December 22, 2011

William M Dean
Regional Administrator Region 1
US NRC
475 Allendale Road
King of Prussia, Pa,
19406

Dear Mr. Dean,

The C-10 Research and Education Foundation is a non-profit public safety advocacy group based in Newburyport, Massachusetts. C-10 Foundation established a real-time radiological monitoring network in 1991 to monitor emissions from the Seabrook nuclear reactor for use in assessing the impact on health and the environment. We are currently under contract with the Massachusetts Department of Public health to track radiation levels in the Massachusetts communities within the ten mile EPZ.

The C-10 Foundation is requesting answers to the public's numerous questions concerning Seabrook Station's "as-is-state" under their current license secondary to the newly discovered ASR concrete degradation in several safety related buildings.

On November 18th, 2011, in NRC Informational Notice 2011-20: Concrete Degradation By Alkali-Silica Reaction" the NRC informed all holders of operating licenses for a nuclear power reactor, that Seabrook

Station had ASR-induced concrete degradation in several safety related buildings and structures. It stated, testing done in the Control Building (a seismic Category 1 structure) "demonstrated a substantial reduction in compressive strength and a modulus of elasticity substantially lower than the expected value".

In our investigation of Seabrook's ASR concrete degradation, we determined that Seabrook Station was built under a 1963 Structural Code, and used the American Society for Testing and Materials (ASTM) C227 and ASTM C289 during construction. The ASTM has subsequently provided numerous updated standards. The application for those upgrades were not incorporated into Seabrook Station's Maintenance Rule Requirements to prevent undetected degradation to safety related plant structures, systems, parts and components by the operators. Neither did the NRC request a specific action or written response from operators when these ASTM upgrades were submitted.

It is our understanding, ASTM technical standards are issued to provide regulators the basis for new industry guidance to develop measures to prevent age related degradation for existing plants and to provide an industry regulatory requirement to more adequately assure that early signs of age degradation are detected and tracked properly. We believe the NRC to be not only responsible to inform but to assure that plant operators are amending and updating their Maintenance Rule obligations and providing regulators with written documentation to demonstrate they are capable of preventing a widening of the safety margins at older plants, and to assure that existing plants are not operating outside of their current license design basis.

Furthermore, the basis for license extension must be based on up-dated NRC procedural requirements secondary to the information provided from ASTM standard up-grades in an acceptable time-frame.

The NRC has not required any further accountability from the industry when new technical standards are issued. More concerning, when the NRC identifies an early and extensive degradation process is discovered at reactors and an adverse trend is forming specific actions are not required. In the NRC Informational Notice it states "suggestions contained in the IN are not NRC requirements: therefore, no specific action or written response is required".

After the NRC distinguished Seabrook Station as the first reactor in the US fleet to demonstrate ASR concrete degradation during a license renewal, we carefully reviewed the available NRC inspections of Seabrook Station to understand how and why this occurred. NRC inspection reports revealed a cascade of NextEra's operational shortcomings and unfortunately some weaknesses in NRC's Region 1 oversight capacity.

In the May 23, 2011, NRC License Renewal Inspection Report 05000443/2011007, it was stated that Seabrook is in an existing program to manage the aging effects in B.2.1.2B ASME Section XI, Subsection IWL. In the report, the NRC team noted that "a technically acceptable trending system was not implemented to establish the status of observed cracks (stable or active), and qualifications and certification of inspectors/examiners was not explicitly established and documented to assure assignment of qualified individuals for inspection. The inspection personnel selection is left to the supervisor of the group. Also, there is a lack of clear quantitative acceptance/evaluation criteria established by the procedure to assure consistency in observation, evaluation and assessment of inspection results by different inspectors and technical personnel/engineers and at different times". It was further noted that the program needed to include the definition of "Responsible Engineer".

These NRC reports reveal the need for "responsible engineers" to follow required regulations and professional standards within the industry. They also reflect the NRC's need to revamp existing routine reactor inspection processes to prevent this accumulative industry engineering incompetence from occurring in the future. For example, did you know that NextEra failed to classify Seabrook's (ITS) intake transition structure and (DTS) discharge transition structure as in-scope structures in the MR database, therefore they were not inspected under the structures monitoring program per PEG04 from 1995-2009? Both of these safety related structures have been determined to have the same ASR concrete degradation as Seabrook's control building.

In response to the public's concern and request for accountability and detailed information, The C-10 Foundation held an educational forum on Seabrook's Relicensing in November. We provided experts to discuss the technical issues surrounding age related degradation, and primarily of Seabrook's newly discovered ASR concrete degradation. Unfortunately, the NRC, while invited, could not attend.

NRC reports, and recent press coverage concerning Seabrook Station have impacted public confidence in the industry and the regulator's capacity to operate the plant safely. The public does not understand how the NRC can consider Seabrook's license renewal to 2050, given NextEra's failure to detect moderate-severe ASR degradation and manage "aggressive" groundwater infiltration since the plant went into operation. From the perspective of stakeholders, given the degree of degradation and the extensive involvement throughout plant buildings and structures, operators should be required to demonstrate that they have repaired structures and demonstrated they can consistently follow an age management program under their current license to 2020 before the NRC could consider a license renewal to 2050.

In response to the public's request to be informed on this unresolved safety issue, The C-10 Foundation is requesting NRC transparency in your full "as-is-state" investigation of Seabrook's ASR concrete

degradation. We are requesting all testing and data results from your internal investigation that define the extent and degree of ASR degradation to Seabrook's buildings and structures including all of the industry's test and data results be made public. Furthermore, that all documents pertaining to Seabrook's deficient condition and unresolved safety item be made public for peer review before you approve a restart of the safety portion of Seabrook's relicensing process.

There exists a serious lack of public confidence in both the industry's ability to operate the plant safely and the NRC's ability to successfully oversee their operations in an extended license renewal to 2050.

The C-10 Foundation has received the September 12, 2011 internal memorandum to Robert A. Nelson, Division of Policy and Rulemaking Office of Nuclear reactor Regulation from Darrell J Roberts, Director Division of Reactor Projects.

Would you please respond in writing to the following questions pertaining to this memo.

Per the memo dated September 12, 2011, between Darrell J. Roberts, Director – Division of Reactor Projects in Nuclear Regulatory Commission Region I and Robert A. Nelson, Deputy Director – Division of Policy and Rulemaking in the NRC's Office of Nuclear Reactor Regulation in Rockville, Md, the owner of the Seabrook nuclear plant took samples of the concrete in the Control Building's exterior walls as part of its efforts to renew the plant's operating license. Evaluation of the samples revealed unexpected degradation that has been attributed to an alkali-silica reaction (ASR). Further sampling identified ASR degradation in four of five other buildings.

Question 1: Would the concrete degradation have been identified if the sampling conducted in support of the license renewal application had not been done?

If yes, what is the inspection or testing process that would have identified the concrete degradation?

Is this inspection or testing process part of an ongoing effort at Seabrook or a new, not-yet-conducted regime?

If part of an ongoing process, why wasn't the concrete degradation detected sooner?

If a new, not-yet-conducted regime, does the concrete degradation at Seabrook suggest that this regime should be conducted sooner?

If no, will the industry and the NRC revise its inspection and testing programs so as to detect concrete degradation in the future?

The September 12, 2011, memo requested that NRC headquarters answer five specific questions for NRC Region I.

Question 2: Have these five questions been answered?

If yes, will the NRC make the answers publicly available?

If no, what is the expected time-frame for NRC to answer the questions?

The September 12, 2011, memo guides the NRC headquarters staff to access several Seabrook calculations and engineering evaluations via a remote computer access system called Certrec. If remote access to these Seabrook documents was not available, the applicable NRC headquarters staff would have to travel to the site to review the materials personally, or the NRC would request that the materials be submitted to the agency for their review.

Question 3: Is the public being denied access to materials that would otherwise be available because Seabrook's owner has enabled NRC headquarters staff to access materials remotely?

Thank you for your attention to our request for information and NRC accountability.

Sincerely Yours,

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Executive Director
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cc. William Raymond, NRC
Richard Barkley, NRC
John G Lamb, NRC
Congressman Edward Markey
Congressman John F Tierney