



December 15, 2015
SBK-L-15215
Docket No. 50-443

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555-0001

Seabrook Station

NextEra Energy Seabrook, LLC's Final Compliance in Response to March 12, 2012
Commission Order Modifying Licenses with Regard to Reliable Spent Fuel Pool Instrumentation
(Order EA-12-051)

References:

1. NRC Order Number EA-12-051, "Order Modifying Licenses with Regard to Reliable Spent Fuel Pool Instrumentation," March 12, 2012 [ML12056A044].
2. NRC Interim Staff Guidance JLD-ISG-2012-03, "Compliance with Order EA-12-051, Reliable Spent Fuel Pool Instrumentation, Revision 0," August 29, 2012 [ML12221A339].
3. NEI 12-02 Revision 1, "Industry Guidance for Compliance with NRC Order EA-12-051, To Modify Licenses with Regard to Reliable Spent Fuel Pool Instrumentation," August 2012 [ML12240A307].
4. NextEra Energy Seabrook, LLC's Initial Status Report in Response to March 12, 2012 Commission Order Modifying Licenses with Regard to Requirements for Reliable Spent Fuel Pool Instrumentation, (Order Number EA-12-051), October 26, 2012 [ML12311A012].
5. NextEra Energy Seabrook, LLC's Overall Integrated Plan in Response to March 12, 2012 Commission Order Modifying Licenses with Regard to Requirements for Reliable Spent Fuel Pool Instrumentation, (Order Number EA-12-051), February 26, 2013 [ML13063A439].
6. NRC Electronic Mail to NextEra Energy Seabrook, LLC, "Draft Requests for Additional Information Regarding the Seabrook Overall Integrated Plan for Reliable SFP Instrumentation, dated July 18, 2013 [ML13217A166].

7. NextEra Energy Seabrook, LLC's First Six Month Status Report in Response to March 12, 2012 Commission Order EA-12-051, Order Modifying Licenses with Regard to Reliable Spent Fuel Pool Instrumentation, (Order Number EA-12-051), August 28, 2013 [ML13247A177].
8. Seabrook Station, Unit 1 – Interim Staff Evaluation and Request for Additional Information Regarding the Overall Integrated Plan for Implementation of Order EA-12-051, Reliable Spent Fuel Pool Instrumentation (TAC No. MF0837), December 4, 2013 [ML13267A388].
9. NextEra Energy Seabrook, LLC's Second Six Month Status Report in Response to March 12, 2012 Commission Order Modifying Licenses with Regard to Reliable Spent Fuel Pool Instrumentation, February 27, 2014 [ML14064A189].
10. NextEra Energy Seabrook, LLC's Third Six Month Status Report in Response to March 12, 2012 Commission Order Modifying Licenses with Regard to Reliable Spent Fuel Pool Instrumentation, August 26, 2014 [ML14246A192].
11. NextEra Energy Seabrook, LLC's Fourth Six Month Status Report in Response to March 12, 2012 Commission Order Modifying Licenses with Regard to Reliable Spent Fuel Pool Instrumentation, February 27, 2015 [ML15068A007].
12. NextEra Energy Seabrook, LLC's Fifth Six Month Status Report in Response to March 12, 2012 Commission Order Modifying Licenses with Regard to Reliable Spent Fuel Pool Instrumentation, August 27, 2015 [ML15245A338].
13. Seabrook Station, Unit 1 - Report for the Onsite Audit Regarding Implementation of Mitigating Strategies and Reliable Spent Fuel Instrumentation Related to Orders EA-12-049 and EA-12-051 (TAC No. MF0836 AND MF0837), October 28, 2015 [ML15278A200].
14. NextEra Energy Seabrook LLC's Request for Schedule Relaxation from Order EA-12-049, Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events, dated July 23, 2015 [ML15209A581].
15. Seabrook Station, Unit 1 – Relaxation of the Schedule Requirements of Order EA-12-049, “Issuance of Order to Modify Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events,” (TAC No. MF0836), Dated October 4, 2015 [ML15244A045].

On March 12, 2012, the Nuclear Regulatory Commission (NRC) issued Order EA-12-051 (Reference 1) to NextEra Energy Seabrook, LLC (NextEra). The order was immediately effective and directed NextEra to install reliable spent fuel pool level instrumentation (SFPLI). Specific requirements are outlined in Attachment 2 of Reference 1.

Reference 1 required submission of an initial status report 60 days following issuance of the final interim staff guidance (Reference 2) and an overall integrated plan pursuant to Section IV, Condition C. Reference 2 endorses industry guidance document NEI 12-02, “Industry Guidance for Compliance with NRC Order EA-12-051, To Modify Licenses with Regard to Reliable Spent Fuel Pool Instrumentation,” Revision 1 (Reference 3) with clarifications and exceptions identified in Reference 2. Reference 4 provided NextEra's initial status report regarding mitigation strategies. Reference 5 provided the NextEra Energy Seabrook Overall Integrated Plan. Reference 7 provided NextEra's first six-month status report.

In Reference 8, the NRC requested additional information to enable the continued technical review of the NextEra Energy Seabrook Overall Integrated Plan (OIP). Reference 9 provided an update of milestone accomplishments since the last status report. It also provided responses to the Reference 8 request for additional information to the extent possible. Reference 10 provided the third update of milestone accomplishments.

Reference 11 provided the fourth update of milestone accomplishments and also included answers to the NRC request for additional information. Reference 12 provided the fifth six-month status update of milestone accomplishments, including changes to the compliance method, schedule, and the need for relief for the sensor locations at the fuel pool and the basis. Reference 12 also documented minor revisions to the previous responses to NRC requests for additional information and addressed NRC requests for additional information during the 2015 NRC Fukushima Order audit.

The NRC Letter dated October 28, 2015 for the July 2015 audit (Reference 13) delineates the items that were reviewed during the Seabrook onsite audit. Reference 13 identified no open audit item(s) related to the SFPLI. Condition C.3 of the Order required all Licensees to report to the Commission when full compliance with the requirements of the order is achieved. This letter provides notification that NextEra Energy Seabrook, LLC has completed the requirements of EA-12-051 and is in full compliance with the Order for Seabrook Unit 1. The enclosure to this letter provides a summary of how the compliance requirements were met.

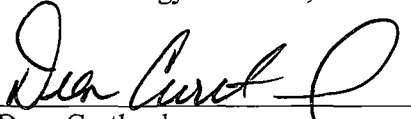
This letter contains no new regulatory commitments. Should you have any questions concerning this submittal, please contact Mr. Michael Ossing, Licensing Manager, at (603) 773-7512.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on December 15, 2015.

Sincerely,

NextEra Energy Seabrook, LLC



Dean Curtland
Site Vice President

Enclosures:

1. Seabrook Nuclear Plant Order EA-12-051 Full Compliance Report

cc: D. Dorman, NRC Region I Administrator
J. G. Lamb, NRC Project Manager, Project Directorate 1-2
P. Cataldo, NRC Senior Resident Inspector
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**NEXTERA ENERGY SEABROOK, LLC
SEABROOK NUCLEAR PLANT**

**FULL COMPLIANCE REPORT FOR THE
MARCH 12, 2012 COMMISSION ORDER MODIFYING LICENSES
WITH REGARD TO RELIABLE SPENT FUEL POOL INSTRUMENTATION
(ORDER NUMBER EA-12-051)**

BACKGROUND

The Seabrook Nuclear Plant developed an Overall Integrated Plan (OIP) (Reference 2), documenting how the requirements for reliable Spent Fuel Pool Level Instrumentation (SFPLI) would be achieved, in response to NRC Order EA-12-051, "Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events," (Reference 1). The Seabrook Nuclear Plant OIP was submitted to the NRC on February 26, 2013 and was supplemented by Six-Month Status Reports (References 3, 4, 5, 6 and 7), in accordance with Order EA-12-051 (the Order). By letter dated December 4, 2013, the NRC provided its Interim Staff Evaluation and Request for Additional Information regarding the Overall Integrated Plan for implementation of Order EA-12-051 (Reference 8).

The Seabrook Nuclear Plant has installed two independent full scale level measurement channels, supplied and qualified by Westinghouse in response to Reference 1.

On November 6, 2015, Seabrook achieved full compliance with Order EA-12-051 and commenced reactor startup on November 14, 2015. Completion of the elements identified below for Seabrook, as well as References 2, 3, 4, 5, 6 and 7, constitutes full compliance with Order EA-12-051 for Seabrook.

COMPLIANCE SUMMARY

NRC RAI, ISE, AND AUDIT ITEMS - STATUS: COMPLETE

During the ongoing NRC review and audit process (Reference 9), NextEra Energy provided responses for the following items for the Seabrook Nuclear Plant:

- Requests for Additional Information (RAI)
- Interim Staff Evaluation (ISE) Open Items
- ISE Confirmatory Items
- Licensee Identified Open Items
- Audit Questions
- Safety Evaluation Review Items

The NRC Letter dated October 28, 2015 for the July 2015 audit (Reference 9) delineated the items reviewed during the Seabrook onsite audit. Reference 9 identified no open audit item(s) related to SFPLI. As requested by the NRC, NextEra Energy responses, or references to the source document for the responses, to the SFPLI RAIs have been previously provided by References 2, 3, 4, 5, 6, and 7.

Reference 10 requested a relaxation of the schedule requirements contained in NRC Order EA-12-049 to allow time for implementation of a second set of strategies since the Supplemental Electrical Power System (SEPS) and Cooling Tower could not be credited for the entire spectrum of high wind events. By letter dated October 4, 2015 (Reference 11) the staff approved the request and the requirement for full implementation of Order EA-12-049 was relaxed to May 30, 2016.

As a result of the extension for NRC Order EA-12-049, the FLEX Support Guidelines (FSGs) that were being developed to direct the strategies for the new spent fuel pool level instrumentation could not be completed in time to support the compliance date for NRC Order EA-12-051. The required procedural guidance has been added into existing plant procedure OS1215.07, "Loss of Spent Fuel Pool Cooling or Level." This procedure directs the Operator actions for emergency makeup to the spent fuel pool on loss of spent fuel cooling or level. On a loss of the indication from the existing spent fuel pool level indicator or during an Extended Loss of AC Power (ELAP) event, the revised procedure directs the Operators to monitor Spent Fuel Pool level using the spent fuel pool instrumentation that has been installed to comply with NRC Order EA-12-051. An attachment to the procedure also directs the connection of a pre-staged generator to power the new instrumentation for long term coping during an ELAP event if the instrumentation is not being powered by the SEPS. The change to the abnormal procedure will bridge the interim period to issuance of the FSGs in May 2016.

Several additional changes to the overall plan were also implemented:

1. Since the FLEX storage area and portable generators that were to be used to power the one train of safety related plant ventilation will not be available, a heat up analysis was performed for the areas where the spent fuel pool level transmitters and electronics are located (Essential Switchgear Rooms and Containment Enclosure Ventilations Area). Engineering Evaluation EE-15-016, "CEVA and ESWGR Rooms Beyond- Design-Basis External Event Ventilation Evaluation" documents the results of the analysis. This evaluation confirmed that during an ELAP event and/or loss of the ultimate heat sink area temperatures will remain below the 140 deg. F temperature to which Westinghouse qualified the Spent Fuel Pool Instrumentation. The operation of one train of safety related plant ventilation is no longer be required to maintain operation of the spent fuel pool level instrumentation.

2. Seabrook has also addressed a recommendation for the NRC inspector during the 2015 FLEX audit. Signs have been posted at the entry points into the CEVA and Spent Fuel Building to exclude the use of portable radios and cell phones during ELAP events (Ref. AR 02063219). Signs have also been posted on the front of control panel 1-SF-CP-300-A & B to identify that radio use will interfere with spent fuel pool level indications.
3. Seabrook was unable to achieve reasonable margin for the channel check between the existing spent fuel pool level indication from 1-SF-LI-2706 and the new SFPLIs. With the +/-2 inch accuracy of the existing instrument loop and the +/- 3 inch accuracy of the new SFPLIS, the channel check with an acceptance criteria of +/- 2 inches could not be achieved with reasonable margin. Using the statistical Square Root Sum of the Squares (SRSS) methodology from ISA standard 67.04, Setpoints for Nuclear Safety Related Instrumentation,” for calculation of uncertainty between independent terms, readings between the existing level indicator (1-SF-LI-2607, +/- 2 in.) and the new SFPLIs (1-SF-LI-2616 and 1-SF-LI-2617, +/- 3 inches) will not exceed a bounding uncertainty of 3.6 inches ($\sqrt{2^2 + 3^2} = 3.6$ inches). For conservatism, channel maintenance and/ or channel calibration will be initiated if the deviation between indicated level readings exceeds 3.0 inches between the new SFPLI indicator channels and/or the existing 1-SF-LI-2607 indicator.

It is NextEra Energy’s position that no further actions related to the SFPLI RAIs are required. The interim configuration of the SFPLI as discussed above is fully compliant with the requirements of NRC Order EA-12-051. Upon completion of NRC Order EA-12-049 in May 2016, Seabrook will reaffirm that the new FLEX equipment storage area and revised program features (FSG procedures and training) maintain full compliance with Order EA-12-051.

MILESTONE SCHEDULE ITEMS - STATUS: COMPLETE

Seabrook Milestone	Status
Submit OIP	Complete
Commence Engineering and Design	Complete
Complete Engineering and Design	Complete
Complete Procurement of SFP Instruments	Complete
Commence Installation of SFP Instruments	Complete
Level Measurement System Functional	Complete

IDENTIFICATION OF LEVELS OF REQUIRED MONITORING - COMPLETE

Seabrook has identified the three required levels for monitoring spent fuel pool (SFP) level in compliance with Order EA-12-051. These levels have been integrated into the site processes for monitoring level during events and responding to loss of SFP inventory.

INSTRUMENT DESIGNED FEATURES - STATUS: COMPLETE

The design of the SFP level measurement instrumentation system installed at Seabrook complies with the requirements specified in Order EA-12-051 and described in NEI 12-02 "Industry Guidance for Compliance with NRC Order EA-12-051." The instrumentation system has been installed in accordance with the station design control process.

The instruments have been arranged to provide reasonable protection against missiles. The instruments have been mounted to retain design configuration during and following the maximum expected ground motion. The instruments have been environmentally qualified to assure reliable operation during expected environmental and radiological conditions when the SFP is at saturation for extended periods.

The instruments are independent of each other and have separate and diverse power supplies. The instruments will maintain their designed accuracy following a power interruption and are designed to allow for routine testing and calibration. The instrument display is readily accessible during postulated events and allows for SFP level information to be promptly available to decision makers.

PROGRAM FEATURES - STATUS: COMPLETE

Training of personnel performing maintenance functions including calibration and surveillance associated with the SFP level instrument channels at Seabrook has been completed in accordance with an accepted training process as recommended in NEI 12-02, Section 4.1. Operating and maintenance procedures for the Seabrook SFP level instrument channels have been developed, and integrated with existing procedures. These procedures have been verified and are available for use in accordance with the site procedure control program. Site processes have been established to ensure the instruments are maintained at their design accuracy.

REFERENCES

The following references support the Seabrook Nuclear Plant SFPLI Compliance Summary:

1. NRC Order Number EA-12-051, Order Modifying Licenses with Regard to Reliable Spent Fuel Pool Instrumentation, March 12, 2012 [ML12056A044].
2. NextEra Energy Seabrook, LLC's Overall Integrated Plan in Response to March 12, 2012 Commission Order Modifying Licenses with Regard to Reliable Spent Fuel Pool Instrumentation, (Order Number EA-12-051), February 26, 2013 [ML13063A439].

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12. Seabrook Procedure OS1215.07, "Loss of Spent Fuel Pool Cooling or Level," Revision 16.
13. Engineering Evaluation EE-15-016, CEVA and ESWGR Rooms Beyond Design Basis External Event Ventilation Evaluation, Revision 0.