



June 24, 2014

Mel Gray
Branch Chief of Engineering Branch 1
United States Nuclear Regulatory Commission
2100 Renaissance Blvd. Suite 100
King of Prussia, PA 19406-2713

Dear Mr. Gray,

We would like to thank you and NRC staff for your willingness to meet with the C-10 Foundation on June 24th 2014 prior to your agency's annual safety performance review at the Seabrook nuclear plant to discuss three specific questions we sent to you several weeks ago. In addition, we are requesting that you and SAITT address the following questions below in writing at your earliest convenience.

- 1) Have other US reactors sites identified concrete degradation caused by ASR? Is ASR concrete degradation essentially unique to Seabrook? What is the NRC doing to investigate this adverse condition within the US fleet?
- 2) If generic or industry-wide concrete aging information is not applicable to Seabrook, how can the NRC rely on industry wide aging information about other passive components and structures?
- 3) ASR causes concrete to expand in all directions. Seabrook has many buildings that do not have transverse or "out of plane" reinforcement. The NextEra ASR CCI monitoring criteria thus far only assesses surface x and y direction (vertical and horizontal) expansion but not z (transverse) or "through wall" direction. Yet, the Ferguson "Replica" large scale test results have revealed that when deep pin expansion measurements were taken, the vertical and horizontal surface measurements after the initial measurements seem to plateau while the Z were

10 times greater than the X & Y in one year. Therefore, the Prompt Operability Determinations (POD) analysis that have been done to-date to assure the public that Seabrook's safety margins have not been exceeded is in our opinion as unreliable as the monitoring program criteria being used. Have you requested that Seabrook's POD's be redone after these tests results were reported to SAITT? Why are the POD's being done on "assumed data" when test results are available? Have you requested that they be done on actual data results?

Five years after ASR was discovered at Seabrook and first in the nuclear industry, the public still does not know the extent of degradation at Seabrook. C-10 and UCS have asked repeatedly that certified lab tested concrete core analysis be expanded both in volume and to include removing concrete in more depth within walls for key material properties as well as the routine six month CCI visual inspection exams within NextEra's ASR structural monitoring program. Data results from Seabrook's visual CCI, strain gage design measurements, non-destructive testing, and the data results from lab tested concrete cores for specific material properties are a minimum requirement to determine a baseline and age monitoring program. No safety determination or extent of condition can be made on anything short of this critical requirement to develop a reliable monitoring program.

- a) What is SAITT's list of specific tests to acquire the critical data points to assess the extent of condition, the volume of data points, and over what interval of time in all safety buildings to establish a reliable database? Please list specific tests and what material properties you have required of NextEra.
 - b) Have you developed the strain gage designs and are they implemented? Will you require them? Will you and When?
 - c) Will you request a complete list of material testing on core samples at various depths be taken routinely as they are cost effective and easy to execute? Have you?
 - d) What specific requests to NextEra have you made to determine new areas of affected with ASR within all buildings on-site? What have you requested specifically?
- 4) In the June 29, 2011 RAI, NextEra stated that in accordance with ASME Section XI, Subsection IWE 1241(a) Seabrook would do a one-time UT examination at 10 degree increments 36 measurements) by Dec. 2015. IWE-1241(a) and Table IWE-2500 require performing UT examination of 100% of the area designated for augmented examination during each inspection period until the area

remains essentially unchanged for three consecutive inspection periods. Did the NRC request compliance with the IWE-2500 requirement? Yes or No. If not. Why not? If Yes. When and what are the measurement results and dates they were done.

- 5) What percentage of the items covered in the age management programs required by the license renewal rule are inspected by the NRC? What is the percentage?
- 6) Seabrook's ASR is a new discovery within the US nuclear fleet, and therefore, monitoring criteria, repair methods, and the rate of expansion to predict a loss of function are largely unknown in nuclear plant structures. This is a new hazard at Seabrook and other nuclear plants that requires a thorough probe and on-going and careful assessment. Will you dedicate an NRC on-site specialty inspection team to audit NextEra's data results and all monitoring data and make them public every six months for the duration of Seabrook's current license? Will you or will you not? If not, what measures and specific procedures with you require to assure the public that Seabrook will continue to operate safely within safety margins before a loss of function occurs?

We look forward to your prompt response to our questions.

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cc. William M. Dean,
NRC Regional Administrator, Region 1
U.S.Senator Edward J Markey,
U.S. Representative John F Tierney