UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
2100 RENAISSANCE BOULEVARD, SUITE 100
KING OF PRUSSIA, PENNSYLVANIA 19406-2713

July 9, 2012

MEMORANDUM TO: Those on Attached List

FROM: Eric J. Leeds, Director
Office of Nuclear Reactor Regulation (NRR)

William M. Dean
Regional Administrator
Region I

SUBJECT: SEABROOK ALKALI-SILICA REACTION ISSUE TECHNICAL TEAM CHARTER

The enclosed Seabrook Alkali-Silica Reaction (ASR) Issue Technical Team (SAITT) charter defines the purpose and objectives of the assigned staff. Attachments to the Charter provide background information and additional detail involving the teams' review of NextEra's ASR investigation and resolution activities.

Docket No. 50-443

Enclosure:
SAITT Charter and Attachment

CONTACT: Richard Conte, Region I/DRS
610-337-5183

ADDRESSEES – Memorandum dated _____: 2

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David Lew, Deputy Administrator
Darrell Roberts, Director, Division of Reactor Projects (DRP)
Chris Miller, Director, Division of Reactor Safety (DRS)
James Clifford, Deputy Director, DRP
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Doug Tifft, SLO

Office of Nuclear Reactor Regulation (NRR)
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Ho Nieh, Director, Division of Inspection and Regional Support, (DIRS)
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David Pelton, Branch Chief, Generic Communication Branch (PGCB), DPR
John Jolicoeur, Branch Chief, Licensing Processes Branch (PLPB), DPR
Holly Cruz, Project Manager, PLPB, DPR

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CONTACT: Richard Conte, Region I\DRS
610-337-5183

DISTRIBUTION:
Public
RidsNrrPMSeabrook Resource
RidsRgn1MailCenter Resource
LPWB Reading File
RidsNrrLAABaxter Resource
RidsOgcRp Resource
RidsNrrDorlLpl1-2 Resource
RidsNrrAdes Resource
RidsEdoMailCenter Resource
RidsNrrOd Resource
RidsNrrAdro Resource
RidsAcrsAcnw_MailCTR Resource
RidsNrrDorl Resource
S. Burnell, OPA
E. Dacus, OCA

ADAMS Accession No. : ML121250588
REGION I SUNSI REVIEW: PUBLIC Review by RJC 6/7/12

OFFICE	R1/DRS/BC	R1/DRP/BC	R1/DRP/D	RI/DRS/DD	DORL/DD	DE/DD	DIRS/DD
NAME	RConte*	ABurritt*	DRoberts*	CMiller*	MEvans*	PHiland*	HNieh*
DATE	6/7/12	6/7/12	6/7/12	6/11/12	6/22 /12	6/26/12	6/26/12
OFFICE	DLR/DD	DPR/DD	R-I/RA	NRR/D			
NAME	BHolian	TMcGinty*	WDean	ELeeds			
DATE	6/29/12	6/20/12	7/09/12	7/03/12			

* See prior concurrence

OFFICIAL RECORD COPY

CHARTER FOR THE

SEABROOK ALKALI-SILICA REACTION ISSUE TECHNICAL TEAM

Background:

The Alkali-Silica Reaction (ASR) adversely impacts the physical properties of cured concrete. ASR is a slow chemical process in which the alkalis in the Portland cement react, in the presence of water, with the susceptible silica contained in the concrete aggregate. This process creates an alkali-silica gel that expands within the concrete conglomerate causing micro cracks. The micro cracks may cause a weakening of the concrete (affecting the compressive strength, tensile and shear strength and elasticity modulus) and potentially the structural integrity of the safety related and important to safety concrete structures that house and/or support safety related systems. In addition to the engineering evaluations, assessments, and operability determinations completed by NextEra Energy Seabrook, LLC (NextEra) for the concrete structures observed to be impacted by ASR, NextEra has initiated an interim monitoring program and an extensive research and testing project to assist in better understanding the specific causes and effects of ASR at Seabrook Station. The results of this project are envisioned to shape the long term resolution and corrective actions of this issue at the station. NRC Confirmatory Action Letter (CAL) No. 1-2112-002, dated May 16, 2012 (ADAMS Accession No. ML12125A172) confirms recent commitments by NextEra in regard to planned actions to address ASR at Seabrook Station.

Purpose:

To provide coordination of the onsite inspections, in-office technical reviews, and other associated evaluation and assessment activities involving NextEra's review and resolution of the ASR issues at Seabrook Station.

Objectives:

a. To review and assess the adequacy of the prompt operability determinations and supporting engineering evaluation of Seabrook Station concrete structures currently identified to be impacted by ASR.

b. To review and assess the adequacy of the interim monitoring program that is used to help assess the current applicability of the latest operability determinations for the ASR affected structures until the final operability determination and its bases are complete.

c. To assess the adequacy of NextEra's root cause evaluation and corrective actions, initial building assessments, and associated integrated corrective action plan for the project.

d. To ensure adequacy of technical methods used by the licensee in determining adequate margin (including testing, sampling).

e. To ensure that the licensee maintains compliance with its license as new information is obtained that may indicate a need for change, and to ensure a coordinated review of submittals made by the licensee regarding ASR.

f. To ensure a coordinated review and assessment of the adequacy of the final operability determination and supporting engineering evaluation along with residual corrective actions.

g. To coordinate the NRC staff's review of the adequacy of NextEra's completion of CAL items.

h. To ensure coordination of long term aging management program issues related to the ASR.

i. To ensure a coordinated review for all public and congressional inquiries related to ASR at Seabrook.

j. Provide a recommendation for closure of CAL No. 1-2012-002.

Functional Responsibilities:

a. Routinely update line executives and make periodic reports to the Region I Administrator and NRR Office Director.
b. Establish and maintain an action item tracking system.
c. Review each assigned action item's associated closure documentation for adequacy and completeness.
d. Convene team meetings, as necessary, to review licensee progress, staff review activities, and to assign or close action items, as needed.
e. Prepare for and conduct public meetings with the licensee, as appropriate.

THIS CHARTER IS APPROVED FOR IMPLEMENTATION ON July 9, **2012**

William M. Dean
Regional Administrator
Region I

Eric J. Leeds
Director
Office of Nuclear Reactor Regulation

ATTACHMENT

Additional Background

In August 2010, Seabrook confirmed the presence of Alkali-Silica Reaction (ASR) degradation of concrete in below-grade walls of several Category 1 structures with groundwater intrusion as a result of an investigation that started with license renewal application. Seabrook is the first plant in the U.S. nuclear industry to exhibit ASR in concrete structures on site. Initial testing of core samples indicated a reduction in compressive strength and elastic modulus properties. The U.S. Nuclear Regulatory Commission (NRC) issued Information Notice (IN) 2011-20, "Concrete Degradation by Alkali-Silica Reaction," on November 18, 2011, to provide the industry with information related to the ASR identified at Seabrook.

The NRC staff's review of this issue to date has determined that there are no immediate safety concerns due, in part, to existing safety margins, the localized nature of the ASR, and ongoing crack monitoring. Key branch chiefs in Region I and NRR have been working closely to ensure a coordinated effort to the review and share information when needed for consistency. Cognizant branch staff members from the projects and technical branches of Region I, NRR DORL, DE, and DLR have been communicating on developments and issues as they occurred since October 2010. They have been instrumental in coordinating recommendations and communications on this issue.

With the assistance of NRR DE and NRR DLR technical reviewers, Region I conducted several inspections. In particular, the NRC inspection report, dated March 26, 2012, called for a management meeting on April 23, 2012, in addition to documenting two NRC-identified findings of very low significance (Green). As a result of the meeting, the licensee made commitments in letters dated May 3, 2012 and May 10, 2012 (ADAMS Accession Nos. ML12125A022 and ML12131A479, respectively).

Executive discussions that occurred surrounding the management meeting, the commitment letters, and the unique nature of this problem have resulted in the formation of the SAITT and charter.

Recommended SAITT Organization and Structure

SAITT Membership

Chairman:	James Trapp, Branch Chief, EB1, DRS, R1
Alternate:	Arthur Burritt, Branch Chief, RPB3, DRP, R1
Vice Chairman:	Richard Conte, Team Leader, DRS, R1
Alternate:	William Cook, SRA, DRS R1
Members:	Martin Murphy, Branch Chief, EMCB, NRR
	Meena Khanna, Branch Chief, DORL, NRR
	Michael Marshall, Branch Chief, DLR, NRR
	Tim Kobetz, Branch Chief, RIB, DIRS
Alternates:	Kamal Manoly, Senior Level Advisor, DE, NRR

John G. Lamb, Senior Project Manager, DORL, NRRDennis Morey, Branch Chief, RPB, DLR, NRR
Harold Chernoff, Branch Chief, OEB, DIRS, NRR

A quorum for meetings will consist of the Chairman and Vice Chairman and all other members or their alternates from the applicable NRR Divisions. For informational meetings such as the conduct of status meetings with the licensee, a quorum would be the Chairman or Vice Chairman and two of the other members or their alternates. The desired output from working group meetings is a level of consensus for actions and recommendations to be taken by lead offices but tracked to completion by the working group. Alternate views should be brought to the attention of lead office executives.

Other contributors to the Team may include:

Suresh Chaudhary, Senior Engineer, DRS, R-I
Abdul Sheikh, Senior Engineer, DLR, NRR
George Thomas, Senior Engineer, EMCB, NRR
Angela Buford, Structural Engineer, DLR, NRR
Alice Erickson, Engineer, DLR, NRR
William Raymond, Senior Resident Inspector

Other members or contributors may include staff from NRO, RES, and other offices, as necessary, and other NRR and Region I support staff that may assist the SAITT in its activities. Coordination with the Office of New Reactors (Vendor Inspection Branch) will be the responsibility of the DIRS representative, and coordination with the Office of Nuclear Regulatory Research (User Needs Assessments) will be the responsibility of the DE and/or DLR representatives as needed for functionality or aging management. Coordination with the Division of Policy and Rule Making (Generic Communications and Licensing Process Reviews) will be the responsibility of the DORL representative.

The leadership of the team rests currently with Region I DRS, as assigned by the RA, and this includes the formation of a team dedicated to the follow-up of the CAL actions in accordance with Inspection Procedure (IP) 92702. This may change in the future if the primary focus shifts to licensing or license renewal issues.

Meeting minutes will capture significant team activities, discussions, and accomplishments, and provide an updated Action Item List for staff and management reference.

Informational management briefings should be conducted, as needed, or requested. Team members are expected to keep their supervision informed and be available to provide additional details to the published team meeting minutes.

Additional Recommended Functional Details

The SAITT shall coordinate the review of action items developed by the lead office or as suggested by those branches in support of the project (see attachments 1 and 2). The lead office for coordination is responsible to ensure the actions items are developed and consolidated with the following aspects: 1) unique numbering; 2) action to be taken; 3) due date consistent with licensee action completion dates; 4) lead branch; 5) primary support branch, if needed; 6) other needed support branches; and, 7) Open or Closed Status with reference to how the action or technical question was addressed. A lead office not requiring

coordination with other divisional organizations defined in this charter will follow its normal work practice but keep this organization informed at periodic meetings if the action is related to the ASR problem (e.g., schedule for license renewal).

The SAITT shall use and schedule resources consistent with the budget process. The lead offices will be responsible to ensure changes to the budget are appropriately processed.

The SAITT shall work with the responsible organization to develop new guidance, as needed, related to the operability reviews, licensing reviews, aging management reviews or inspection instructions related to the ASR issue (Temporary Instructions, Branch Technical Position, or Interim Staff Guidance) related to short or longer term monitoring of the problem.

The SAITT shall coordinate the communication of licensing and technical issues to NRC management, and internal stakeholders, as appropriate and ensure that the technical resolution of questions raised are appropriately documented by the lead office in the forum that it would normally use, such as an inspection report or license amendment.

The SAITT shall coordinate the communication of licensing and technical issues to external stakeholders with the conduct of public meetings and through the use of communication plans for documents being issued and for inquiries made through the use of correspondence.

When an office is in a support role, the SAITT will ensure coordination of activities in order to support timely completion of due dates for the lead offices.

The SAITT will review the results of activities of the lead offices so as to not impact the timely processing of the associated documentation by the lead office including the review of any associated communication plans for that document.

Reporting

The SAITT will communicate the results of its coordinated efforts to the Region I Regional Administrator and Director of NRR on a periodic basis as needed (quarterly to start).

CONTACTS

610-337-5128	Christopher Miller, Director DRS, R1
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610-337-5183	Richard Conte, Team Leader, DRS, R1
610-337-5074	William Cook, SRA, DRS R1
603-474-3589	William Raymond, Senior Resident Inspector
610-337-5335	Suresh Chaudhary, Senior Engineer, DRS, R1
301-415-1453	Louise Lund, Deputy Director, DORL, NRR
301-415-3298	Michael Cheok, Deputy Director, DE, NRR
301-415-1183	Melanie Galloway, Deputy Director, DLR, NRR
301-415-1004	Ho Nieh, Director DIRS, NRR
301-415-2150	Meena Khanna, Branch Chief, DORL, NRR
301-415-3969	Martin Murphy, Branch Chief, EMCB, NRR

301-415-2871	Michael Marshall, Branch Chief, DLR, NRR
301-415-1932	Tim Kobetz, Branch Chief, RIB, DIRS
301-415-2765	Kamal Manoly, Senior Level Advisor, DE, NRR
301-415-3100	John G. Lamb, Senior Project Manager, DORL, NRR
301-415-6852	Dennis Morey, Branch Chief, RPB, DLR, NRR
301-415-6584	Harold Chernoff, Branch Chief, OEB, DIRS, NRR
301-415-6004	Abdul Sheikh, Senior Structural Engineer, DLR, NRR
301-415-6181	George Thomas, Structural Engineer, EMCB, NRR
301-415-1933	Alice Erickson, Engineer, DLR, NRR
301-415-3166	Angela Buford, Structural Engineer, DLR, NRR

REGULATORY FRAMEWORK

The regulatory requirements, applicable for the duration of the current 40-year operating license pursuant to 10 CFR Part 50, and guidance applicable to addressing the ASR-degradation of concrete in Other Seismic Category 1, structures at Seabrook, which includes the "B" Electrical Tunnel, can be found in the following regulations and regulatory documents.

(1) 10 CFR 50.65, Maintenance Rule, as it relates to monitoring the performance and condition of structures, systems, or components (SSC) in a manner sufficient to provide reasonable assurance that these SSCs are capable of fulfilling their intended functions. When the performance or condition of an SSC does not meet established goals, appropriate corrective action shall be taken.

(2) 10 CFR Part 50, Appendix B, as it relates to the quality assurance criteria for nuclear power plants.

(3) Criterion XI, "Test Control," as it relates to establishing a test program to assure that all testing required to demonstrate that structures, systems, and components will perform satisfactorily in service is identified and performed in accordance with written test procedures which incorporate the requirements and acceptance limits contained in applicable design documents; and test results are documented and evaluated to assure that test requirements have been satisfied.

(4) Criterion XVI, "Corrective Action," of 10 CFR Part 50, Appendix B, as it relates to implementing a corrective action program to assure that conditions/significant conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and non-conformances are promptly identified, cause addressed, and corrected.

(5) 10 CFR Part 50, Appendix A, GDC 1, as it relates to structures, systems, and components being designed, fabricated, erected, and tested to quality standards commensurate with the importance of the safety function to be performed. Where generally recognized codes and standards are used, they shall be evaluated to determine applicability, adequacy, and sufficiency and shall be supplemented or modified as necessary to assure a quality product in keeping with the required safety function.

(6) 10 CFR Part 50, Appendix A, GDC 2, as it relates to the design of the safety-related structures being able to withstand the most severe natural phenomena such as wind, tornadoes, floods, and earthquakes and the appropriate combination of all loads.

(7) 10 CFR Part 50, Appendix A, GDC 4, as it relates to safety-related structures being appropriately protected against environmental and dynamic effects, including the effects of missiles, pipe whipping, and discharging fluids, that may result from equipment failures and from events and conditions outside the nuclear power unit.

(8) 10 CFR 50.59, as it relates to changes, tests, and experiments.
(9) NUREG-0800, Standard Review Plan, Section 3.8.4 - Other Seismic Category 1 Structures
(10) Regulatory Guide 1.160, Revision 2 (March 1997), Monitoring the Effectiveness of Maintenance at Nuclear Power Plants

PAST INSPECTION REPORTS and OTHER DOCUMENTS

(1) Seabrook Report No. 05000443/2010004, dated November 1, 2010 (ADAMS Accession No. ML103050447)
(2) Seabrook Report No. 05000443/2011002, dated May 12, 2011(ADAMS Accession No. ML111330689)
(3) Seabrook Report No. 05000443/2011003, dated August 12, 2011 (ADAMS Accession No. ML112241543)
(4) NRC Integrated Inspection Report 05000443/2011005, dated February 14, 2012 (ADAMS Accession No. ML12045A544)
(5) NRC Integrated Inspection Report 05000443/2011007, dated May 23, 2011 (ADAMS Accession No. ML111360432) related to License Renewal IP 71002
(6) NRC Inspection Report 05000443/2011010 Related to Alkali-Silica Reaction Issue in Safety-Related Structures, dated March 26, 2012 (ADAMS Accession No. ML120480066)
(7) Confirmatory Action Letter No. 2012-002, dated May 16, 2012, Information Related to Concrete Degradation Issues (ADAMS Accession No. ML12125A172)