

NRR-PMDAPEm Resource

From: Martinez, Gail [gail_martinez@fws.gov]
Sent: Monday, January 06, 2014 8:46 AM
To: Logan, Dennis
Subject: Plant Hatch Letter
Attachments: 2013-0739_Plant Hatch, Appling_PDF.pdf

Mr. Logan,

Here is the letter you requested. I apologize again for the delay in getting this to you. Please do not hesitate to contact me with any questions and/or concerns.

Gail Martinez

Gail Martinez

Fish and Wildlife Biologist
Georgia Ecological Services
U.S. Fish and Wildlife Service
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Hearing Identifier: NRR_PMDA
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December 10, 2013

Melanie C. Wong, Chief
U. S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Environmental Review and Guidance
Update Branch
Division of License Renewal
Washington, D.C. 20555-0001

Re: USFWS File Number 2013-0739

Dear Ms. Wong:

The U. S. Fish and Wildlife Service (Service) has reviewed your request for concurrence on the effects of the Edwin I. Hatch Nuclear Plant, Units 1 and 2 and the proposed license amendment on the federally-listed endangered species Altamaha spinymussel (*Elliptio spinosa*) located on the Altamaha River, Appling County, Georgia. This report is submitted in accordance with provisions of the Endangered Species Act (ESA) of 1973, as amended; (16 U.S.C. 1531 et seq.).

The U. S. Nuclear Regulatory Commission (NRC) has determined that the continued operation of the Edwin I. Hatch Nuclear Plant (HNP), including the proposed license amendment, may affect, but is not likely to adversely affect, the continued existence of Altamaha spinymussel and will have no effect on its designated critical habitat.

HNP is a steam-electric generating facility operated by Southern Nuclear Operating Company (SNC). HNP is a two-unit nuclear plant using a closed-loop cooling system for main condenser cooling that withdraws from and discharges to the Altamaha River through shoreline intake and offshore discharge structures. The proposed license amendment of Appendix A of HNP's renewed facility operating license would revise the minimum water level at which the plant could withdraw water from the Altamaha River from 60.7 to 60.5 feet (18.5 to 18.4 m), a difference of 0.2 feet (6cm), as measured in the plant service water pump well.

The Service listing of the Altamaha spiny mussel as endangered and the designation of critical habitat identified several sources of stress associated with operating HNP that might adversely affect the Altamaha spiny mussel population. Stressors include dredging of the river, elevated levels of metals in sediments below the plant, impingement and entrainment of host fish species, effects of the thermal effluent, and the entrainment of available food sources (trophic structure) for downriver populations.

Dredging and Sediment Contamination: The re-suspension of buried legacy sediment contamination and its transport downstream due to dredging and HNP operations may be a source of sediment contamination. The current dredging permit contains specific requirements to ensure the protection of aquatic species and reports demonstrate that actual dredging is approximately a third or less of the permitted limit of 44,424 cubic yards. The dredging footprint and adjacent areas are poor habitat for mussels and is not included in the designation of critical habitat. The NRC believes that due to the small area subject to dredging and the actual amount of dredging is much lower than permitted; the effects of dredging on Altamaha spiny mussel through downstream effects and sediment suspension and redistribution would be insignificant or discountable.

Entrainment and Impingement of Host Fish Species: The entrainment and impingement of host fish species may adversely affect the early life stages of Altamaha spiny mussel. HNP monitors fish entrainment and if the host species of the spiny mussel was known, management efforts to reduce the potential of this impact could be made. SNC monitoring reports show that entrainment and impingement rates are low. The NRC states that since the host fish species of the Altamaha spiny mussel is not known and the impingement and entrainment rates reported for the HNP are low, effects to Altamaha spiny mussel are likely insignificant or discountable.

Thermal Effects: The thermal effluent could adversely affect the host species and the higher water temperatures can increase the sensitivity of mussels to certain pollutants. The U. S. Environmental Protection Agency administers the National Pollutant Discharge Elimination System (NPDES) permit for the discharge of combined process wastewaters, including tower blowdown, to the Altamaha River. This permit sets effluent limits for contaminant parameters but does not impose a maximum temperature limit on combined river discharge. The weekly monitoring of water temperature at the point of mixing is a requirement of the permit, along with quarterly reporting of discharge temperatures submitted to the State of Georgia. The water quality impact on the Altamaha River is also regulated in accordance with Georgia's Water Use Classifications and Water Quality Standards which states that receiving water temperatures are not to exceed 90°F and temperature of receiving waters is not to be increased more than 5°F above the intake temperature. The NRC modeled expected thermal conditions and extreme thermal conditions and evaluated the potential environmental impacts of operating HNP at the proposed minimum water level of 60.5 feet in the plant service water pump well. The modeling showed that the calculated temperature difference between the discharge plume and ambient river temperature was 2.5°F or less at a distance of 140 feet downstream from the point of discharge, with a plume surface area of 0.05 acre and a plume cross-sectional

area three percent of the river cross-section. SNC states that the results of this modeling indicates that the state and Federal limitations regarding water quality criteria and thermal impacts to the Altamaha River continue to be satisfied under the proposed license amendment. The NRC states that it relies on the State of Georgia to regulate discharge, to monitor and permit the discharge to protect aquatic species and that any thermal effects to the Altamaha spiny mussel and its host fish populations would be discountable.

Trophic Interactions: SNC states that the hydraulic entrainment before the proposed license amendment is 11 percent of the river flow passing the plant under minimum flow conditions and 11.5 percent with the license amendment. Since adult Altamaha spiny mussel filter phytoplankton, zooplankton, suspended bacteria, other microorganisms, particulates and dissolved organic matter from the water and assuming that potential food of the Altamaha spiny mussel would be entrained and removed from the water at presumably the same rate as water, about 11.5 percent of food sources would be removed. NRC states that since the Service did not identify food as a limiting resource for adult mussels, the effect of entrainment of food of adult mussels is likely discountable. NRC also states that the benthic food sources that juvenile mussels rely on are not adversely affected by upstream entrainment and thus the effect of entrainment of potential food on juvenile mussels is also discountable.

Critical Habitat: The Service designated critical habitat for the Altamaha spiny mussel and excluded a stretch of the Altamaha River from U. S. Route One downstream to the State-owned property of Moody Forest (2.7 km. (1.7 mile)), which includes HNP. Due to the lack of designated critical habitat at HNP, the NRC finds no adverse effects to critical habitat.

We concur with your determination for the Altamaha spiny mussel on the continued operation of HNP, including the license amendment. We believe that the requirements of section 7 of the ESA have been satisfied. However, obligations under section 7 of the ESA must be reconsidered if: (1) new information reveals impacts of this identified action that may affect listed species or critical habitat in a manner not previously considered; (2) this action is subsequently modified in a manner which was not previously considered in this assessment; or (3) a new species is listed or critical habitat determined that may be affected by the identified action.

We appreciate the opportunity to comment on this project. If you have any further questions, please contact our Coastal Georgia Sub Office staff biologist, Gail Martinez, at 912-832-8739 extension 7.

Sincerely,



Strant Colwell
Coastal Georgia Supervisor