

## SeabrookLANPEm Resource

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**From:** Poole, Justin  
**Sent:** Thursday, August 24, 2017 7:38 AM  
**To:** 'Natalie Hildt Treat'  
**Subject:** RE: Re: Re: Seabrook Public Meeting on August 24, 2017  
**Attachments:** 2017\_08\_24\_NEE\_PublicMeeting.pdf

Natalie,

Here are NextEra's slides for the public meeting.

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

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**From:** Poole, Justin  
**Sent:** Tuesday, August 22, 2017 2:54 PM  
**To:** 'Natalie Hildt Treat'  
**Subject:** RE: Re: Re: Seabrook Public Meeting on August 24, 2017

Natalie,

Here is the conference line information for Thursday.

**Passcodes/Pin codes:**

Participant passcode: 46681#
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For security reasons, the passcode will be required to join the conference.

**Dial in numbers:**

Country	Toll Numbers		Freephone/ Toll Free Number
USA			888-790-7136

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

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**From:** Poole, Justin  
**Sent:** Tuesday, August 22, 2017 1:44 PM  
**To:** 'Natalie Hildt Treat' <[natalie@c-10.org](mailto:natalie@c-10.org)>  
**Subject:** RE: Re: Re: Seabrook Public Meeting on August 24, 2017

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

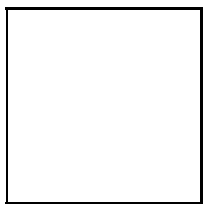
[anita.ghosh@nrc.gov](mailto:anita.ghosh@nrc.gov)

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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.

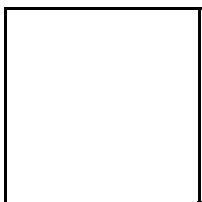


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**Natalie Hildt Treat**  
*Executive Director*

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



**Hearing Identifier:** Seabrook\_LA\_NonPublic  
**Email Number:** 1113

**Mail Envelope Properties** (ad7a4f3f858543558bf53b6057b1be6e)

**Subject:** RE: Re: Re: Seabrook Public Meeting on August 24, 2017  
**Sent Date:** 8/24/2017 7:38:12 AM  
**Received Date:** 8/24/2017 7:38:08 AM  
**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	4274	8/24/2017 7:38:08 AM
2017_08_24_NEE_PublicMeeting.pdf		387865
image001.jpg	1109	

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

# **Seabrook Station License Amendment Request 16-03 ASR Structural Evaluation Methodology**

**Ken Browne, Mike Collins**

**24 August 2017**

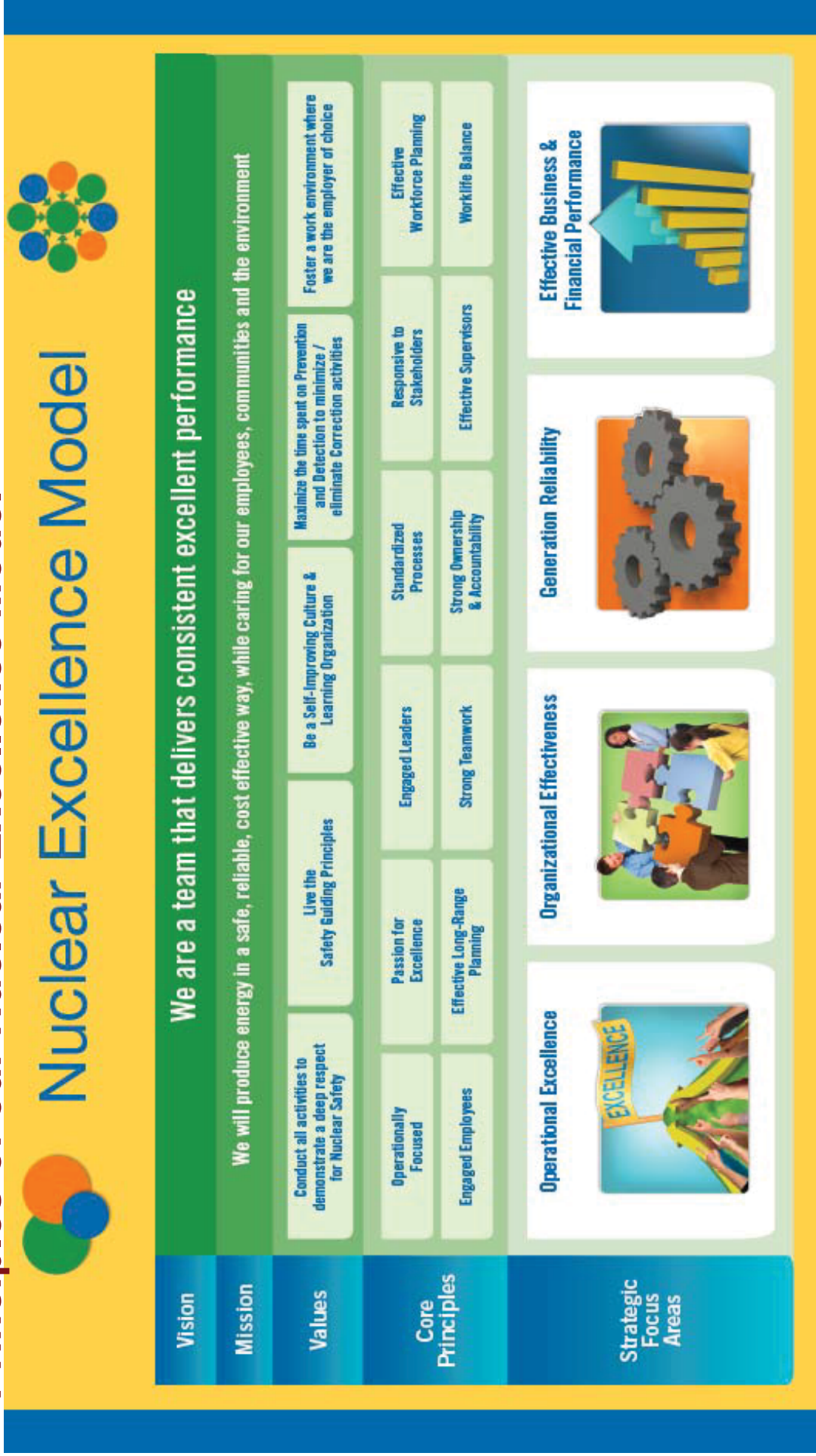
**NextEra Energy's nuclear fleet is 4th largest in MW generation and number of reactors in the U.S.**



**NextEra Energy's nuclear plants represent approximately 27 percent of our generation**



# The foundation for everything we do are the Values and Core Principles of our Nuclear Excellence Model

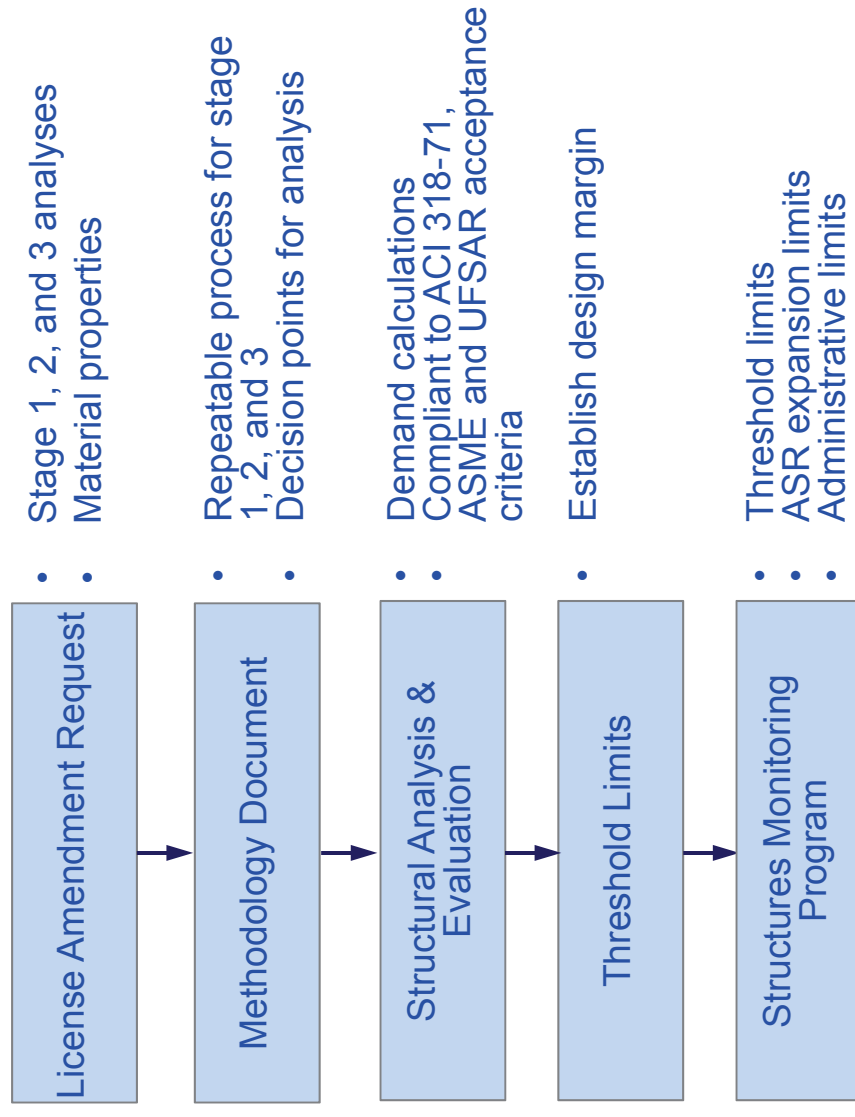




## **Objective**

- **Understand staff expectations for methodology**
- **Address comments on LAR Stage 3 methodology**
- **Discuss methodology document**
- **Show consistency of applied methodology**
- **Schedule & path forward**

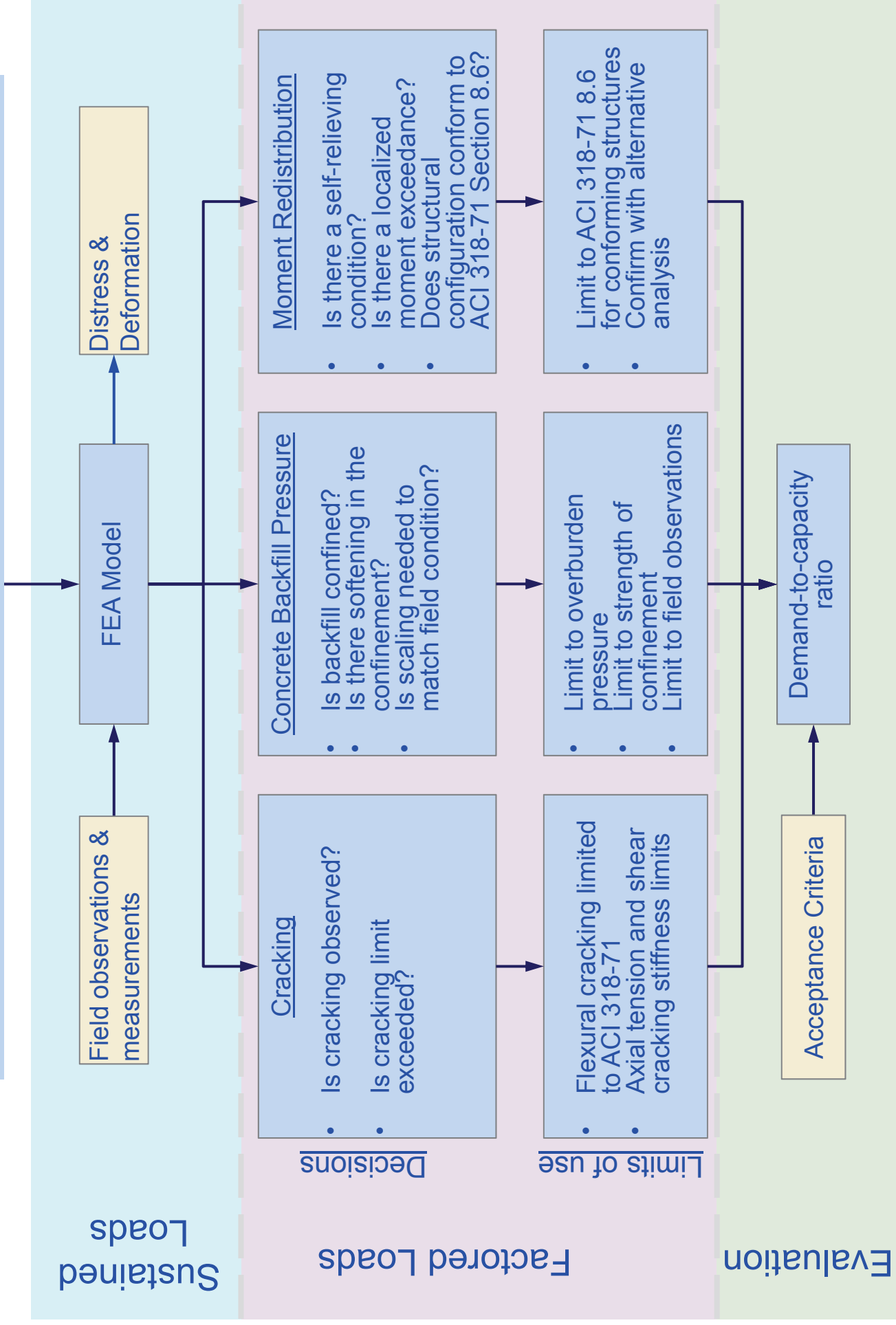
# Overview of ASR Evaluation Process



## **Overview of Methodology Document**

- **Overview**
- **Codes and Standards**
- **Materials**
- **Load and load combinations**
- **Analysis**
  - Stage One and Stage Two
  - Stage Three
    - Correlation of model to field conditions
    - Decision points
- **Acceptance Criteria**
- **ASR Threshold Limits and Monitoring**

# Stage Three Evaluation Process



# Consistency of Methodology

# Consistency of Methodology

	Stage▶														
	CEB	Make-up Air Intake	RHR	FSB	Control & Diesel	Mech. Pen. & MSFW-W	Cooling Tower	Electrical Manholes	Condensate Storage Tank	Equipment Hatch	Containment	Steam Gen. Blowdown	CEVA	Electrical Tunnel	Containment Internals
LOADS AND LOAD COMBINATIONS								3,2,1	2	1	1	1	1	1	1
Load Combinations	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Containment	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	✓	NA	NA	NA	NA
Containment Internal Structures	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	✓
Other Seismic Category I Structures	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	NA	✓	✓	✓	NA
ANALYSIS															
Selection of Starting Stage	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Stage One Analyses	NA	NA	NA	NA	NA	NA	✓	✓	✓	✓	✓	✓	✓	✓	✓
Stage Two Analyses	NA	NA	NA	NA	NA	NA	✓	✓	✓	✓	✓	✓	✓	✓	✓
Stage Three Analyses	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Field Observations to Support Stage Three Analyses	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Non-ASR Demands for Stage Three Analyses	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
ASR Demands for Stage Three Analyses	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
ASR Expansion of Structural Components	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
ASR Expansion of Concrete Backfill	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Correlation of Model with Field Conditions	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Refined Analytical Methods	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Use of Cracked Section Properties in Stage Three Analyses	NR	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Use of Moment Redistribution in Stage Three Analyses	✓	NR	✓*	NR	NR	NR	✓	✓*	✓	✓	✓	✓	✓	✓	✓
Factored Load Calculation	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
ACCEPTANCE CRITERIA															
Acceptance Criteria for Containment	NA	NA	NA	NA	NA	NA	NA	NA	NA	✓	✓	✓	✓	✓	✓
Acceptance Criteria for Other Seismic Category 1 Structures	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Impact of ASR on Code of Record Acceptance Criteria	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Acceptance Criteria for Isolation Gaps	✓	NA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Acceptance Criteria for Foundations	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Acceptance Criteria for Stability	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
ASR THRESHOLD LIMITS AND MONITORING															
Methodology to Account for Potential Future ASR Expansion	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
ASR Threshold Limits and Monitoring for Stage One Structures	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.5	1.8	3.5	3.0	3.0	✓
ASR Threshold Limits and Monitoring for Stage Two Structures	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.6	NA	NA	NA	NA	NA
ASR Threshold Limits and Monitoring for Stage Three Structures	1.2	1.4	1.2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

✓

NA

NR

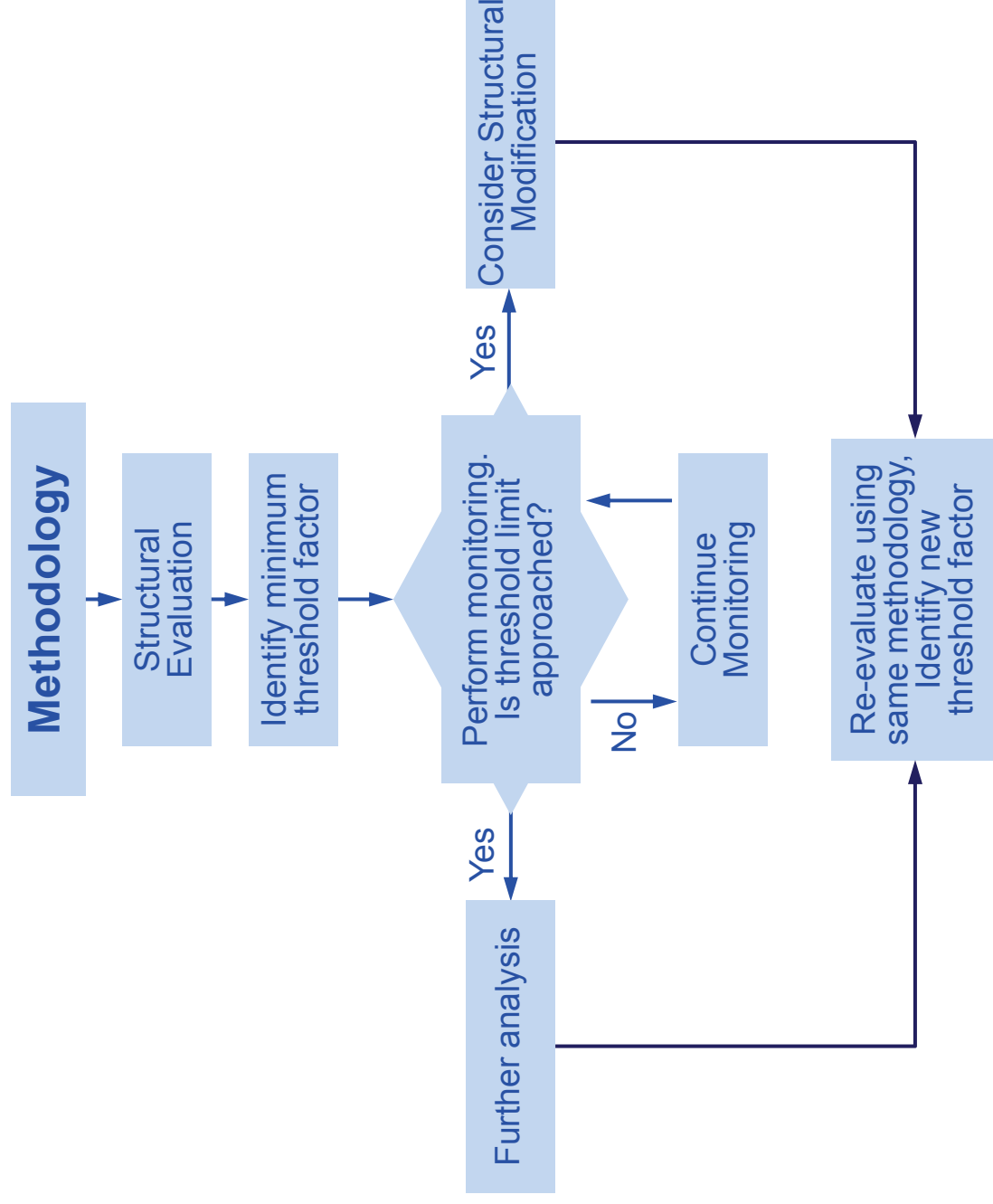
\*

conflict

Section

= Completed Structure  
 = In-Progress Structure  
 = Evaluation follows this Section of the Methodology  
 = Not Applicable  
 = Not Required  
 \* = Moment redistribution conforming to ACI 318-71 Section 8.6 only

# Threshold Monitoring



## Building Deformation Analyses (1 of 2)

Structure	Schedule	Percent Complete
Condensate water storage tank	Complete	100%
Containment enclosure building	Complete	100%
Containment enclosure ventilation area	Complete	100%
Containment structure	Complete	100%
Equipment hatch missile shield	Complete	100%
Steam generator recovery blowdown bldg.	Complete	100%
Control room make-up air intake	Complete	100%
Electrical cable tunnels	Complete	100%
Pre-action valve building	3Q2017	80%
RHR equipment vault	Complete	100%
Containment internal structures	3Q2017	80%
Main steam and feed water east pipe chase	3Q2017	50%
Hydrogen recombiner structure	3Q2017	50%
Safety-related electrical duct banks and manholes	1Q2018	40%
Emergency feedwater pump building	3Q2017	10%
Fuel storage building	3Q2017	60%

Structures that are/expected to be Stage 3

## Building Deformation Analyses (2 of 2)

Structure	Schedule	Percent Complete
Control Building	4Q2017	10%
Diesel Generator Building		
Mechanical Penetration	4Q2017	30%
Personnel hatch area		
Main steam and feed water west pipe chase		
Primary auxiliary building	4Q2017	10%
Service water cooling tower incl. switchgear rooms	1Q2018	
Service water access (inspection) vault	1Q2018	
Circulating water pumphouse (below el. 21')	2Q2018	
Service water pumphouse		
Piping (RCA) Tunnels	2Q2018	
Tank farm area	2Q2018	
Waste processing building	2Q2018	

■ Structures that are/expected to be Stage 3



## Discussion with NRC Staff

## Wrap Up

- The importance to establish a repeatable methodology with limits is understood
- A consistent methodology is being applied in the structural evaluations
- A methodology document will be submitted

## Next Steps

- Submit methodology document
- Respond to issued RAls
- Maintain communications with NRC staff

