

Seabrook Concrete Degradation  
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**Strategy Meeting Seabrook ASR 1000am 12/9/11**

Attendees: Chris Miller, Darrell Roberts, Peter Wilson, Art Burritt, Rich Conte

Location: Darrell Robert's Office

**Purpose:**

1. Briefly summarize developments in the last 2 months (see details Attachment 1 item 5)
2. Briefly discuss potential activity for January 2012 on key issues (see details Attachment 1 item 1)
3. Formulate short actions to January 31, 2012 (before holiday vacations set in).
4. Discuss longer term actions, need for action plan beyond January 2012 in which other inspection plans and side issues can be address (Att. 1 and 2 parking lot issues for now)

**Success:**

1. Management understanding by questions addressed each of the purposes above.
2. Development of key actions for short term action plan.
3. Collection of parking lot issues for longer term plan.
4. Time to discuss details of Att. 1 and 2 if needed, Status of Goals Est. in Aug. 2011 and Timeline

**Agenda (Process):**

TIME	LEAD	ACTIVITY
❖ 5 min	Conte/Burritt	Alignment on purpose, success, and process
❖ 10 min	Conte	Developments in last 2 months (including key issues)
❖ 10 min	Burritt/Conte	Potential Activity to January 31, 2012
❖ 5 min	Conte	Summarize Short Term Action Plan
❖ 10 min	Conte	Long Term Action Plan
❖ Time left	All	Details on Attachment 1 and 2 (side issues)

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**Attachment 1 – Updated Status of Previous Goals for NRC – To June 30, 2012**

**See attachment 2 for overall time line and core sampling time line**

Goals for NRC staff wrt ASR issue as of September 2011 [additional TIAs may be needed(\*)]:

- 1. Ensure NextEra progress on final ODs as evidence by:**
  - a. \*Completed ODs before January 2012 OR**
  - b. Appropriately update ODs with a clear path to resolution for which the NRC agrees before March 2012**

Status:

Update occurred October 2011 based on shortcomings found by NRC staff (Region I, DE and DLR)

AI - Issue Standalone Inspection Report < 45 days of November 29, 2011 (Timing might be everything, Due Out January 13, 2012)

AI - Next POD will be final after Engineering Evaluation of March 2012

Prognosis on the Engineering Evaluation being delayed or acceptable per the date (tensile strength white paper to be completed with final plans) ???

- 2. \*Review Hydrology study – solicit HP advice**

Status:

Coordination completed with PSB 2, Jim Noggle

AI - to review when available in January 2012 (TIA assistance to NRR may be needed ???)

AI – assess how this study affects ASR – most likely part of mitigation action

- 3. Review as PIR sample the apparent cause for MR violation - in Fall 2011**

Status:

Completed the Week of 11/28/11 – Feeder to resident report – good review of cause, extent of conditions, and corrective actions

- 4. Review as PIR sample the root cause of ASR issue in February 2012 – [it appears to be key input to the engineering evaluation]**

Status:

AI - Schedule week in February or March 2012 to review in parallel with review of Eng. Eval. March 2012.

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5. Issue stand alone report on interim status with clear messages by TBD (January 15, 2012) – per objectives and scope of review outlined above
- a. \*Need to establish criteria for final OD review (potential branch technical position or interim staff guidance in the area of license renewal)
  - b. \*Application of criteria to control building
  - c. \*Expansion of review to extent of condition buildings
  - d. Better understand any connection between ODs and Engineering Evaluation

Status:

Completed initial assessment the week of September 28, 2011 on control building only, extent of condition buildings done by inference

Complete week 11/14 review of laboratory work, no issues of concern

Complete inspection week of 11/28 (DRS Manager tour):  
review of crazed cracking in primary containment  
no evidence of ASR effect on primary containment  
started review of procurement control of contractors

Clearly the Final ODs are tied to the Engineering Evaluation along with AMR to AMP review:

AI - Issue Standalone Inspection Report < 45 days of November 29, 2011 (Timing might be everything, Due Out January 13, 2012

Comm plan

Lots of internal review

AI - TIA draft due out 12/31/11 – Will it reflect a branch technical position ?

How much input from Industry/NextEra is needed

Status call of 11/30/11, additional firm commitment needs identified to be reflected in specific action plan by NextEra - How to we get it?

Inspection vehicle similar to Wk 9/28

Conference call

Meeting onsite or in area and value of public observation

Meeting in region I and hdqtrs and value of public observation.

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AI – Need to strategize Should we be doing more wrt Regulatory Footprint ????:

How much planning for success do we need?

Immediate safety concerns, if any and if not why not.

What if they want an extension of March 2012, will need to be processed through DLR and License Renewal schedule, the current only regulatory hold on them.

(b)(5)

Rx5

Role of Licensing vs. Inspection forums and what is the proper sequencing

RAIs via Part 50 or Part 54

Need for 50.54f, but before we embark, what is the basis; and, if not, why not

Need for Order; but before we embark, what is the basis; and, if not, why not.

**6. Start planning review of Engineering Evaluation and potential impact on**

- a. Part 50 Operability
- b. Part 54 Aging Effect
- c. Need for addition 71002 LRI on ASR aging management program
- d. ??? others

Status:

AI - No joy on progress with other developments, most likely to be formulated after strategy session

**7. Be ready to respond to what if's:**

- a. Contentions
- b. Demonstrations
- c. Public meetings surrounding the ASR issue – DEIS Sept 15, 2011

Status:

Comm Plan from License Renewal report to be updated for standalone report

Barkley responding to C-10, considerable effort

Draft TIA should be available to comprehensively deal with open issues such as for Tensile Strength Testing.

Possible reaction to visible results of any strategy session to be implement such as for cover letter message in standalone report

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**8. Longer Term and Others ????**

Status:

Need to be formulated with March 2012 evaluation

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**Attachment 2 – Updated Timeline**

**Background – for where we were in order to move forward - Seabrook Concrete ASR Issue**

<b>Date/Time</b>	<b>ACTIVITY</b>
June 2009	Walkdowns as part of license renewal application preparations
June 1, 2010	License Renewal Application (LRA) received
July 21, 2010	LRA found acceptable for docketing, opportunity for hearing
October 2010	License Renewal Audit results pointed to need for a good number of requests for additional information in this area (conference calls with Region I and DLR started discussion on need to regularly communicate at the branch and division levels, one more frequently than the other)
Fall 2010	Immediate and Prompt Operability Review (POD) based on core samples taken in Control Building (August 2010)
December 31, 2010	End of resident quarterly report period – POD reviewed – Inspection Report 05000443/2011002, issued Feb. 2011 on POD – No findings noted since laboratory results determined compressive strength and modulus of elasticity met UFSAR values (degradation into reserve strength NOT design margin)
February 15, 2011	ASLB Memorandum and Order (several issues accepted for hearing – not associated with the concrete Issue)
March 31, 2011	End of resident quarterly report period – POD reviewed – Inspection Report 05000443/2011002, issued May 12, 2011, with two violations in the structures monitoring area wrt 50.65 a(1) and b(2)
April 8, 2011	Last day of License Renewal Inspection (IP71002) – Inspection Report 05000443/2011007 issued May 19, 2011 and notes in cover letter: "Except for Structures Monitoring Program, results support a reasonable assurance determination for license renewal.
<b>May 8, 2011</b>	<b>Executive Brief</b>
May 26, 2011	DLR coordinated ASR seminar in headquarters

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<b>Date/Time</b>	<b>ACTIVITY (cont'd)</b>
June 2011	<p>Status Calls with NextEra revealed change in plans            Control Building (CB) POD is on hold for final 9/30/11</p> <ul style="list-style-type: none"> <li>- Extent of condition review was to finalize CB POD</li> </ul> <p>Extent of Condition Building review has new POD open pending 9/30/11</p> <ul style="list-style-type: none"> <li>- Compressive strength going up for extent of condition review (different labs involved)</li> <li>- Modulus of elasticity degraded but not as bad at Control Building.</li> <li>- NextEra digesting DE questions and DLR RAI questions</li> </ul>
June 29, 2011	RAI issued by DLR - extensive questions on three major areas (structure monitoring, spent fuel pool, containment concrete)
June 30, 2011	<p>End of quarterly resident report period – related URIs/NCV (green) raised            Inspection Report 05000443/2011003, issued August 12, 2011</p> <ul style="list-style-type: none"> <li>- open PODs;</li> <li>- 50.59 screen issue;</li> <li>- NCV (green) on timely Initial and Prompt ODs for results on extent of condition review for other buildings</li> <li>- another NCV (green) issued related to the adequacy of the OD, unrelated system</li> </ul>
August 11, 2011	NextEra Response to RAI dated June 29, 2011 – under DLR review ASR Project Plans not specific
<b>September 8, 2011</b>	<b>Executive Brief</b>
Week of 9/28/2011 and	<p>Standalone Inspection Started – Shortcomings found on PODs for CB            EOC Buildings</p>
~September 30, 2011	NextEra issued notice to INPO on ASR for industry review
October, 2011	DLR coordinated ASR seminar in headquarters
Wk of 11/14/11 the	<p>Compressive Strength Testing in Illinois for 15/20 concrete cores from            Control Building – Tests observed by Region III inspector</p>
November 18, 2011	Information Notice issued on ASR by NRC (2011-XX)

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Wk of 11/28/11      DRS Feeder inspection for PIR sample and review of contractor work

- review of primary containment crazed cracking and
- evidence of no corrosion based on external surfaces and
- rebar inspection

November 29, 2011    Exit for Standalone report 2011-010

November 30, 2011    Status Call and coordination for Management Meeting of Jan. 19 started.

December 2011        NextEra contemplating additional testing on remaining 5/20 concrete cores

See next timeline related to the pace of core samples coming from the building (input from resident inspectors). Although it appeared to be slow the issue was not an issue for the latest round of 20 concrete core samples from the control building.

### **NextEra Timeline for CB Operability Determination EOC Cores – 5 Building**

<b>Date/Time</b>	<b>ACTIVITY</b>
Aug-10	CB / ET test results & petrographic analysis complete - confirm ASR
Sep-10	CB / CT POD & C-S-1-10150 - operable
12/3/10	Quote from Altran for QA and SGH for Lab Testing
12/9/10	Issue EC for Coring & PRT
12/10/10	Quote from Miller Engineering for Cores & PRT
12/20/10	Submit to PRB for Request Funds (CAR)
1/7/11	Contract to Miller for Cores & PRT
1/19/11	PRB approves funding
Jan-11	Prepare WO for cores and develop work schedules
Jan-Feb 2011	Miller clearance, badging & training for site access
2/10/2011	Issue contract to Altran (QA) and SGH (Lab)
2/15/2011	Start inplant coring
2/17/2011	4 RCAW cores to SGH for petrographic and physical testing
3/7-25/11	License Renewal Inspection
3/15/2011	Complete coring in all buildings
3/17/2011	Initial transfer of 16 cores to SGH - Tritium concerns cause 3 week delay
3/20/2011	Send core sample to GEL lab for tritium analysis
3/31/2011	Approve Miller Engineering PRT report
4/1/2011	Approve GEL report of tritium analysis
4/1/2011	Start OR14
4/4-8/11	License Renewal Inspection
4/7/2011	Deliver 16 cores to SGH
4/21/2011	AR1644074 - CEB low modulus
4/25/2011	EC250348 / Calc C-S-1-10156 - CEB integrity intact / OPERABLE
5/23/2011	End OR14
5/27/2011	Receive draft SGH report physical testing (not peer checked, QA cert'd)



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6/16/2011	Initial vendor certified test data (EFW, EV, EDG) available to NextEra
6/27/2011	AR1664399 - low modulus 4EOC buildings - SM expectation OPERABLE
6/28/2011	EC250348 / Calc C-S-1-10160 & POD for AR1664399 - Buildings Operable
6/30/2011	Comitment to NRC to complete Control Building OD EOC Reviews
7/1/2011	Receive SGH draft report - petrographs (dated 7/1/11)
7/14/2011	Approve SGH petrograph report
8/3/2011	Approve SGH report (compressive strength & modulus) dated 7/27/11