

## SeabrookLANPEm Resource

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**From:** Poole, Justin  
**Sent:** Tuesday, August 22, 2017 1:44 PM  
**To:** 'Natalie Hildt Treat'  
**Subject:** RE: Re: Re: Seabrook Public Meeting on August 24, 2017  
**Attachments:** 2017-8-24 Seabrook LAR Stage 3 Public Meeting - FINAL.pdf

Natalie,

Here are the slides that the NRC staff will be presenting at the public meeting on Thursday. They will be made publicly available in ADAMS but as seeing that sometimes takes a while, I'm emailing you a copy. Feel free to distribute to others participating or even those that won't be able to. As I mentioned on the phone, I'll pass along NextEra's slides once I have them.

I'll have the conference line information later this afternoon.

*Justin C. Poole  
Project Manager  
NRR/DORL/LPL I  
U.S. Nuclear Regulatory Commission  
(301)415-2048*

**From:** Natalie Hildt Treat [mailto:natalie@c-10.org]  
**Sent:** Thursday, August 10, 2017 2:58 PM  
**To:** Poole, Justin  
**Subject:** [External\_Sender] Re: Re: Seabrook Public Meeting on August 24, 2017

thanks! :-)

On Thu, Aug 10, 2017 at 2:52 PM, Poole, Justin <[Justin.Poole@nrc.gov](mailto:Justin.Poole@nrc.gov)> wrote:

Ok. I have not set up the conference line yet but I'll send it to you when its created.

*Justin C. Poole  
Project Manager  
NRR/DORL/LPL I  
U.S. Nuclear Regulatory Commission  
[\(301\)415-2048](tel:(301)415-2048)*

**From:** Natalie Hildt Treat [mailto:[natalie@c-10.org](mailto:natalie@c-10.org)]  
**Sent:** Thursday, August 10, 2017 2:50 PM

**To:** Poole, Justin <[Justin.Poole@nrc.gov](mailto:Justin.Poole@nrc.gov)>

**Subject:** [External\_Sender] Re: Seabrook Public Meeting on August 24, 2017

Hello Justin- we'd like to join from the C-10 office. other members of our board may also reply to participate in the Aug 24 meeting.

thank you,

Natalie

On Thu, Aug 10, 2017 at 1:21 PM, Ghosh, Anita <[Anita.Ghosh@nrc.gov](mailto:Anita.Ghosh@nrc.gov)> wrote:

Good afternoon Ms. Treat,

The NRC staff would like to bring to C-10's attention that a public meeting has been scheduled regarding the staff's review of the Seabrook ASR license amendment request. The public meeting will be held on August 24, 2017 at 1pm. The attached meeting notice contains additional information. This information can also be found on the NRC's public meeting website.

Please feel free to reach out to me or the NRC contacts listed in the meeting notice if you have any questions regarding the public meeting.

Thanks,

Anita

**Anita Ghosh**

Senior Attorney

Office of the General Counsel

U.S. Nuclear Regulatory Commission

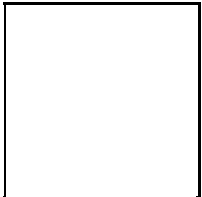
[\(301\) 287-9175](tel:(301)287-9175)

[anita.ghosh@nrc.gov](mailto:anita.ghosh@nrc.gov)

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**Natalie Hildt Treat**  
*Executive Director*

**C-10 Research & Education Foundation, Inc.**  
44 Merrimac St., Newburyport, MA 01950  
T: [978-465-6646](tel:978-465-6646) E: [natalie@c-10.org](mailto:natalie@c-10.org) W: [c-10.org](http://c-10.org)

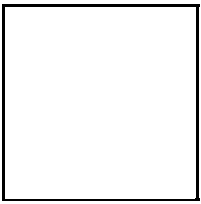
[Click here](#) to receive email updates from C-10.



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**Natalie Hildt Treat**  
*Executive Director*

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**Hearing Identifier:** Seabrook\_LA\_NonPublic  
**Email Number:** 1105

**Mail Envelope Properties** (45eb066cad194c3583ce602758eb8f81)

**Subject:** RE: Re: Re: Seabrook Public Meeting on August 24, 2017  
**Sent Date:** 8/22/2017 1:43:49 PM  
**Received Date:** 8/22/2017 1:43:45 PM  
**From:** Poole, Justin

**Created By:** Justin.Poole@nrc.gov

**Recipients:**  
"Natalie Hildt Treat" <natalie@c-10.org>  
Tracking Status: None

**Post Office:** HQPWMSMRS01.nrc.gov

Files	Size	Date & Time
MESSAGE	3255	8/22/2017 1:43:45 PM
~WRD000.jpg	4577	
2017-8-24 Seabrook LAR Stage 3 Public Meeting - FINAL.pdf		1591357

**Options**  
**Priority:** Standard  
**Return Notification:** No  
**Reply Requested:** No  
**Sensitivity:** Normal  
**Expiration Date:**  
**Recipients Received:**



# **Seabrook Station**

## **License Amendment Request**

### **“Stage 3” Methodology**

Justin Poole, Project Manager, DORL, NRR

Bryce Lehman, Structural Engineer, DE, NRR

George Thomas, Senior Structural Engineer, DE, NRR

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# Agenda

- Issues with Current Stage 3 Methodology
- Staff Expectations for Methodology
- Path Forward
- Schedule Discussion

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## Stage 3 as Described in LAR

- Description in LAR of advanced techniques proposed to be used is high-level with no implementation details provided for staff to evaluate as a generic method of evaluation
- Includes methods whose implementation appear open to interpretation, with no specific applicability limitations, justification or acceptance criteria, and may be outside the design code (ACI 318-71)
- LAR notes that analysis will demonstrate compliance with ACI 318-71

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# Staff Concerns with Stage 3

- It is unclear how the methodology as described in the LAR could be consistently applied and similar results obtained
  - Significant decisions in the Containment Enclosure Building (CEB) calculation appear to be based on engineering judgement
  - Stage 3 uses iterative processes with no clear limitations

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# Staff Concerns with Stage 3

- Review of Containment Enclosure Building (CEB) calculation identified several general issues:
  - ACI 318-71 requirements for moment redistribution do not appear to be met or justified; approach used does not appear to be supported by accepted concrete codes
  - Acceptance criteria are not provided for the structural adequacy of sections to develop a plastic hinge
  - A limit on moment redistribution iterations is not provided
  - No guidance is provided on determining the threshold factor or under what circumstances it can be modified
  - No evaluation of serviceability limit state included under normal service load conditions that include ASR

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# Staff Expectations for Methodology

- The LAR or UFSAR mark-up should include sufficient detail to allow qualified engineer to follow the process through any Stage 3 calc
  - How ACI 318-71 requirements will be met and/or justification for alternatives and requirements that are not met
  - Guidance/criteria on when proposed analysis techniques and methods can be used
  - Limits on the use of iterative processes
  - Identified rebar strain limits under normal service conditions including ASR load

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## Path Forward:

### Potential LAR Supplement

- Potential LAR supplement options:
  - Update LAR to include detailed, consistently applicable methodology; staff will review a sample of completed calculations
  - Approval of partial methodology (Stage 1 & 2); all final Stage 3 evaluations for NRC review and approval
  - Other options?
- Approach is up to NextEra

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# Impacts on Schedule

- Staff intends to review a sampling of completed Stage 1, 2 and 3 analyses
  - Sampling dependent on analysis complexity and issues identified
- Schedule dependent on analyses availability
  - Analyses should be approved and incorporated by NextEra prior to NRC review

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# Questions?