP FEIS. Specifically, SNC still anticipates that the intake canal and discharge line will be excavated “in the dry” through the use of sheet pile walls and/or coffer dams. In the ESP FEIS, the staff estimated that approximately 21.0 acres of wetlands would be impacted by Units 3 & 4 construction activities. In the pending application to the U.S. Army Corps of Engineers (USACE), SNC is requesting authorization to impact up to 8.24 acres of wetlands and 1.42 acres of open waters of the Savannah River. SNC currently estimates that the total area of open waters (river bottom) to be dredged during construction of the Units 3 & 4 intake structure and discharge line will be approximately 0.55 acres (23,958 square feet) and 0.30 acres (13,068 square feet), respectively. These activities are primarily along the bank and are required to connect the intake and discharge systems to the river. The 0.30 acres of impacts associated with the discharge line are temporary. SNC believes that these values represent a refinement of previous Waters of the United States impact estimates from the ESP FEIS, resulting in reduced environmental impacts and are, therefore, not significant. SNC, as part of the Section 404 permitting process is negotiating with USACE on the proposed mitigation plan. Once finalized and approved, SNC plans to purchase wetland credits from the Phinizy Swamp mitigation bank. A copy of the Section 404 Permit application is included in Attachment 2 to this Enclosure.		

RAI Number	RAI	Additional Background Information
AE 4.4.2.2.2-2 ESRP 4.3.2	Provide the summaries that update the Erosion, Sedimentation, and Pollution Control Plan to mitigate impacts of erosion and sedimentation. State whether this plan was submitted by Southern as part of the general Stormwater Permit.	
SNC Response:		
Erosion Sedimentation and Pollution Control (ES&PC) plans were prepared for each project area prior to the start of site preparation and/or construction activities in that area. Each ES&PC plan was designed by Georgia Water and Soil Conservation Commission certified design professionals in accordance with EPD regulations and the Manual for Erosion and Sediment Control in Georgia. Once completed the ES&PC plans were submitted to the EPD for review along with Notices of Intent (NOIs) for coverage under the Construction Storm Water General Permit (GAR 100001). A summary table updating each NOI submitted to the EPD was included as reference SNC 2009d in the response to the Post New and Significant Audit Supporting Information (Key Inputs S4.7-1, S4.10-1 and S4.10-22) provided to the NRC in SNC Letter ND-09-1673, dated October 15, 2009. In connection with the construction storm water permit process, the EPD has visited the site on several occasions to review SNC's implementation of the ES&PC plans. On December 8 & 9, 2009, the EPD conducted an inspection of the site's construction storm water program. In the exit meeting, the EPD stated that no permit violations were observed.		

RAI Number	RAI	Additional Background Information
AE 5.4.2.2 ESRP 4.3.2 which refers to ESRP 3.1; and 3.4.2	If SNC has seen any fluctuations in water level in Mallard Pond since the excavation, describe any mitigation plans if water level changes. If SNC intends to alter the location of the proposed intake canal and structure, describe the new location, including the distance to the Mallard Pond outlet stream and to the existing intake canal for Units 1 and 2. If any design changes are planned to the intake structure, intake canal, and/or intake screens, provides a description of how these design changes might affect the flow and flow rate of water and ichthyoplankton into the structure. Include a description of any specific structures that are to be installed to selectively pull water from specific parts of the water column, as well as a description of the movement of water as a result of these structures, an indication of whether the design changes will impact the entrainment or impingement of the aquatic organisms and the magnitude of these changes, and whether the design changes would affect the hydraulic zone of influence.	During the discussions at the site audit, the NRC/PNNL staff was told that the intake floor would be lowered in a new design.

SNC Response:

In December 2008, SNC installed a flow meter in the Mallard Pond outlet pipe and began monitoring discharge flows. Approximately eight months of baseline flow data were collected prior to the start of dewatering activities in late August 2009. In the four months following the start of excavation dewatering, only flow fluctuations corresponding to rainfall events and prolonged dry periods have been noted. No flow reductions attributable to dewatering have been observed at the Mallard Pond discharge. However, if flow reductions are observed in the future, SNC has several mitigation options to maintain pond levels, including diverting a portion of the Units 3 & 4 dewatering system flow and/or diverting site storm water flows into Mallard pond.

The cooling water intake structure has been moved upstream approximately 150 feet and rotated slightly from the location considered in the ESP FEIS. These changes were recommended by Shaw Group to improve the constructability of the intake structure and to align the intake structure with the bluff. The new Intake location is located approximately 2130 feet upstream of the existing Units 1 & 2 intake and approximately 1400 feet downstream of the outlet to the unnamed tributary of Mallard Pond. A figure showing the preliminary layout of the intake structure and canal is included in Attachment 3 to this Enclosure. (Cont'd.)

RAI Number	RAI	Additional Background Information
Currently, Shaw Group is finalizing the design of the cooling water intake structure. While Shaw Group has proposed some minor design changes, such as lowering the intake structure floor from elevation 125 ft to 105 ft, these modifications will not change the impingement or entrainment rates considered in the ESP FEIS. No changes have been made to water withdrawal rates, through-screen velocities or traveling screen mesh size. Accordingly, there are no significant changes to the hydraulic zone of influence. Current drafts of the intake canal construction drawings show a slight bend (approximately 30 degrees) roughly half way down the canal. This adjustment is being made to orient the mouth of the intake canal perpendicular to the river, reducing the potential for debris to enter the canal. As discussed in the ESP FEIS, SNC expects the Units 3 & 4 intake canal to be constructed similarly to the Units 1 & 2 intake canal. As such, the Units 3 & 4 intake canal will contain a weir wall arrangement near the mouth of the canal, which extends up approximately 1 foot from the bottom of the canal. This feature impedes the movement of bottom dwelling fish into the intake canal thereby, reducing the potential for impingement.		
Cultural Resources		
CR 4.6-1 ESRP 2.2.4 ESRP 4.1.3 ESRP 5.1.3 10 CFR 51.92(e) 36 CFR 800 36 CFR 63	Provide a copy of the signed MOU between Southern and the Georgia State Historic Preservation Office (SHPO) along with the concurrence letter from the SHPO.	The MOU documents how the new intake structure will impact archaeological site 9BK416. This site is a large multi-component prehistoric site and has been determined eligible for the National Register of Historic Places.
SNC Response:		
SNC submitted a Memorandum of Understanding (MOU) regarding the installation of the river water intake piping, with associated duct bank, to the Georgia SHPO on January 4, 2010 for review and approval. The purpose of the MOU is to allow the river water intake pipe construction activities in a portion of archaeological site 9BK416 and to preserve the balance of site 9BK416 for future investigations as directed by the Georgia SHPO. When returned from the Georgia SHPO, a copy of the signed MOU will be provided to the NRC. A copy of SNC's letter to the Georgia SHPO is included in Attachment 4 to this Enclosure.		

RAI Number	RAI	Additional Background Information
Hydrology		
H 3.2.1-1 ESRP 3.3.1	Provide correct values for ER Revision 1, Table 3.2-2.	The values for total plant effluent discharge to the river provided in ER Rev. 1 Table 3.2-2 do not match the values reported in the FEIS. There appears to be an arithmetic error in the plant effluent portion of Table 3.2-2; specifically, it appears that the service water system blowdown values were not included in the total effluent volume, in contradiction to FEIS Figure 3-3. Provide a confirmation of the correct values for this table.
SNC Response:		
Included in Attachment 5 to this Enclosure is an update to information contained in VEGP Units 3 and 4 COLA ER Table 3.2-2.		
Non Radiological Health		
NRHH 5.8-1 No ESRP section 10 CFR 51.92(e)	Discuss any new information regarding occurrences of adverse occupational-related health issues resulting from exposure to thermophilic microorganisms during operations/maintenance at VEGP Units 1 and 2 (e.g., Legionellosis, Salmonellosis, Shigellosis, primary amoebic meningoencephalitis). The discussion should include a description of any new information regarding measures taken to protect employees from such exposures.	
SNC Response:		
As included in the New and Significant Matrix, Key Input S 5.8-11: CORMIX modeling calculated temperatures (above ambient) associated with discharges that were presented in the ESP application's Environmental Report. Average increases in temperature 404 feet from discharge are less than 1ºF. Average increase in temperature at the point of discharge is 8.5 ºF. The CORMIX-calculated maximum blowdown temperature is 91.5ºF and is expected in July. Blowdown temperatures exceeding 90 ºF are expected less than 7 hours a year. An increase in blowdown volume of 6 percent may increase the temperature slightly above that calculated by CORMIX; however, no significant effects are expected from these minor fluctuations in temperature. The <90 ºF thermal plume will occupy a maximum of 62 ft^3 of the Savannah River. Temperature plumes that are 5 ºF above ambient will occupy a maximum of 782 ft^3 of the Savannah River. (Cont'd.)		

RAI Number	RAI	Additional Background Information
SNC is aware of concerns among public health officials relative to six deaths in 2007 from *Naegleria fowleri*. Although thermophilic microorganisms can increase in density within thermal plumes introduced into cooling water bodies such as the Savannah River, documented cases of disease from these organisms in the Southeast are low. The thermal plumes will occupy very little of the Savannah River and increases in levels of *Naegleria fowleri* remain a very low risk. <u>Post-FEIS: Centers for Disease Control (CDC) website has no additional information beyond 2007 report of six deaths (CDC 2009).</u> As for occupational health issues regarding plant staff, the staff rarely conducts work related activities within the vicinity of the discharge in the Savannah River or in operational cooling towers. Therefore, SNC is not aware of any adverse impacts associated with thermophilic microorganism exposure and plant employees.		
Terrestrial Ecology		
TE 4.4-1 ESRP 2.4.1 ESRP 4.3.1	Address the significance of any new information related to the anticipated quantity and disposition of dredge spoils.	Page 4-17 of the FEIS states that "Southern anticipates only having to [dredge] during construction of the barge facility (Southern 2007b). The dredge material associated with construction of the barge facility (approximately 230 m^3 [300 yd^3] would be transported and placed in an uplands spoils area." The Table submitted after the site audit, identified as SNC 2009c "Vogtle Units 3&4 Estimates of USACE Jurisdictional Impacts" suggests that slightly over 150,000 yd^3 will be dredged during activities related to construction or modification of the intake system, access road, outfall, barge slip, barge mooring area, and "access from the river." Explain this discrepancy and whether this constitutes new information. If a significant change in the quantity of dredged material is expected, describe where the dredged material will be stored or disposed of and describe the expected environmental impacts. The Table also suggests dredging occurring in the uplands; describe what will be "dredged" in the uplands area.

RAI Number	RAI	Additional Background Information
SNC Response:		
In the ESP FEIS, the staff estimated that approximately 21.0 acres of wetlands would be impacted by Units 3 & 4 construction activities. In the pending Section 404 application to the USACE (Attachment 2 to this Enclosure), SNC is requesting authorization to impact up to 8.34 acres of wetlands and 1.42 acres of open waters of the Savannah River. As part of the application, SNC estimated that construction of the Units 3 & 4 intake structure and canal will remove approximately 35,700 yd^3 of material from wetland areas (13,000 yd^3 are temporary impacts) and 12,500 yd^3 from the Savannah River. An additional 84,900 yd^3 will be removed from upland portions of the site for construction of the intake structure. During construction of the Units 3 & 4 discharge, SNC estimates that approximately 900 yd^3 will be removed from the wetland areas and 800 yd^3 from the river. An additional 200 yd^3 may be removed from the Savannah River to allow for construction access. The activities in the River are primarily along the bank and are required to connect the intake and discharge systems to the river. SNC believes that these values represent a refinement of previous Waters of the United States impact estimates from the ESP FEIS, resulting in reduced environmental impacts and, therefore, are not significant. All construction activities taking place in Waters of the United States will be conducted under, and in accordance with, a Section 404 permit and will meet all applicable Section 401 State water quality certification standards. All excavated soils will be transported and stockpiled in an upland spoils disposal site. The term 'dredged' as used in the FEIS refers to the general use of a dredge or scoop to remove material from the Savannah River channel. The Table submitted after the site audit and identified above as SNC 2009c "Vogtle Units 3&4 Estimates of USACE Jurisdictional Impacts" was taken from SNC's draft Section 404 application to the USACE. There, the term 'dredged' is used in a regulatory context to mean material that is excavated or dredged from any Waters of the United States, including wetlands. (33CFR323.2)		
TE 4.4-2 ESRP 2.4.1 ESRP 4.3.1	Provide information on agreements that have been made with the state regarding threatened and endangered species along the new transmission corridor and onsite.	During the audit, Southern described a cooperative agreement in place with GA DNR regarding T/E species.
SNC Response:		
In addition to the Safe Harbor Agreement for the Red Cockaded Woodpecker, which is discussed in the ESP FEIS, SNC is working with The Georgia Department of Natural Resources (DNR) and U.S. Fish and Wildlife (FWS) to enter into a Candidate Conservation Agreement (CCA) for the Gopher Tortoise. (Cont'd.)		

RAI Number	RAI	Additional Background Information
In 2008, the States of Alabama, Florida, Georgia, and South Carolina, became signatories to the CCA for the Gopher tortoise, which recognizes threats to the Gopher tortoise and resolves to reduce them such that federal listing of the gopher tortoise as threatened will not be necessary. The CCA for the Gopher Tortoise states two main goals 1) addressing gopher tortoise conservation holistically across its eastern range, and 2) managing gopher tortoise conservation actions in a proactive and collaborative manner. As such, these four states are cooperating in a broad, regional effort to conserve the gopher tortoise and its habitat. As part of the CCA, land at VEGP may be used to relocate displaced gopher tortoises. The agreement between SNC, DNR and FWS is in the final draft stages and expected to be signed by FWS in 2010. The areas of the VEGP site designated for potential coverage under the CCA are also areas currently being managed under the Safe Harbor agreement.		
Additional Information		
HB	Provide additional information regarding the impacts associated with D-Area powerhouse phase out and water use by new biogen plant.	Per commitment made in SNC's Post New & Significant Audit Supporting Information Letter ND-09-1673, dated October 15, 2009.
SNC Response:		
Payne (2007) reported Savannah River Site (SRS) usage of the Savannah River as approximately 40,000 gpm, with most of that being returned to the Savannah River. Payne (2009a) verified that the water usage was unchanged since 2007. In a telephone call, Mr. Payne noted that the 40,000 gpm estimate was based on the volume of the pumps and not on actual flow measurements (Patterson 2009). SRS is replacing the D-Area powerhouse (which is the user of most of the Savannah River water pumped by SRS [Patterson 2009]) with a biomass cogen plant to serve the facilities in central SRS (the "New Burma Road Biomass Plant"), and two much smaller plants at K- and L-Areas. The K-Area boiler will use domestic (ground) water and the L-Area boiler will use Savannah River water, both at the rate of approximately 3.81 gpm. (Payne 2009b) The New Burma Road Biomass Plant is estimated to use less water than the D-Area Powerhouse. Current estimates are that the new plant will require 30,000 to 33,000 gpm. Again, most of this water will be returned to the Savannah River. Actual consumption of river water by the new plant is estimated to be 346 million gallons a year or an average of 658 gpm. (Payne 2009b)		

References:

(Patterson 2009). B. Payne 2009. Interview with K. Patterson, Tetra Tech. Savannah River Site. November 5, 2009
(Payne 2007). B. Payne 2007. Email correspondence with K. Patterson, Tetra Tech. Savannah River Site. October 24, 2007
(Payne 2009a). B. Payne 2009. Email correspondence with K. Patterson, Tetra Tech. Savannah River Site. June 4, 2009
(Payne 2009b). B. Payne 2009. Email correspondence with K. Patterson, Tetra Tech. Savannah River Site. November 9, 2009

Southern Nuclear Operating Company

ND-10-0023

Enclosure Attachment 1

NOTE: Attached is stand-alone document 20 pages in length.

Table 1.5-1 Authorizations Required for Early Site Permit

Agency	Authority	Requirement	License/ Permit No.	Expiration Date	Activity Covered	
U.S.Fish and Wildlife Service (USFWS)	Endangered Species Act	Consultation regarding potential to adversely impact protected species (non-marine species)	NA	NA	Concurrence with no adverse impact or consultation on appropriate mitigation measures.	Or wr the lis ha an an jur tha pe
National Marine Fisheries Service (NMFS)	Endangered Species Act	Consultation regarding potential to adversely impact protected species (marine species)	NA	NA	Concurrence with no adverse impact or consultation on appropriate mitigation measures.	Or wr the lis ha an an jur the pe NM 20 pr jur Ge In 20 the as ES pr ad pr jur

Table 1.5-1 Authorizations Required for Early Site Permit (Continued)

Agency	Authority	Requirement	License/ Permit No.	Expiration Date	Activity Covered	
South Carolina Department of Archives and History	National Historic Preservation Act (36 CFR 800)	Consultation regarding potential to adversely affect historic resources	NA	NA	Confirm site construction or operation would not affect protected historic resources.	SN dis ag an rel
Alabama Historical Commission	National Historic Preservation Act (36 CFR 800)	Consultation regarding potential to adversely affect historic resources	NA	NA	Confirm site construction or operation would not affect protected historic resources.	Or wr Co pr SH NR pr res on

Table 1.5-1 Authorizations Required for Early Site Permit (Continued)

Agency	Authority	Requirement	License/ Permit No.	Expiration Date	Activity Covered	
Georgia Department of Natural Resources (GDNR)	National Historic Preservation Act (36 CFR 800)	Consultation regarding potential to adversely affect historic resources	NA	NA	Confirm site construction or operation would not affect protected historic resources.	Or wr de inv wi pr Ge on pr th VE me sit aft SN Mo Ur Ge 4, ap th wa as pr ar fo di SH
GDNR	Federal Clean Water Act (33 U.S.C. 1251 et seq.) (CWA)	Section 401 Certification	NA	NA	Compliance with water quality standards.	SN dis ag an rel su W th 7,

Table 1.5-1 Authorizations Required for Early Site Permit (Continued)

Agency	Authority	Requirement	License/ Permit No.	Expiration Date	Activity Covered	
Native American Nations: Cherokee Nation of Oklahoma Chickasaw Nation Chickasaw Nation of Oklahoma Georgia Tribe of Eastern Cherokee Alabama-Quassarte Tribal Town Seminole Nation of Oklahoma Eastern Band of Cherokee Indians United Keetoowah Band of Cherokee Indians Poarch Band of Creek Indians Coushalta Tribe of Louisanna Absentee-Shawnee Tribe of Oklahoma	Environmental Protection Regulations for Domestic Licensing and Related Regulatory Functions (10 CFR 51) require Protection of Historic Properties (36 CFR 800)	Consultation regarding protection of traditional Native American religious or cultural resources	NA	NA	Confirm that traditional Native American religious or cultural resources are protected	On 20 lis gr an wi pr Th re th wi Th of Ok 22 ob pr Th Ok 13 int

Table 1.5-1 Authorizations Required for Early Site Permit (Continued)

Agency	Authority	Requirement	License/ Permit No.	Expiration Date	Activity Covered
Muscogee (Creek) Nation of Oklahoma					
Alabama-Coushatta Tribe of Texas					
Catawba Indian Tribe					
Seminole Tribe of Florida					
Mississippi Band of Choctaw Indians					
Kidegee Tribal Town					
Miccosukee Tribe of Indians of Florida					
Thlopthlocco Tibal Town					
Muscogee (Creek) Nation					

Table 1.5-2 Authorizations Required for Site Preparation Activities that Do Not Requir Limited Work Authorization

Agency	Authority	Requirement	License/ Permit No.	Expiration Date	Activity Covered	
U.S. Army Corps of Engineers (USACE)	CWA	Section 404 Permit			Disturbance or crossing wetland areas or navigable waters. For site and rail corridor upgrade[1].	SN juris for exc met SN app per of t Sec Fill)
USACE	33 CFR 323	Dredge and Fill Discharge Permit			Construction/ modification of intake/ discharge to Savannah River. For site and rail corridor upgrade[1].	SN disc age and rela SN app per of t Sec Fill)
USACE	Rivers and Harbors Act	Section 10 Permit			Barge slip modification impacts to navigable waters of the U.S.	SN disc age and rela SN app per of t Sec Fill)

Table 1.5-2 Authorizations Required for Site Preparation Activities that Do Not Requir Limited Work Authorization (Continued)

Agency	Authority	Requirement	License/ Permit No.	Expiration Date	Activity Covered	
U.S. Department of Transporation (USDOT)	49 CFR 107, Subpart G	Certificate of Registration	051409 551 044R	06/30/2010	Transportation of hazardous materials.	USI cert
USFWS	Migratory Bird Treaty Act, 50 CFR 21	Federal Depredation Permit			Adverse impacts on protected species and/or their nests. For site and rail corridor upgrade[1].	SN disc age and rela
Federal Aviation Administration (FAA)	49 USC 1501 14 CFR 77	Construction Notice			Notice of erection of structures (>200 feet high) potentially impacting air navigation.	SN disc age and rela
Georgia Public Service Commission (GPSC)	GA Public Utilities Act (O.C.G.A. Section 46-3-1 et seq.), GA Rules and Regulations 515-3-4-.07	Certificate of Public Convenience and Necessity			Present and future public convenience and necessity require the operation of such equipment or facility.	SN app Mar
GDNR	GA Endangered Wildlife Act (O.C.G.A. Section 27-3-130 et seq.), GA Rules and Regulations 391-4-10	Depredation Permit			Adverse impacts on state designated protected species and/or their habitat. For site and rail corridor[1].	SN disc age and rela
GDNR	Federal Clean Air Act (CAA), GA Air Quality Act (O.C.G.A. Section 12-9-1 et seq.), GA Rules and Regulations 391-3-1	Part 70 Air Quality Construction Permit	1629-033-0039-S-01-0		Construction air emission sources.	Sha Qua 200 app revi

Table 1.5-2 Authorizations Required for Site Preparation Activities that Do Not Requir Limited Work Authorization (Continued)

Agency	Authority	Requirement	License/ Permit No.	Expiration Date	Activity Covered	
GDNR	CWA, GA Water Quality Control Act	Revision of existing National Pollutant Discharge Elimination System Permit			Regulates limits of pollutants in liquid discharge to surface water	SN disc age and rela
GDNR	CWA, GA Water Quality Control Act (O.C.G.A. 12-5-20), GA Rules and Regulations 391-3-6	General Permit Registration for Storm Water Discharges Associated with Construction Activity for Common Development Projects.	GAR 100003	07/31/2013	Discharge storm water from site during construction	SN hav und Ero Poll bee und
GDNR	CWA, GA Water Quality Control Act (O.C.G.A. 12-5-20), GA Rules and Regulations 391-3-6	General Permit Registration for Storm Water Discharges Associated with Construction Activity for Infrastructure Construction Projects	GAR 100002	07/31/2013	Discharge storm water from linear construction sites (e.g., roadways and rail corridor)	SN Sec Cor Not for 100
GDNR	GA Safe Drinking Water Act (O.C.G.A. 12-5-170 et seq.), GA Rules and Regulations 391-3-5	Permit to operate a public water system			Operate a public, non-transient, non-community water system.	Bas GD sys will sub per con on app des whi con wat wel

Table 1.5-2 Authorizations Required for Site Preparation Activities that Do Not Requir Limited Work Authorization (Continued)

Agency	Authority	Requirement	License/ Permit No.	Expiration Date	Activity Covered	
GDNR	GA Safe Drinking Water Act (O.C.G.A. 12-5-170 et seq.), GA Rules and Regulations 391-3-5	Permit to operate a public water system			Operate a public, transient, non-community water system.	SN wat con on GN con Oct allo con wat wel
GDNR	GA Groundwater Use Act (O.C.G.A. 12-5-90 et seq.), GA Rules and Regulations 391-3-2-.03	Modification of Existing Permit to Use Groundwater	017-0003	08/06/2012	Consumptive use of 100,000 gallons per day or more of groundwater.	Rec
GDNR	GA Groundwater Use Act (O.C.G.A. 12-5-90 et seq.), GA Rules and Regulations 391-3-2-.09	Permit to Withdraw Groundwater	017-0006	03/13/2012	Dewater for foundation if needed for more than 60 days.	Rec
GDNR	GA Groundwater Use Act (O.C.G.A. 12-5-90 et seq.), GA Rules and Regulations 391-3-2-.14	Certification of Abandoned Wells			Abandoned wells have been filled, plugged and sealed.	SN to E 5, c take Feb rem sch fror

Table 1.5-2 Authorizations Required for Site Preparation Activities that Do Not Requir Limited Work Authorization (Continued)

Agency	Authority	Requirement	License/ Permit No.	Expiration Date	Activity Covered	
GDNR	GA Erosion and Sedimentation Act (O.C.G.A. Section 12-7-1 et seq.), GA Rules and Regulations 391-3-7	Land Disturbing Activity Permit	GAR 100001	07/31/2013	Permission to conduct land disturbing activities of one acre or larger, or within 200 feet of the bank of any state waters. For site and rail corridor upgrade[1].	SN Sec Cor Not for 100
GDNR	GA Comprehensive Solid Waste Management Act (O.C.G.A. 12-8-20 et seq.), GA Rules and Regulations 391-3-4-.06	Permit by Rule - Inert Landfill Permit			On-site disposal of solid waste consisting of earth and earth-like products, concrete, cured asphalt, rock, bricks, and land clearing debris.	SN disc age and rela
GDNR	GA Comprehensive Solid Waste Management Act (O.C.G.A. 12-8-20 et seq.), GA Rules and Regulations 391-3-4	Private Industry Landfill Permit			On-site disposal of solid waste consisting of construction and demolition debris.	SN disc age and rela
GDNR	GA Comprehensive Solid Waste Management Act (O.C.G.A. 12-8-20 et seq.), GA Rules and Regulations 391-3-4	Solid Waste Handling Permit			Disposal of industrial solid wastes. Transportation of putrescible waste for disposal in a permitted landfill.	SN disc age and rela
GDNR	Federal Clean Air Act (FCAA), GA Air Quality Act (O.C.G.A. Section 12-9-1 et seq.), GA Rules and Regulations 391-3-1	Revision of existing Title V Operating Permit			Operation of air emission sources.	SN mod alon per on

Table 1.5-2 Authorizations Required for Site Preparation Activities that Do Not Requir Limited Work Authorization (Continued)

Agency	Authority	Requirement	License/ Permit No.	Expiration Date	Activity Covered	
Burke County Building Office	Burke County Code of Ordinances, Article VII, Sec. 26-331	Land Disturbing Activity Permit			All land disturbing activities within the boundaries of Burke County.	As GA fron Dis to a (Bu Lan requ to th 100
Burke County Building Office	Burke County Code of Ordinances, Article VII, Sec. 26-336	Building Permit			Construction, alteration, repair, or demolition of any building or structure within the boundaries of Burke County.	SN disc age and rela

[1]The VEGP rail spur was recently upgraded, and SNC will verify that additional upgrades are not needed. For completeness, this table assumes upgrades to the rail corridor will be made.

Table 1.5-3 Authorizations Required for Redress Activities

Agency	Authority	Requirement	License/ Permit No.	Expiration Date	Activity Covered	
USACE	CWA	Section 404 Permit			Disturbance or crossing wetland areas or navigable waters.	If re requ the
USDOT	49 FR 107, Subpart G	Certificate of Registration			Transportation of hazardous materials.	If re requ the
GDNR	CWA	Section 401 Certification			Compliance with water quality standards.	If re requ the
GDNR	CWA, GA Water Quality Control Act (O.C.G.A. 12-5-20), GA Rules and Regulations 391-3-6	General Permit Registration for Storm Water Discharges Associated with Construction Activity for Common Development Projects			Discharge storm water from site during construction.	If re requ the
GDNR	CWA, GA Water Quality Control Act (O.C.G.A. 12-5-20), GA Rules and Regulations 391-3-6	General Permit Registration for Storm Water Discharges Associated with Construction Activity for Infrastructure Construction Projects			Discharge storm water linear construction sites (e.g., roadways, transmission lines) during construction.	If re requ the
GDNR	GA Erosion and Sedimentation Act (O.C.G.A. Section 12-7-1 et seq.), GA Rules and Regulations 391-3-7	Land Disturbing Activity Permit			Permission to conduct land disturbing activities of one acre or larger, or within 200 feet of the bank of any state waters. For site and rail corridor.	If re requ the

Table 1.5-3 Authorizations Required for Redress Activities (Continued)

Agency	Authority	Requirement	License/ Permit No.	Expiration Date	Activity Covered	
GDNR	CAA, GA Air Quality Act (O.C.G.A. Section 12-9-1 et seq.), GA Rules and Regulations 391-3-1	Part 70 Air Quality Construction Permit			Construction air emission sources.	If re req the
GDNR	GA Safe Drinking Water Act (O.C.G.A. 12-5-170 et seq.), GA Rules and Regulations 391-3-5	Notice of Termination (NOT) - Permit to operate a Public Water System			Operate a public, non-transient, non-community water system.	If re req the
GDNR	GA Safe Drinking Water Act (O.C.G.A. 12-5-170 et seq.), GA Rules and Regulations 391-3-5	NOT - Permit to operate a Public Water System			Operate a public, transient, non-community water system.	If re req the
GDNR	GA Groundwater Use Act (O.C.G.A. 12-5-90 et seq.), GA Rules and Regulations 391-3-2-.03	NOT - Permit to Use Groundwater			Consumptive use of 100,000 gallons per day or more of groundwater.	If re req the
GDNR	GA Groundwater Use Act (O.C.G.A. 12-5-90 et seq.), GA Rules and Regulations 391-3-2-.09	Permit to Withdraw Groundwater			Dewater for foundation if needed for more than 60 days.	If re req the
GDNR	GA Groundwater Use Act (O.C.G.A. 12-5-90 et seq.), GA Rules and Regulations 391-3-2-.14	Certification of Abandoned Wells			Abandoned wells have been filled, plugged and sealed.	If re req the

Table 1.5-3 Authorizations Required for Redress Activities (Continued)

Agency	Authority	Requirement	License/ Permit No.	Expiration Date	Activity Covered	
GDNR	GA Comprehensive Solid Waste Management Act (O.C.G.A. 12-8-20 et seq.), GA Rules and Regulations 391-3-4-.06	Permit by Rule - Inert Landfill Permit			On-site disposal of solid waste consisting of earth and earth-like products, concrete, cured asphalt, rock, bricks, and land clearing debris.	If re req the
GDNR	GA Comprehensive Solid Waste Management Act (O.C.G.A. 12-8-20 et seq.), GA Rules and Regulations 391-3-4	Private Industry Landfill Permit			On-site disposal of solid waste consisting of construction and demolition debris.	If re req the
GDNR	GA Comprehensive Solid Waste Management Act (O.C.G.A. 12-8-20 et seq.), GA Rules and Regulations 391-3-4	Solid Waste Handling Permit			Disposal of industrial solid wastes. Transportation of putrescible waste for disposal in a permitted landfill.	If re req the
Burke County Building Office	Burke County Code of Ordinances, Article VII, Sec. 26-331	Land Disturbing Activity Permit			All land disturbing activities within the boundaries of Burke County .	If re req the
Burke County Building Office	Burke County Code of Ordinances, Article VII, Sec. 26-336	Building Permit			Construction, alteration, repair, or demolition of any building or structure within the boundaries of Burke County.	If re req the

Table 1.5-4 Authorizations Required for Construction Activities[1]

Agency	Authority	Requirement	License/ Permit No.	Expiration Date	Activity Covered	
NRC	10 CFR 52, Subpart C or 10 CFR 50.10(e)(3)	Combined Operating License or Limited Work Authorization	LWA is part of permit ESP-004	09/26/2029	Safety-related construction for a nuclear power facility.	NRC is 2009 a
FAA	49 USC 1501 14 CFR 77	Construction Notice			Notice of erection or structures (>200 feet high) potentially impacting air navigation.	SNC h discus agency compli this iss
USACE	CWA	Section 404 Permit			Disturbance or crossing wetland areas or navigable waters. For transmission line corridor.	SNC h jurisdic all site except and bo SNC s applica permits the US Sectio Fill) on

Table 1.5-4 Authorizations Required for Construction Activities[1] (Continued)

Agency	Authority	Requirement	License/ Permit No.	Expiration Date	Activity Covered	
USACE	33 CFR 323	Dredge and Fill Discharge Permit			Construction/ modification of intake/ discharge to Savannah River. For transmission line corridor.	SNC h discus agency compli this iss SNC s applica permits the US Sectio Fill) on
USFWS	Migratory Bird Treaty Act, 50 CFR 21	Federal Depredation Permit			Adverse impacts on protected species and/or their nests. For site transmission line corridor.	SNC h discus agency compli this iss
GDNR	GA Endangered Wildlife Act (O.C.G.A. Section 27-3-130 et seq.), GA Rules and Regulations 391-4-10	Depredation permit			Adverse impacts on state designated protected species and/ or their habitat. For transmission line corridor.	SNC h discus agency compli this iss
GDNR	CAA, GA Air Quality Act (O.C.G.A. Section 12-9-1 et seq.), GA Rules and Regulations 391-3-1	Part 70 Air Quality Construction Permit	1629-033-0039-S-01-0		Construction air emission sources.	Shaw Quality 2009. applica review

Table 1.5-4 Authorizations Required for Construction Activities[1] (Continued)

Agency	Authority	Requirement	License/ Permit No.	Expiration Date	Activity Covered	
GDNR	CWA, GA Water Quality Control Act (O.C.G.A. 12-5-20), GA Rules and Regulations 391-3-6	General Permit Registration for Storm Water Discharges Associated with Construction Activity for Infrastructure Construction Projects	GAR 100002	07/31/2013	Discharge storm water from linear construction sites (e.g., roadways, transmission lines) during construction.	SNC h Sedim Contro Notice covera
GDNR	GA Comprehensive Solid Waste Management Act (O.C.G.A. 12-8-20 et seq.), GA Rules and Regulations 391-3-4	Solid Waste Handling Permit			Disposal of industrial solid wastes. Transportation of putrescible waste for disposal in a permitted landfill.	SNC h discus agency compli this iss
GDNR	GA Erosion and Sedimentation Act (O.C.G.A. Section 12-7-1 et seq.), GA Rules and Regulations 391-3-7	Land Disturbing Activity Permit	GAR 100001	07/31/2013	Permission to conduct land disturbing activities of one acre or larger, or within 200 feet of the bank of any state waters. For transmission line corridor.	SNC h Sedim Contro Notice covera
GDNR	CWA, GA Water Quality Control Act (O.C.G.A. 12-5-20), GA Rules and Regulations 391-3-6	General Permit Registration for Storm Water Discharges Associated with Construction Activity for Common Development Projects	GAR 100003		Discharge storm water from site during construction.	SNC c to have under Erosio Polluti been c under

Table 1.5-4 Authorizations Required for Construction Activities[1] (Continued)

Agency	Authority	Requirement	License/ Permit No.	Expiration Date	Activity Covered	
Georgia Department of Transportation (GDOT)	23 CFR 1.23	Permit			Utility right-of-way easement.	SNC h discus agency compli this iss
Burke County Building Office	Burke County Code of Ordinances, Article VII, Sec. 26-331	Land Disturbing Activity Permit			All land disturbing activities within the boundaries of Burke County.	As a u PSC, S having Distrur Local I County Disturb submit EPD th GAR 1
Various county offices responsible for land disturbing activities	Jefferson, Warren, and McDuffie County Ordinances	Land Disturbing Activity Permit			Land disturbing activities within county boundaries for transmission line corridor.	As a u PSC, S having Distrur Local I (Jeffer Counti Disturb submit EPD th GAR 1

[1] Assumes that SNC obtained the authorizations that Table 1.5-2 identifies.

Table 1.5-5 Authorizations Required for Operation[1]

Agency	Authority	Requirement	License/ Permit No.[2]	Expiration Date[2]	Activity Covered	
GDNR	CWA, GA Water Quality Control Act	Revision of existing National Pollutant Discharge Elimination System Permit			Regulates limits of pollutants in liquid discharge to surface water.	SN dis age and rela
GDNR	Federal Clean Air Act (CAA), GA Air Quality Act (O.C.G.A. Section 12-9-1 et seq.), GA Rules and Regulations 391-3-1	Revision of existing Title V Operating Permit			Operation of air emission sources.	SN mo alo per on
GDNR	GA Groundwater Use Act (O.C.G.A. 12-5-90 et seq.), GA Rules and Regulations 391-3-2-.03	Revision of existing Permit to Use Groundwater	017-0003	08/06/2010	Consumptive use of 100,000 gallons per day or more of groundwater.	Re
GDNR	GA Water Quality Control Act (O.C.G.A. 12-5-31 et seq.), GA Rules and Regulations 391-3-6	Revision of existing Surface Water Withdrawal Permit to Withdraw, Divert or Impound Surface Water			Withdraw water from the Savannah River for cooling makeup and in-plant use.	SN dis age and rela
State of Tennessee Department of Environment and Conservation Division of Radiological Health	Tennessee Department of Environment and Conservation Rule 1200-2-10.32	Revision of existing Tennessee Radioactive Waste License-for-Delivery			Transportation of radioactive waste into the State of Tennessee.	SN dis age and rela
State of Utah Department of Environmental Quality Division of Radiation Control	R313-26 of the Utah Radiation Control Rules	Revision of existing General Site Access Permit			Transportation of radioactive materials into the State of Utah.	SN dis age and rela

Table 1.5-5 Authorizations Required for Operation[1] (Continued)

Agency	Authority	Requirement	License/ Permit No.[2]	Expiration Date[2]	Activity Covered	
GPSC	GA Radiation Control Act (O.C.G.A. 31-13-1 et seq.), GA Rules and Regulations 391-3-17-.06	Revision of existing General Permit – Transportation of Radioactive Materials			Transportation of radioactive materials in the State of Georgia.	SN dis age and rela

1 Assumes that SNC obtained the authorizations that Tables 1.5-2 and 1.5-4 identify.

Southern Nuclear Operating Company

ND-10-0023

Enclosure Attachment 2

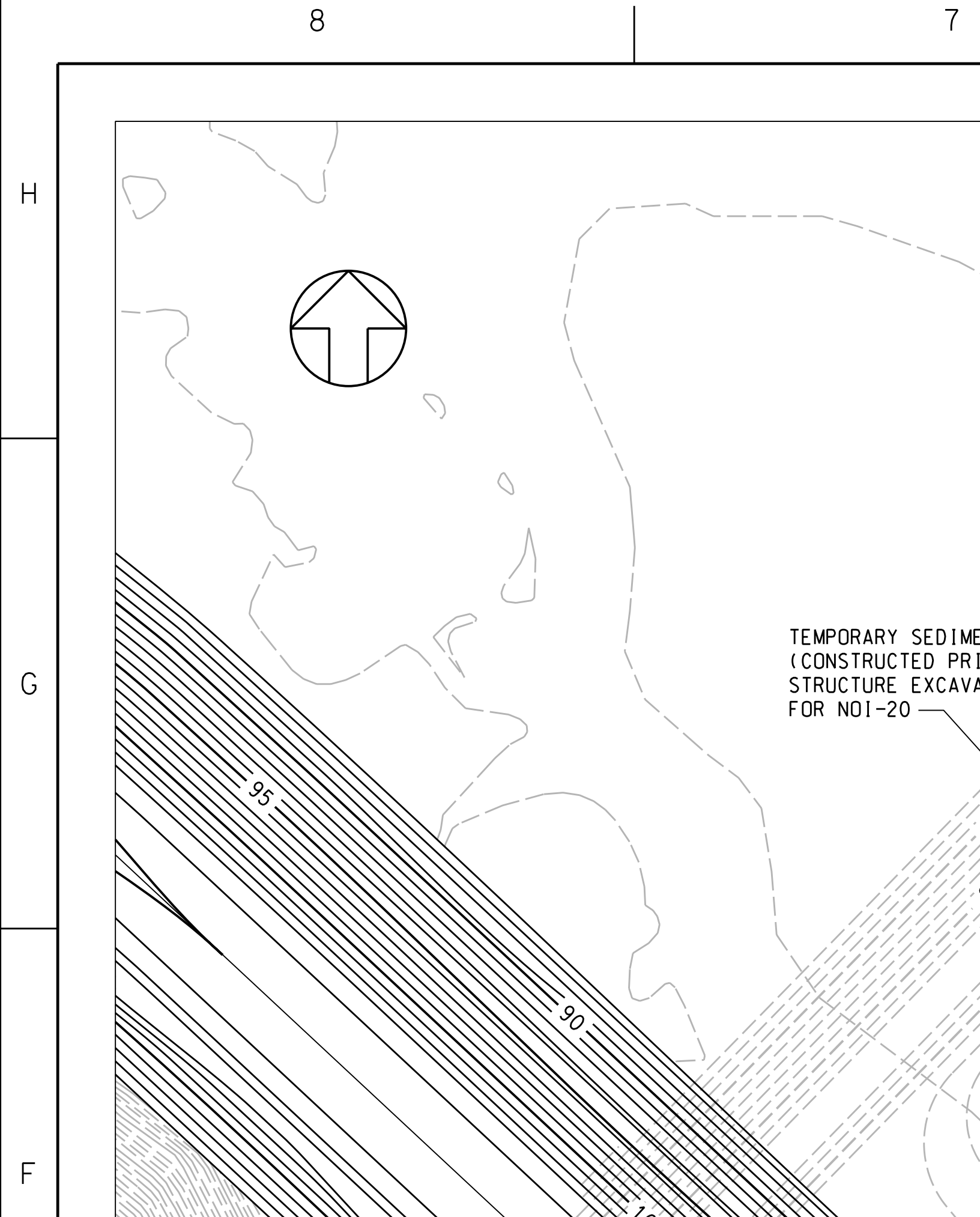
NOTE: Attached is stand-alone document 59 pages in length.

Southern Nuclear Operating Company

ND-10-0023

Enclosure Attachment 3

NOTE: Attached is stand-alone document one page in length.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Southern Nuclear Operating Company

ND-10-0023

Enclosure Attachment 4

NOTE: Attached is stand-alone document four pages in length.

Southern Nuclear
Operating Company, Inc.
40 Inverness Center Parkway
Birmingham, Alabama 35242

SOUTHERN COMPANY
Energy to Serve Your World℠

JAN 04 2010

ND-09-1452

Ms. Elizabeth Shirk
Historical Preservation Division
Georgia Department of Natural Resources
34 Peachtree Street, NW
Suite 1600
Atlanta, GA 30303

SUBJECT: Vogtle Electric Generating Plant - Memorandum of Understanding For the Construction Activities at Archaeological Site 9BK416 **(HP-060428-001)**

Dear Ms. Shirk:

In August 2006, Southern Nuclear Operating Company (SNC) filed an Early Site Permit (ESP) application with the Nuclear Regulatory Commission (NRC) for two proposed new nuclear units at the existing Vogtle Electric generating Plant (VEGP) site on the Savannah River near Waynesboro, Georgia. Included as Part 3 of this application was an Environmental Report prepared in accordance with NRC rules to support development of an Environmental Impact Statement (EIS) for the project by NRC under the requirements of the National Environmental Policy Act (NEPA). The EIS requires consultation with the State Historic Preservation Office (SHPO) to confirm if the proposed action has potential to impact cultural resources regulated by Section 102 of the Historic Preservation Act or other relevant regulations pertaining to protection and management of cultural resources.

In 2005, SNC began informal discussions and engaged New South Associates to perform a cultural resources survey of the areas of the site that could be potentially impacted by construction and/or operation of the new units. This Phase 1 survey identified ten potential archaeological sites with two sites considered potentially eligible for inclusion in the National Register of Historic Places including Site 9BK416, a large multicomponent prehistoric site at the top of the bluff adjacent to the proposed Intake Structure for Vogtle Units 3 and 4. Subsequent to this survey, SNC re-designed the intake system to route the piping directly up the bluff from the intake structure, in lieu of following the intake access road right-of- way. SNC informed SHPO of the change in early 2007. At the direction of the SHPO, SNC had New South Associates conduct additional work resulting in the following reports:

- Addendum Report: Intensive Archaeological Survey of the Proposed Expansion Areas at the Vogtle Electric Generating Plant, Burke County, Georgia – November 2006
- Addendum Report: Phase I. Archaeological Survey of the Water Line Corridor for the Proposed Intake Structure at Plant Vogtle, Burke County, Georgia – July 2007

- Phase II Testing at Archaeological Site 9BK416 Within Proposed Water Line and Intake Structure Vogtle Electric Generating Plant, Burke County, Georgia - May 2008

Consultations with SHPO were active and ongoing from 2006 – 2008. On March 18, 2008 a meeting with SNC, New South and SHPO was held to discuss the findings from the Phase II testing and receive further guidance from SHPO. During this meeting, SHPO determined that the relocation of the proposed water line corridor was acceptable and indicated that the proposed project will affect, but not adversely affect site 9BK416. SHPO requested that a Memorandum of Understanding (MOU) be developed to confirm the finding and document a commitment from SNC to preserve the balance of site 9BK416 from additional disturbance and conduct additional investigations to further characterize the site, as directed by the SHPO.

Please find enclosed the MOU for your review and signature. Please provide your concurrence or any comments you may have to support finalizing this important document. Your expedited review is appreciated.

If you have questions or require additional information, please contact Dale Fulton at (205) 992-7536.

Sincerely,

T. C. Moorer

T. C. Moorer
Manager – Environmental Affairs, Chemistry, and Radiological Services
Southern Nuclear Operating Company

TCM/DLF:dmw

Enclosure

cc: Southern Nuclear Operating Company (with Enclosures)
Mr. D. M. Lloyd, Vogtle Deployment Director
Ms. M. Caston, Vice President & General Counsel – External Affairs
Mr. C. R. Pierce, Licensing Manager
Mr. J. N. Stringfellow, Licensing Supervisor
Mr. J. T. Davis, Project Engineer
Document Services RTYPE: AR01.1053
File: AR.01.01.06

Georgia Power Company (with Enclosures)
Mr. C. H. Huling, Vice President – Environmental Affairs
Mr. R. D. Just, Environmental Issues Manager

Nuclear Regulatory Commission (with Enclosures)
Ms. M. A. Sutton, Environmental Project Manager

MEMORANDUM OF UNDERSTANDING BETWEEN
SOUTHERN NUCLEAR OPERATING COMPANY AND
GEORGIA DEPARTMENT OF NATURAL RESOURCES,
HISTORIC PRESERVATION DIVISION

FOR CONSTRUCTION ACTIVITIES IN SITE 9BK416 AS PART OF VOGTLE
UNITS 3 AND 4 (HP-060428-001)

Southern Nuclear Operating Company (SNC) and Georgia Department of Natural Resources, Historic Preservation Division (HPD) have consulted and determined that the construction activities for the proposed Vogtle Units 3 and 4 will impact site 9BK416. Site 9BK416 was determined eligible for inclusion in the National Register of Historic Places (NRHP) in 2006. Based on these consultations and supporting field surveys HPD determined the proposed project will impact site 9BK416, but not adversely impact the site.

This Memorandum of Understanding (MOU) between SNC and HPD is for the preservation of the remaining balance of site 9BK416 from physical disturbance and performance of additional archaeological surveys as directed by HPD. The proposed project will disturb approximately 2.5 acres of the estimated 29 total acres of site 9BK416. This disturbance constitutes approximately 8.5 percent of the total estimated site and results from the installation of the river water intake piping, an electrical duct bank and associated right-of-way clearings.

We the undersigned concur that the balance of site 9BK416 should be preserved and understand that additional historical and archaeological surveys may be warranted at a later date, under the direction of HPD.

Signature: Date:

W. Ray Luce, HPD
Director and Deputy SHPO

Signature: Date: 12/18/2009

David H. Jones
Site Vice President, Vogtle 3 and 4

Southern Nuclear Operating Company

ND-10-0023

Enclosure Attachment 5

NOTE: Attached is stand-alone document two pages in length.

.

Table 3.2-2 Revised Plant Groundwater Estimates and Plant Effluent Streams for Two Units

	Normal Case[a] (gpm)		Maximum Case [a,b] (gpm)		Comments
Stream Description	**ESP**	**COLA**	**ESP**	**COLA**	
Groundwater (Well) Streams:					
Plant Well Water Demand	752	752	3140	2797	
Well Water for Service Water System Makeup	537	537	2353	1600	
• Service Water System Consumptive Use	403	403	1177	1100[g]	
- Service Water System Evaporation	402	402	1176	1099[g]	
- Service Water System Drift	1	1	1	1[g]	
• Service Water System Blowdown	134	134	1176	500	
Well Water for Power Plant Make-up/ Use	215	215	787	1197	
• Demineralized Water System Feed	150	150	600	1080	
- Plant System Make-up/ Processes	109	109	519	999[g]	
- Misc. Well Water Users	41	41	81	81[g]	
• Potable Water Feed	42	42	140	70	
• Fire Water System	10	10	12	12[g]	
• Misc. Well Water Users	13	13	35	35[g]	

Table 3.2-2 Revised Plant Groundwater Estimates and Plant Effluent Streams for Two Units (Continued)

	Normal Case[a] (gpm)		Maximum Case [a,b] (gpm)		Comments
Stream Description	**ESP**	**COLA**	**ESP**	**COLA**	
Plant Effluent Streams					
Plant Effluent Discharge to River	9,608	10,008	30,761	31,695	
• Blowdown Sump Discharge	9,605	10,005	30,561	31,495	c
- Wastewater Reterntion Basin Discharge	171	171	505	435	c
- Miscellaneous Low Volume Waste	129	129	365	365[g]	
- Treated Sanitary Waste	42	42	140	70	c
- Circulating Water / Turbine Plant Cooling Water System Blowdown	9,300	9,700	28,880	30,560[g]	d
- Service Water System Blowdown	134	134	1176	500	d
- Start-up Pond Discharge	0	0	0	0[g]	e
• Treated Liquid Radwaste	3	3	200	200[g]	f

NOTES:

[a] The flow rate values are for two AP1000 units.

[b] These flows are not necessarily concurrent.

[c] Per SNC the sanitary waste from Units 3 and 4 will be routed to the existing Unit 1 and 2 sewage treatment plant and will be discharged via the existing Unit 1 and 2 outfall. (No change in value, change in discharge point). Because of this the 70 gpm is not included in the “Blowdown Sump Discharge” figure but is included in the “Final Effluent Discharge to the River.”.

[d] For the normal case, the cooling towers are assumed operating at four cycles of concentration. For the service water cooling tower (maximum case), both unit towers are assumed operating at two cycles of concentration. For the main condenser / turbine auxiliary cooling water tower (maximum case), both towers are assumed operating at two cycles of concentration. Flows are determined by weather conditions water chemistry, river conditions (circulating water / turbine plant cooling water system only) and operator discretion.

e Start-up flushes and start-up pond discharge would occur only during the initial plant start-up phase and potentially after unit outages when system flushes are required.

f The short-term liquid waste discharge flow rate may be up to 200 gpm. However, given the waste liquid activity level, the discharge rate must be controlled to be compatible with the available dilution (cooling tower blowdown) flow.

[g] These values were inadvertently omitted from Rev 0 and do not constitute a change from Rev 0.