



United States Department of the Interior

FISH AND WILDLIFE SERVICE

1208-B Main Street
Daphne, Alabama 36526

IN REPLY REFER TO:

43410-2007-FA-0011

2006
November 2, 2007

Mr. Christopher Nolan, Branch Chief
Division of Reactor Licensing
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Dear Mr. Nolan:

Per your letter dated October 12, 2006, our office has briefly reviewed Southern Nuclear Operating Company's (SNC's) notice for an application for an early site permit (ESP) for the Vogtle ESP site in Georgia, and for three alternative sites for new nuclear power plant construction. In this letter, we provide preliminary comments on the two alternative sites in Alabama: a site adjacent to, or on, the existing Joseph M. Farley Nuclear Plant site and a site described as the "Barton site" in Chilton and Elmore counties. We understand that you are already coordinating with the U.S. Fish and Wildlife Service's (Service) Brunswick, Georgia, field office regarding the Vogtle ESP and the Edwin I. Hatch Nuclear Power Plant sites. Our comments are provided in accordance with the Fish and Wildlife Coordination Act (48 Stat. 884, as amended; 16 U.S.C. et seq.) and the Endangered Species Act of 1973 ([ESA], 87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.).

Joseph M. Farley Nuclear Power Plant Site

Our office recently reviewed federally listed species present on the Joseph M. Farley Nuclear Power Plant site itself, in the affected mixing zone of the adjacent Chattahoochee River, and along existing transmission lines to be maintained in Alabama. Comments were provided on October 27, 2004 (logging # 04-0397a), when we reviewed the "Generic Environmental Impact Statement for License Renewal of Nuclear Plants, Supplement 18." In that letter, we concurred that re-issuance of the operating license for this plant was not likely to adversely affect any federally listed threatened or endangered species in Alabama or listed species in the Chattahoochee River into which plant effluent would be discharged. This concurrence was predicated on Southern Nuclear Operating Company's (SNC's) agreements to the following:

(SNC's) agreements to the following:
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- ❖ SNC will ensure that applicators will avoid any broadcast aerial herbicide spraying within 300 feet of waters with any potential habitat for listed plant, amphibian, mussel, or fish species.
- ❖ Surfactants used with any herbicide should be no more than slightly to practically nontoxic to *Daphnia* and trout in 48-hr EC₅₀ and 96-hr LC₅₀ testing, respectively (i.e., EC₅₀'s and LC₅₀'s occur only at concentrations greater than 10 mg/L [and ideally greater than 100 mg/L]).
- ❖ SNC will evaluate herbicide spray drift to natural areas from aerial applications and the need for more stringent best management practices to avoid drift into non-target natural areas. Drift cards or other accepted methods will be used in the evaluation to determine the extent of drift under several wind speeds within the range of normal application conditions. To assure representative results, applicators will not be notified of the assessment.
- ❖ Within stream and wetland buffer, vegetation controls will include mechanical removal or spot/hand treatments with glyphosate or imazapyr or other products similarly low in whole-formulation toxicities and similarly lacking in other detrimental effects on invertebrates, amphibians, or fish.
- ❖ Disturbance (e.g., construction, repair, or herbicide treatments) will be avoided or delayed in the immediate area if a wood stork (*Mycteria americana*) is observed until the wood stork has abandoned the area.
- ❖ SNC will follow Fish and Wildlife Service guidance on protection of the bald eagle.

We understand that, under this proposed alternative, additional nuclear power units would be constructed on the existing Farley property. Therefore, we could again concur with a "not likely to adversely affect determination" for Alabama listed species provided the above conditions are met. However, for any newly proposed transmission line right-of-ways (ROWs), we request that the applicant evaluate whether appropriate habitat may exist for the following federally listed species:

- T - Bald eagle *Haliaeetus leucocephalus*
- T - Flatwoods salamander *Ambystoma cingulatum* (P)
- E - Shiny-rayed pocketbook *Hamiota (=Lampsilis) subangulata*
- E - Gulf moccasinshell *Medionidus penicillatus*
- E - Oval pigtoe *Pleurobema pyriforme*

The threatened Gulf sturgeon (*Acipenser oxyrinchus desotoi*) occurs on the Choctawhatchee River, as does designated critical habitat for this sturgeon. Should new transmission lines entail any construction in, or immediately adjacent to, this river or any river crossings other than by existing bridges, NRC should also evaluate potential impacts to this species and to designated critical habitat. We would be pleased to assist you with this evaluation if detailed construction

and maintenance plans, including planned best management practices (BMPs), are provided to us. A brief description of habitat types utilized by most of the above species may be found at: <http://www.fws.gov/panamacity/resources/pdf/Species%20Lists/Washington%20County.pdf>. Additional information may be found on the Service's web site: <http://www.fws.gov/endangered/> using the search function. You may also need to consider listed species surveys in other states, if any new transmission lines would extend there.

In addition to the above requested surveys, we recommend surveys for the following federally listed candidate species, should appropriate aquatic habitat occur on potentially affected perennial streams or rivers:

- C - Southern sandshell *Lampsilis australis*
- C - Choctaw bean *Villosa choctawensis*

Although surveys for candidate species are not required and no protection is afforded to candidate species by the Endangered Species Act, these species may be listed prior to full permitting and construction, in which case reinitiation of consultation would be needed if impacts to candidate species have not yet been addressed.

The applicant should consider any expansion of the planned mixing zone necessitated by new nuclear power units or increased discharge volumes, as part of the potential action area for this evaluation. Where potential habitat for any listed species is identified, species surveys should follow. Mollusk surveys should be conducted by a biologist with the appropriate mollusk collecting permits from the Fish and Wildlife Service and the State of Alabama and should generally follow the Service's survey protocol for listed mollusks. For all mollusk surveys, please provide all survey results to this office, including a map showing exact areas surveyed, dates of surveys, a detailed description of survey methods, qualifications of the surveyor, and detailed habitat descriptions, including substrate types observed, depths, flow and/or scour characteristics, water quality characteristics, and all mollusk species present from the shoreline to the maximum potential extent of the extended mixing zone and from shoreline to shoreline of stream transmission line crossings. If crossings will be by attachment to existing poles or bridges and will not require in-stream crossings or construction or result in erosional effects, the latter surveys may be unnecessary.

Barton Site in Chilton and Elmore Counties

Per a telephone conversation with Mark Notich, NRC, on November 2, 2006, this proposed site would be near Clanton, AL, along the Jordan Reservoir, along the Coosa River. Federally listed species in the two counties are listed below:

Chilton County

- T - Bald eagle *Haliaeetus leucocephalus*
- E - Red-cockaded woodpecker *Picoides borealis*
- E - Wood stork *Mycteria americana*
- E - Alabama canebrake pitcher plant *Sarracenia rubra ssp. alabamensis*

- T - Painted rocksnail *Leptoxis taeniata*
- T - Fine-lined pocketbook mussel *Hamiota* (= *Lampsilis*) *altilis*

Elmore County

- T - Bald eagle *Haliaeetus leucocephalus*
- E - Tulotoma snail *Tulotoma magnifica*
- E - Fine-lined pocketbook mussel *Hamiota* (= *Lampsilis*) *altilis*
- E - Alabama canebrake pitcher plant *Sarracenia rubra* ssp. *alabamensis*
- C - Interrupted rocksnail *Astelia waialealae*
- C - Georgia rockcress *Arabis georgiana*
- C - Rough hornsnail *Pleurocera foremani*

As in the case of potentially affected new lands and waters at the Farley site, including any new transmission line ROWs, we request surveys in appropriate habitat for federally listed threatened and endangered species. Also, we recommend surveys for candidate species as part of your evaluation of the proposed alternative, should this site remain under serious consideration. Plant surveys cannot be accepted unless identifiable above-ground parts are present at the time of the survey; such surveys should be conducted by a qualified botanist prior to any clearing or vegetative maintenance activity in proposed ROWs.

The Coosa River downstream of Jordan Dam is a high-priority restoration area for both the Service and the State of Alabama (Alabama Department of Conservation and Natural Resources [ADCNR]). The area, which is considered by many, as being one of the best examples of a "big river" habitat, offers tremendous opportunities for future restoration. The ADCNR, FWS, and Alabama Power Company (APC) have worked very hard over the last 15 years to negotiate an acceptable minimum flow regime that makes reintroduction and natural recruitment of many common and imperiled species possible. The area has also developed into a world class spotted bass fishery. The reach currently supports a healthy fish community, along with several species of concern (e.g., blue sucker, American eel, paddlefish, southern walleye, and striped bass). The reach is also designated critical habitat for nine mussel species in addition to currently supporting the two federally listed and two candidate mollusk species listed above. Any land use practice or effluent discharges in the area that would jeopardize habitat or water quality in this area should be heavily scrutinized. Because of possible thermal and other effects on listed and candidate species downstream of Jordan Dam, we strongly discourage consideration of this site and note that formal consultation under the ESA may be needed, should this alternative site be selected.

Summary

Thank you for the opportunity to provide some preliminary comments on the two alternate locations in Alabama. We could refine our review and requests for surveys and provide additional technical assistance if provided with additional maps and information as to exact facility and discharge location for the Barton site, including all BMPs proposed to reduce impacts. Obviously, a more thorough evaluation will also be needed if these sites receive serious consideration, once proposed thermal or other mixing zones and any new ROW routes are

identified. The Service remains concerned about impingement of fish and invertebrate larvae on intake screens and loss of native aquatic species from thermal effects. Biocide use and other chemical treatments may also be concerns. Once proposed chemical uses are identified and resulting concentrations in effluent calculated for low-flow 2Q10 conditions, we may provide additional evaluations of potential impacts.

As a general comment, our office is becoming increasingly concerned about the use of halogen-based and ammonia-based molluscicides by nuclear power operators and others in waters with listed or candidate mollusks or fish. Current EPA criteria and state standards and typical NPDES discharge limitations are **not** protective of listed and other mussel species, which are sensitive to the acute effects of ammonia exposures at concentrations less than 1/3 of existing criteria. National negotiations between the Service and the EPA are ongoing to develop more stringent criteria for ammonia to protect listed mussel species. In the interim, we continue to advise against use of these compounds if effluent will enter listed mollusk or host fish habitat. We encourage the NRC to proactively identify molluscicides and other non-chemical alternatives for control of invasive mussel species in intake, effluent, and cooling components of units it permits that will not adversely affect mussels or their host fish in receiving waters. If you have any questions or need additional information, please contact me at (251) 441-5871. Please refer to the reference number above.

Sincerely,



Elaine Snyder-Conn
Deputy Field Supervisor

cc: Strant Colwell, FWS, Brunswick, GA