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

April 13, 2017

Mr. Mano Nazar
President and Chief Nuclear Officer
Nuclear Division
NextEra Energy Seabrook, LLC
Mail Stop: EX/JB
700 Universe Blvd.
Juno Beach, FL 33408

SUBJECT: SEABROOK STATION, UNIT NO. 1 – ISSUANCE OF AMENDMENT RE: LICENSING BASIS CHANGE FOR SERVICE WATER COOLING TOWER (CAC NO. MF9549)

Dear Mr. Nazar:

The U.S. Nuclear Regulatory Commission (Commission) has issued the enclosed Amendment No. 155 to Facility Operating License No. NPF-86 for the Seabrook Station, Unit No. 1. This amendment is in response to your application dated April 4, 2017, as supplemented by letter dated April 8, 2017.

The amendment credits functionality of the service water system during the period that the service water cooling tower is unavailable while in Modes 5 and 6 during the April 2017 refueling outage.

A copy of the related Safety Evaluation is also enclosed. Notice of Issuance and Opportunity for Hearing will be included in the Commission's biweekly *Federal Register* notice.

Sincerely,

Justin C. Poole, Project Manager
Plant Licensing Branch I
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-443

Enclosures:
1. Amendment No. 155 to NPF-86
2. Safety Evaluation

cc w/enclosures: Distribution via Listserv

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

NEXTERA ENERGY SEABROOK, LLC, ET AL.*

DOCKET NO. 50-443

SEABROOK STATION, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 155
License No. NPF-86

1. The U.S. Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment filed by NextEra Energy Seabrook, LLC (the licensee), dated April 4, 2017, as supplemented by letter dated April 8, 2017, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance: (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

*NextEra Energy Seabrook, LLC, is authorized to act as agent for the: Hudson Light & Power Department, Massachusetts Municipal Wholesale Electric Company, and Taunton Municipal Lighting Plant and has exclusive responsibility and control over the physical construction, operation and maintenance of the facility.

2. This license amendment is effective as of its date of issuance and shall be implemented immediately for the period that Seabrook Station, Unit No. 1, is in Modes 5 and 6 during the April 2017 refueling outage.

FOR THE NUCLEAR REGULATORY COMMISSION

James G. Danna, Chief
Plant Licensing Branch I
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Date of Issuance: April 13, 2017

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 155 TO FACILITY OPERATING LICENSE NO. NPF-86

NEXTERA ENERGY SEABROOK, LLC

SEABROOK STATION, UNIT NO. 1

DOCKET NO. 50-443

1.0 INTRODUCTION

By letter dated April 4, 2017, as supplemented by letter dated April 8, 2017 (Agencywide Documents Access and Management System (ADAMS) Accession Nos. ML17094A764 and ML17098A000, respectively), NextEra Energy Seabrook, LLC (NextEra or the licensee), submitted an exigent license amendment requesting a one-time change to the licensing basis for the service water (SW) cooling tower at Seabrook Station, Unit No. 1 (Seabrook) for the current refueling outage. The licensee proposed to modify the licensing basis for the SW cooling tower, which provides the standby seismically qualified ultimate heat sink for Seabrook, to be removed from service for maintenance on the cooling tower basin with the reactor plant in operational Modes 5 or 6, cold shutdown or refueling, respectively. During the maintenance period, the normal heat sink provided by non-seismic tunnel access to the Atlantic Ocean would remain in service.

The supplemental letter dated April 8, 2017, provided additional information that clarified the application, did not expand the scope of the application as originally noticed, and did not change the U.S. Nuclear Regulatory Commission (NRC or the Commission) staff's original proposed no significant hazards consideration determination as published in the *Portsmouth Herald* and *The Boston Globe* on April 10, 2017, and April 11, 2017. (A copy was enclosed in the NRC's April 6, 2017, letter to the licensee (ADAMS Accession No. ML17095A328.))

2.0 REGULATORY EVALUATION

2.1. Description of Service Water System

In Attachment 1 to the license amendment request, the licensee provided the following description of the ultimate heat sink, SW system, and cooling tower:

> Ultimate Heat Sink (UHS)
>
> The Atlantic Ocean serves as the normal ultimate heat sink for Seabrook Station. However, in the unlikely event that the normal supply of cooling water from the Atlantic Ocean is unavailable, the atmosphere serves as the ultimate heat sink using a mechanical draft evaporative cooling tower.

The Atlantic Ocean portion of the ultimate heat sink includes two tunnels. One tunnel from the submerged intake structure offshore to the pump house at the plant site normally serves as an inlet; a second tunnel discharges cooling water to the ocean. The intake tunnel is designed to supply seawater from the Atlantic Ocean to the SW system during all normal operating and accident conditions. Provision is made to ensure a sufficient flow of cooling water via the intake tunnel from the ultimate heat sink to the SW pump house during a loss-of-coolant accident occurring simultaneously with a loss of offsite power and any single active failure.

The Atlantic Ocean portion of the ultimate heat sink is designed to perform all safety functions during and following the most severe natural phenomena anticipated, e.g., the safe shutdown earthquake, tornado, hurricane, flood, or low water level resulting from storm surges with the exception of the tunnels and transition structure, which were not specifically designed for the safe shutdown earthquake. In the unlikely event that an earthquake of sufficient intensity occurs, which blocks over 95 percent of the available large flow area of the intake tunnel, the cooling tower would be used as the ultimate heat sink to cool and maintain the plant in a safe shutdown condition.

SW System

The function of the station SW system is to transfer the heat loads from various sources in both the primary and secondary portions of the plant to the ultimate heat sink. The system has been designed to supply sufficient cooling water to its heat loads under all possible operating conditions. The ultimate heat sink for all operating and accident heat loads is normally the Atlantic Ocean.

Except for the event that seawater flow to the SW pump house is restricted (>95 percent blockage) due to seismically induced damage to the large seawater intake and discharge tunnels, the SW system using the Atlantic Ocean heat sink is fully capable of performing all safety functions during and following all other severe natural phenomena.

The ocean supplied SW system consists of two completely independent and redundant flow trains, each of which supplies cooling water to a primary component cooling water (PCCW) heat exchanger, a diesel generator jacket water cooler, the secondary component cooling water heat exchangers, the auxiliary secondary component cooling water heat exchangers, the condenser water box priming pump seal water heat exchangers, and, except during a LOCA [loss-of-coolant accident], to the fire protection (FP) system during a fire. Flow in each redundant train is supplied by two redundant pumps with each pump capable of supplying 100 percent of the flow to dissipate plant heat loads during normal full power operation. Thus, for full power operation one pump per train is required. The four SW pumps take suction from a common bay in the SW pump house, which is supplied from the Atlantic Ocean via the intake tunnel due to the static head of the ocean.

Cooling Tower

> In the unlikely event that the main circulating water tunnel is unavailable, a mechanical draft evaporative cooling tower serves as the ultimate heat sink. The cooling tower is designed to supply cooling water to the primary component cooling water and diesel heat exchangers while sustaining a loss of offsite power and any single active failure. The cooling tower and all its associated components are designed for the safe shutdown earthquake loads. Considering the ultimate heat sink in total as the Atlantic Ocean and the cooling tower, the heat sink safety function is assured following the most severe natural phenomena including the safe shutdown earthquake, tornado, hurricane, flood, or loss of water level.

Section 10.4.5, "Circulating Water System," of the Seabrook Station Updated Final Safety Analysis Report provided the following additional information about the construction of the intake tunnel:

> Starting 260 feet below the plant level (240 feet below mean sea level), at the bottom of vertical 19'-0" finished diameter land shafts, two tunnels extend out under the ocean at an ascending grade of about 0.5 percent until they reach their respective offshore terminus locations about 160 feet below the ocean's surface. The tunnels, which are machine bored through bedrock to a 22'-0" diameter, are concrete-lined to provide the finished 19 foot diameter.
>
> The intake tunnel is approximately 17,000 feet long, and is connected to the ocean by means of three 9'-10½" finished diameter concrete-lined shafts, spaced between 103 and 110 feet apart and located approximately 7000 feet off the shoreline in 60 feet of water.

Water is provided to the SW section of the pump house by pipelines branching off the tunnel transition structures that connect the vertical land shafts with the circulating water portion of the pump house.

2.2 Licensee's Proposed Changes

The licensee proposed a one-time modification of the licensing basis for the SW cooling tower to clarify that the SW system remains functional to support operability of the emergency diesel generators (EDGs) and the residual heat removal (RHR) system, while the cooling tower is out of service for maintenance for the current refueling outage. NextEra intends to clean the cooling tower basin, and, during this activity, the pump in each cooling tower loop will be deenergized for personnel protection during diving operations in the cooling tower basin. The effective duration of the change would be the period that Seabrook is in operational Modes 5 and 6 during the April 2017 refueling outage.

2.3 Regulatory Review

As required by Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.36(a)(1), each applicant for an operating license shall include in its application proposed technical specifications (TSs). Section 50.36(a)(1) of 10 CFR states, in part, that a summary statement of the bases or reasons for such specifications, other than those covering administrative controls, shall also be included in the application, but shall not become part of the TSs.

In accordance with the requirements of 10 CFR 50.36(b), each license authorizing operation of a utilization facility includes TSs. The TSs are derived from the analyses and evaluation included in the safety analysis report, and amendments thereto, submitted pursuant to 10 CFR 50.34. The analyses submitted under 10 CFR 50.34 include the final safety analysis report submitted under 50.34(b) as part of the application for an operating license. The final safety analysis report includes information that describes the facility, presents the design bases and the limits on its operation, and presents a safety analysis of the structures, systems, and components and of the facility as a whole.

As provided in 10 CFR 50.90, whenever a holder of an operating license desires to amend the license, application for an amendment must be filed with the Commission, fully describing the changes desired, and following, as far as applicable, the form prescribed for original applications. In determining whether an amendment to a license will be issued to the applicant, 10 CFR 50.92(a) states that the Commission will be guided by the considerations that govern the issuance of initial licenses to the extent applicable and appropriate. The findings that the Commission must make to issue an operating license are given in 10 CFR 50.57(a) and include a finding of reasonable assurance that the activities authorized by the license can be conducted without endangering the health and safety of the public and that the issuance of the license will not be inimical to the common defense and security or to the health and safety of the public.

Seabrook TS 3.7.4, "Service Water System/Ultimate Heat Sink," requires that two SW loops with one SW pump in each loop, two SW cooling tower loops with one cooling tower SW pump and associated cooling tower cell in each loop, and a portable cooling tower makeup system be operable in operational Modes 1, 2, 3, and 4. Action c of TS 3.7.4 specifies that reactor operation in Modes 1, 2, 3, or 4 may continue for 72 hours with either two cooling tower SW loops or the mechanical draft cooling tower inoperable.

The SW system is a necessary support system for the RHR system and the site EDGs. The following Seabrook TS requirements apply to these systems, structures, and components in operational Modes 5 and 6:

- In Mode 5 with the reactor coolant system (RCS) loops filled, TS 3.4.1.4.1 requires that one RHR loop be operable and in operation and either one additional RHR loop be operable or the secondary-side water level of at least two steam generators exceed 14 percent.
- In Mode 5 with the RCS loops not filled, TS 3.4.1.4.2 requires that two RHR loops be operable and at least one RHR loop be in operation.
- In Mode 6 when water level above the top of the reactor vessel flange is less than 23 feet, TS 3.9.8.2 requires that two RHR loops be operable and at least one RHR loop be in operation.
- In Modes 5 and 6, TS 3.8.1.2 requires one EDG be operable.

Unless the steam generators are available for decay heat removal, the required actions for these TSs specify that, with less than the required equipment operable or in operation, the licensee immediately initiate corrective action to return the equipment to operable status or operation. Footnotes modifying these RHR TSs indicate that the RHR loop in operation may be secured for up to 1 hour under certain conditions, such as when the core outlet temperature can be maintained at least 10 degrees Fahrenheit below saturation temperature for the period the pump is secured.

The requirements of 10 CFR 50.65(a)(4) state, in part, that the licensee shall assess and manage the increase in risk that may result from proposed maintenance activities. The scope of the assessment may be limited to structures, systems, and components that a risk-informed evaluation process has shown to be significant to public health and safety. Regulatory Guide 1.160, Revision 3, "Monitoring the Effectiveness of Maintenance at Nuclear Power Plants" (ADAMS Accession No. ML113610098), endorses Revision 4A to Nuclear Management and Resources Council (NUMARC) 93-01, "Industry Guideline for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," issued April 2011 (ADAMS Accession No. ML11116A198), which provides methods that are acceptable to the Commission staff for complying with the provisions of 10 CFR 50.65. Section 11.3.6 of NUMARC 93-01 provides guidance to licensees on the scope of hazard groups to be considered for the 10 CFR 50.65(a)(4) assessment provision during shutdown conditions. This section includes internal events for consideration in the assessment, as well as weather and other external impacts, if such conditions are imminent or have a significant probability of occurring during the planned out-of-service duration.

3.0 TECHNICAL EVALUATION

The NRC staff evaluated the safety-significance of removing the cooling tower loops of the SW system in Modes 5 and 6 during the April 2017 refueling outage. The NRC staff considered the likelihood of a loss of access to the Atlantic Ocean ultimate heat sink and the minimal functional capability necessary for the SW system to satisfy its design functions in Modes 5 and 6. The NRC staff also considered the risk assessment and management required for planned maintenance activities and the effect of the maintenance activities on defense-in depth considerations.

3.1 Safety-Significance of Service Water Cooling Tower

As described above, the SW system with the Atlantic Ocean heat sink is designed to perform all safety functions during and following the most severe natural phenomena anticipated, with the exception that the tunnels and transition structures connecting the SW pump house with the Atlantic Ocean were not specifically designed for the safe shutdown earthquake. The SW cooling tower and installed cooling tower SW pumps perform the SW system safety function in the unlikely event of a seismic event that causes a loss of more than 95 percent of the flow area through either the 19 foot diameter intake tunnel or the transition structure.

In Section 3.1 of the licensee's evaluation of the change, which was provided as an enclosure to the letter dated April 4, 2017, the licensee stated that the likelihood of a seismic-induced failure of the circulating water tunnels and associated transition structures is very low. NextEra assessed the tunnels and transition structures as part of the Seabrook seismic risk analysis of record and determined the structures have considerable seismic capacity. The NRC staff evaluated the Seabrook Updated Final Safety Analysis Report descriptions of tunnel and transition structure construction and related Updated Final Safety Analysis Report drawings. These documents indicated that the tunnels were bored through bedrock and lined with concrete, the vertical shafts were constructed of steel lined with concrete, the transition structure was constructed of reinforced concrete, and all structures are either entirely or mostly below grade. Based on engineering judgement of the seismic capacity of the structures, the NRC staff concluded the licensee's assessment of considerable seismic capacity was reasonable. Furthermore, because such a small fraction of the total flow area is necessary to support the SW system, the NRC staff concluded that the likelihood of a complete loss of the

SW system access to the Atlantic Ocean heat sink following a significant seismic event that caused damage to the structures would also be low.

In Section 3.1 of the enclosure to the April 4, 2017, letter, the licensee also described the longer time available to restore the SW system function in Modes 5 and 6 compared to accident conditions initiated from operation at full power. Accident analyses for events from full power involving a loss of offsite power rely on prompt restoration of power through the EDGs, and certain accident scenarios credit immediate actuation of other components cooled indirectly through the component cooling water system by service water. The EDGs require SW system cooling to remain in operation, and the function of other components may be challenged following a loss of SW system cooling. In contrast, interruption of SW flow in Modes 5 and 6 can be withstood for significant periods of time without adverse consequences due to the lower stored energy in the RCS, the much lower decay heat production in the fuel after several days shut down, and the consequential ability to disable automatic actuation of engineered safeguards equipment. This longer time for restoration decreases the safety-significance of SW interruptions by increasing the likelihood of SW flow restoration for certain failure modes or provision of alternate cooling capability.

In addition, the portion of time spent shut down compared to operating affects the risk associated with independent events. On average, U.S. nuclear reactors operate at power at high capacity factors. Consequently, periods in Modes 5 and 6, which account for only part of the overall shutdown period, represent less than 10 percent of an average reactor-year. Therefore, the likelihood of a random occurrence, such as a seismic event, is much lower during the typically short period of time in Modes 5 and 6. Since the requested change is limited to the period the reactor is in Modes 5 and 6 during the refueling outage that began in April 2017, the overall probability of a seismically-induced failure of access to the Atlantic Ocean heat sink during this period would be very low.

The NRC staff evaluated the functionality of the SW system to support operability of the EDGs and the RHR system while the cooling tower is out of service for maintenance. With consideration of the very low probability of an earthquake challenging the integrity of the circulating water tunnels, the seismic capability of the tunnels, and the time available to recover SW system cooling in Modes 5 and 6, the NRC staff found that there is reasonable assurance that operability of the EDGs and RHR systems would be maintained in Modes 5 and 6 with the cooling tower out of service for maintenance. Thus, the analysis satisfies the requirements of 10 CFR 50.34(b) with respect to defining the limits of operation and establishing bases for the EDG and RHR TSs in accordance with the requirements of 10 CFR 50.36(a)(1). Accordingly, the activities involving removal of the SW cooling tower from service in Modes 5 and 6 may be conducted without endangering the health and safety of the public, and the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public, consistent with the requirements of 10 CFR 50.92(a) and 10 CFR 50.57.

3.2 Risk Management During Cooling Tower Maintenance

The NRC staff evaluated the request to consider the SW system functional to support operability of the EDG and the RHR systems while the cooling tower is out of service for maintenance in Modes 5 and 6 during the April 2017 refueling outage. The NRC staff considered the licensee's risk management actions and defense-in-depth considerations.

In the response to the NRC staff's request for additional information provided by letter dated April 8, 2017, the licensee described the risk assessment and management actions that would

apply when the SW cooling tower would be removed from service during the April 2017 refueling outage. The licensee planned to conduct SW cooling tower basin maintenance over a 2-day period that would remove both cooling tower SW loops from service by deenergizing the cooling tower SW pumps for diver protection. During the scheduled maintenance window, the licensee stated that the plant was also scheduled to be in reduced RCS inventory conditions with the RCS open. In this plant condition, the licensee's shutdown risk management procedures specify that the decay heat removal and alternating current electric power functions be reliable (i.e., two trains of equipment available to support these functions). In these conditions, the licensee determined that the RCS time to reach saturation following a loss of RHR system circulation would be approximately 30 minutes. Other plant conditions during this maintenance window would provide longer times to reach saturation. The licensee identified the following additional measures to manage risk in the enclosure to the license amendment request:

- Briefing personnel regarding their roles and responsibilities
- Protecting one train of equipment for decay heat removal and electrical power functions while the cooling tower is out of service.
- Restoring the cooling tower to service in the event of a severe weather warning

NextEra considered the time to restore the cooling tower to service in the unlikely event of a loss of access to the Atlantic Ocean as a heat sink. The licensee estimated that the cooling tower could be restored to service in 20 minutes following identification of need, which is less that the minimum time for the RCS to reach saturation following a loss-of-coolant circulation. The necessary activities supporting that restoration include clearing divers from the cooling tower basin, clearing protective tags, racking in the breakers to reenergize the SW pump in at least one cooling tower loop, and the final step of cooling tower actuation by operations personnel. The NRC staff concluded this capability provided defense-in-depth.

The NRC staff evaluated the above proposed measures with respect to the requirements of 10 CFR 50.65 and associated implementing guidance in NUMARC 93-10, Revision 4A. The NRC staff concluded that the proposed measures provide reasonable assurance that the maintenance activities will be conducted in compliance with the Commission's regulations.

4.0 EXIGENT CIRCUMSTANCES

Background

The NRC's regulations contain provisions for issuance of amendments when the usual 30-day public comment period cannot be met. These provisions are applicable under exigent circumstances. Consistent with the requirements in 10 CFR 50.91(a)(6), exigent circumstances exist when: (1) a licensee and the NRC must act quickly; (2) time does not permit the NRC to publish a *Federal Register* notice allowing 30 days for prior public comment; and (3) the NRC determines that the amendment involves no significant hazards consideration. As discussed in the licensee's application dated April 4, 2017, the licensee requested that the proposed amendment be processed by the NRC on an exigent basis.

Under the provisions in 10 CFR 50.91(a)(6), the NRC notifies the public in one of two ways: (1) by issuing a *Federal Register* notice providing an opportunity for hearing and allowing at least 2 weeks from the date of the notice for prior public comments; or (2) by using local media to provide reasonable notice to the public in the area surrounding the licensee's facility. In this

case, the NRC published notices in the *Portsmouth Herald* and *The Boston Globe* on April 10, 2017, and April 11, 2017.

NextEra stated that it needs to perform preventative maintenance on the cooling tower during the current refueling outage to ensure its continued reliability. This activity includes removing accumulated sediment from the cooling tower basin. NextEra had expected to be able to perform the work with the plant in a mode where the TSs' requirements for the SW cooling tower are not applicable. However, the exigent situation, which could not have been foreseen, only became apparent when the NRC recently communicated concerns regarding the licensee's analysis of whether the SW system is functional when the cooling tower is inoperable. NextEra has stated that this change is requested on an exigent basis because a failure to obtain the requested amendment will prevent performance of the cooling tower maintenance in any plant mode of operation.

NRC Staff Conclusion

Based on the above circumstances, the NRC staff finds that the licensee made a timely application for the proposed amendment following identification of the issue. In addition, the NRC staff finds that the licensee could not avoid the exigency without significant impact to the outage schedule. Based on these findings, and the determination that the amendment involves no significant hazards consideration as discussed below, the NRC staff has determined that a valid need exists for issuance of the license amendment using the exigent provisions of 10 CFR 50.91(a)(6).

5.0 FINAL NO SIGNIFICANT HAZARDS CONSIDERATION

The NRC's regulation in 10 CFR 50.92(c) states that the NRC may make a final determination, under the procedures in 10 CFR 50.91, that a license amendment involves no significant hazards consideration if operation of the facility, in accordance with the amendment, would not: (1) involve a significant increase in the probability or consequences of an accident previously evaluated; or (2) create the possibility of a new or different kind of accident from any accident previously evaluated; or (3) involve a significant reduction in a margin of safety.

An evaluation of the issue of no significant hazards consideration is presented below:

1. Does the proposed amendment involve a significant increase in the probability or consequences of an accident previously evaluated?

   Response: No.

   The proposed change neither involves any physical changes to plant equipment or systems nor does it alter the assumptions of any accident analyses. The proposed change does not adversely affect accident initiators or precursors, and it does not alter design assumptions, plant configuration, or the manner in which the plant is operated and maintained. The proposed change does not adversely affect the ability of structures, systems, or components (SSCs) to perform their intended safety functions in mitigating the consequences of an initiating event within the assumed acceptance limits.

   Therefore, the proposed changes do not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the proposed amendment create the possibility of a new or different kind of accident from any accident previously evaluated?

   Response: No.

   No new accident scenarios, failure mechanisms, or limiting single failures are introduced because of the proposed change. The change does not challenge the integrity or performance of any safety-related systems. No plant equipment is installed or removed, and the change does not alter the design, physical configuration, or method of operation of any plant SSC. No physical changes are made to the plant, so no new causal mechanisms are introduced.

   Therefore, the proposed changes do not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does the proposed amendment involve a significant reduction in a margin of safety?

   Response: No.

   Margin of safety is associated with the ability of the fission product barriers (i.e., fuel cladding, reactor coolant system pressure boundary, and containment structure) to limit the level of radiation dose to the public. The proposed change does not affect operation of the plant and no accident analyses are affected by the proposed changes. The proposed change does not adversely affect systems that maintain the plant in a safe shutdown condition.

   The proposed change would allow the service water (SW) system to remain functional in Modes 5 and 6 to support operability of the required emergency diesel generator and residual heat removal system while the SW cooling tower is unavailable. Administrative controls will provide for restoration of the cooling tower in the event of a loss of the ocean supplied SW system.

   Therefore, the proposed changes do not involve a significant reduction in the margin of safety.

Based on the above evaluation, the NRC staff concludes that the three standards of 10 CFR 50.92(c) are satisfied. Therefore, the NRC staff has made a final determination that no significant hazards consideration is involved for the proposed amendment and that the amendment should be issued as allowed by the criteria contained in 10 CFR 50.91.

6.0 STATE CONSULTATION

In accordance with the Commission's regulations, the State of New Hampshire and Commonwealth of Massachusetts officials were notified of the proposed issuance of the amendment on April 12, 2017. The State of New Hampshire official had no comment. NRC staff attempted to contact the official from the Commonwealth of Massachusetts by e-mail and telephone but received no response.

7.0 PUBLIC COMMENTS

On April 10, 2017, and 11, 2017, the NRC staff published a public notice in the *Portsmouth Herald* and *The Boston Globe* associated with the proposed amendment request. In accordance with the requirements in 10 CFR 50.91 for an exigent amendment, the notice provided until April 12, 2017, for public comment on the proposed no significant hazards consideration (NSHC) determination. One public comment was received regarding the proposed amendment (ADAMS Accession No. ML17103A493). The comment was in support of the NRC issuing the license amendment and indicated the individual had reviewed the NSHC and agreed that the proposed change does not involve a significant reduction in the margin of safety.

8.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The NRC staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendment involves no significant hazards consideration published in the *Portsmouth Herald* and *The Boston Globe* on April 10, 2017, and 11, 2017. Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

9.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) there is reasonable assurance that such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: Steve Jones

Date: April 13, 2017

SUBJECT: SEABROOK STATION, UNIT NO. 1 – ISSUANCE OF AMENDMENT RE: LICENSING BASIS CHANGE FOR SERVICE WATER COOLING TOWER (CAC NO. MF9549) DATED APRIL 13, 2017

DISTRIBUTION:
Public
LPLI R/F
RidsACRS_MailCTR Resource
RidsNrrLALRonewicz Resource
RidsNrrPMSeabrook Resource
RidsNrrDorlLpl1 Resource
RidsNrrDssSbpb Resource
RidsRgn1MailCenter Resource
SJones, NRR

ADAMS Accession No.: ML17102A889

OFFICE	NRR/DORL/LPL1/PM	NRR/DORL/LPL1/LA	NRR/DSS/SBPB/BC
NAME	JPoole	LRonewicz	RDennig (GPurciarello for)
DATE	04/12/2017	04/13/2017	04/13/2017
OFFICE	OGC – NLO w/edits	NRR/DORL/LPL1/BC	NRR/DORL/LPL1/PM
NAME	BHarris	JDanna	JPoole
DATE	04/13/2017	04/13/2017	04/13/2017

OFFICIAL RECORD COPY