



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

November 21, 2013

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

SUBJECT: SEABROOK STATION, UNIT NO. 1 - AUDIT REPORT REGARDING SEISMIC WALKDOWNS TO SUPPORT IMPLEMENTATION OF NEAR-TERM TASK FORCE RECOMMENDATION 2.3 RELATED TO THE FUKUSHIMA DAI-ICHI NUCLEAR POWER PLANT ACCIDENT (TAC NO. MF0175)

Dear Mr. Walsh:

On March 12, 2012, the U.S. Nuclear Regulatory Commission staff (NRC or the staff) issued a request for information letter per Title 10 of the *Code of Federal Regulations*, Subpart 50.54(f) (50.54(f) letter). The 50.54(f) letter was issued to power reactor licensees and holders of construction permits requesting addressees to provide further information to support the NRC staff's evaluation of regulatory actions to be taken in response to lessons learned from Japan's March 11, 2011, Great Tōhoku Earthquake and subsequent tsunami. The request addressed the methods and procedures for plants to conduct seismic and flooding hazard walkdowns to identify and address degraded, nonconforming, or unanalyzed conditions through the corrective action program, and to verify the adequacy of the monitoring and maintenance procedures.

By letter dated November 26, 2012, and as supplemented by letter dated September 30, 2013, NextEra Energy Seabrook, LLC (NextEra) submitted a Seismic Walkdown Report as requested per Enclosure 3 of the 50.54(f) letter for the Seabrook Station, Unit No. 1.

On July 30-August 1, 2013, the NRC staff conducted an on-site audit to gain a better understanding of the methods and procedures used by NextEra to conduct the seismic walkdowns and facilitate the NRC staff review of the walkdown report.

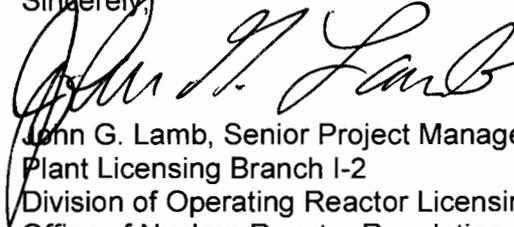
The audit report is enclosed.

K. Walsh

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

Sincerely,

A handwritten signature in black ink, appearing to read "John G. Lamb". The signature is fluid and cursive, with the first name "John" being particularly prominent.

John G. Lamb, Senior Project Manager  
Plant Licensing Branch I-2  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket No. 50-443

Enclosure:  
Audit Report

cc w/encl: Distribution via Listserv

REPORT OF REGULATORY AUDIT ON JULY 30 TO AUGUST 1, 2013

SEISMIC WALKDOWNS

NEXTERA ENERGY SEABROOK, LLC

SEABROOK STATION, UNIT NO. 1

DOCKET NO. 50-443

BACKGROUND

On March 12, 2012, the U.S. Nuclear Regulatory Commission staff (NRC or the staff) issued a request for information letter per Title 10 of the *Code of Federal Regulations*, Subpart 50.54(f) (50.54(f) letter). The 50.54(f) letter was issued to power reactor licensees and holders of construction permits requesting addressees to provide further information to support the NRC staff's evaluation of regulatory actions to be taken in response to lessons learned from Japan's March 11, 2011, Great Tōhoku Earthquake and subsequent tsunami. The request addressed the methods and procedures for plants to conduct seismic and flooding hazard walkdowns to identify and address degraded, nonconforming, or unanalyzed conditions through the corrective action program, and to verify the adequacy of the monitoring and maintenance procedures.

By letter dated November 26, 2012, NextEra Energy Seabrook, LLC (NextEra) submitted a Seismic Walkdown Report as requested in Enclosure 3 of the 50.54(f) letter for the Seabrook Station, Unit No. 1 (Seabrook). On July 30 - August 1, 2013, the NRC staff conducted an on-site audit to gain a better understanding of the methods and procedures used by NextEra to conduct the seismic walkdowns and facilitate the NRC staff review of the walkdown report.

REGULATORY AUDIT BASIS

The guidance for performing the seismic walkdowns was developed by the Electric Power Research Institute (EPRI) with review and input from the NRC staff in numerous public meetings, webinars, and public conference calls during its development. The EPRI submitted EPRI-1025286, "Seismic Walkdown Guidance for Resolution of Fukushima Near-Term Task Force Recommendation 2.3: Seismic" (walkdown guidance) for endorsement, and the staff subsequently endorsed the walkdown guidance by letter dated May 31, 2012.<sup>1</sup> By letter dated July 9, 2012,<sup>2</sup> NextEra indicated that they would utilize the walkdown guidance in the performance of the walkdowns at Seabrook.

The 50.54(f) letter and the walkdown guidance were used as the basis documents upon which the regulatory audit was performed.

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<sup>1</sup> Agencywide Documents Access and Management System (ADAMS) Accession No. ML12164A181.

<sup>2</sup> ADAMS Accession No. ML12195A005.

## AUDIT ACTIVITIES

The NRC audit team consisted of Scott Flanders (NRC/Office of New Reactors (NRO)), James Isom (NRC/Office of Nuclear Reactor Regulation (NRR)), Frankie Vega (NRC/NRO), Pravin Patel (NRC/NRO), Mathew Jennerich (NRC/Region I (RI)) and Mano Subudhi (NRC contractor).

The audit team reviewed the following types of information:

- Action Requests (AR's) generated during seismic walkdowns.
- Pre-audit self-assessment report – AR01887765 – licensee noted several documentation anomalies which led to the issuance of two additional condition reports.
- Field and intermediate seismic walkdown and area walk-by checklists.
- Licensee letter to the NRC on the peer review dated July 16, 2013.
- Seismic Walkdown Checklist (SWC) packages for 1-EDE-US-E64, 1-SWA-FN-63, 1-EDE-PP-1-B, 1-DG-P-117-B, 1-EDE-X-5-H.
- PEER Review Tables 5-1 and 5-2 – provides a summary of items discussed during the peer review process.
- Updated Report Table 5-2, "Table of Actions Resulting from Seismic Walkdown Inspection," and Table 5-3, "Table of Actions Resulting from Seismic Walk-by Inspection."

The NRC staff performed an independent review of selected items and areas based on the licensee's walkdowns. The team observed and discussed the following conditions with the licensee to further understand the licensee's overall walkdown processes.

- 1-EDE-US-64 (SWC) – This component is located in the cooling tower switchgear building. The NRC staff asked about a hoist located on rail on top of the bus which appeared to have the potential to roll and cause impacts. The NRC staff discussed this condition with the licensee and the licensee provided additional justification to assess this condition as acceptable. AR#1889658 was issued to address the issue.
- 1-EGE-X-5H (SWC) – This component is located in the cooling tower switchgear building. Several anchorage welds are 3.75" long, as opposed to 4" prescribed in plant documentation. The NRC staff asked about this condition and discussed it further with the licensee. As a result of the discussion, the licensee opened AR#1889664. The NRC staff also noted a possible seismic interaction issue between 1-EGE-X-5H and FTT-CP-429 (electric heat tracing panel) which appeared to have anchorage corrosion and missing bolts. According to discussions with the licensee, this panel has an anchorage that is seismically adequate and is not seismic category 1 equipment. The licensee determined that the surface corrosion was not considered significant.
- 1-SWA-FN-63 (SWC) – This component is a supply fan located in the cooling tower switchgear building. The NRC staff verified the condition of two anchors that were not plumb. The licensee stated that this condition was not a significant issue for capacity. The NRC staff verified the drawings and design calculation sheets and discussed these further with the licensee.
- 1-DG-P-117-B (SWC) – This component was located in the diesel generator building. Visual cracks are present but judged to be of minor significance by the licensee. No additional information was provided to justify its acceptability. The NRC staff observed

these minor cracks which extended through the middle of the anchor bolt in the front and back of the grout pad.

- 1-EDE-PP-1-B (SWC) – The NRC staff observed the condition of a hairline crack through one anchor located in a switchgear room. The licensee stated that the strength reduction was not significant given amount of anchorage for a small panel. The NRC staff observed that this minor crack extended through only one of bolts in the anchor.
- PB412- (AWC) - service water pipe support #1821-RG-8, near valve SW-V-74 is corroded below Elevation 25 feet directly beneath scaffold NP-0117A. According to the licensee, condensation water had caused this issue. AR#1805614 was issued to address this issue.
- 1-MM-CP-108B – This remote safe shutdown panel was not bolted to the adjacent cabinet MCC-631. The NRC staff noted the 2” gap between both components and the bolted shims placed in between them. The licensee opened AR#1818942 to address this issue.

### AUDIT SUMMARY

The audit team engaged in various discussions including individual interviews with the licensee and its contractor that led to a significant increase in the level of clarity on the processes used by the licensee when conducting seismic walkdowns.

Specifically, the NRC staff obtained additional clarification regarding: the background and qualifications of individuals who conducted the seismic walkdown activities, participation and roles of the operations staff, scope of the peer review, experience and independence of the peer reviewers, development of the seismic walkdown equipment list, the conduct and the reporting of the seismic walkdowns and area walk-bys, and the approach used to disposition potential issues identified during the walkdown activities. By discussing in depth with the licensee these specific topics and reviewing the documentation mentioned above, the team was able to meet the objectives of the audit and has the information and understanding of the licensee's process regarding seismic walkdowns sufficient to address the issues identified in the audit plan. It should be noted that the licensee performed a self-assessment in preparation to this audit and noted several documentation anomalies similar to the ones previously noted by the staff during their review.

During the audit, the licensee committed to submit a supplement to their seismic walkdown report. This supplement would address the staff's observations and provide additional clarity on the licensee's walkdown process. Specifically, the following updates were requested: inclusion of peer review Tables 5-1 and 5-2, updates to Tables 5-2 and 5-3 reporting potential adverse seismic conditions identified during walkdowns and walk-bys and during the self-assessment. The NRC staff also requested condition report numbers and issuance dates for potential adverse seismic conditions, the peer review report including clarification on the roles and responsibilities of peer reviewers, and additional clarifications on the rationale followed when determining that potential adverse seismic conditions were within the seismic licensing basis.

### Entrance Meeting July 30, 2013

The NRC staff discussed the audit plan including the scope, topics of discussions and possible path forward with the licensee. The licensee provided a presentation regarding their self-assessment and stated their intention to submit a supplement to their report.

### Exit Meeting August 1, 2013

The NRC team summarized the activities that were conducted and described the issues that were identified during the three-day audit. The licensee was given the opportunity to ask questions. The NRC described its path forward which includes the development of the audit report and the formal staff assessment. The licensee committed to provide a supplement to their walkdown report within 60 days of the audit.

### POST-AUDIT CLARIFICATIONS

The NRC staff conducted a conference call with the licensee on September 3, 2013, to provide clarification on the requested modifications to the updated seismic walkdown report discussed during the NRC staff's audit. The licensee confirmed it understood the request and would submit an updated supplement to support the staff's review of the licensee's walkdown report and the development of the NRC staff assessment. The licensee provided an updated walkdown report by letter dated September 30, 2013.

### CONCLUSION

During the audit, the NRC staff gained a better understanding of the methods and procedures used by NextEra when conducting seismic walkdown activities at Seabrook. Specific clarifications and additional information needed by the NRC staff regarding the licensee's seismic walkdown report were discussed. In response, the licensee submitted an updated seismic walkdown report by letter dated September 30, 2013.

Based on the information gained during the audit and in conjunction with the original submittal and supplemental information provided by the licensee, the NRC staff has sufficient information to complete a staff assessment of the licensee's response to the 50.54(f) letter.

K. Walsh

- 2 -

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

Sincerely,

*/ra/*

John G. Lamb, Senior Project Manager  
Plant Licensing Branch I-2  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket No. 50-443

Enclosure:  
Audit Report

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**ADAMS Accession Number: ML13281A476**

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DATE	10/07/2013		11/21/2013	

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