



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

January 8, 2014

Mr. Kevin Walsh, Site Vice President  
c/o Michael Ossing  
Seabrook Station  
NextEra Energy Seabrook, LLC  
P.O. Box 300  
Seabrook, NH 03874

SUBJECT: SEABROOK STATION, UNIT NO. 1 – REQUEST FOR ADDITIONAL  
INFORMATION FOR LICENSE AMENDMENT REQUEST 11-04, CHANGES TO  
TECHNICAL SPECIFICATIONS FOR NEW FUEL VAULT (TAC NO. MF3283)

Dear Mr. Walsh:

By letter dated January 30, 2012 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML12038A036), as supplemented by letter dated May 10, 2012, September 20, 2012, and March 27, 2013 (ADAMS Accession Nos. ML12136A126, ML12271A276, and ML13099A022, respectively), NextEra Energy Seabrook, LLC (NextEra) submitted license amendment request (LAR) 11-04 for Seabrook Station, Unit No. 1 (Seabrook). The proposed change revises the technical specifications (TSs) for new and spent fuel storage, as a result of the new criticality analyses for the new fuel vault (NFV) and the spent fuel pool (SFP).

The proposed amendment would revise the TSs to: (1) reflect elimination of the need to credit Boraflex neutron absorbing material for reactivity control in the SFP; (2) credit soluble boron, burnup, cooling time, peripheral leakage, and rod cluster control assemblies within the storage racks to maintain SFP reactivity within the effective neutron multiplication factor ( $k_{eff}$ ) limits of Title 10 of the *Code of Federal Regulations* (10 CFR), Section 50.68(b)(4); and (3) revise the requirements for fuel storage within the NFV.

By letter dated December 20, 2013 (ADAMS Accession No. ML13360A045), NextEra requested that the SFP and NFV be separated into two separate LARs. The SFP LAR will be reviewed under TAC No. ME8688, and the NFV LAR will be reviewed under TAC No. MF3283.

Please note the application dated January 30, 2012, included a mark-up of changes to the TS index. The TS index page mark-up was omitted from the supplement dated December 30, 2013, since Amendment No. 137, issued on June 17, 2013, removed the TS index from the Seabrook TSs, making any future TS index changes obsolete.

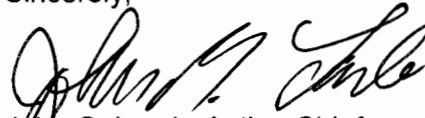
K. Walsh

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The NRC staff has determined that additional information is required to complete its review under TAC No. MF3283. The NRC staff's request for additional information (RAI) is contained in the enclosed RAI. A draft of these questions was previously sent to Mr. Gary Kilby of your staff on September 25, 2013, with an opportunity to have a teleconference to ensure that the licensee understood the questions and their regulatory basis, as well as to verify that the information was not previously docketed. Conference calls were held on October 24, 2013, and on January 6, 2014, and Mr. Kilby agreed that NextEra would respond to the RAI by March 15, 2014. Please note that if you do not respond to the RAI by March 15, 2014, or provide an acceptable alternate date in writing, the NRC staff may reject your LAR under the provisions of 10 CFR, Section 2.108, "Denial of application for failure to supply information."

If you have questions, you can contact me at 301-415-3100 or by e-mail at [John.Lamb@nrc.gov](mailto:John.Lamb@nrc.gov).

Sincerely,



John G. Lamb, Acting Chief  
Plant Licensing Branch I-2  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket No. 50-443

Enclosure:  
Request for Additional Information

cc w/encl: Distribution via Listserv

REQUEST FOR ADDITIONAL INFORMATION

LICENSE AMENDMENT REQUEST 11-04

NEXTERA ENERGY SEABROOK, LLC.

SEABROOK STATION, UNIT NO. 1

DOCKET NO. 50-443

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REQUEST FOR ADDITIONAL INFORMATION (RAI)

1. In response to a previous RAI, the licensee has indicated “. . . the exact isotopic composition of the concrete and their uncertainties in the Seabrook NFV is unknown, . . .” To determine the importance of the concrete composition for the NFV, the NRC staff performed a sensitivity study using the concrete composition used by the licensee, other concrete compositions in the licensee’s cited reference, and those available in SCALE 6.1.2. That sensitivity study indicates two issues with the concrete composition the licensee used in its analysis for optimum moderation conditions. First, the concrete

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composition the licensee used is likely the least conservative compositions sampled in the sensitivity study. Second, the licensee's uncertainty study did not cover the full range of isotopic compositions in the licensee's cited reference. The NRC staff's sensitivity study suggests the effect of the concrete composition may be enough to preclude approval of the licensee's requested change to its NFV storage requirements. Therefore, the NRC staff requests the licensee provide one of the following:

- A revised nuclear criticality safety analysis that accounts for the actual concrete composition along with changes that are expected over time, along with how the actual concrete composition was determined.
  - A revised nuclear criticality safety analysis with a bounding concrete composition, which includes changes that are expected over time, along with the justification for using that concrete composition.
  - A withdrawal of that portion of the LAR concerning the NFV.
2. The NRC staff has reviewed the licensee's response to a previous RAI regarding the applicability of the criticality code validation at elevated temperatures for the NFV. The NRC staff requests the licensee provide a technical justification for using the validation at the elevated temperatures and to adequately account for the elevated temperatures in the analysis.

K. Walsh

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Sincerely,

*/ra/*

John G. Lamb, Acting Chief  
Plant Licensing Branch I-2  
Division of Operating Reactor Licensing  
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Docket No. 50-443

Enclosure:  
Request for Additional Information

cc w/encl: Distribution via Listserv

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**ADAMS Accession No: ML13364A253**

OFFICE	LPL1-2/PM	LPL1-2/LA	SRXB/BC	LPL1-2/PM
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DATE	1/7/14	1/8/14	09/24/13	1/8/14

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