



December 3, 2010

SBK-L-10201

Docket No. 50-443

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
One White Flint North
11555 Rockville Pike
Rockville, MD 20852

Seabrook Station
Response to Request for Additional Information
NextEra Energy Seabrook License Renewal Application

References:

1. NextEra Energy Seabrook, LLC letter SBK-L-10077, "Seabrook Station Application for Renewed Operating License," May 25, 2010. (Accession Number ML101590099)
2. NRC Letter "Request for Additional Information Related to the Review of the Seabrook Station License Renewal Application (TAC NO. ME4028)" November 18, 2010 (Accession Number ML 103090308)

In Reference 1, NextEra Energy Seabrook, LLC (NextEra) submitted a application for a renewed facility operating license for Seabrook Station for Seabrook Station Unit 1 in accordance with the Code of Federal Regulations, Title 10, Parts 50, 51, and 54.

In Reference 2, the NRC requested additional information in order to complete its review of the License Renewal Application. The Enclosure contains the NextEra Energy Seabrook response to the NRC request for additional information dated November 18, 2010. No new or revised commitments are made in this submittal.

If there are any questions or additional information is needed, please contact Mr. Richard R. Cliche, License Renewal Project Manager, at (603) 773-7003.

A035
NRC

If you have any questions regarding this correspondence, please contact Mr. Michael O'Keefe, Licensing Manager, at (603) 773-7745.

Sincerely,

NextEra Energy Seabrook, LLC.



Paul Freeman
Site Vice President

Enclosure

cc:

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I, Paul O. Freeman, Site Vice President of NextEra Energy Seabrook, LLC hereby affirm that the information and statements contained within are based on facts and circumstances which are true and accurate to the best of my knowledge and belief.

Sworn and Subscribed

Before me this

3 day of December, 2010

A handwritten signature in cursive script, appearing to read "Paul O. Freeman", written over a horizontal line.

Paul O. Freeman
Site Vice President

A handwritten signature in cursive script, appearing to read "Shirley Sweeney", written over a horizontal line.

Notary Public



Enclosure

Request for Additional Information (RAI) 2.3.3.15-1

License renewal application (LRA) drawing PID-1-FP-LR20270 shows that sprinkler systems at locations C-4 to H-4 are out of scope (i.e., not colored in red). The staff requests that the applicant verify whether these sprinkler systems installed in various areas of the plant are in the scope of license renewal in accordance with 10 CFR 54.4(a) and subject to an aging management (AMR) in accordance with 10 CFR 54.21(a)(1). If they are excluded from the scope of license renewal and not subject to an AMR, the staff requests that the applicant provide justification for the exclusion.

NextEra Energy Seabrook Response:

The sprinkler systems located on drawing PID-1-FP-LR20270, locations C-4 to H-4, are not in scope of License Renewal because they do not provide a function credited in Appendix R safe shutdown analysis and do not provide a pressure boundary function needed to support the Appendix R suppression systems. All other sprinklers located in the turbine building are in scope because they perform a pressure boundary function necessary to permit the required Appendix R fire suppression systems to function properly.

Request for Additional Information (RAI) 2.3.3.15-2

LRA drawing PID-1-FP-LR20274 shows that several yard fire hydrants and post indicator valves are out of scope (i.e., not colored in red). The staff believes that yard fire hydrants and post indicator valves have the fire protection intended functions required to be compliant with 10 CFR 50.48 as stated in 10 CFR 54.4. The fire hydrants and post indicator valves also serve as the pressure boundary for the fire protection water supply system. Further, NUREG-0896, 'Safety Evaluation Report related to the operation of Seabrook Station, Units 1 and 2,' dated March 1983, Section 9.5.1.5, 'Fire Detection and Suppression,' on page 9-47, states that "... *Yard hydrants are provided at intervals of 250 ft along the fire protection water supply loop, approximately 40 ft from the buildings. The lateral to each yard hydrant is provided with an isolation valve to facilitate hydrant maintenance and repairs without shutting down any part of the fire water supply system ...*".

The staff requests that the applicant verify whether the yard hydrants and post indicator valves are in the scope of license renewal in accordance with 10 CFR 54.4(a) and whether they are subject to an AMR in accordance with 10 CFR 54.21 (a)(1). If they are excluded from the scope of license renewal and are not subject to an AMR, the staff requests that the applicant provide justification for the exclusion.

NextEra Energy Seabrook Response:

The yard fire hydrants required to support Unit 1 compliance with 10CFR 50.48 and Appendix R safe shutdown are included in scope of License Renewal (See PID-1-FP-LR20274 demarcation line) and are subject to an AMR in accordance with 10 CFR 54.21(a)(1). The yard fire hydrants supporting Unit 2 and the site support buildings are not required for compliance with 10CFR 50.48 and

Appendix R safe shutdown and do not have a License Renewal intended function and are not in scope of license renewal. Construction on Seabrook Station Unit 2 was effectively terminated in 1984 and its construction permit was allowed to expire in October 1988. All of the post indicator valves located on the fire main ring header and any branch header isolation post indicator valves are in scope of License Renewal and are subject to an AMR in accordance with 10 CFR 54.21(a)(1). All other Post indicating valves that supply support buildings and branch headers are not required for compliance with 10 CFR 50.48 or Appendix R safe shutdown and do not have a License Renewal intended function and are not in scope of license renewal.

Request for Additional Information (RAI) 2.3.3.15-3

Section 9.5.1.6, "Fire Protection of Specific Plant Areas;" of the Seabrook Station Safety Evaluation Report (NUREG-0896), dated March 1983, on page 9-48, states that "... the *applicant committed to provide oil collection systems for each reactor coolant pump in accordance with Section 111.O Appendix R...*" LRA Section 2.3.3.15 did not discuss scoping and screening results of reactor coolant pump (RCP) oil collection systems and their associated components.

The staff requests that the applicant verify whether the RCP oil collection systems and their associated components are in the scope of license renewal in accordance with 10 CFR 54.4(a) and subject to an AMR in accordance with 10 CFR 54.21(a)(1). If RCP oil collection systems and their associated components are excluded from the scope of license renewal and not subject to an AMR, the staff requests that the applicant provide justification for the exclusion.

NextEra Energy Seabrook Response:

The Reactor Coolant Oil collection system is in scope for fire protection (10 CFR 54.4 (a)(3)) and is subject to an AMR in accordance with 10 CFR 54.21(a)(1). See LRA Section 2.3.3.25, "Oil Collection For Reactor Coolant Pumps System;" on page 2.3-189.

Request for Additional Information (RAI) 2.3.3.15-4

Section 9.5.1.6, "Fire Protection of Specific Plant Areas;" of the Seabrook Station Safety Evaluation Report (NUREG-0896), dated March 1983, on page 9-52, "Cable Spreading Room;" states that "..... *A manual smoke ventilation system has been provided to exhaust the cable spreading room in the event of a fire ..*;" LRA Section 2.3.3.15 did not discuss scoping and screening results of the cable spreading room (CSR) manual smoke ventilation system and its associated components.

The staff requests that the applicant verify whether the CSR manual smoke ventilation system and its associated components are in the scope of license renewal in accordance with 10 CFR 54.4(a) and subject to an AMR in accordance with 10 CFR 54.21(a)(1). If the CSR manual smoke ventilation system and its associated components are excluded from the scope of license renewal and not subject to an AMR, the staff requests that the applicant provide justification for the exclusion.

NextEra Energy Seabrook Response:

The manual smoke removal system is not in scope of License Renewal. The fans (1-CBA-FN-17 and 1-CBA-FN-18) used for smoke removal are not credited for safe shutdown by UFSAR Appendix R for a fire in the Cable Spreading Room or any other Appendix R fire. There are no manual safe shutdown actions requiring access to this area. The fans are not safety related, are not credited for Appendix R safe shutdown and therefore have no License Renewal function (refer to PID-1-CBA-LR20303 location G-5 and H-5).

USFAR section 9.4.9.1 provides a description of the cable spreading room ventilation.

Request for Additional Information (RAI) 2.3.3.15-5

Section 9.5.1.6, "Fire Protection of Specific Plant Areas;" of the Seabrook Station Safety Evaluation Report (NUREG-0896), dated March 1983, on page 9-53, "Switchgear Rooms;" states that " ... The *Division I and Division I/ switchgear rooms are separated from each other and from other plant areas by 3-hour-fire-rated wall and floor/ceiling assemblies. Automatic fire detection is provided by ionization smoke detectors. Manual protection is provided by standpipe and hose stations and portable extinguishers ...*" LRA Section 2.3.3.15 did not discuss scoping and screening results of Division I and Division II switchgear rooms' standpipe and hose stations.

The staff requests that the applicant verify whether the Division I and Division II switchgear rooms' standpipe and hose stations are in the scope of license renewal in accordance 10 CFR 54.4(a) and subject to an AMR in accordance with 10 CFR 54.21(a)(1). If the Division I and Division II switchgear rooms' standpipe and hose stations are excluded from the scope of license renewal and not subject to an AMR, the staff requests that the applicant provide justification for the exclusion.

NextEra Energy Seabrook Response:

The standpipes and valves for the hose stations for extinguishing a fire in the Division I and Division II switchgear rooms are in scope of license renewal and are subject to an AMR in accordance with 10 CFR 54.21(a)(1). The switch gear rooms do not contain any fire protection piping. The Hose stations referred to are located in the turbine building (see PID-1-FP-LR20270 Location E-12 1-FP-R-8-A) and the south stairwell of the control building (see PID-1-FP-LR20268 Location F-7 for 1-FP-R-30).

The hose stations reels and hoses for 1-FP-R-8-A and 1-FP-R-30 are in scope for license renewal. The reels are subject to an AMR in accordance with 10 CFR 54.21(a)(1). The fire hoses are classified as consumables and are replaced on condition, as described on page 2:1-24 of the LRA.

Request for Additional Information (RAI) 2.3.3.15-6

Section 9.5.1.6, "Fire Protection of Specific Plant Areas:" of the Seabrook Station Safety Evaluation Report (NUREG-0896), dated March 1983, on page 9-53, "Safety-Related Battery Rooms;" states that " *...Hose stations and portable fire extinguishers are available in the areas for fire manual suppression...* " LRA Section 2.3.3.15 did not discuss scoping and screening results of safety-related battery rooms hose stations.

The staff requests that the applicant verify whether the safety-related battery rooms' hose stations are in the scope of license renewal in accordance with 10 CFR 54.4(a) and subject to an AMR in accordance with 10 CFR 54.21(a)(1). If safety-related battery rooms' hose stations are excluded from the scope of license renewal and not subject to an AMR, the staff requests that the applicant provide justification for the exclusion.

NextEra Energy Seabrook Response:

The standpipes and valves for the hose stations for the safety related battery rooms are in scope of license renewal and are subject to an AMR in accordance with 10 CFR 54.21(a)(1). The battery rooms do not contain any fire protection piping. The Hose stations referred to are located in the turbine building (see PID-1-FP-LR20270 Location E-12 1-FP-R-8-A) and the south stairwell of the control building (see PID-1-FP-LR20268 Location F-7 for 1-FP-R-30).

The hose stations reels and hoses for 1-FP-R-8-A and 1-FP-R-30 are in scope for license renewal. The reels are subject to an AMR in accordance with 10 CFR 54.21(a)(1). The fire hoses are classified as consumables and are replaced on condition, as described on page 2.1-24 of the LRA.

Request for Additional Information (RAI) 2.3.3.15-7

Section 9.5.1.6, "Fire Protection of Specific Plant Areas:" of the Seabrook Station Safety Evaluation Report (NUREG-0896), dated March 1983, on page 9-53, "Emergency Diesel Generator Rooms;" states that " *... The floor trench containing fuel oil piping in each diesel generator room is provided with an automatic deluge system to combat a fire in the trench.* " LRA Section 2.3.3.15 did not discuss scoping and screening results of automatic deluge system in the diesel generator room floor trench containing fuel oil piping.

The staff requests that the applicant verify whether the automatic deluge system in question is in the scope of license renewal in accordance with 10 CFR 54.4(a) and subject to an AMR in accordance with 10 CFR 54.21(a)(1). If the automatic deluge system is excluded from the scope of license renewal and not subject to an AMR, the staff requests that the applicant provide justification for the exclusion.

NextEra Energy Seabrook Response:

The floor trench containing fuel oil piping in each diesel generator room with an automatic deluge system is in scope of license renewal and is subject to an AMR in accordance with 10 CFR 54.21(a)(1). See LRA Page 2.3-148 (for the in scope boundary description) and PID-1-FP-LR20271 location H-10 and F-10 for sprinkler zones 1A-2 and 1B-2.

Request for Additional Information (RAI) 2.3.3.15-8

Tables 2.3.3-22 and 3.3.2-22 of the LRA do not include the following fire protection components:

- fire hose stations, fire hose connections, and hose racks
- yard fire hydrants
- strainers
- tubing
- spray nozzles
- diesel fire pump engine-heat exchanger bonnet, shell, tubes, and exhaust silencer
- floor drains for fire water
- dikes and curbs for oil spill confinement

The staff requests that the applicant verify whether the fire protection components listed above are in the scope of license renewal in accordance with 10 CFR 54.4(a) and whether they are subject to an AMR in accordance with 10 CFR 54.21 (a)(1). If they are excluded from the scope of license renewal and are not subject to an AMR, the staff requests that the applicant provide justification for the exclusion.

NextEra Energy Seabrook Response:

License renewal drawing (PID LR Notes 1) provides a description of the component types and a correlation that shows the component grouping they are evaluated as.

Fire protection system components subject to age management review are listed in Table 2.3.3-15 (page 2.3-151) and a summary of the aging management evaluation for the fire protection system is provided in Table 3.3.2-15 (page 3.3-300) of the LRA.

Fire hose stations include the fire hose, the fire hose racks (evaluated as supports) and the fire hose connections.

- The fire hose racks (supports) are evaluated under supports in the LRA Section 2.4.6 and are in scope of License Renewal and subject to an AMR in accordance with 10 CFR 54.21(a)(1).

- Fire hoses are within the scope of License Renewal, but are not subject to aging management because they are replaced based on condition. These components are periodically inspected in accordance with National Fire Protection Association (NFPA) standards. Fire hoses are considered consumables. See section 2.3.1 (page 2.1-24) in the LRA.
- Fire hose connections are in scope of license renewal and are evaluated as pipe and fittings and are subject to an AMR in accordance with 10 CFR 54.21(a)(1). See Table 3.3.2-15 (page 3.3-300) in the LRA.

Yard fire hydrants in the scope of License Renewal are designated FH on the license renewal prints and are evaluated as valves in Table 3.3.2-15 on page 3.3-300 of the LRA and are subject to an AMR in accordance with 10 CFR 54.21(a)(1).

Strainers in scope of License Renewal are evaluated as filter elements and filter housings in Table 3.3.2-15 on page 3.3-300 of the LRA and are subject to an AMR in accordance with 10 CFR 54.21(a)(1).

Tubing in scope of License Renewal is evaluated as pipe in Table 3.3.2-15 (page 3.3-300) of the LRA and is subject to an AMR in accordance with 10 CFR 54.21(a)(1).

Spray nozzles in the scope of License Renewal are evaluated as sprinklers in Table 3.3.2-15 (page 3.3-300) of the LRA and are subject to an AMR in accordance with 10 CFR 54.21(a)(1).

The diesel fire pump engine heat exchanger including the bonnet, shell, and tubes, are an integral part of the diesel fire pump engine and were evaluated as a unit. The diesel fire pump engine is screened out as an active component per NEI 95-10 Appendix B.

The diesel fire pump exhaust silencer is evaluated under pipe and fittings and is subject to an AMR in accordance with 10 CFR 54.21(a)(1). See Table 3.3.2-15 (pages 3.3-308 and 309). The summary of the aging management review for the internal surface is provided on page 3.3-309, Piping and Fittings, Pressure Boundary, Steel, Diesel Exhaust (Internal). The summary of the aging management review for the external surface is provided on page 3.3-308, Piping and Fittings.

Floor drains for fire water are in scope of License Renewal and evaluated in section 2.3.3.45, "Waste Processing Liquid Drains System," (page 2.3-269) and section 2.3.3.26, "Plant Floor Drain System," (page 2.3-191) of the LRA. These floor drains are subject to an AMR in accordance with 10 CFR 54.21(a)(1).

The dikes and curbs for oil spill confinement in scope of License Renewal are evaluated under structures as a commodity under Concrete in Tables 3.5.2-2 and 3.5.2-5. These dikes and curbs are subject to an AMR in accordance with 10 CFR 54.21(a)(1).

Request for Additional Information (RAI) 2.4.1-1

Please clarify if there are any trash racks, basket strainers, traveling screens or any other debris prevention/removing mechanisms that are part of the Intake Transition Structure that would be required to be in scope of license renewal in accordance with 10 CFR 54.4. If so, also identify the applicable aging effects and the aging managing program (AMP) related to these components.

NextEra Energy Seabrook Response:

There are no structural components such as trash racks, basket strainers, traveling screens or any other debris prevention/removing mechanisms that are part of the Intake Transition Structure.

There is a Chlorination System (CL) Strainer, 1- CL-S-256, which is located in a pit adjacent to the Intake Transition Structure that is in scope for license renewal. Being non-metallic and having no reported aging effects, the strainer does not require an aging management program.

The Service Water Pumphouse does contain traveling screens. These were screened out of License Renewal as being active components, except for the covering shrouds, which are in-scope with an (a)(2) intended function of protecting safety related equipment from raw water spray. The shrouds are fiberglass, with no aging effects, and are not age managed.

Located in the Primary Auxiliary Building, a basket-type strainer is provided in each train of the Service Water System to prevent shells and mussels, which could be carried into these lines, from fouling various heat exchangers. These strainers are within the scope of License Renewal and are age managed as part of the Open Cycle Cooling Water Aging Management Program.

Request for Additional Information (RAI) 2.4.1-2

Please confirm whether the following components credited for flood protection per updated final safety analysis report (UFSAR) Section 3.4.1.1 would be required to be in scope of license renewal in accordance with 10 CFR 54.4. If so, also identify the applicable aging effects and the AMP related to these following components, otherwise, justify the exclusion from the scope of license renewal:

- The rolling steel door in the Fuel Storage Building (located at elevation 20 feet 6 inches MSL),
- The double doors into the entrance vestibule of the Equipment Vault section of the Primary Auxiliary Building (located at elevation 20 feet 8 inches MSL).

NextEra Energy Seabrook Response:

From UFSAR Section 3.4.1.1:

“The only access openings in any exterior wall that are below the design flood level are the rolling steel door in the Fuel Storage Building, located at elevation 20 feet 6 inches MSL (See Figure 1.2-16), and the double doors into the entrance vestibule of the Equipment Vault section of the Primary Auxiliary Building, located at elevation 20 feet 8 inches MSL (See Figure 1.2-13). Flood protection

for the Fuel Storage Building is provided by a curb at elevation 21.5 feet MSL located on column line 3 behind the rolling steel door. This door is closed during normal plant operation, thus providing the same protection against wave run-up as the other vertical building walls. The floor of the vestibule into the Equipment Vault section of the Primary Auxiliary Building is sloped up 4 inches so that the high point in the floor is at elevation 21 feet MSL."

As described in the UFSAR, both openings are protected from flooding by structural elements other than the doors themselves. Both doors are in scope for other intended functions (Structural Support) and are managed accordingly.

The Fuel Storage Building rollup door is included in the generic component Primary Structures (PST)- Carbon Steel Door –FSB (Fuel Storage Building) - Exposed to Air Outdoor in LRA Table 3.5.2-5 on Page 3.5-155.

The double doors into the Equipment Vault are included in the generic component PST - Carbon Steel Door –PAB (Primary Auxiliary Building)- Exposed to Air Outdoor in LRA Table 3.5.2-5 on Page 3.5-156

Request for Additional Information (RAI) 2.4.1-3

LRA Section 2.4.1 states that only the foundations of the fire protection water storage tanks are included in the scope of license renewal and subject to an AMR. Please provide additional information on the structural configuration of the tanks and the foundations, specifically, if there is any steel framing attached to the tanks that would provide additional support consistent with 10 CFR 54.4(3).

NextEra Energy Seabrook Response:

The fire protection water storage tanks consist of two 500,000 gallon tanks that are bolted on the tanks' foundation. The tanks are free standing tanks with no supports.

Request for Additional Information (RAI) 2.4.6-1

Please confirm the inclusion of the structural bellows in the scope of license renewal, as applicable, and subject to an AMR per 10 CFR 54.21 (a)(1)(i) and provide the location where they are covered. Otherwise, justify the exclusion from the scope of license renewal.

NextEra Energy Seabrook Response:

There are three structural bellows at Seabrook Station. All three are associated with the Fuel Transfer Tube between the Fuel Storage Building and the Containment Structure.

The one bellows in the Fuel Storage Building is in-scope as part of the Fuel Transfer Tube component in the Primary Structures. See LRA Table 3.5.2-5 (page 3.5-224).

The two bellows in the Containment Structure are in-scope and located with the Fuel Transfer Tube component in the Containment Structure. See LRA Table 3.5.2-2 (page 3.5-104 and 105).

Request for Additional Information (RAI) 2.4.6-2

LRA Section 2.4.6 states that the BORAFLEX utilized in the region 2 racks is not credited with the neutron-absorbing capacity in the criticality analyses and therefore will not be managed for reduction of neutron-absorbing. However, UFSAR Section 9.1.2.1 states that the "Region 2 spent fuel racks contain BORAFLEX as a neutron absorbing material to assure a $K_{eff} < 0.95$." Please clarify this discrepancy and confirm the inclusion or justify the exclusion of the BORAFLEX from the scope of license renewal and subject to an AMR.

NextEra Energy Seabrook Response:

An UFSAR Change Request has been issued to correct the inconsistency. UFSAR Section 9.1.2.1.d has been augmented to read:

"d.1. Although BORAFLEX is a neutron absorbing material, in response to industry experience of BORAFLEX degradation, the BORAFELX material is conservatively assumed to be neutron transparent."