

Pham, Bo

From: Pham, Bo
Sent: Thursday, January 06, 2011 12:26 PM
To: Perkins, Leslie
Subject: RE: wording for SEIS
Attachments: Bo's edit Chapter 4 - T&E.docx

Leslie,

Attached are my changes. Please run this by Brian Harris in OGC for any additional comments before proposing it to Wendy (I've already given Brian a heads-up about it just now). In the mean time, please also contact Wendy my email to say something like the following, just for documentation of our conversation:

Dear Wendy:

To follow up on our conversation yesterday regarding the staff's consideration of commitments made by PSE&G (as opposed to PSEG Nuclear) for maintenance practices along the transmission ROW corridor within the scope of license renewal for Salem & HCGS, we are explaining the situation to our general counsel to get further clarification regarding jurisdictional nexus for this scenario.

In the mean time, we are also working to propose changes to the SEIS to capture the FWS's concern regarding impacts to the x-mission ROW and how the October 23, 2009, letter from PSE&G plays into mitigating that. We will consult with you further once we iron out the language.

Thanks for the call yesterday!

Bo Pham
Chief, Projects Branch 1
Division of License Renewal
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
301-415-8450

From: Perkins, Leslie
Sent: Thursday, January 06, 2011 8:35 AM
To: Pham, Bo
Subject: wording for SEIS
Importance: High

Bo,

I tried some language in the SEIS to address FWS concerns. Please take look to let me know if this what you had in mine. It's on page 4-51, Section 4.7.2. I highlighted it in yellow so it should be easy for you to find.

Leslie Perkins
Project Manager
Division of License Renewal
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission

D-197

Environmental Impacts of Operation

1 Both sturgeon species and three of the four turtle species have been impinged at Salem.
2 Atlantic sturgeon were collected in impingement studies in a single year, 2006 (PSEG, 2006a).
3 From 1978 through 2009, 20 shortnose sturgeon were impinged at the Salem intakes, of which
4 16 died. Between 1978 and 2008, 24 Kemp's ridley sea turtles were impinged, of which ten
5 died. Three green turtles (one died) and 69 loggerhead turtles (25 died) also were impinged.
6 Impingement of the turtles was greatest in 1991 and 1992 (Table 4.21). After PSEG modified its
7 use of the ice barriers in 1993, turtle impingement numbers returned to levels much lower than
8 in 1991. From 1994 through 2009, Salem impinged seven sea turtles (all loggerheads), and
9 four of these died. Also during this 16-yr period, 12 shortnose sturgeon were impinged, of which
10 eight died. Sea turtles have not been impinged at Salem since 2004 (NMFS, 2009).

11 Section 4.5.4 discusses potential impacts of thermal discharges on the aquatic biota of the
12 Delaware Estuary, and the Staff expects that impacts on fish and invertebrates, including those
13 preyed upon by sturgeon and sea turtles, to be minimal. The high exit velocity of the discharge
14 produces rapid dilution, which limits high temperatures to relatively small areas in the zone of
15 initial mixing in the immediate vicinity of the discharge. Fish and many other organisms are
16 largely excluded from these areas due to high velocities and turbulence. Shortnose and Atlantic
17 sturgeon and the four sea turtle species have little potential to experience adverse effects from
18 exposure to the temperatures at the discharge because of their life history characteristics and
19 their mobility. Sturgeon spawning and nursery areas do not occur in the area of the discharge
20 in the estuary, and adult sturgeon forage on the bottom while the buoyant thermal plume rises
21 toward the surface. Sea turtles prefer warmer water temperatures, occur in the region only
22 during warm months, and are unlikely to be sensitive to the localized area of elevated
23 temperatures at the discharge. NMFS (1993) considered the possibility that the warm water
24 near the discharge could cause sea turtles to remain in the area until surrounding waters are too
25 cold for their safe departure in the fall, but it concluded that this scenario was not supported by
26 any existing data.

27 The Staff reviewed information from the site audit, the applicant's ERs for Salem and HCGS,
28 biological monitoring reports, other reports, and coordination with NMFS, FWS, and State
29 regulatory agencies in New Jersey and Delaware regarding listed species. The Staff concludes
30 that the impacts on Federally listed threatened or endangered aquatic species of the Delaware
31 Estuary during an additional 20 years of operation of the Salem and HCGS facilities would be
32 SMALL. NRC provides a Biological Assessment of the potential effects from the proposed
33 license renewal for the Salem and HCGS facilities on Federally listed endangered or threatened
34 species under NMFS jurisdiction in Appendix D.

35 **4.7.2 Terrestrial and Freshwater Aquatic Threatened or Endangered Species**

36 The FWS (2010) indicated that no Federally listed terrestrial species are known to occur on or in
37 the vicinity of the Salem and HCGS sites. The FWS (2010) noted that areas of potential habitat
38 and/or known occurrences of the bog turtle and swamp pink exist along the New Freedom North
39 and New Freedom South transmission line ROWs, but that the continued operation of Salem
40 and HCGS are unlikely to adversely affect either species because PSEG had previously
41 committed by letter dated October 23, 2009, to adopting FWS-recommended conservation
42 measures along the transmission line ROWs. Such measures also included compliance with
43 the National Bald Eagle Management Guidelines. The Staff reviewed information from the site

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Environmental Impacts of Operation

1 audit, ERs for Salem and HCGS, other reports, and coordinated with FWS and State regulatory
 2 agencies in New Jersey and Delaware regarding listed species.

3 Further consultation between the NRC Staff, FWS and the applicant revealed that the
 4 transmission line ROW conservation measures, as described in the letter to the FWS dated
 5 October 23, 2009, were made by Public Service Electric and Gas Company (PSE&G), which is
 6 a different entity than the applicant—PSEG Nuclear. PSE&G is a subsidiary of Public Service
 7 Enterprise Group, which also owns PSEG Nuclear. However, PSE&G's ownership and
 8 maintenance practices for the transmission lines are not within the purview of the NRC's
 9 licensing authority. Nevertheless, the NRC Staff acknowledges that the existence of such
 10 maintenance practices, as outlined by PSE&G in its October 23, 2009, letter, provides a basis
 11 for the NRC Staff's finding below regarding potential impacts to terrestrial and freshwater
 12 aquatic threatened or endangered species associated with the license renewal of Salem and
 13 HCGS (particularly along the transmission ROW segment within the scope of license renewal).
 14 Should future changes to PSE&G's maintenance practices present a potential adverse impact
 15 associated with continued operation of Salem and HCGS, the NRC Staff would re-initiate
 16 consultation with the FWS to address such impacts.

17
 18 Based on the the discussion above, the NRC staff concludes that the impacts on Federally
 19 listed terrestrial and freshwater aquatic species from an additional 20 years of operation and
 20 maintenance of the Salem and HCGS facilities and associated transmission line ROWs would
 21 be SMALL.

22 **4.8 Human Health**

23 The human health issues applicable to Salem and HCGS are discussed below and listed in
 24 Table 4-22 for Category 1, Category 2, and uncategorized issues.

25 **Table 4-22. Human Health Issues.** *Table B-1 of Appendix B to Subpart A of 10 CFR Part 51*
 26 *contains more information on these issues.*

Issues	GEIS Section	Category
Radiation exposures to the public during refurbishment	3.8.1 ^a	1
Occupational radiation exposures during refurbishment	3.8.2 ^a	1
Microbiological organisms (occupational health)	4.3.6	1
Microbiological organisms (public health, for plants using lakes or canals or discharging small rivers)	4.3.6 ^b	2
Noise	4.3.7	1
Radiation exposures to public (license renewal term)	4.6.2	1
Occupation radiation exposures (license renewal term)	4.6.3	1
Electromagnetic fields – acute effects (electric shock)	4.5.4.1	2
Electromagnetic fields – chronic effects	4.5.4.2	Uncategorized

27 ^a - Issues apply to refurbishment, an activity that neither Salem nor HCGS plan to undertake.

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