

8/5/2011

76 FR 47612

(19)

PUBLIC SUBMISSION

As of: October 27, 2011
 Received: October 26, 2011
 Status: Pending_Post
 Tracking No. 80f5d537
 Comments Due: October 26, 2011
 Submission Type: Web

Docket: NRC-2010-0206

Notice of Receipt and Availability of Application for Renewal of Facility Operating License

Comment On: NRC-2010-0206-0013

NextEra Energy Seabrook, LLC; Notice of Availability of Draft Supplement 46 to the Generic Environmental Impact Statement for License Renewal of Nuclear Plants and Public Meetings for the License Renewal of Seabrook Station, Unit 1

Document: NRC-2010-0206-DRAFT-0030

Comment on FR Doc # 2011-19875

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Submitter's Representative: Michael Johnson**Organization:** National Marine Fisheries Service**Government Agency Type:** Federal**Government Agency:** NOAA

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RULES AND DIRECTIVES

General Comment

See attached file(s)

Attachments

Seabrook Station_NMFS to NRC on Draft SEIS_Oct2011.

SUNSI Review Complete

Template = ADM-013

E-RIDS = ADM-03

Add = M. Wentzel (mJW2)



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
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U. S. Nuclear Regulatory Commission
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OCT 26 2011

**Re: Docket ID NRC-2010-0206, Draft Supplemental Environmental Impact Statement,
License Renewal for Seabrook Station**

Dear Ms. Bladley:

The National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NMFS) has reviewed the Nuclear Regulatory Commission's (NRC's) draft Supplemental Environmental Impact Statement (SEIS) and the Essential Fish Habitat Assessment prepared for the potential relicensing of Seabrook Station. The applicant, NextEra Energy Seabrook, LLC (NextEra), proposes to maintain current operations over the 20-year license renewal period at the Seabrook Station. The Seabrook Station began operations in 1990 and its existing license is set to expire in 2030. The renewed license would use existing plant facilities and transmission lines and would not require additional construction or disturbance of new areas. The NRC intends to issue the Final SEIS in March 2012.

According to the draft SEIS and EFH Assessment prepared for this project, the Seabrook Station power plant draws cooling water from the Gulf of Maine through three intake structures located in approximately 18.3 m of water depth and 7,000 feet seaward of the Hampton Beach shoreline. Under normal operations, approximately 390,000 gallons per minute (gpm) is used for the main condenser and 21,000 gpm is used for the service water system. Water is recirculated to the Gulf of Maine through discharge shafts located approximately 5,000 feet seaward of the Hampton Beach shoreline, 2-3 m above the seafloor and in water depths of 15-18 m.

The Magnuson-Stevens Fishery Conservation and Management Act (MSA) and the Fish and Wildlife Coordination Act (FWCA) require federal agencies to consult with one another on projects such as this. Insofar as a project involves EFH, as this project does, this process is guided by the requirements of our EFH regulation at 50 CFR 600.905, which mandates the preparation of EFH assessments and generally outlines each agency's obligations in this consultation procedure.

The NRC has provided us with an EFH Assessment for the proposed relicensing of Seabrook Station, for the purposes of describing the federally-managed species that occur in the project vicinity, and the effects of its operations on these managed species and their habitats. However,



the draft SEIS and the EFH Assessment are primarily based on a retrospective analysis of effects on NMFS trust resources and other ecosystem functions from Seabrook Station operations from 1990 to present. We do not believe that the draft SEIS and the EFH Assessment accurately characterize the biological community, federally-managed species and habitats, or the effects of the operations of Seabrook Station on these managed species and their habitats at the time the federal action is reported to occur, which is the year 2030. Further, we believe there are too many natural and anthropogenic variables that influence the characterization of biological communities to accurately assess and make a determination of the effects on the environment 18 years in advance of a significant action such as this. Uncertainties involving best available technologies, climate change, and the status of fishery stocks, for example, make evaluating the effects of the proposed action and alternatives under the National Environmental Policy Act (NEPA) extremely difficult, if not impossible, that far into the future. The Council for Environmental Quality (CEQ) has stated, in Question #32 of its *Forty Most Asked Questions Concerning CEQ's NEPA Regulations*, "As a rule of thumb, if the proposal has not yet been implemented, or if the EIS concerns an ongoing program, EISs that are more than 5 years old should be carefully reexamined to determine if the criteria in Section 1502.9 compel preparation of an EIS supplement." Considering that the SEIS in question will be 18 years old at the time the federal action occurs, it would be prudent to accept the guidance and apply the advice set forth by the CEQ.

For the reasons above, we believe the draft SEIS and EFH Assessment are insufficient under the required mandates of both the NEPA and MSA. Nonetheless, we are providing you with our comments under both NEPA and MSA to the best of our abilities given the limitations upon us.

General Comments

Seabrook Station's cooling water intake and discharge system is one of the main components of the facility most likely to have adverse effects on fisheries and other marine resources. As such, we have focused our comments on our review of this system and associated monitoring. The draft SEIS concludes that the impacts from operations of Seabrook Station's cooling water system on phytoplankton, zooplankton, invertebrates, and most fish species are "small" because the monitoring data suggests no noticeable alterations of these aquatic communities. However, for winter flounder and rainbow smelt, you conclude that the impacts are "large" because abundance of these species has decreased to a greater and noticeable extent near the intake and discharge structures (i.e., nearfield sampling stations) compared to 5-8 km away (i.e., farfield sampling stations). Although the abundance of silver hake declined at the nearfield stations and increased at the farfield stations, the draft SEIS states that you could not make a conclusion about impacts to this species because the statistical significance of these differences were not reported by the consultant, Normandeau Associates, Inc. (NAI). The Final SEIS needs to provide the necessary data and analysis to support an impact determination for silver hake.

Entrainment and Impingement

The draft SEIS and EFH Assessment reported entrainment of 901.2 million fish eggs per year and 269.4 million fish larvae per year, and 20,876 fish per year were impinged on intake screens of the cooling system between 1990 and 2009. Although some of the species reported to be entrained and impinged are not federally-managed species (e.g., cunner, Atlantic silverside, and rainbow smelt), many if not most of these species are prey for managed species or serve other

important ecological functions. Atlantic silverside was the most commonly impinged fish species, at over 2,400 per year; the eggs and larvae of cunner were the most commonly entrained stages of all species, at 387.4 million per year and 78.4 million per year, respectively. Eighteen federally-managed species were entrained and/or impinged in the Seabrook Station cooling water system. The entrainment and impingement of these large numbers of federally-managed species and forage species by the Seabrook Station cooling water system concerns us. In order to account fully for adverse impacts resulting from Seabrook Station, we believe the ecosystem and food web benefits foregone as a result of operational impacts on eggs and larvae should be evaluated further. Additional comments on impingement and entrainment are provided in the Essential Fish Habitat section below.

Thermal Effects

The National Pollutant Discharge Elimination System (NPDES) permit issued by the US Environmental Protection Agency limits the monthly mean water temperature in surface waters near the discharge plume to 5° F (2.8° C) above ambient. The EFH Assessment and draft SEIS states that the surface waters near the warm water discharge plume typically range as high as 18.8° C with a monthly mean increase in surface water temperatures for most months of less than 2° C, and a mean difference in bottom temperatures between nearfield and farfield temperature stations of 0.5° C. An increase in water temperature could adversely affect species found in this area. For example, Atlantic herring larvae occur at temperatures of 9-16° C (Reid et al. 1999); pollock eggs and larvae occur between 2-17° C (Cargnelli et al. 1999); silver hake eggs and larvae occur between 11-17° C and 10-16° C, respectively (Morse et al. 1999); and most winter flounder larvae occur between 6-10° C from March-July, and as high as 18° C in September (Pereira et al. 1999). Because the upper temperature range for these species may be exceeded in the project vicinity as a result of the warm water discharge plume, these species could be adversely affected by the thermal discharge. In particular, in light of projected increases in water temperatures in the Gulf of Maine as a result of climate change, the thermal limits of these and other species may be exceeded within the thermal discharge of Seabrook Station (more detailed comments on climate change are provided below). The Final SEIS needs to provide additional analysis on thermal impacts associated with living marine resources at Seabrook Station under existing conditions, as well as conditions that may be present in 2030 and beyond (i.e., reasonably foreseeable future).

Additionally, the EFH Assessment and draft SEIS conclude that thermal impacts from plant operations have not adversely affected sessile communities based upon comparisons of cold and warm water macroalgae species at sampling stations. Although analysis conducted by NAI concluded there were no clear trends in abundances of cold and warm water macroalgae species, they did report significant changes to kelp species in the near field stations compared to far field stations. *Laminaria digitata* and *Saccharina latissima* densities were reduced at near field stations compared to far field stations. In fact, *L. digitata* was completely absent in near field stations in 2008 and 2009. Consequently, the draft SEIS concludes that impacts from the operation of the Seabrook Station cooling system are “large” for *L. digitata* and sea belt (*S. latissima*). Macroalgae species such as these provide refuge and forage habitat for a number of fish species, including Atlantic cod, winter flounder, ocean pout, summer flounder, and pollock. Although the draft SEIS has determined that these species have been adversely affected through the operation of Seabrook Station’s cooling water system, no causative agent has been identified.

Thermal influences from the power plant are one possible factor, and further studies are needed to understand the changes in these macroalgae communities near the warm water discharge plume.

Seabrook Monitoring Data

NextEra has conducted monitoring of fish, shellfish, and other benthic communities since the 1970s, using a before-after control impact design to test for power plant-related impacts. Impacts to demersal fish are evaluated using otter trawls sampled at one near field site and two far field sites. According to Table 4.5-9 in the draft SEIS, these data indicate a reduction in abundance at the near field site compared to far field sites for winter flounder, silver hake, rainbow smelt, and windowpane flounder. In addition, abundances at far field sites have increased for winter flounder, windowpane flounder, and silver hake. The draft SEIS reported that NAI did not test the statistical significance of these data for silver hake, resulting in no species-specific conclusion for this species. In addition, the EFH Assessment (page D-1-64) reports that, although windowpane flounder abundance decreased at the near field site and increased at the far field sites, the confidence intervals reported by NAI overlapped, suggesting that this relationship would not be statistically significant. However, the draft SEIS and EFH Assessment also states that NAI did not report whether or not the relationship was statistically significant. Since important data were not analyzed completely, we have determined that the draft SEIS and EFH Assessment is insufficient in describing the effects of Seabrook Station on these species. It is critical that the appropriate analysis and statistical tests be performed and results provided in the Final SEIS for silverhake and windowpane flounder.

The monitoring data, combined with the large numbers of fish impinged and entrained in the Seabrook Station cooling water system, suggest that there are power plant-related effects to several commercially and recreationally-important species. In order to evaluate these effects and develop effective measures to reduce impacts on our trust resource, it is important to understand the primary causes of these effects. Specifically, we need to know whether these reductions in demersal species at the near field sites are a result of thermal effects from the discharge plume, such as avoidance of the thermal plume by various life stages, or stem from mortality/reduced fitness of egg and larval stages that may settle to the bottom in this area. Zooplankton sampling may not address these potential impacts, since this sampling method is not able to measure fitness or survival of fish eggs and larvae that drift into the thermal plume. In addition, we do not know whether or to what degree reduced abundances of fish measured by the trawl monitoring are a result of egg and larval mortality due to impingement and entrainment in the cooling water system. Unfortunately, the limited sampling with only one near field trawl site (2 km from intake and 1 km from discharge) and two far field trawl sites are unlikely to provide a finer resolution of data. It is also difficult to determine whether or not the nearfield sampling site locations are capable of distinguishing impacts from the cooling water intake to that of the thermal discharge plume.

Schedule for Final SEIS

CEQ regulations, at 40 CFR 1502.1, identify the purpose of Environmental Impact Statements as follows:

The primary purpose of an environmental impact statement is to serve as an action-forcing device to insure that the policies and goals defined in the Act are infused into the ongoing programs and actions of the Federal Government. It shall provide full and fair discussion of significant environmental impacts and shall inform decisionmakers and the public of the reasonable alternatives which would avoid or minimize adverse impacts or enhance the quality of the human environment. Agencies shall focus on significant environmental issues and alternatives and shall reduce paperwork and the accumulation of extraneous background data. Statements shall be concise, clear, and to the point, and shall be supported by evidence that the agency has made the necessary environmental analyses. An environmental impact statement is more than a disclosure document. It shall be used by Federal officials in conjunction with other relevant material to plan actions and make decisions.

The timing of the Final SEIS would seem to frustrate CEQ's regulation. According to the NRC website for the Seabrook Station licensing renewal application, NRC intends to issue the Final SEIS in March 2012. The proposed schedule is particularly confusing considering that the existing permit does not expire for 18 years in 2030. The draft SEIS, however, focuses its analysis upon environmental conditions as they exist today, in 2011. It remains unclear how a 2011 SEIS would be relevant and meaningful as a tool to inform the NRC when it makes its relicensing decision in 2030. Nor is it clear how such a document provides the public with a full and fair discussion of the impacts and alternatives that will exist in 2030. In fact the temporal discrepancies of the SEIS vis-à-vis the relicensing date are so great that many in public are probably not in a position to yet determine whether they are stakeholders.

We are concerned that this proposed timeframe to complete the environmental review for this project does not provide for a full and adequate study and analysis of impacts to our trust resources. We believe the analysis in the EFH Assessment and draft SEIS are insufficient in several important areas, such as statistical analysis of the monitoring data for species such as silver hake and windowpane flounder. In this regard, the current schedule for issuance of the Final SEIS does not appear to provide adequate time for NRC to study and analyze the impacts to our trust resources, or alternatives that may reduce or eliminate these adverse effects. For instance, the draft SEIS has determined that there are "large" impacts to winter flounder, rainbow smelt, and two species of macroalgae from operations of the Seabrook Station cooling water system, but there has been little analysis or specific studies identified in the draft SEIS to determine whether the impacts are related to thermal effects or impingement and entrainment, or both. In consideration of the draft SEIS determination that the project has resulted in "large" impacts to NMFS trust resources, we believe a reasonable range of alternatives should be analyzed that may reduce or eliminate these adverse effects. To this point, the Council on Environmental Quality NEPA Regulations at 40 CFR 1502.14 require the draft SEIS to "rigorously explore and objectively evaluate all reasonable alternatives, including reasonable alternatives not within the lead agency's jurisdiction or congressional mandate if applicable."

Essential Fish Habitat

The marine waters off Seabrook and the Hampton-Seabrook estuary have been designated as EFH under the MSA for a number of federally-managed species. As discussed in the EFH

Assessment, many of these species are encountered in Seabrook Station's required environmental monitoring programs, including American plaice, Atlantic cod, Atlantic herring, Atlantic mackerel, whiting, red and silver hake, winter flounder, yellowtail flounder, windowpane flounder, haddock, monkfish, ocean pout, and pollock. Our review of the EFH Assessment concludes that many of these species are being adversely affected by the operation of Seabrook Station through impingement and entrainment in the cooling water system, and may be affected by thermal stress. Thermal stress may be associated with increased water temperatures in the area of the discharge shafts or some combination of these two factors, as well as by cumulative and synergistic effects.

The EFH Assessment indicates that 18 federally-managed species were impinged and/or entrained in the Seabrook Station cooling water system. Of those, the NRC has concluded there have been minimal adverse effects on EFH for six managed species because at least one life stage is commonly entrained and/or impinged in the cooling water system. However, the criteria utilized in the draft SEIS to measure these impacts appear to be overly restrictive, and that the number of managed species adversely affected by entrainment and impingement may be higher. For example, the draft SEIS limited the evaluation of American plaice to juveniles and adults, which were minimally impacted by impingement. The draft SEIS did not include consideration of egg and larval stages for plaice because these life stages are not designated as EFH at the project site, even though annual average entrainment of American plaice eggs and larvae were 25.9 million per year and 4.3 million per year, respectively. Likewise, a similar determination was made for Atlantic herring, despite an average of 9.6 million larvae being entrained each year. Although EFH is not designated in this area for these species life stages it is important that impingement and entrainment impacts be fully analyzed. The EFH rule (Section 600.910(a)) specifies that adverse effects to EFH may result for actions occurring within or outside of EFH and may include individual, cumulative or synergistic consequences of an action. Our review of the impingement and entrainment data suggests that impacts to at least four additional federally-managed species, including Atlantic cod, American plaice, Atlantic herring, and pollock, should be more completely assessed.

We are also concerned with the interpretations made in the EFH Assessment of the effects of impingement and entrainment on managed species, particularly for Atlantic mackerel. On page D-1-42, even though the average annual entrainment of Atlantic mackerel eggs was 191.5 million per year (the second most entrained species for eggs), the draft SEIS concludes the effect would be minimal since the amount of water (habitat) entrained in the Seabrook Station cooling system would be a very small proportion of total available habitat for Atlantic mackerel eggs. This rationale was also applied to pollock, red hake, whiting/silver hake, winter flounder, and yellowtail flounder. While the volume of water circulated through the Seabrook Station cooling system may indeed be a small proportion of the water column in the range of Atlantic mackerel (i.e., Maine through Cape Hatteras, North Carolina), neither the EFH regulations or the MSA allow an action agency to discount adverse effects of the effected habitat relative to the proportion of the entire geographic range of the habitat. The determination of effects to managed species should be evaluated based on the operations at Seabrook Station, and not relative to the availability of habitat throughout a species' range.

According to the EFH Assessment and draft SEIS, the surface waters near the warm water discharge plume typically range as high as 18.8° C. The EFH Assessment identified EFH for four managed species as potentially being adversely affected by thermal effects of the warm-water discharge (i.e., silver hake/whiting, Atlantic mackerel, Atlantic herring, and Atlantic cod). However, the draft SEIS did not consider egg and larval life stages of managed species if those life stages were not designated in the project area, even if the impingement and entrainment monitoring data indicated those life stages were present in large numbers in the project area. For example, the eggs and larvae of pollock, yellowtail flounder, haddock, and American plaice were impinged and/or entrained in the Seabrook Station cooling system and all life stages for these species have temperature tolerances below 18.8° C (EFH Source Documents). Consequently, the life stages for these managed species could be adversely affected by thermal discharges, particularly during warmer months of the year, and should be included in the analysis for project effects. Overall, the draft SEIS concludes that the thermal discharge plume has not adversely affected fish in the surrounding area because it would not block fish movement and fish can swim around the plume. While this may be true for juvenile and adult fish, pelagic eggs generally drift passively with ocean currents, and larvae have minimal mobility to move out of the area affected by the plume. We believe the analysis of thermal effects on managed species, as well as other species whose egg and larvae stages are found in the discharge plume, should be reevaluated.

We conclude that the EFH Assessment is insufficient in considering and analyzing the effects of the Seabrook Station on federally-managed species and their habitats over the 20-year period of operations. In addition, the EFH Assessment does not address the anticipated effects of Seabrook Station operations between 2012 and the time of relicensing in 2030. This is particularly problematic considering that a host of basic environmental conditions will likely change in the context of climate change and fishery stocks in the Gulf of Maine region over the next 18 years and into the foreseeable future.

Essential Fish Habitat Recommendations

To avoid and minimize the impacts on EFH, pursuant to Section 305(b)(4)(A) of the MSA, NMFS recommends that the following conservation recommendations be adopted in conjunction with the proposed federal action:

1. Further studies and analysis should be conducted to evaluate the reported reductions in abundances in demersal species at the nearfield sampling sites compared to farfield sites. Specifically, studies should be developed that test whether changes in these communities are the result of thermal effects from the discharge plume, such as avoidance of the thermal plume by juvenile and adult life stages or from mortality/reduced fitness of egg and larval stages that may settle to the bottom in this area, or a result of eggs and larvae that are lost to the general area from impingement and entrainment in the cooling water system. These studies should be concluded prior to the issuance of a final EIS on this action.
2. Since the draft SEIS concludes that the existing plant cooling system is having “large” adverse impacts on some fish species and habitats, subsequent NEPA documents should analyze a range of alternative plant cooling systems. In particular, alternatives should

include an evaluation of the best available practicable technology to mitigate impingement, entrainment, and thermal impacts.

3. Because the Final SEIS and EFH Assessment for the relicensing of Seabrook Station will be approximately 18 years old at the time of relicensing, a new SEIS and EFH Assessment should be prepared in 2025, or no greater than 5 years before and no less than 1 year before a new license is granted. The Final SEIS and EFH Assessment should describe and evaluate the effects of the Seabrook Station operations on federally-managed species and their habitats and other NMFS trust resources at the time of the proposed action, i.e., in 2030 when a new license would potentially be issued.

Please note that Section 305(b)(4)(B) of the MSA requires that the you provide us with a detailed written response to the EFH conservation recommendation, including a description of the measures adopted by you for avoiding, mitigating, or offsetting the impact of the project on EFH. In the case of a response that is inconsistent with our recommendation(s), Section 305(b)(4)(B) of the MSA also indicates that the you must explain your reasons for not following the recommendation(s). Included in such reasoning would be the scientific justification for any disagreements with us over the anticipated effect of the proposed action and the measures needed to avoid, minimize, mitigate, or offset such effects pursuant to 50 CFR 600.920(k).

Please note that a distinct and further EFH consultation must be re-initiated pursuant to 50 CFR 600.920(1), if new information becomes available or the project is revised in such a manner that it affects the basis for the above EFH conservation recommendation.

Fish and Wildlife Coordination Act

A number of species of finfish and invertebrates use the marine waters off Seabrook and the Hampton-Seabrook estuary for various stages of their life history, such as American lobster, shellfish, and blueback herring, alewife, and rainbow smelt. The draft SEIS has determined the impacts from Seabrook Station cooling water system to be "large" for rainbow smelt because the abundance has decreased to a greater and observable extent near Seabrook's intake and discharge structures compared to 5-8 km away. In addition, the impingement sampling conducted by NextEra found the annual average impingement of rainbow smelt to be 1,093 fish per year. Since 2004, rainbow smelt has been designated as a "species of concern" by NMFS due to declining populations region-wide. Although a large degree of this decline is believed to be related to loss of spawning habitat, acid precipitation, dams, and fishing, additional losses such as through the Seabrook Station cooling water system are of concern to us. According to Table 4.5-4 of the draft SEIS, a number of shellfish larvae have been entrained in the cooling water system, including 5,754 billion blue mussel/year, 48.9 billion surf clam/year, 21.7 billion softshell clam/year, and 4.8 sea scallop/year. These losses to the marine ecosystem not only represent losses to fisheries, but also the Gulf of Maine ecosystem. Therefore, we recommend that further studies and analysis be conducted as described in the EFH Recommendations section above.

Cumulative Effects

CEQ regulations implementing NEPA define cumulative impacts as the "impacts on the environment which result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-

Federal) or person undertakes such other actions.” (40 CFR 1508.7). Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time within a geographic area. Unfortunately, the draft SEIS’s cumulative impacts section is unable to characterize and analyze impacts as existing at the time of the Federal action in 2030 from a 2011 base of reference. In short, this 18-year time discrepancy is so great that “reasonably foreseeable future actions” identified in the document will actually be past actions by 2030 when NRC will actually be taking action. NMFS fears the draft SEIS’ cumulative impacts section will have become stale, outdated and of little use to the NRC or public for the 2030 relicensing, particularly given the dynamic nature of fisheries and the consequences of climate change impacts on living marine resources.

Notwithstanding the SEIS’ aforementioned temporal issue, NMFS also has the following specific comments on the substance of the cumulative impacts section. Section 4.11.3, Cumulative Impacts on Aquatic Resources, of the draft SEIS concludes the cumulative impacts from the proposed license renewal and other past, present, and reasonably foreseeable projects would be “moderate” for most species and “large” for winter flounder, rainbow smelt, and other species that would be adversely affected by climate change, such as lobster and Atlantic cod. We agree that these and others species could be significantly affected by the proposed license renewal and climate change. However, the draft SEIS did not examine the increased water temperature from the power plant discharges in the context of recent past and future projected water temperatures in the Gulf of Maine as a result of climate change. According to the 2008 Seabrook Station monitoring report (NAI 2009), the surface water temperature has increased by 0.6° C between the pre-operational and operational periods at the intake and far field temperature stations. Friedland and Hare (2007) reported increases in the range of maximum and minimum sea surface temperatures (SST) in recent decades in U.S. Continental Shelf waters. In addition, Gulf of Maine SST in 1999, 2002, and 2006 were the 4th, 5th, and 6th warmest years, respectively, in the record (Drinkwater et al. 2009). Projections from coupled results from coarse-scale climate models with much finer-scale models of regional ocean dynamics suggest that Gulf of Maine spring SSTs may increase by about 2.2°C in the Gulf of Maine in the 2080s under the high-emission scenarios, with greater projected increases in autumn (Frumhoff et al. 2007). Increased ocean temperatures due to climate change will exacerbate the adverse effects to aquatic organisms from localized power plant warm water discharges, and push temperatures above the thermal thresholds of many cold-water species. In addition, increased water temperatures in the Gulf of Maine from climate change will diminish power plant cooling water effectiveness in the future, requiring greater volumes of water to maintain effective power plant operations. This in turn, will increase the degree of impingement and entrainment and other impacts to marine organisms. Considering these climate change projections for the Gulf of Maine, and the proposed license renewal period from 2030 to 2050, these effects should be considered more thoroughly during the current license renewal phase.

Endangered Species Act

As noted in the draft SEIS, several species listed under our jurisdiction occur off the coast of New Hampshire. The information presented on the use of this area by listed species appears complete and accurate. The draft SEIS states that NRC has determined that no adverse effects to any NMFS listed species are likely to result from the continued operation of Seabrook. Based on recent conversations with Dennis Logan of your staff, we anticipate receiving a request for

informal ESA section 7 consultation from the NRC. We anticipate that this consultation will consider effects of the operations of Seabrook on listed whales and sea turtles.

On September 16, 2011, we published a proposed rule to list two distinct population segments (DPS) of loggerhead sea turtles as threatened and seven distinct population segments of loggerhead sea turtles as endangered. This rule becomes effective on October 25, 2011 and replaces the current listing of loggerheads as threatened worldwide. Loggerheads in the waters near Seabrook belong to the Northwest Atlantic DPS. We recommend that any reference to loggerhead sea turtles in the Final SEIS reflect this change in the listing. More information and a copy of the final listing rule can be found at:
<http://www.nmfs.noaa.gov/pr/species/turtles/loggerhead.htm>.

On October 6, 2010, NMFS published two proposed rules to list five distinct population segments (DPS) of Atlantic sturgeon under the ESA. NMFS is proposing to list four DPSs as endangered (New York Bight, Chesapeake Bay, Carolina and South Atlantic) and one DPS of Atlantic sturgeon as threatened (Gulf of Maine DPS) (75 FR 61872; 75 FR 61904). A final listing determination is anticipated in Fall 2011.

The marine range for all Atlantic sturgeon extends from Canada through Cape Canaveral, Florida. The information presented on Atlantic sturgeon in the draft SEIS appears complete and accurate. It is our understanding, based upon review of the draft SEIS, that no Atlantic sturgeon have been detected in any impingement or entrainment monitoring that has been carried out at Seabrook. Since no changes in operations are proposed during the extended operating period, the risk of impingement or entrainment would not change.

Any questions regarding listed species and/or the pending Section 7 consultation should be directed to Julie Crocker in our Protected Resources Division (978-282-8480 or Julie.Crocker@noaa.gov).

Marine Mammal Protection Act

Several species of marine mammals are common residents or occasional visitors to the waters of New Hampshire, including gray seals, harbor seals, and harbor porpoise. All marine mammals receive protection under the Marine Mammal Protection Act (MMPA) of 1972, as amended. The MMPA prohibits, with certain exceptions, the take of marine mammals in U.S. waters and by U.S. citizens on the high seas, and the importation of marine mammals and marine mammal products into the U.S. NMFS may issue permits under MMPA Section 104 (16 U.S.C. 1374) to persons that authorize the taking or importing of specific species of marine mammals. As you may know, an MMPA permit has been issued for the Seabrook facility in the past. We understand that additional mitigation measures have been put in place at Seabrook since an MMPA permit was last issued. As recommended in our August 5, 2010, scoping letter, we recommend that NextEra and/or the NRC discuss permitting needs with NMFS' Office of Protected Resources Permits, Conservation, & Education Division (301-713-2289) to determine if any additional coordination under the MMPA is necessary.

Summary

We appreciate the opportunity to provide NRC with these comments and recommendations. Should you have any questions related to our EFH or FWCA recommendations, please contact Michael Johnson at 978-281-9131 or at the letterhead address of this letter.

Peter D. Colosi



Assistant Regional Administrator
for Habitat Conservation

cc: Mary Colligan, NMFS PRD
Pat Kurkul, NERO
Tim Timmermann/Phil Colarusso, EPA
Melissa Grader, USFWS
Doug Grout, NHF&G
Christian Williams, NH Coastal Program
Thomas Burack, Commissioner NHDES

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