

## SeabrookLANPEm Resource

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**From:** Poole, Justin  
**Sent:** Friday, January 13, 2017 2:59 PM  
**To:** Browne, Kenneth  
**Cc:** Koenick, Stephen; Quichocho, Jessie; Lehman, Bryce; Hoang, Dan; Thomas, George  
**Subject:** Audit Plan Regarding Seabrook ASR License Amendment Review  
**Attachments:** Seabrook ASR LAR Audit Plan final.pdf

Mr. Browne,

By letter dated August 1, 2016 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML16216A240), as supplemented by letter dated September 19, 2016 (ADAMS Accession No. ML16258A022), NextEra Energy Seabrook, LLC (NextEra) submitted a license amendment request (LAR) to revise its current licensing basis to adopt a methodology for the analysis of seismic Category I structures with concrete affected by alkali-silica reaction (ASR). This is to inform you that the U.S. Nuclear Regulatory Commission (NRC) staff plans to perform a regulatory audit of your application. This technical audit will be performed consistent with NRC Office of Nuclear Reactor Regulation, Office Instruction LIC-111, "Regulatory Audits," dated December 29, 2008 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML082900195). Consider this a framework for establishing information sharing services and conducting face-to-face and/or on-site interactions to complete the review of the LAR. Note, that during the timeframe of the audit, all documents reviewed will be listed as references in the Audit Report and any necessary docketed information will be requested via RAI in order to reach the reasonable assurance finding. The NRC staff will develop an audit summary report to document its observations and conclusions within 30 days of the conclusion of the audit.

If you have any questions, please call or email me.

*Justin C. Poole  
Project Manager  
NRR/DORL/LPL I  
U.S. Nuclear Regulatory Commission  
(301)415-2048*

**Hearing Identifier:** Seabrook\_LA\_NonPublic  
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**Received Date:** 1/13/2017 2:58:59 PM  
**From:** Poole, Justin

**Created By:** Justin.Poole@nrc.gov

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**Post Office:** HQPWMSMRS01.nrc.gov

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Seabrook ASR LAR Audit Plan final.pdf		155649

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**Return Notification:** No  
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**Sensitivity:** Normal  
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## **Audit Plan for Seabrook Alkali-Silica Reaction (ASR) LAR Review**

**Audit for:** Seabrook Station, LAR to adopt a Methodology for the Analysis of Seismic Category I Structures with Concrete Affected by ASR (LAR 16-03, CAC NO. MF8260)

**Audit Dates:** January 2017 to TBD (until NRC SE is issued)

**Type of Audit:** Analysis Methodology and Supporting Calculations, Information Portal and Possible Site Audits

**Planned Audit Hours:** Open, TBD

**Auditors:** D. Hoang, Structural Engineer  
B. Lehman, Structural Engineer  
G. Thomas, Sr. Structural Engineer  
R. Morante, Consultant Engineer, BNL  
J. Poole, Project Manager  
J. Quichocho, Chief

### **Background**

By letter dated August 1, 2016, and supplemented by letter dated September 30, 2016, NextEra Energy Seabrook (NextEra or the licensee) submitted a license amendment request (LAR) to revise the current licensing basis for Seabrook Station, Unit 1 (Seabrook) to adopt a methodology for the analysis of seismic category I structures with concrete affected by alkali-silica reaction (ASR). The proposed amendment would revise the Seabrook Updated Final Safety Analysis Report (UFSAR) to include new methods for analyzing seismic category I structures affected by ASR. In order to fully understand the proposed methodology, the NRC plans to use a regulatory audit to review the final calculations, and other supporting documentation, that implement the proposed methodology.

### **Regulatory Basis**

The purpose of the audit is to support NRC staff review of the Seabrook LAR in accordance with NUREG-0800, Standard Review Plan, Sections 3.8.1 and 3.8.4 and Revision 3 of Regulatory Guide 1.92, "Combining Modal Responses and Spatial Components in Seismic Response Analysis."

### **Regulatory Audit Scope**

The scope of this audit is to review the calculations and analyses, and supporting documentation that implement the new method for analyzing seismic category I structures affected by ASR, and conduct related walkdowns as needed. This will allow the staff to gain a better understanding of the unique, first-of-a-kind methodology and ensure the methodology is being applied as described in the LAR.

The following is an initial list of documents that may be reviewed during the audit:

- MPR-4153, Revision 2, "Seabrook Station – Approach for Determining Through-Thickness Expansion from Alkali-Silica Reaction," July 2016
- Simpson Gumpertz & Heger, Inc., "Evaluation and Design Confirmation of As-Deformed CEB, 150252-CA-02," Revision 0, July 2016 (Seabrook FP# 100985)

- Completed calculations demonstrating the application of the methodology to additional ASR-affected structures
- Documents containing technical information and assumptions that supports the methodology analysis.

### Team Assignments

NRC Staff participation is projected as follows (some deletions, additions, or substitutions may occur on an as-needed basis):

Area of Review	Assigned Auditor
Project Manager	Justin Poole
Technical Lead	Bryce Lehman, Structural Engineer
Technical Reviewer	George Thomas, Senior Structural Engineer
Technical Reviewer	Dan Hoang, Structural Engineer
Technical Reviewer	Richard Morante, Reviewer, Brookhaven National Laboratory
Management	Jessie Quichocho, Branch Chief

### Logistics

The audit will be conducted at NRC Headquarters, Seabrook, and/or other locations as appropriate. NextEra will make relevant information available in an online information portal or hard copies, as appropriate, and will provide rooms and space as necessary if site visits are needed. Meetings, site visits, and teleconferences will be held as necessary for clarification of information and determination of supplemental information to be docketed to support the NRC staff's review. As appropriate, public meetings will be held for technical discussions. The NRC staff will develop an audit summary report to document its observations and conclusions within 30 days of the conclusion of the audit.

### Special Requests

TBD

<b>Audit Overview:</b>	Perform a review of Seabrook Station Methodology for the Analysis of Seismic Category I Structures with Concrete Affected by ASR and supporting documents.
<b>Audit/Observer:</b>	None
<b>Daily Team Debriefs:</b>	As needed
<b>Entrance Meeting:</b>	Via teleconference at a date to be determined (not long after issuance of the audit plan). An entrance meeting would also be held for any site audits that may occur.
<b>Exit Meeting:</b>	Via teleconference at the end of the audit process. An exit meeting would also be held for any site audits that may occur.
<b>Licensee Contacts:</b>	Licensing Manager: Kenneth Browne (603) 773-7932

**List of Documents Requested:** TBD

**Branch Chief's Instructions:** TBD

**Approving Branch Chief:** Jessie Quichocho      **Date:** 01/06/17

**COPIES PROVIDED:**

**Branch Chiefs:** Jessie Quichocho, Stephen Koenick

**Project Managers:** Justin Poole

**Original to Branch Files:** NRR/DE/EMCB

**Auditors:** D. Hoang, B. Lehman, G. Thomas, R. Morante

**Licensee:** Kenneth Browne