



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

September 7, 2010

Mr. Paul Freeman  
Site Vice President  
c/o Mr. Michael O'Keefe  
NextEra Energy Seabrook, LLC  
P.O. Box 300  
Seabrook, NH 03874

SUBJECT: ENVIRONMENTAL SITE AUDIT REGARDING SEABROOK STATION  
LICENSE RENEWAL APPLICATION

Dear Mr. Freeman:

The U.S. Nuclear Regulatory Commission staff has reviewed the environmental report submitted by NextEra Energy Seabrook, LLC, in support of its application for the renewal of Seabrook Station's operating license. To support development of the corresponding supplemental environmental impact statement, we plan to conduct an environmental site audit on October 4-8, 2010, and request that the items described in the enclosed list be made available to the extent possible during the audit. If you have any questions, please contact me at 301-415-2927 or by e-mail at [jeremy.susco@nrc.gov](mailto:jeremy.susco@nrc.gov).

Sincerely,

A handwritten signature in black ink, appearing to read "Jeremy Susco", with a long horizontal flourish extending to the right.

Jeremy Susco, Project Manager  
Projects Branch 1  
Division of License Renewal  
Office of Nuclear Reactor Regulation

Docket No. 50-443

Enclosure:  
Site Audit Needs List

cc w/encl: Distribution via Listserv

## **Seabrook Station License Renewal Environmental Site Audit Needs List**

The U.S. Nuclear Regulatory Commission (NRC) staff has reviewed the environmental report (ER) in the Seabrook Station (Seabrook) license renewal application and has found that it meets the requirements of 10 CFR 51.45. However, to develop the corresponding supplemental environmental impact statement, a number of additional informational needs have been identified and are outlined below. Please be prepared to discuss and/or have the following information and documentation available for review during the October 4-8, 2010, environmental site audit at Seabrook:

### **General**

During specific plant area tours, please provide personnel knowledgeable in the pertinent technical area(s) (e.g., aquatic ecology, terrestrial biology, meteorology, etc.) to guide or accompany the tour and to field questions that may arise during the tour. In addition to resource-specific tours, interview time for NRC staff and licensee/contractor counterparts should also be scheduled.

### **Terrestrial Biology** (Briana Balsam)

1. What species of invasive plants and/or animals have been observed or documented on-site?
2. Are any invasive species populations being managed or monitored?
3. Please provide any terrestrial ecology surveys that have been completed on-site.
4. Please identify which terrestrial habitats exist on-site, as they are characterized in Appendix B of the New Hampshire Fish and Game Department's 2005 New Hampshire Wildlife Action Plan ([http://www.wildlife.state.nh.us/Wildlife/wildlife\\_plan.htm](http://www.wildlife.state.nh.us/Wildlife/wildlife_plan.htm)) and the New Hampshire Natural Heritage Bureau's 2005 Natural Community Systems of New Hampshire (<http://www.nhdf.org/library/pdf/Finalsystemsreport.pdf>). A list of the habitats present is sufficient for this request. Habitats crossed by transmission lines do not need to be included.
5. Please provide the transmission line right-of-way (ROW) maintenance plans and protocol, as well as a list of pesticides and/or herbicides that are used in transmission line ROWS if this is not included in the ROW maintenance plans.
6. Please provide any wildlife management plans that are used on-site.
7. Please provide any best management practices followed for ground-disturbing activities.
8. Are any regular maintenance activities conducted within the marsh or wetlands areas on-site? If so, describe these activities.
9. Are any of the marsh or wetland areas on the site U.S. Army Corps of Engineers (USACE)-delineated wetlands? If so, please provide the location and a description of these areas.
10. Please provide any correspondence between the USACE and NextEra Energy Seabrook, LLC regarding wetlands (if applicable).
11. Please provide any correspondence between the U.S. Fish and Wildlife Service, New Hampshire Natural Heritage Bureau, or the Massachusetts Department of Fisheries and Wildlife that has occurred since the ER was prepared.

ENCLOSURE

12. Please provide a topographic map of the Seabrook site and vicinity that includes the following data, if applicable and as available:
  - a. The full length of all in-scope portions of transmission lines
  - b. Any significant natural heritage areas
  - c. Locations where transmission line ROWs cross streams or rivers
  - d. Known locations of threatened, endangered, or special concern species
  - e. Historical sightings of threatened, endangered, or special concern species
  - f. State or Federal wildlife refuges, wildlife management areas, or parks crossed by transmission lines
  - g. Delineated wetland habitat

#### **Meteorology and Air Quality (Kevin Folk)**

1. Please provide a copy of the Title V permit referenced on page 2-71 of the ER, including correspondence associated with any violations.
2. Please provide SF6 emissions and related annual progress reports (as referenced on page 2-72 of the ER) for the most recent five years (if five years of data are available).

#### **Radiation Protection (Stephen Klementowicz and Allison Travers)**

1. Please provide information on any abnormal or unusual spills and leaks of radioactive material that occurred on-site that are applicable to the criteria in 10 CFR 50.75(g) and the Nuclear Energy Institute's (NEI) Groundwater Protection Program.
2. Please provide information on any on-site disposals of low-level radioactive waste.
3. Please provide information on the radiological groundwater protection program.
4. Request that the tour cover the low-level radioactive waste storage location, radioactive effluent release points (routine and abnormal), radioactive effluent monitoring systems, and radiological environmental monitoring stations (primarily air monitoring stations, including if applicable, any collocated State monitoring stations and any nearby water, milk, or vegetation monitoring locations).

#### **Hydrology and Pollution Prevention (Dennis Beissel)**

1. Request that the tour cover accessible National Pollutant Discharge Elimination System (NPDES) outfall locations and any groundwater monitoring locations.
2. Please provide information on any NPDES non-conformances in plant discharge and any notices of violation.

#### **Environmental Justice (Jeffrey Rikhoff)**

1. To help address the provisions of Section 4-4 "Subsistence Consumption of Fish and Wildlife" in Executive Order 12898, please provide following information:
  - a. Information about any observed subsistence consumption behavior patterns—specifically fish and wildlife consumption—by minority and low-income populations in the vicinity of Seabrook. This subsistence consumption behavior could consist of hunting, fishing, and trapping of game animals and any other general food gathering activities (e.g., collecting nuts, berries, and other plant

**Environmental Justice (Jeffrey Rikhoff)**

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  - a. Information about any observed subsistence consumption behavior patterns—specifically fish and wildlife consumption—by minority and low-income populations in the vicinity of Seabrook. This subsistence consumption behavior could consist of hunting, fishing, and trapping of game animals and any other general food gathering activities (e.g., collecting nuts, berries, and other plant material) conducted by minority and low-income individuals in the vicinity of Seabrook.
  - b. Information about current or past wildlife sampling and testing of game animals such as deer, squirrel, turkey, pheasant, duck, fish, and other game birds and animals that may have been conducted in the vicinity of Seabrook. Wildlife sampling and testing may have been conducted before, during, and after plant construction and in the early days of plant operation but was discontinued after determining that tissue samples consistently showed no significant or measurable radiological impact on the environment from plant operations.

**Socioeconomics (Jeffrey Rikhoff)**

1. In addition to property tax payment and Education Trust Fund information presented in Section 2.7 of the ER, please describe any other major annual support payments, one-time payments, and other significant forms of non-tax compensation (if any) provided to local organizations, communities, and jurisdictions (e.g., county, municipality, townships, villages, incorporated places, and school districts) on behalf of Seabrook.
2. Please provide information about any other recent or anticipated tax assessments or payment adjustments that could result in notable increases or decreases in tax or other payments.
3. Please provide data on the height of the tallest (visible from offsite locations) structures at Seabrook and general information on the visibility of plant facilities from various offsite locations.
4. Please provide information on noise impact analyses (if conducted) to offsite receptors or any noise emission studies, as well as any information on noise complaints against the site.

**Aquatic Ecology (Michelle Moser and Dennis Logan)**

1. Include a tour of the makeup water pump house, aboveground intake and discharge transition structures, traveling screen structures at the circulating water pump house, on-site tidal creeks, other important on-site aquatic features (such as areas identified as exemplary natural communities by the New Hampshire Natural Heritage Bureau in its correspondence), and any streams or other important aquatic features located along transmission lines.

2. References cited in the ER on aquatic ecology should be available for review. Of particular interest are company-specific and other non-publicly available documents such as:
  - a. ARCADIS et al. (ARCADIS, Normandeau Associates Inc., Wayne C. Micheletti, Inc., and Harris Group, Inc.). 2008. Cooling Water Intake Structure information Document. Prepared for FPL Energy Seabrook LLC. July 2008.
  - b. NAI (Normandeau Associates, Inc.). 1988. Seabrook Environmental Studies, 1987. A characterization of Baseline Conditions in the Hampton-Seabrook Area, 1975-1987. A preoperational study for Seabrook Station Technical Report XIX-II. Prepared for NH Yankee Division Public Service Company of New Hampshire. November 1988.
  - c. NAI (Normandeau Associates Inc.). 1998. Seabrook Station 1996 Environmental Monitoring in the Hampton – Seabrook Area: A Characterization of Environmental Conditions. Section 5.3.2.1. Prepared for Northeast Utilities Service Company.
  - d. NAI (Normandeau Associates, Inc.). 2008. Seabrook Station 2007 Environmental Monitoring in the Hampton–Seabrook Area: A Characterization of Environmental Conditions. Prepared for FPL Energy Seabrook Station. Bedford, New Hampshire, Normandeau Associates. August 2008.
  - e. NAI and ARCADIS. (Normandeau Associates, Inc. and ARCADIS). 2008. Seabrook Nuclear Power Station EPA 316(b) Phase II Rule Project, Revised Proposal for Information Collection. Section 7.0. Prepared for FPL Energy Seabrook Station. June. NAI 2008
  - f. NMFS (National Marine Fisheries Service). 2004. Letter from L. Allen, Office of Protected Resources to A. Legendre, FPL Energy Seabrook Station Regarding Withdrawal of Application for Incidental Take Authorization. May 7, 2004.
  - g. Sosebee et al. (Sosebee, K, M. Traver, and R. Mayo). 2006. Aggregate Resource and Landings Trends. NOAA, National Marine Fisheries Center. Accessed January 29, 2009, at:  
[http://www.nefsc.noaa.gov/sos/agtt/archives/AggregateResources\\_2006.pdf](http://www.nefsc.noaa.gov/sos/agtt/archives/AggregateResources_2006.pdf).  
(This pdf file is no longer posted on the above website).
3. Please provide reports, summaries, or documents used to support the 316(b) demonstration that summarize the 12 years of preoperational aquatic biology monitoring data (1978-1990) and 18 years of operational aquatic biology monitoring data (1990-2008) for review.
4. Please be prepared to discuss the methodology used to estimate annual loss of adult equivalent (AE) fish resulting from entrainment and impingement attributed to Seabrook.
5. Please provide specific impingement and entrainment data for each species listed in Table 2.2-4 "Essential Habitat in the Seabrook Station Area" of the ER.
6. Please provide a copy of all correspondence with NOAA Fisheries concerning compliance with the Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. 1801 et seq.) and identification of essential fish habitat.
7. Please be prepared to discuss which species are considered important species, including recreational or commercial fish, shellfish, or their primary prey. Please be prepared to discuss the spatial and temporal distribution, population, habitat requirements, and other aspects of local ecology within the vicinity of Seabrook and discharge/intake outflows for threatened, endangered, and candidate species and important recreational and commercial fish, shellfish, and their primary prey. Provide specific impingement and entrainment rates for each of these species.

8. Please be prepared to discuss whether there have been any takes at Seabrook, other than the 55 seals that died in the intake tunnels from 1993 until 1998. Provide information on how Seabrook monitors and has monitored occurrences of threatened and endangered species within the vicinity of the station, intake/discharge structures, or transmission lines.
9. Please be prepared to discuss whether aquatic State-listed or rare species, other than the Atlantic sturgeon (*Acipenser oxyrinchus*), could be affected by the project, either on-site or near the discharge/intake structures. For example, in its correspondence, the New Hampshire Natural Heritage Bureau identified the Redfin Pickerel (*Esox americanus americanus*) as potentially occurring within the area of the project site and/or transmission lines.
10. Please be prepared to discuss the distribution and habitat requirements of aquatic State and Federal threatened, endangered, or rare/candidate species along the transmission line corridors. Please be prepared to discuss species mentioned in the ER and those identified by State agencies. For example, the Massachusetts Division of Fisheries and Wildlife identified the Eastern Pond mussel (*Ligumia nasuta*) in Amesbury County and the Shortnose Sturgeon (*Acipenser brevirostrum*) in Merrimac and West Newbury Counties as potentially occurring along the transmission line. The New Hampshire Natural Heritage Bureau identified Redfin Pickerel (*Esox americanus americanus*) as potentially occurring within the area of the project site and/or transmission lines.
11. Characterize the spatial and temporal distribution and community assemblages of aquatic features on-site and along transmission line corridors, including exemplary natural communities identified by the New Hampshire Natural Heritage Bureau, such as saline/brackish intertidal flats, tidal creek bottom, saline/brackish subtidal channel/bay bottom, high salt marsh, low salt marsh, and brackish marsh (see page C-29 of the ER). Describe the extent, number, and name of water body crossings for transmission lines.
12. Please provide vegetation management procedures with respect to soil erosion and application of herbicides during transmission corridor maintenance activities.
13. Please provide an expert that can describe maintenance procedures for dredging and other activities in the vicinity of the diffuser nozzles and maintenance procedures the intake and discharge lines. Please ensure that the 2006 NPDES application is available for viewing.
14. Describe the spatial and temporal distribution of the thermal plume associated with the discharge structures.
15. Provide diagram(s) of intake structures and within the circulating water pump house, showing traveling screens and other structures relevant to impingement and entrainment.
16. Describe the intake velocity through the traveling screens and the screen mesh size.
17. The ER (page 3-3) states that "debris is collected and disposed of as waste; none is returned to the ocean through plant discharge." Clarify whether this waste includes refuse and biological material (e.g. entrained fish/larvae).
18. Please be prepared to discuss the location of any wildlife or aquatic sanctuaries, refuges, or preserves near Seabrook, discharge/intake structures, and transmission lines.
19. Please be prepared to discuss the presence of aquatic nuisance species near Seabrook, the intake/discharge structures and outflows, and along transmission lines.
20. Please provide any responses or new correspondence with natural resource agencies regarding aquatic resources since the ER was prepared.

**Archaeological and Cultural Resources (Jeffrey Rikhoff and April BeBault)**

1. Please provide knowledgeable expert(s) at the environmental site visit to (1) discuss cultural resources at Seabrook and the impacts the proposed action may have on cultural resources; (2) describe the Area of Potential Effect (APE) and the cultural resources located within; and (3) provide a tour of the cultural resources within the APE.
2. Please provide copies of relevant cultural resources reports and site forms for the Seabrook Station property and the associated survey reports for the transmission line corridors. Provide copies of all relevant reports and site forms associated with the APE.
3. Please provide the references presented in the ER regarding cultural resources.
4. Please provide copies of any procedures that identify measures to be taken if cultural resources and/or human remains are inadvertently discovered during ground disturbing operation and maintenance activities.
5. Please provide pre- and post-construction aerial photographs, if available.
6. Please provide information on management around less-developed areas of the plant site, for instance, brush removal programs near known historic and archaeological resources or near any unsurveyed areas.
7. Please provide a copy of standard operating procedures or guidelines for any contractors, technician training programs, and any regulations that restrict maintenance activities. Of particular importance are vegetation management procedures for the site and associated transmission line(s) to avoid impacts to historic and archaeological resources.
8. Please provide a copy of the Environmental Compliance Manual and any other environmental review procedures for land-disturbing activities (e.g., trenching, clearing, and digging).
9. Please provide maps of ownership and land use of the property and associated transmission lines. Copies of historic plat maps would be useful, if available.

September 7, 2010

Mr. Paul Freeman  
Site Vice President  
c/o Mr. Michael O'Keefe  
NextEra Energy Seabrook, LLC  
P.O. Box 300  
Seabrook, NH 03874

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Sincerely,  
*/RA/*  
Jeremy Susco, Project Manager  
Projects Branch 1  
Division of License Renewal  
Office of Nuclear Reactor Regulation

Docket No. 50-443

Enclosure:  
Site Audit Needs List

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Letter to P. Freeman from J. Susco dated September 07, 2010

SUBJECT: ENVIRONMENTAL SITE AUDIT REGARDING SEABROOK STATION  
LICENSE RENEWAL APPLICATION

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Bobbie Hurley (bobbie.hurley@aecom.com)