

US-APWR

DCWG Meeting

2/22/2012

Overall Agenda



1. **Review of actions from previous meeting**
2. General NRC update
 - a) Review priorities, resource allocations, budget
 - b) Lessons learned from other design center reviews
3. **SCOLA review status**
4. **RCOLA review status**
5. **DC review status**
6. **ACRS meeting schedule**
7. **Integrated DCWG Schedules**
8. **Technical issues (e.g. Seismic, GSI-191)**
9. **Special Generic Topics (e.g. Fukushima)**
10. Review of actions items from this meeting

BOLD items are included in this presentation.

1. Review of actions

- 1) **MHI – Update specific items not requiring NRC review on 12/12/11 NRC seismic call, describe plan of the plan by 12/21/12, and submit plan by 3/2012.**
 - First two actions completed, closure plan submittal remains on-schedule for 3/2012.
- 2) **MHI – Identify RAIs that need clarification/NRC staff to provide reconciliation.**
 - Identification and communication complete, detail review and reconciliation ongoing.
- 3) **MHI – Provide integrated timeline for the next DCWG meeting.**
 - Included in meeting material.
- 4) **MHI – Evaluate and address NRC comment on level of detail requested for the GSI-191 closure plan and provide the closure plan by 12/21/11.**
 - Completed.
- 5) **MHI – Attend EPR Fukushima meeting and provide feedback. Coordinate meeting date with NRC, considering Mr. Holahan's availability for the first full week of February.**
 - Completed.
- 6) **MHI – Identify proposed dates for the next meeting with Luminant and Dominion and finalize schedule with Jeff Ciocco.**
 - Completed.

1. Review of actions

- 7) **NRC – Decide within 3 weeks whether staff will ask any RAIs resulting from the ACRS briefing.**
 - Completed.
- 8) **NRC – Determine for the next DCWG meeting if the COL applicants are meeting the financial qualifications of the SRP.**
 - Still being discussed.
- 9) **NRC – Determine any issues slowing the completion of the ToR reviews for the next DCWG meeting.**
 - Completed.

2. General NRC Update



- **NRC Staff Presentation(s) provided separately.**

3. SCOLA Review Status



➤ Seismic Closure Plan

- ✓ Dominion submitted a Limited Seismic Closure Plan (SCP) on February 13, 2012
 - “Limited” because it only addresses certain North Anna site seismic characteristics
 - Site-related seismic information will be submitted July 2012
 - From an NRC review perspective, these are timely submittals
 - » NRC review resources available
 - » Normal seismic analysis sequence
 - Previously-submitted RAI responses will be revised as appropriate
- ✓ Development of a “Comprehensive” SCP depends on the seismic design of the US-APWR standard plant
 - Target submittal for the Comprehensive SCP is May 2012
 - Dominion anticipates that ongoing improvements in seismic stability and structural integrity for the standard plant will result in a simpler design
- ✓ Overall, Dominion expects NRC’s DCD and COLA reviews to be simplified

3. SCOLA Review Status



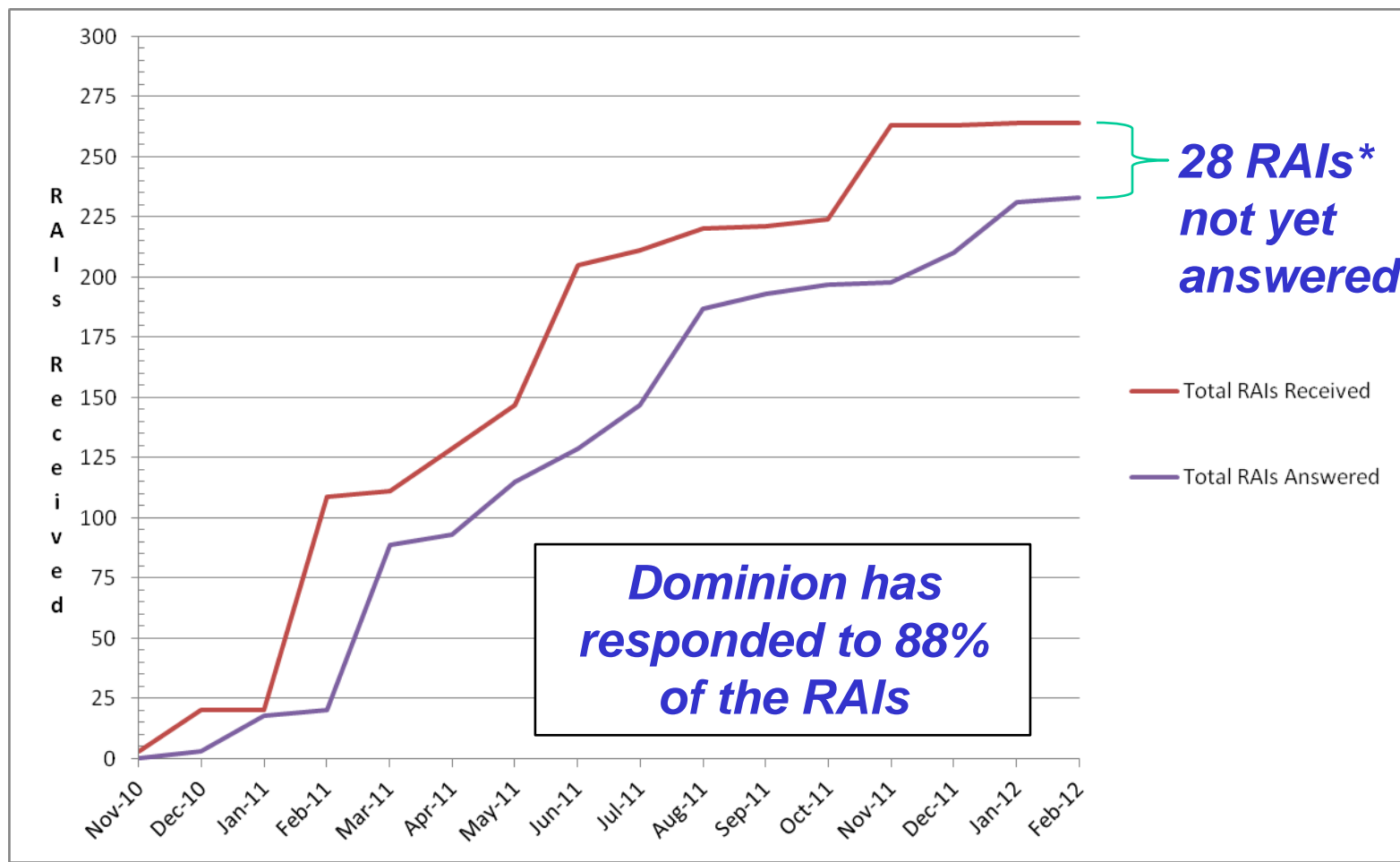
➤ Seismic Closure Plan (cont'd)

- ✓ In parallel, Dominion is assessing the earthquake that occurred in central Virginia on August 23, 2011
- ✓ Dominion plans to evaluate incorporation of the event using the new CEUS Seismic Source Characterization (SSC) model
 - The CEUS SSC model
 - Currently addresses earthquakes through 2008
 - Will be updated through 2011 to include the August 23rd event
 - Will incorporate EPRI (2004, 2006) earthquake ground motion model for CEUS to develop PSHA and design response spectra
 - RG 1.208 will be used to develop the Ground Motion Response Spectra (GMRS)
- ✓ Dominion intends to work with the NRC to maintain the nexus between design certification and COL issuance

3. SCOLA Review Status



➤ RAI performance



* 20 Seismic; 8 Radiation Protection

3. SCOLA Review Status

➤ Focus on RAI Status

- ✓ S-COLA RAI status process is same as the DCD process
- ✓ Pending seismic design resolution, NRC and Dominion are focusing on other areas of the review

NORTH ANNA 3 RAI DISPOSITION STATUS REPORT BY CHAPTER

	Distribution by Chapter																			Totals
<i>RAI Responses > 90 days old (submitted prior to 11-15-2011)</i>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
Issued/Open Action applicant*	0	1	22	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	25
Responded	0	1	19	0	0	1	0	0	1	0	4	3	0	5	0	0	0	0	1	35
Confirmatory Action Applicant	0	5	2	0	0	0	0	3	7	1	6	0	16	3	0	0	0	0	15	58
Confirmatory Action NRC	0	0	2	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	7
Resolved/Closed	0	10	10	0	0	4	0	16	5	6	6	0	19	3	0	0	3	0	14	96
Question closed/Issue Unresolved	0	0	4	0	0	0	0	7	2	1	0	0	1	0	0	0	0	0	0	15
Totals	0	17	59	0	0	7	0	26	20	8	16	3	36	11	0	0	3	0	30	236

1st Focus Area

	Distribution by Chapters																			Totals
<i>RAI Responses < 90 days old (submitted after 11-15-2011)</i>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
Issued/Open Action applicant*	0	1	0	0	0	0	0	0	0	0	0	23	0	0	0	0	0	0	0	24
Responded	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Confirmatory Action Applicant	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Confirmatory Action NRC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Resolved/Closed	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	2
Question closed/Issue Unresolved	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
Totals	0	1	0	0	0	0	0	0	0	0	0	23	3	0	0	0	0	0	1	28

* Count based on NRC letter date

TOTAL: 264

3. SCOLA Review Status



➤ Weekly interaction with NRC project management

Formal RAI Question No.	# of RAIs	RAI General Topics	RAI Closed/Issue Unresolved Status
FSAR 3.7.2-3, 4, 5 and 9	4	Seismic SSI analyses	On hold pending resolution of standard plant seismic design
FSAR 8.2-45,47, 49, 54, 56, 57	6	Electrical distribution, switchyard, and transmission system reliability	Q: 2/3, R: 5/12; SQ: 7/14; SR: 11/16/2011, but original Q not closed NRC PM investigating
FSAR 8.2-58	1	FMEA re SBO event	Q: 2/3; R: 3/17/11 NRC PM interacting with review branch
FSAR 9.3.4-1	1	Boric acid control	NRC issued draft supplemental RAI on 2/10/12
FSAR 9.4.5-6	1	ESW pump house dampers	On 2/6/12, NRC stated intent to issue supplemental RAI
FSAR 10.2.3-8	1	Turbine ISI program description	On 2/6/12, NRC stated intent to issue supplemental RAI
FSAR 13.6-14	1	Poor Figure references	SQ: 11/9; SR 12/16/11
TOTAL	15		Legend: Q-Original Question; R-Original Response; SQ- Supplemental Q; SR-Supplemental R

➤ Next focus area is “Responded >90 days”

➤ Dominion and NRC also identifying completed reviews

3. SCOLA Review Status



➤ Revision Plan

- ✓ Old Dominion Electric Cooperative (ODEC) has terminated involvement in the North Anna 3 Project
 - COLA revision and ESP amendment required
 - Submittal targeted for 1st quarter 2012
 - Several COLA parts affected:
 - Part 1, Administrative Information
 - Part 2, FSAR*
 - Part 3, ER
 - No current plan for further COLA revisions in 2012
 - Dominion will submit information in 2012 driven by the Seismic Closure Plan in a mutually agreeable form

*incorporates RAI responses through January 2012

4. RCOLA Review Status



➤ Phase Status by Chapter – as of Feb 14

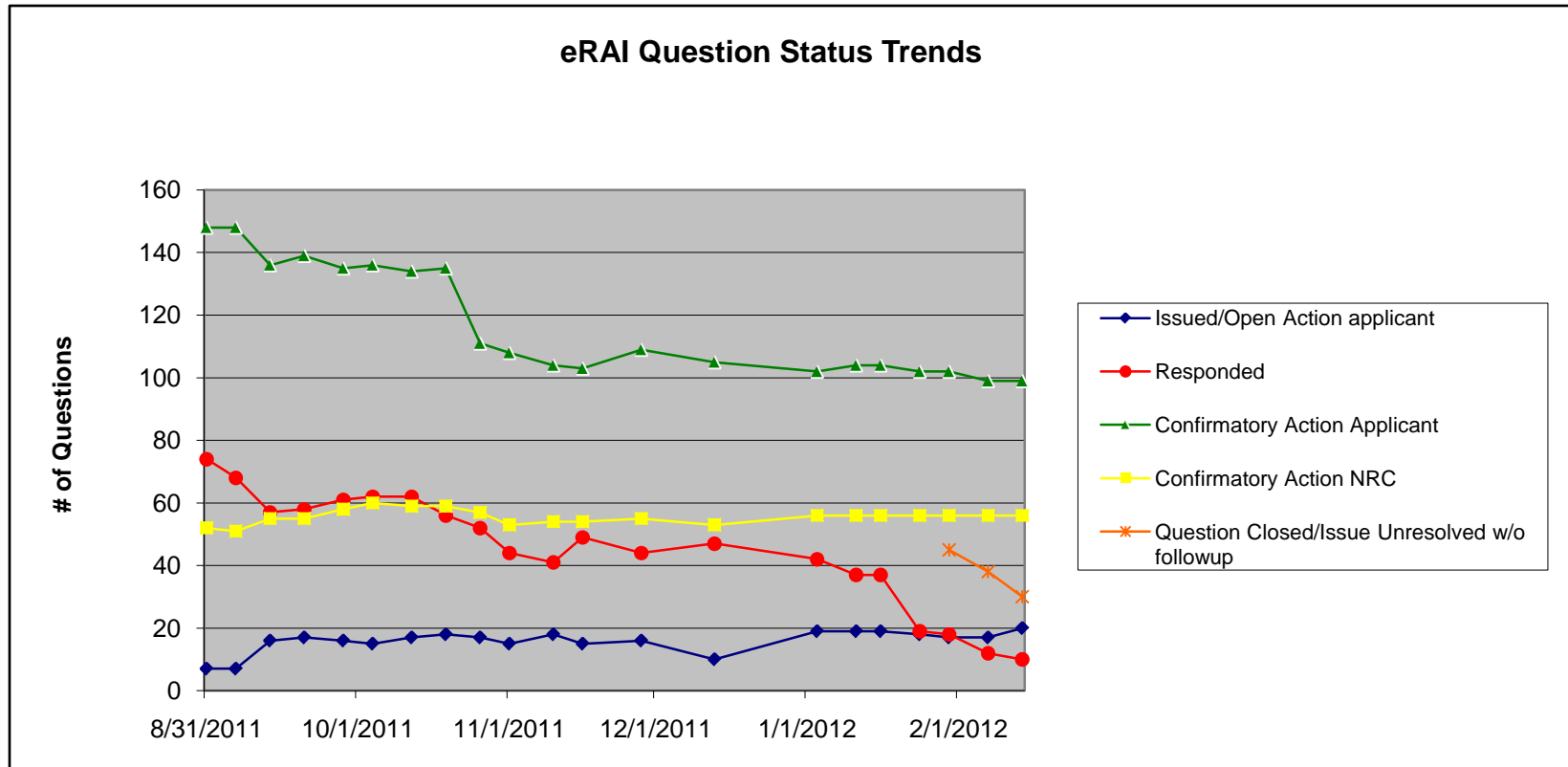
	Chapter																		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Phase 1																			
Phase 2		TBD		5/12		6/12	3/12		TBD						4/12	7/12	7/12	3/12	7/12
Phase 3 Sub		TBD		6/12		7/12	4/12		TBD				4/12		5/12	8/12	8/12	4/12	8/12
Phase 3 Full											6/12	6/12							
Phase 4																			
Phase 5																			
Phase 6																			

	Complete		Not complete (date indicates forecast date for completion)		Date not changed subsequent to 12/6/11 DCWG
	Complete subsequent to 12/6/11 DCWG		Date changed subsequent to 12/6/11 DCWG		

4. RCOLA Review Status



➤ RAI Question – Progress to Closure – as of Feb 14

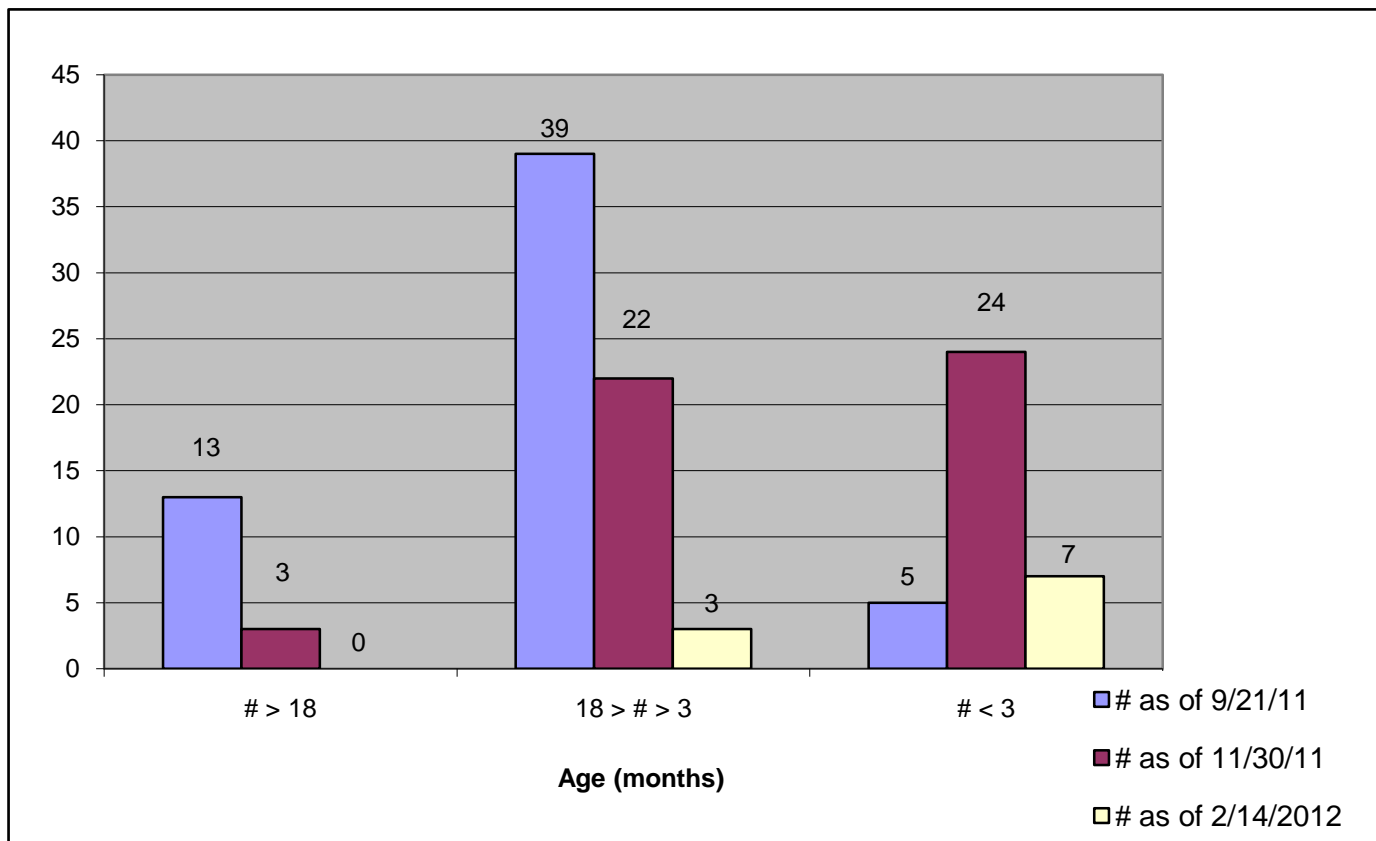


5 month trend on Responded questions is good. Need continued NRC & Luminant management focus.

4. RCOLA Review Status



➤ RAI Questions – Responded Category Age



NRC feedback has been given on many old responses.

4. RCOLA Review Status



➤ Review Challenges

- ✓ Site-specific Seismic
 - DCD changes restrain developing COLA update submittals
 - Closure plan to be completed by April 16, 2012, pending DCD input
- ✓ Hydrology
 - Reviewers are challenging the use of Qualitative analysis
 - Detailed modeling of site hydrology appears unnecessary per existing guidance
 - NRC request for a public meeting to clarify NRC concerns is being considered for March 2012
- ✓ Negation Action Plan
 - Reinstate discussion with NRC on or before second quarter of 2013
- ✓ RITS
 - Response submitted in Oct 2011 and under NRC review. NRC projects a new status of Closed/Unresolved with a follow up RAI.

5. DC Review Status



- **Phase 2 Status – RAI responses and closure**
- **Phase 4 Status – RAI responses and closure, OI responses and closure and CI status**
- **Status of Topical Reports**

5. DC Review Status



➤ Phase 2 Status

- ✓ RAs responded more than 90 days are being identified and discussed regularly with the Staff.
- ✓ Mitsubishi has reviewed the status of Confirmatory Actions (both for Applicant and NRC). The evaluation resulted in the following: officially submitted, in Living DCD, in-progress or needing discussion.
- ✓ Mitsubishi has also reviewed the status of Question Closed/Issue Unresolved. The evaluation resulted in the following: having a follow-up question identified, closure confirmed or needing discussion.
- ✓ The evaluation has been provided to the Staff, using a spreadsheet format to aid continued communication. A summary of the evaluation results is included in this presentation.

5. DC Review Status



➤ Phase 4 Status

- ✓ As with Phase 2 Chapters, responses over 90 days are being identified and discussed with the Staff.
- ✓ Reviews of Confirmatory Actions (both for Applicant and NRC) and Question Closed/Issue Unresolved status are being done. The same evaluations are being provided to the staff, just as Phase 2 Chapters.

5. DC Review Status



Current data (as of 2012-02-13)

Able to be closed

Chapter	Total	Issued/Open Action Applicant		Responded			Confirmatory Action Applicant or NRC			Question Closed/Issue Unresolved	
		Total	Responded ¹⁾	Total	< 90 days	> 90 days ²⁾	Total	Officially Submitted ³⁾	Living DCD ⁴⁾	Total	Followed-up/Closed ⁵⁾
1	6	0	0	0	0	0	0	0	0	0	0
2	57	0	0	0	0	0	2	0	1	1	1
3	949	137	12	28	23	5	70	23	6	245	99
4	212	1	0	10	10	0	10	1	1	17	3
5	134	1	0	0	0	0	19	13	3	21	18
6	453	3	1	25	21	4	15	1	7	96	81
7	281	6	0	28	6	22	44	12	15	0	0
8	98	3	0	3	2	1	9	1	0	9	6
9	582	16	9	4	0	4	78	26	3	146	79
10	99	3	3	0	0	0	15	5	3	35	22
11	94	0	0	0	0	0	19	15	1	0	0
12	80	8	0	0	0	0	15	13	2	26	24
13	133	0	0	0	0	0	0	0	0	93	93
14	420	2	0	6	0	6	33	4	8	30	29
15	273	5	3	10	10	0	10	0	8	19	19
16	305	0	0	0	0	0	65	1	4	1	1
17	69	10	0	0	0	0	0	0	0	0	0
18	188	16	0	2	2	0	39	0	13	0	0
19	579	8	1	50	2	48	58	13	1	153	104
Total	5012	219	29	166	76	90	501	128	76	892	579

1) The eRAI status has not been updated, although MHI already responded.

2) NRC evaluation has not been completed, although MHI responded more than 90 days ago.

3) DCD Rev. Docketed / Officially Submitted

4) Living DCD matches RAI Response

5) Follow-up Question Identified / Issue Closure Confirmed

Questions without follow-up or closure are being discussed

5. DC Review Status



➤ Status of Topical Reports

- ✓ MUAP-07008, Mitsubishi Fuel Design Criteria & Methodology
 - RAI response submitted to identify Tier 2* information
- ✓ MUAP-07009, Mitsubishi Thermal Design Methodology
 - No issues remain, SE being developed
- ✓ MUAP-07034, FINDS: Mitsubishi Fuel Assemblies Seismic Analysis Code
 - No issues remain, SE being developed
- ✓ MUAP-07001, The Advanced Accumulator
 - 1 RAI remaining, planned to be submitted by the end of February
 - ACRS meeting scheduled for April 11th
 - Continued Staff discussion needed to facilitate issue resolution

5. DC Review Status



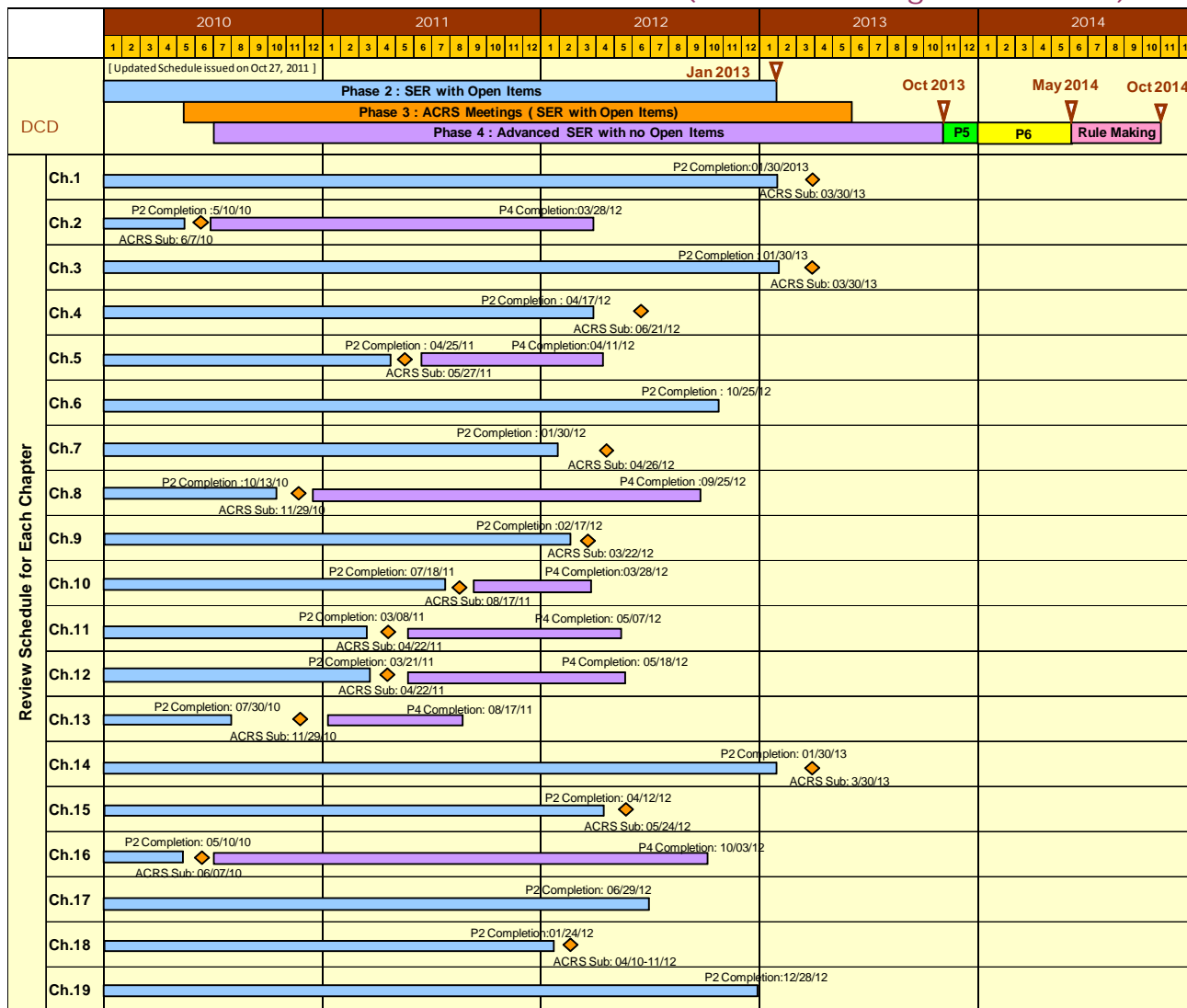
➤ Status of Topical Reports

- ✓ MUAP-07010, Non-LOCA Methodology
 - No issues remain, SE being completed
 - Staff indicates unlikely to be completed with Ch 15 SER and other Ch 15 ToRs' SERs
- ✓ MUAP-07013, Small Break LOCA Methodology for US-APWR
 - No issues remain, SE being completed
- ✓ MUAP-07011, Large Break LOCA Code Applicability Report for US-APWR
 - No issues remain, SE being completed
- ✓ MUAP-07007, HSI System Description and HFE Process
 - No issues remain, SE being completed

6. ACRS Meeting Schedule



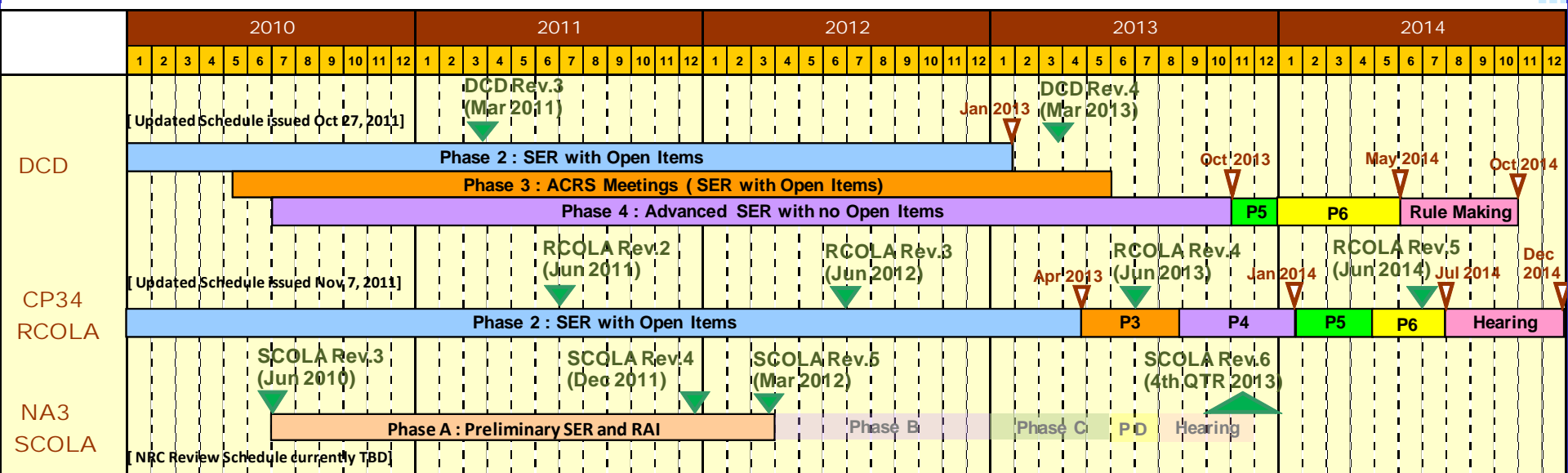
US-APWR DCD NRC Review Schedule (ACRS meeting for Phase 3)



7. Integrated DCWG Schedules



US-APWR DCWG Schedule



8. Technical Issues



➤ **2 Technical Issues currently being worked on for the US-APWR Design Center:**

- ✓ Sump Strainer/GSI-191
 - Closure plan has been submitted.
 - Public meeting held 2/9/2012.
 - 850 sec debris arrival time has been addressed in design change presented to staff.
 - Testing will be done and submitted by Aug 2012.
 - Ongoing discussions related to Temperature Scaling.
- ✓ Seismic
 - Submittal of closure plan March 2012.
 - Public meeting scheduled for March 29th to present the closure plan details to the Staff.
 - Meeting to discuss SC Testing is being considered for early March 2012.

9. Special Generic Topics



➤ Fukushima Task Force

- ✓ Meeting held with the NRC 2/7/12
 - Plans for addressing design-related safety enhancements presented
 - Discussed strategy for response and NRC review
- ✓ Opportunity for feedback from NRC concerning the meeting
 - Topics for meetings to discuss technical issues
 - RCP Seal Testing
 - Technical Report Submittal (structure and content)
- ✓ Schedule for next meeting tbd

9. Special Generic Topics



➤ MHI “Freeze Point” for DCD (DCD Rev 3)

- ✓ ISG-11 revision update requested from NRC.
- ✓ Currently the DCD Freeze Point is not creating a large list of License Amendments for the COLs as experienced by some other design groups.
- ✓ Changes that do not require additional technical review that are considered as errata or consistency corrections, avoiding the need for R-COLA/S-COLA departures are being evaluated.

10. Review of Actions



➤ **Actions captured throughout this meeting will be reviewed at the start of future DCWG meetings**

➤ **Going Forward**

- ✓ Near-term (2012) meeting goals:
 - DCWG to develop a management issues list
 - Next DCWG meeting proposed May 2nd 2012
 - 1 month after DCD Seismic Closure Plan
 - 2 weeks after RCOLA Seismic Closure Plan
- ✓ Long-term goals (2012-14):
 - Schedule stabilization
 - Approaches to eliminate further schedule delay