

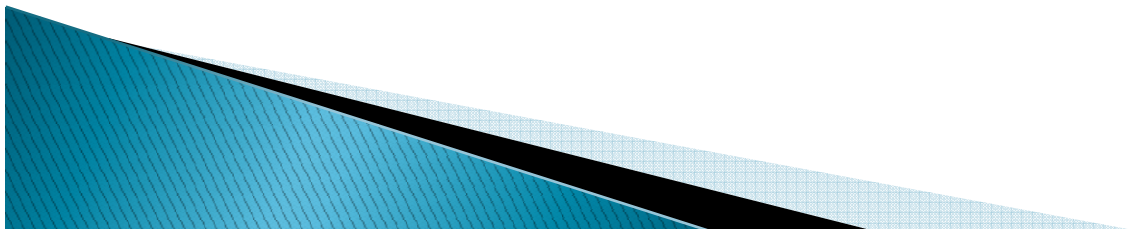
Seabrook Concrete Degradation by Alkali Silica Reaction

Public Meeting

April 23, 2012

Agenda

- ▶ **NRC**
 - Introduction and informational needs in order to properly evaluate the ASR issue
- ▶ **NextEra**
 - ASR Plans and Schedule
 - Proposed Testing at University of Texas
- ▶ **NextEra & NRC**
 - Technical Discussion
- ▶ **Summary**

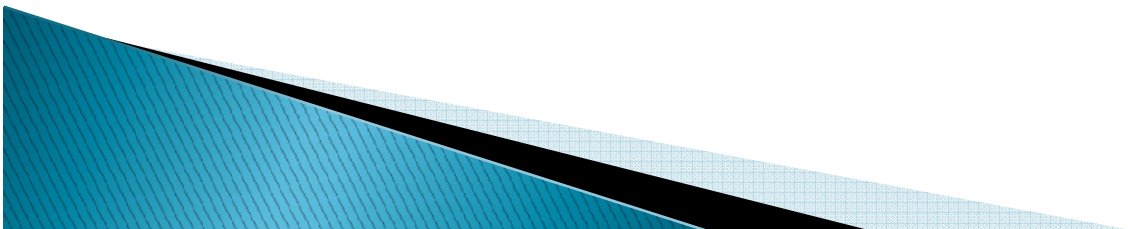


Current NRC Assessment of ASR Affected Structures

- ▶ Large body of work ongoing to better understand this phenomena
- ▶ NextEra has indicated the structures they have identified to date with ASR remain operable, despite some degraded conditions and localized cracking.
- ▶ The NRC has independently reviewed the phenomena with onsite inspections and reviews of licensee evaluations and analyses by our own experts. No immediate safety concern.
- ▶ ASR affected structures are operable but degraded:
 - Safety load factors in controlling load conditions and engineering conservatisms in design,
 - Field walk-downs confirm no visible indication of significant deformation, distortion, or displacement of structures, or rebar corrosion,
 - ASR identified at localized areas in the concrete walls, and
 - Progression of ASR degradation occurs slowly.

Concrete Condition

- What buildings are affected by ASR?
- How do you plan to confirm ASR and what is your basis?

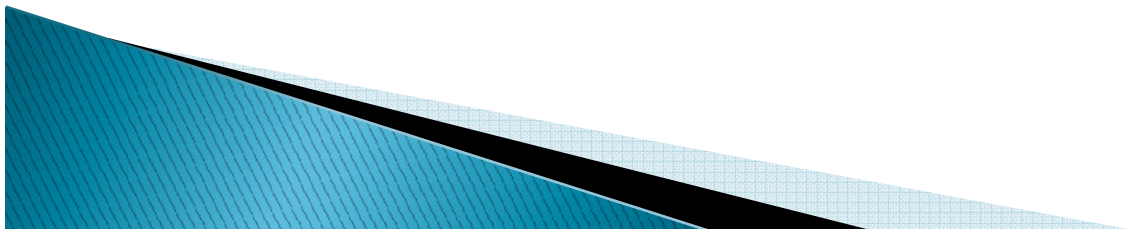


Continued Operability

- ▶ When do you plan to update operability determinations for all buildings affected by ASR and what key information do you plan to incorporate into it, including key assumptions, bases for inputs including material properties, and calculation methods used?
- ▶ If you continue to use the empirical relationships in the American Concrete Institute (ACI) design basis code for operability determinations, what is the basis for use of those relationships, and what is the explanation regarding why these are appropriate for the degraded conditions in the building?

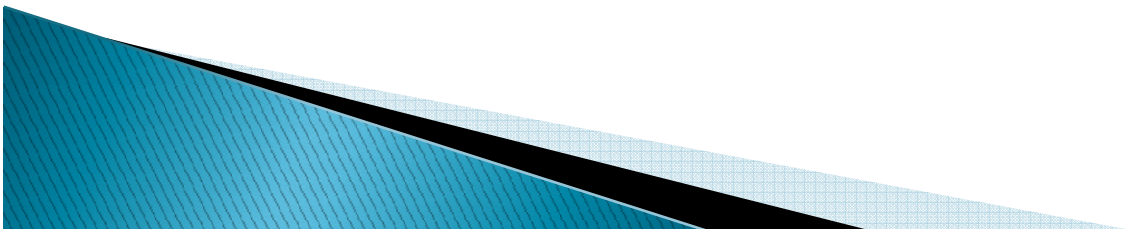
Plans for Monitoring/Managing ASR-Affected Structures

- ▶ What are your ongoing or planned methods, analysis or testing that will be used to monitor/manage ASR-affected structures?
- ▶ What is your knowledge of the ASR reaction rate, possible end point, and how it affects operability?



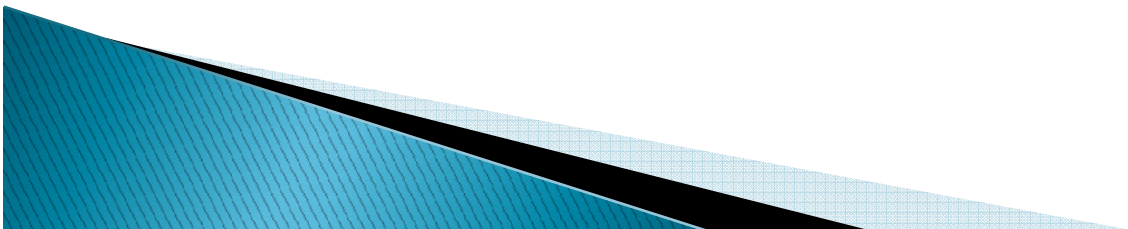
Corrective Action Plan

- ▶ When will you submit a letter to the NRC staff formalizing your Corrective Action Plan to address this issue?



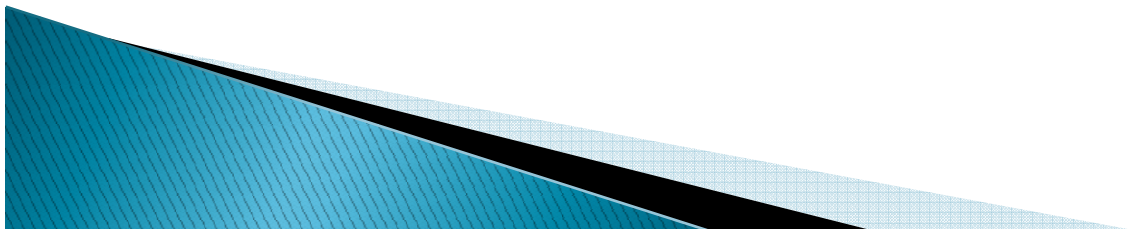
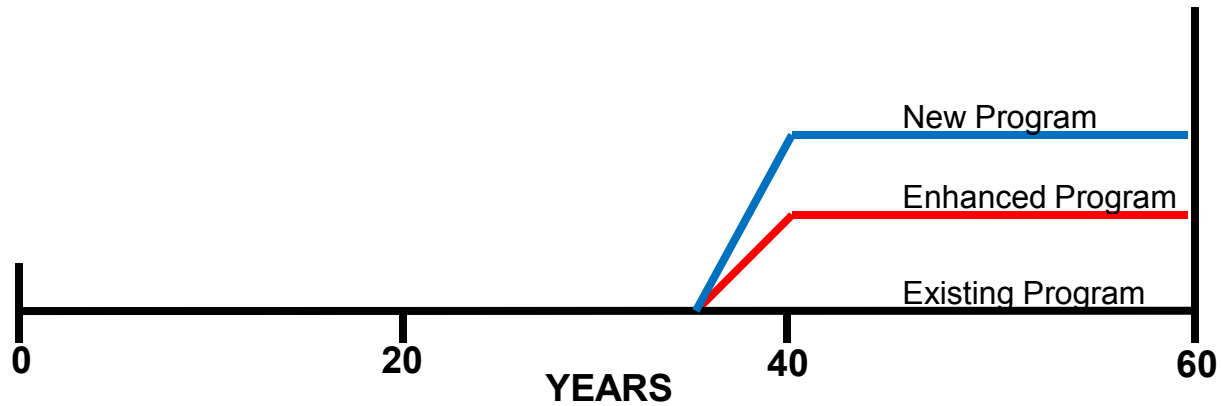
Larger-Scale Testing

- ▶ When will you provide the technical details for the larger-scale testing planned at the contracted research and development facility?



Current Licensing Basis and License Renewal

Aging Management Programs



Impact of ASR Issue on License Renewal

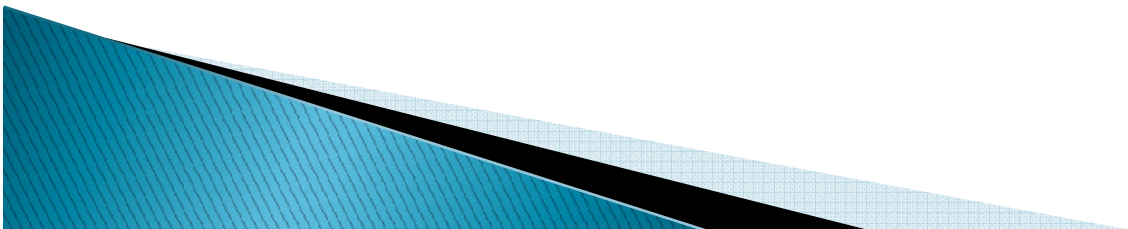
- ▶ The applicant has not completed the identification of the long term aging effects of ASR on the affected structures.
- ▶ The applicant has not provided an aging management program for the ASR-affected structures to ensure that (10 CFR 54.21(a)(1)(ii)(3)):
 - aging effects will be managed
 - intended function(s) will be maintained
- ▶ LRA review and schedule continue to be impacted.

Current NRC Assessment of ASR Affected Structures

- ▶ The ASR structures are operable but degraded.
 - Safety load factors in controlling load conditions and engineering conservatisms in design,
 - Field walk-downs confirm no visible indication of significant deformation, distortion, or displacement of structures, or rebar corrosion,
 - ASR identified at localized areas in the concrete walls, and
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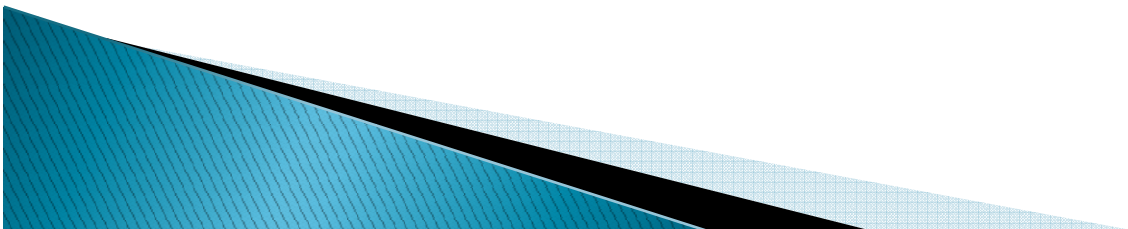
Lunch Break

- ▶ 12:00 pm – 1:30 pm



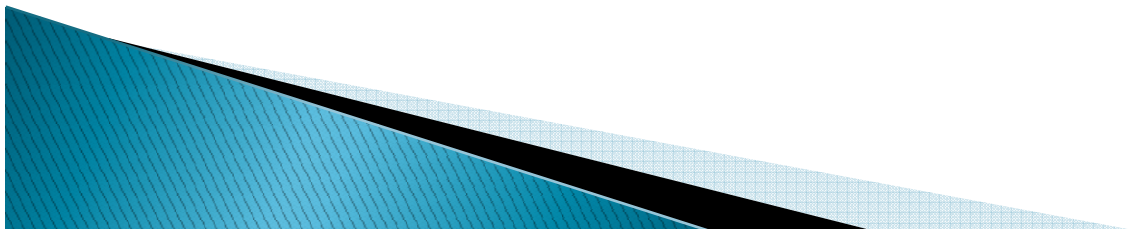
Break

- ▶ 3:00 pm – 3:30 pm



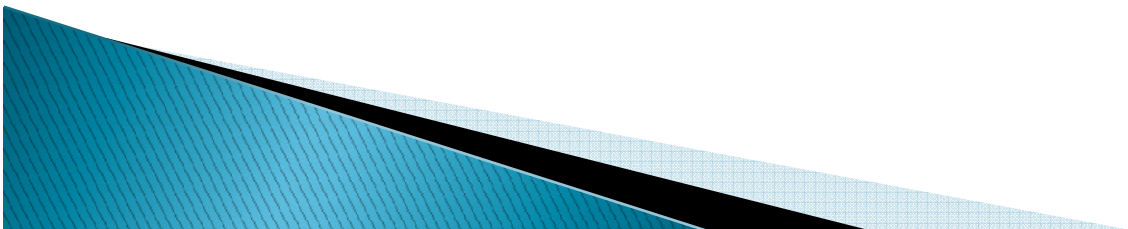
Summary

- ▶ Operable but degraded
- ▶ LRA review schedule has been impacted due to ASR
- ▶ NextEra's followup actions



Public Comments

- ▶ 3:45 pm - 4:30 pm



Adjourn

