

August 2, 2007

MEMORANDUM TO: William F. Burton, Chief  
Environmental Projects Branch A  
Division of Site and Environmental Reviews  
Office of New Reactors

FROM: Mark D. Notich, Project Manager */RA/*  
Environmental Projects Branch A  
Division of Site and Environmental Reviews  
Office of New Reactors

SUBJECT: CONFERENCE CALL - JUNE 20, 2007; DISCUSSION WITH  
SOUTHERN NUCLEAR OPERATING COMPANY CONCERNING  
INCONSISTENCIES BETWEEN REQUEST FOR ADDITIONAL  
INFORMATION RESPONSES AND THE ENVIRONMENTAL REPORT  
FOR THE PLANT VOGTLE EARLY SITE PERMIT

ATTENDEES: NRC - Mark D. Notich  
Pacific Northwest National Laboratory - Michael Sackschewsky  
Southern Nuclear Operating Company - Tom Moorer, Dale Fulton

The NRC staff held a conference call with Southern Nuclear Operating Company (SNC) on Wednesday, June 20, 2007, to discuss inconsistencies between SNC's responses to requests for additional information (RAIs) and Revision 2 of the environmental report (ER) for the Plant Vogtle early site permit (ESP) site. The NRC staff's identification of inconsistencies and SNC's responses are detailed below.

### **Historic and Cultural Resources**

NRC Staff: It is important that we have clarification concerning the impacts to significant cultural resources that will result from re-design of the water intake facility and associated infrastructure. Has the impact to 9BK416 been determined to be an adverse effect, and if so, has a Memorandum of Agreement identifying actions to be taken to mitigate the effects of the project been developed? Please provide a status of the negotiations with the GA SHPO [Georgia State Historic Preservation Office] so that NRC can complete its analysis for the DEIS [draft environmental impact statement].

CONTACT: Mark D. Notich, NRO/DSER/RAP1  
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SNC Response: SNC has met with the Georgia State Historic Preservation Office (SHPO) and SNC has agreed to perform additional Phase 1 assessment activities on the areas that will be impacted by the re-design of the water intake facility and associated infrastructure. SNC has hired a contractor to do shovel tests next week in the areas impacted by the re-design and anticipates that the report of these activities will be provided to the NRC the week of July 9, 2007.

### **Socioeconomics**

NRC Staff: Section 4.4.2 of both versions of [the] ER provides an in-migration assumption for families/children of in-migrating construction workers (7200). The RAI (December 2006), provides a different assumption based on a TVA [Tennessee Valley Authority] survey conducted during the refurbishment at Browns Ferry (total of 6700 in-migrating workers plus families). What is the appropriate number?

SNC Response: The appropriate technical specialist was not available to answer this question. SNC will develop an answer and provide it to the staff as soon as possible.

NRC Staff: ER Rev 2 Table 5.8.2-1 - are the values for the range of property tax payments for the period 2035 to 2044 reversed relative to the rest of the Table?

SNC Response: The values are reversed in Rev 2 of the ER and will be corrected in Rev 3.

### **Radiological Impacts**

NRC Staff: Ensure that the input and output files provided for XOQDOQ, GASPAR, and LADTAP computer runs are those used for ER Rev 2 and, if not, please provide updated copies. Also, please provide an explanation or updated data for apparent inconsistency between gaseous source term in Table 3.5-2 of ER Rev 2 and the GASPAR II output files provided. For example, the per unit gaseous release reported in Table 3.5-2 for Xe-135 is 330 Ci/yr (the same value reported in Table 11.3-3 of the AP1000 design certification document, Rev 15 and this value was 320 Ci/yr in ER Rev 1); however, the value used in the GAS2OUTG.OUT file is 86.6 Ci/yr for two units (or 43.3 Ci/yr for one unit). The computer files appear not to be those used to produce the results reported in ER Rev 2, because the I [NRC staff] noted that both XOQDOQ output files provided are time dated 13Mar2007 and that 7 of 8 GASPAR output files (that use the XOQDOQ output as input) are time dated prior to the XOQDOQ output provided (six files dated 11Mar2007), (one file dated 12Mar2007), and (one file dated 13Mar2007).

SNC Response: The appropriate technical specialist was not available to answer this question. SNC will develop an answer and provide it to the staff as soon as possible.

### **Terrestrial Ecology**

NRC Staff: Clarify the inconsistencies in the ER Rev 2 regarding the storm water retention basins.

Page 2.2-2 of the ER Rev 2 states that "The sediment retention basins south of the industrial area are permanent ponds and will be used to support management of storm water from the new Units 3 and 4 construction area."

Page 4.2-1 of the ER Rev 2 states that "the old retention ponds used during the construction of the existing facilities will not be reused for the new construction. New retention ponds will be constructed to accommodate surface water runoff and allow sediment laden water from the dewatering activities to pass through them, if necessary, prior to discharge at an NPDES [National Pollutant Discharge Elimination System] permitted outfall."

Clarify which ponds will be used during construction of Units 3 and 4 and if additional ponds are needed, are these currently included in the footprint?

SNC Response: Both of the referenced passages are true statements. New upland retention ponds will be constructed and used to accept surface water runoff and water from the dewatering process. These new retention ponds will function as sedimentation basins. The existing ponds will not be used for sedimentation, but they will be used for storm water management and will likely receive the outflow from the new retention basins.

NRC Staff: Southeastern pocket gopher. Page 2.4-3 of the ER Rev 2 states that surface mounds indicative of the Southeastern pocket gopher have been observed in the property bordering the northern portion of the VEGP [Vogtle Electric Generating Plant] site. 1) Was this species targeted in the 2005 threatened and endangered species surveys? 2) Will any of the areas that have surface mounds indicative of this species be impacted by pre-construction or construction activities?

SNC Response: The Southeastern pocket gopher was not targeted in the 2005 threatened and endangered species survey because it was not listed by the State of Georgia until 2006.

No areas that have surface mounds indicative of this species will be impacted by construction.

NRC Staff: Page 2.4-4 of the ER Rev 2 indicates that no streams or wetlands are in the proposed footprint. In the January 20 RAI response E2.4-1h, Southern indicates that 22.5 acres of wetlands will be removed during construction of the intake, discharge and barge facilities. Please clarify how the construction of proposed intake, barge facility, discharge, and the associated removal of wetlands are not part of the proposed footprint.

SNC Response: SNC will revise the ER in Rev 3 to change the term "proposed footprint" to "new plant power block footprint." Figure 2.1-1 will remain the same but the text will be revised. As such, the intake, discharge, and barge facilities are not within the new plant power block footprint.

NRC Staff: Page 2.4-4 of the ER Rev 2 indicates that the proposed footprint does not provide suitable habitat for the American alligator, and the bay-star vine was not observed on the proposed footprint during the 2005 surveys. In the January 20 RAI response E2.4-1g, Southern indicates that the bay-star vine was found in the vicinity of the proposed intake structure during the 2005 threatened and endangered species surveys. In addition, during the site audit staff saw an American alligator in the vicinity of the proposed intake structure. Please clarify the discrepancy.

SNC Response: SNC will revise the ER in Rev 3 to change the term "proposed footprint" to "new plant power block footprint." Figure 2.1-1 will remain the same but the text will be revised. As such, the intake, discharge, and barge facilities are not within the new plant power block footprint.

NRC Staff: Clarify the inconsistencies in the ER Rev 2 and the RAI responses regarding the borrow areas.

Page 3.9-4 of the ER Rev 2 states "Backfill borrow will be taken from the northern portion of the VEGP site."

Page 4.1-1 of the ER Rev 2 states "Areas for the borrow pits were originally identified on the northern part of the VEGP site. This area is no longer planned for use as borrow. At this time, borrow will be obtained from areas of the site already disturbed by the Units 1 and 2 construction activities. Since this area has no significant habitat value, no impact to area wildlife is expected. This land was not disturbed during previous construction and is characterized by pine forests and hardwood stands along the stream drainage."

The May 10 RAI response E3.9-3 suggests the borrow will be taken from the excavation for the powerblock and switchyard.

Please clarify where the borrow areas will be located.

- SNC Response: The response in RAI E3.9-3 is **correct**. Section 3.9-4 of the ER Rev 2 is **incorrect**. Originally, backfill borrow was going to be obtained from the northern portion of the VEGP site, but that is not the case now.
- NRC Staff: Page 4.2-4 of the ER Rev 2 states that "SNC will have a passage dredged from the main channel of the Savannah River to the new barge slip to facilitate movement of heavy equipment and components to the site by barge." The January 2007 RAI response E3.9-4 suggests that dredging will not be needed from the main channel to the barge slip. Clarify if dredging this passage will be needed.
- SNC Response: Bathymetry studies done by Bechtel show that dredging does not currently have to be done for the barge slip. SNC left the discussion of dredging in the ER in the event that dredging may be required at a future date due to natural movement of sediment in the river. Rev 3 of the ER will be revised to say that dredging is not required now, but that SNC will be prepared to dredge if needed in the future. There is no way to estimate the volume of dredged material that might be removed in the future.
- NRC Staff: Page 4.3-3 and 4.3-5 of the ER Rev 2 state "The new line will cross Burke, Glascock, Jefferson, Richmond, Warren and McDuffie Counties". The Photo Science 2007 Report and several other locations in the ER indicate the preferred corridor that will be used for final route selection crosses Burke, Jefferson, Warren, and McDuffie Counties. Please clarify which counties will be crossed by the line.
- SNC Response: The Study Area contains six counties; Burke, Glascock, Jefferson, Richmond, Warren, and McDuffie while the Preferred Route contains four counties; Burke, Jefferson, Warren, and McDuffie. Rev 3 of the ER will be revised to make this distinction more evident.
- NRC Staff: Page 4.3-1 of the ER Rev 2 states "there are no important species on the VEGP property except common game species such as deer, rabbits, squirrels, and game birds." Please clarify how this was concluded based on the fact that the state threatened bay-star vine was found in the vicinity of the intake structure onsite and the American alligator was recorded near Mallard pond.
- SNC Response: Rev 3 of the ER will be revised to state that there are no important species in the new power block footprint area except common game species such as deer, rabbits, squirrels, and game birds. SNC will also make the text on page 4.3-1 consistent with the text in Section 2.4.1
- NRC Staff: Page 6.5-1 states that "no protected species, important species, critical habitats, or important habitats are found within the footprint of the proposed units." Based on the January 30 RAI response E4.3-1c,

construction of the intake, barge facility and discharge are included in the 500 acres that will be removed during construction of the proposed facility. These facilities will require 22.5 acres of wetlands (important habitat) to be removed. In addition the state threatened bay-star vine (important species) was recorded in the vicinity of the proposed intake. It is unclear how construction of these facilities is included in the total acreage for the footprint, but the fact that important species/habitat will be removed is not included. Please clarify.

SNC Response: Rev 3 of the ER will be revised to state that no protected species, important species, critical habitats, or important habitats are found within the new plant power block footprint.

NRC Staff: Provide the extent of shoreline that will be disturbed for construction of the discharge structure. In addition, verify that the extent of shoreline that will be impacted by constructing of the intake is 180 feet (January 20 RAI E4.3-1e). The canal itself will be 170 feet wide, which means that only an additional 5 feet on each side of the canal will be impacted by construction. This value seems low. Please verify.

SNC Response: The construction of the discharge structure will impact approximately 20 feet of shoreline during construction and 10 feet of shoreline after construction (during operational phase). The construction of the intake canal will impact approximately 400 feet of shoreline and 300 feet of shoreline after construction (during operational phase). This is based on Figure 3.4-3.

NRC Staff: Indicate if surveys for threatened and endangered species will be conducted in areas with suitable habitat along the new transmission corridor prior to construction.

SNC Response: SNC will conduct surveys as necessary to comply with Georgia Title 22.

NRC Staff: Page 9.3-5 of the ER Rev 2 states that the transmission line for the Farley site would be 200 feet wide and connect to the Webb Substation, which is approximately 10 miles from FNP [Farley Nuclear Plant]. Routing the new transmission line to the Webb Station would require an additional 238 acres of transmission corridor.

In the January 20 RAIs E9.3-1, Southern states a new 500 kV line will have to be constructed to support the Vogtle site and that a similar line will be required for each alternate site. The length of the line has not been determined for the alternate sites but it is believed that the line will be at least the 50 mile length.

A 50 mile long corridor would require over 238 acres. Please clarify the discrepancy between the ER and the RAI.

SNC Response: The new transmission line for the Plant Vogtle site would comprise 1,200 acres. A new transmission line at Plant Farley would be 10 miles long and comprise 240 acres.

NRC Staff: ER Rev 2 page 2.2-3 states that the YWM [Yuchi Wildlife Management] area is 7,000 acres. ER Rev 2 page 2.4-3 states that the Yuchi Wildlife Management area is 7,800 acres. Clarify.

SNC Response: 7,800 acres is the correct number. Rev 3 of the ER will be revised to reflect the correct number.

NRC Staff: In the Southern response to question 7 regarding the transmission line right-of-way, they state that the SNC conducted a detailed corridor study in 2007 that used a 150 foot wide corridor, which is consistent with GPC [Georgia Power Company] siting practices. The new 500 kV corridor right-of-way will be 150 feet wide.

In the ER Rev 2 3.7.2, Southern states that the analysis assumed a 200 feet wide corridor. Verify the dimensions of the corridor.

SNC Response: The new transmission line for the Plant Vogtle site will have a 150 foot corridor. A new line at Plant Hatch would have a 150 foot corridor. A new line at Plant Farley would have a 200 foot corridor. Two new lines at the Barton site would have a 300 foot corridor. SNC uses a 200 foot corridor for design purposes if they don't have confirmation that 150 foot is appropriate.

NRC Staff: In response to question 6 regarding the transmission line right-of-way, Southern provided a table with land use in a representative right-of-way. In that table, Southern included a category called "forested". It is unclear if this category includes forested wetlands. Based on the email from Jesse Glasgow to Tom Moorer on February 16, 2007, it appears that forested wetlands are actually included as part of "forest". Please clarify where wetlands are included in this table.

Question 6, transmission line ROW [right-of-way] in the Thomson-Vogtle Corridor Study, Table 2 (Land Use) lists both forested wetlands and non-forested wetlands. Since Table 15 (Land Use Acreage) of the Field Verified Corridor isn't consistent with Table 2 (Land Use), we need to know where the wetlands (forested and non-forested) are in Table 15.

SNC Response: SNC provided a revised Table 15 to the NRC on March 8, 2007 during a staff site visit. The revised Table 15 does not contain "wetlands" as the line routing is not through any wetlands. The open water category would cover stream crossings and similar habitat. The revised Table 15 represents the final corridor. Georgia Power Company has field verified this corridor and no wetlands are impacts by construction.

**Aquatic Ecology**

NRC Staff: ER Rev 2, 3.3.2 says "Biocides will be injected at the intake structure to control biofouling in the circulating water system and associated piping." RAI E 3.4-1 says "The proposed VEGP Units 3 and 4 no longer anticipate the need for chemical treatment of the makeup water obtained from the Savannah River intake structure. This assessment is based on the operational experience of the existing Vogtle Units 1 & 2 intake structure." To clear this up maybe we go back to a very general question such as - Where will chemical treatment of water take place and what chemicals will be used to treat the water that is ultimately discharged to the Savannah River?

SNC Response: SNC adds biocides to the existing Units 1 and 2 cooling towers. For Units 3 and 4, Bechtel was recommending biocide addition at the intake structure. SNC has decided not to do that so phrase "at the intake structure" will be removed from Rev 3 of the ER. SNC is proposing to use the existing discharges from the Units 1 and 2 cooling towers as being representative of the Units 3 and 4 discharges. The response to RAI 3.3-1a on January 30, 2007, details which chemicals will be added to the cooling tower basin. SNC will provide concentration data for chemicals in the cooling tower discharge.

**Ecology**

NRC Staff: On page 4.1-1 of ER Rev 2, the second paragraph of Section 4.1.1.1 states that the borrow material area is characterized by pine forests and hardwood stands and refers the reader to Figure 2.4-1. Figure 2.4-1 identifies vegetative communities, including pine forests and hardwood stands, but the borrow material area is not indicated on the figure. In addition, the reader is informed that the threatened and endangered species (T&E) survey included this "part" of the VEGP site; however, the areas surveyed for the T&E survey are not identified on Figure 2.4-1. Please clarify.

SNC Response: SNC no longer plans on using borrow areas in the northern part of VEGP. Rev 3 will be changed to reflect this.

NRC Staff: The fourth bullet on page 4.2-1 of ER Rev 2 states "modification of existing barge slip" whereas page 4.2-4 states "new barge slip." Please clarify.

SNC Response: The term "modification of the existing barge slip" is a relic term and will be deleted from Rev 3 of the ER. The current correct term is "new barge slip".



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Docket No. 52-011

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ADAMS ACCESSION NUMBER: ML071840243

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Memo to William F. Burton from Mark D. Notich dated: August 2, 2007

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