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United States Department of the Interior

OFFICE OF THE SECRETARY
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Philadelphia, Pennsylvania 19106-2904

IN REPLY REFER TO:

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July 24, 2002

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Chief, Rules Review and Directives Branch
U.S. Nuclear Regulatory Commission
Mail Stop T6-D59
Washington, D.C. 21555-0001

Attention: Andrew Kugler

Re: *NUREG-1437, Draft Supplement 7 to the Generic Environmental Impact Statement for License Renewal of Nuclear Power Plants - North Anna Power Station, Units 1 and 2*

Dear Sir:

The U.S. Department of the Interior (Department) has reviewed and offers the following comments on the referenced draft document. Please give these comments careful consideration in completing the final Supplement.

General Comments

The Department shares a common goal with the U.S. Nuclear Regulatory Commission (NRC) to bring the North Anna Nuclear Power Station into compliance with current environmental regulations. To this end, a representative of the U.S. Fish and Wildlife Service's (FWS) Chesapeake Bay Field Office visited the site on May 21, 2002, to help the NRC identify, assess, avoid, and mitigate any adverse environmental impacts. With the advances in human understanding of ecological relationships, it is appropriate and useful that Federal and state natural resource agencies periodically review site conditions in order to maintain the highest level of environmental protection. Since the North Anna Power Station came online in 1978, Dominion Energy Company (parent company of Virginia Electric and Power Company) and the NRC have initiated measures for the protection of the natural resources around the Power Station, lake, and river areas.

The FWS has determined that the North Anna operations and minor refurbishment may have potential to adversely affect area natural resources. The federally threatened bald eagle, *Haliaeetus leucocephalus*, does not appear to be affected, but a scientific approach should be maintained to evaluate and document any mortalities. Similar records for other migratory bird impacts should be maintained and any mortality reported to the FWS.

Template = ADM-013

E-RIDS = ADM-03
Cdr. = A. Kugler (AJK1)
A. Beranek (AFB)

Regarding aquatic species, potential impacts include the cooling water intake, discharge, and dam that provide the impounded cooling water. The rotating screens of the cooling water intake at the Power Station provide nearly unimpeded water intake, but the biota are likely to incur high mortality as a result of entrainment and impingement. There is probably less mortality associated with the cooling water discharge, but the effects on fish behavior and ecology are potentially damaging. Another fisheries impact is the Lake Anna Dam. While downstream fish passage maybe acceptable, the blockage of upstream migrations of American eel, and possibly anadromous fish during high flow seasons, should be corrected during this relicensing. The FWS offers the following comments on topics where the environmental standards have improved and new information is available.

Specific Comments

The FWS agrees that the potential is low for the North Anna Power Station to adversely affect the bald eagle, a federally threatened species. Our primary concern is for the incidental mortality to migratory birds associated with the transmission lines. In the event of migratory bird mortality, Virginia Electric and Power Company should complete a Raptor Incident Report for the FWS and the appropriate state agencies.

The North Anna facility lacks a component of the cooling water intake system that Virginia Electric and Power Company has developed at the Surry Power Station. The traveling mesh screens at the Surry Power Station include a spray wash system that removes the biota from the screens and returns them to the James River. The North Anna facility utilizes a similar technology for the screens, but fails to provide the mechanism to return the biota unharmed back to the Lake. The traveling screens and wash system at Surry clearly minimize aquatic impacts more than the North Anna facility, which discards the impinged biota into a disposal bin. A similar process, such as at Surry, could be developed to minimize the aquatic impacts by returning the impinged biota safely back to the Lake. To further minimize the impacts, we recommend replacing worn or damaged screens with mesh less than or equal to one millimeter wide and adopting entrance velocities less than or equal to 0.5 feet per second (Gowan, C. and G. Garman 1999).

The cooling water discharge is an additional potential hazard to fish. Unlike the Surry Power Station that discharges to the mouth of the tidal James River, the North Anna Station discharges into a series of open canals that flow back to the Lake. While the thermal discharge is likely to have a greater effect in the colder months, the increased temperatures in the summer could also have an adverse effect on fish behavior and ecology in the Lake.

The Lake Anna Dam provides cooling water for the Power Station, but also blocks migratory fish moving upstream from the North Anna River. Anadromous, catadromous, and freshwater fish move upstream to spawn in the spring, and possibly need the habitat at other times of the year, when fish are searching for forage, refuge, or suitable habitats. American eel are well known for their migrations and are present downstream of the Dam. The Atlantic States Marine Fisheries Commission's plan recommends restoring eels to their historical habitat and increasing their abundance in habitats where they currently reside. River herring are likely to have historically

ascended to the habitat upstream of the Dam during natural flow conditions.
In addition to restoring fish to their historical or preferred habitats, freshwater mussel populations are distributed in a watershed by the movement of mussel host fish species common to the North Anna River. The mussels and host fish will both benefit from fish passage.

Summary Comments and Recommendations

The Department recommends that the NRC adopt the following recommendations in order to maintain optimum protection of fish and wildlife resources at North Anna Power Station:

1. Maintain an efficient recording and reporting system for migratory bird mortality at the North Anna Power Station;

2. Develop a method to return impinged fish, on the cooling water intake screens, back to the Lake. The intake screen should be replaced with mesh size of one millimeter or less wide with intake water velocities less than 0.5 feet per second;

3. Determine the impacts from the thermal discharges on fish distribution, spawning, and feeding. The specific study design should be developed with the North Anna Power Station staff, FWS, and other interested parties; and

4. Assess the upstream movement of fish to the Dam with continuous sampling of water quality, flow, and species composition from February 1 to November 30. The specific study design should be developed with the North Anna Power Station Staff, FWS, and other interested parties.

We appreciate the opportunity to review the draft environmental document and provide comment on natural resource protection. If you have any questions regarding these comments, please contact David W. Sutherland of the Service's Chesapeake Bay Field Office by phone at (410) 573-4535, or by e-mail at David_Sutherland@fws.gov.

Sincerely,

Michael T. Chezik
Regional Environmental Officer

cc:
Dominion Energy Company (Tony Banks)
5000 Dominion Boulevard
Glen Allen, VA 23060

References

Gowan, C. and G. Garman. 1999. Design criteria for fish screens in Virginia: Recommendations based on a review of the literature. *Prepared for:* Virginia Department of Game and Inland Fisheries, Richmond, VA.