UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE

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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 downsteam 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,

James E. Weaver

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