



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION I**

2100 RENAISSANCE BOULEVARD, SUITE 100  
KING OF PRUSSIA, PENNSYLVANIA 19406-2713

February 10, 2014

Bruce Skud, Co-Founder  
Johanna Hammond, Co-Founder  
No More Fukushimas  
14 Olive Street  
Newburyport, MA 01950

**SUBJECT: SEABROOK STATION - CONCRETE ALKALI-SILICA REACTION**

Dear Mr. Skud and Ms. Hammond:

I am responding to your letter dated January 6, 2014, regarding the U.S. Nuclear Regulatory Commission (NRC) public meeting on December 18, 2013, to discuss NextEra's planned test activities for structures affected by alkali-silica reaction (ASR) at Seabrook Station (Seabrook). This meeting, which was open to observation by members of the public, was followed by a question and answer session with NRC staff in which you participated. The enclosure to this letter provides a response to the questions and comments in your letter.

The purpose of the meeting with NextEra Energy Seabrook, LLC (NextEra) was for NRC staff to gain a better understanding of NextEra's large specimen testing program currently underway at the University of Texas' Ferguson Structural Engineering Laboratory. NextEra has not submitted this test program for approval nor has the NRC staff approved this test program. As stated at the December 2013 meeting, NRC inspections have determined that the ASR-affected structures at Seabrook remain capable of performing their intended safety functions based on technical reviews of NextEra's prompt operability determinations. The NRC will complete additional inspections to verify that NextEra evaluates information as it becomes available from their monitoring and test programs for potential impact to future safe operations and license renewal.

There are a few statements in your letter that I would like to address for clarity. First, you stated that during the meeting the NRC staff attempted to convince the public that NextEra's ASR study would be beneficial, and then sought to explain why the NRC's approval of the study was justified. Second, you wrote, "With untold millions of dollars at stake if the plant must undergo costly renovations, it is obvious to all objective observers that a study funded by the party most affected by the study outcome is anything but impartial, although the NRC is behind this approach one hundred percent."

As noted above, the purpose of the meeting with NextEra was to allow the company an opportunity to present and discuss its large-specimen testing program. The NRC has neither recommended nor ordered NextEra to take this approach nor have we approved it. Should NextEra elect to use the test results to resolve the ASR non-conforming condition, the testing

methodology and results will be subject to NRC review pursuant to the applicable regulatory processes described in Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.59 and/or Section 50.90.

Regarding NextEra funding of their test program, a licensee is responsible both legally and financially for the safety of its facility. In this regard, the ASR issue is not unlike any other safety-related system, structure or component problem that warrants resolution by the plant owner.

We will continue to closely monitor NextEra's efforts to address the ASR issue and will take any necessary action to ensure the continued safe operation of Seabrook. We plan to continue to provide information to our stakeholders using the Reactor Oversight Process and our dedicated website for the Seabrook ASR issue.

If you have questions regarding this response please contact Mel Gray (610) 337-5209 or William Cook (610) 337-5074 of my staff.

Sincerely,

*/RA/*

William M. Dean  
Regional Administrator

Enclosure:  
NRC Response – Seabrook ASR Letter

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**/RA/**

William M. Dean  
Regional Administrator

Enclosure:

NRC Response – Seabrook ASR Letter

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## Enclosure

### NRC Response – Seabrook ASR Letter

Specific questions in the letter of January 6, 2014, are addressed below.

**Question:** Will Region 1 hold public meetings on the Seabrook nuclear power plant in other affected states?

**Response:** At all nuclear power plants, the NRC holds meetings at an acceptable location near the site. We believe that a central location (close to the center of the 10-mile emergency planning zone) allows the majority of residents in the surrounding communities to attend meetings of interest. We intend to continue this practice for Seabrook meetings.

**Question:** Will Region 1 Address—not ignore—issues that are repeatedly raised by the public?

**Response:** Specifically, your letter asks that we hold a meeting to discuss the potential for flooding at Seabrook Station. The issue of flooding is being addressed by the NRC's Japan Lessons-Learned Directorate. The NRC sent all nuclear power plants a letter on March 12, 2012, requesting that they reevaluate the seismic and flooding hazards at their sites using updated seismic and flooding hazard information and present-day regulatory guidance and methodologies, and if necessary, perform an associated risk evaluation. The evaluations associated with the requested information do not revise the design basis of the plants; however, following receipt of the requested information, the NRC staff will determine whether additional regulatory actions are necessary to provide additional protection against the updated hazards.

Seabrook Station has until March 12, 2015, to complete and submit their flooding reanalysis. Should NextEra identify flooding conditions or related re-evaluation results that challenge the Seabrook design basis flood protection features, NextEra would be required by their current operating license to take prompt and effective corrective actions. Consistent with our Reactor Oversight Process, the NRC would review and assess the adequacy of those actions. The results of our review would be available to the public.

Seabrook Station ground elevation is 20 feet above mean sea level (MSL). The normal high tide for the Hampton Harbor estuary is 4.6 feet above MSL. In locations where the potential exists for wave run-up from a hypothetical storm, the site is protected by a riprap revetment. As documented in the Seabrook Final Safety Analysis Report, Section 2.4, "Hydrologic Engineering," it was concluded that a maximum sustainable site ponding level at Seabrook Station for the combined probable maximum flood and probable maximum hurricane (PMF/PMH) event is less than 21.0 feet above MSL. Accordingly, all entrances and openings in safety-related facilities, except the fuel storage building and the primary auxiliary building, were designed to be at least one foot above the plant grade of 20 ft above MSL. The fuel storage building, which is at elevation 20 feet 6 inches, has curbs about one foot high. The entrance

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vestibule into the equipment vault section of the primary auxiliary building is at elevation 20 feet 8 inches. Based upon recorded history, the greatest storm surge occurred in February 1723 (Boston) and reached a height of 10.7 feet above MSL.

NRC staff reviewed the study you cited by Stanford researchers<sup>1</sup> and supplementary material available online. Our review did not identify any plant specific data regarding U.S. nuclear power plants to support the study's conclusions.

Regarding your request to change the license renewal rule, the NRC has a formal process for requesting changes to NRC regulations. Information on filing such a request is available at <http://www.nrc.gov/about-nrc/regulatory/rulemaking.html>.

**Question:** Will the Region 1 Regional Administrator Attend Public Meetings on Seabrook?

**Response:** Which NRC staff members attend a meeting is based on availability, the type of meeting and topics involved. As we do for all meetings, Regional management determines the most appropriate staff members to attend each meeting. We will continue to do this in the future. As was explained to you in an email soon after receipt of this letter, the Regional Administrator was scheduled to attend the public meeting in October 2013 that was postponed due to the government shutdown. He was unable to attend the rescheduled meeting in December, which is why the Deputy Regional Administrator participated.

**Question:** Will Region 1 continue to videotape all NRC public meetings concerning the Seabrook plant and make the videotapes available to the public?

**Response:** The NRC will evaluate the cost and benefit of videotaping future Seabrook ASR public meetings. The NRC plans to post the videotape on the Seabrook-specific webpage after it has been processed by our contractor.

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<sup>1</sup> The Fukushima Disaster and Japan's Nuclear Plant Vulnerability in Comparative Perspective, Environmental Science and Technology, P. Y. Lipsky, et al. Published May 16, 2013.