

US-APWR

DCWG Meeting

7/12/2012

Overall Agenda



1. **Review of actions from previous meeting**
2. General NRC update
3. **DC review status**
4. **RCOLA review status**
5. **SCOLA review status**
6. **ACRS Meeting Schedule**
7. **Integrated DCWG Schedules**
8. **Special Generic Topics (e.g. Fukushima)**
9. Review of actions items from this meeting

BOLD items are included in this presentation.

1. Review of actions

Carry over actions from 12/5/2011 meeting

2) MHI – Identify RAls that need clarification/NRC staff to provide reconciliation.

- Updates provided to the NRC on a regular basis, statistics provided in this presentation.

1. Review of actions

Carry over actions from 2/21/2012 meeting

16) MHI and NRC – NRO PMs work with the NRC technical staff management and create a coordinated effort with the technical staff to reduce the numbers of “responded,” “confirmatory” and “closed/unresolved” items prior to the next DCWG. If the numbers do not come down enough to reasonably talk about each question, then the questions should be grouped by subjects and put in buckets to track and discuss them. MHI to add another column to their table on slide 18 (of previous meeting) to highlight the deltas.

- Work continues, with some reduction seen. Statistics provided in this presentation.

19) NRC and DCWG - Generate an initial end game integrated schedule to be discussed at the next DCWG Meeting.

- Integrated DCWG Schedule shows a high level schedule.
- Will continue to develop and refine schedule.

1. Review of actions

New actions from 5/2/12 Meeting

20) NRC and DCWG – Seismic schedule progress is to be reviewed at the next DCWG meeting and added as a standard agenda item for subsequent meetings.

- Will add to future meeting presentation material, Strainer schedule progress is included in this meeting material.

21) DCWG – Comments regarding the Staff's seismic review schedule are to be provided by the DCWG.

- Completed.

22) MHI – Inform Staff of estimated date of completion for Ch 18 roadmap.

- Completed, Ch 18 roadmap submitted June.

23) NRC – Items in eRAI which have been identified as needing action are to be addressed by the Staff.

- Ongoing, update needed from Staff.

24) NRC – Schedule of ongoing ITAAC work is to be determined and communicated.

- Completed, RAIs issued.

2. General NRC Update



- **Update of Staff review of current DCD, RCOLA and SCOLA schedules to be provided.**

3. DC Review Status



- **RAI responses and closure status**
- **Status of Topical Reports**
- **Discussion topics**
 - ✓ Seismic (Ch 3)
 - ✓ GSI-191 (Ch 6)
 - ✓ Risk Significant Components in TS (Ch 19 and 16)
 - ✓ Chapter 18
 - ✓ ITAAC

3. DC Review Status

➤ RAI responses and closure status

- ✓ Overall summary of status, shown in Table 3-1, shows the following trends:
 - Issued RAIs – rise due to numerous ITAAC related RAIs
 - Responded RAIs – **continue to rise**
 - Confirmatory Actions – small reduction continues
 - QC/IU – drop overall, but **discussion is still required**
 - Resolved/Closed – upward trend continues

| Table 3-1 - eRAI Status Overall Summary | | | | | | |
|---|----------|-----------|-----------|-----------|----------|------------|
| eRAI Data Date | | 12/5/2011 | 2/21/2012 | 4/30/2012 | 7/5/2012 | Difference |
| Issued/Open Action Applicant | | 221 | 214 | 215 | 316 | +101 |
| Responded | <90 days | 79 | 80 | 104 | 77 | -17 |
| | >90 days | 87 | 94 | 82 | 123 | +41 |
| | total | 166 | 174 | 186 | 200 | +24 |
| Confirmatory Action (total) | | 517 | 500 | 476 | 445 | -31 |
| Question Closed/Issue Unresolved | | 897 | 888 | 879 | 807 | -72 |
| Resolved/Closed | | 3138 | 3249 | 3354 | 3496 | +142 |
| Total | | 4939 | 5025 | 5110 | 5264 | +154 |



3. DC Review Status



➤ **RAI responses and closure status**

- ✓ First area of focus – Responded RAIs
 - “Responded” category count continues to rise.
 - “Responded” > 90 days has also climbed higher, and eliminated a drop seen at the previous DCWG meeting.
 - A breakdown by Chapter is shown in Table 3-4.
 - Oldes RAI Questions in the “Responded” category are shown on the next slide.

3. DC Review Status

| Chap. | Question No : | NRC Letter No : | System RAI No : | Question Status ** | SRP Section: | RAI Response: |
|-------|---------------|-----------------|-----------------|--------------------|--|---------------|
| 14 | 14.03.04-38 | 373 | 2826 | Responded | Reactor Systems - Inspections, Tests, Analyses, and Acceptance Criteria | 6/16/2009 |
| 15 | 15.06.05-15 | 352 | 2369 | Responded | Loss of Coolant Accidents Resulting From Spectrum of Postulated Piping Breaks Within the Reactor Coolant Pressure Boundary | 7/17/2009 |
| 18 | 18-70 | 594 | 4429 | Responded | Human Factors Engineering | 7/9/2010 |
| 18 | 18-74 | 594 | 4429 | Responded | Human Factors Engineering | 7/9/2010 |
| 6 | 06.03-87 | 626 | 4750 | Responded | Emergency Core Cooling System | 10/14/2010 |
| 6 | 06.02.02-62 | 652 | 5194 | Responded | Containment Heat Removal Systems | 11/30/2010 |
| 6 | 06.03-98 | 716 | 5527 | Responded | Emergency Core Cooling System | 3/24/2011 |
| 6 | 06.02.02-65 | 746 | 5721 | Responded | Containment Heat Removal Systems | 6/7/2011 |
| 19 | 19-524 | 761 | 5804 | Responded | Probabilistic Risk Assessment and Severe Accident Evaluation | 6/28/2011 |
| 19 | 19-525 | 761 | 5804 | Responded | Probabilistic Risk Assessment and Severe Accident Evaluation | 6/28/2011 |
| 19 | 19-526 | 761 | 5804 | Responded | Probabilistic Risk Assessment and Severe Accident Evaluation | 6/28/2011 |
| 19 | 19-512 | 750 | 5675 | Responded | Probabilistic Risk Assessment and Severe Accident Evaluation | 6/30/2011 |
| 19 | 19-513 | 750 | 5675 | Responded | Probabilistic Risk Assessment and Severe Accident Evaluation | 6/30/2011 |
| 19 | 19-514 | 750 | 5675 | Responded | Probabilistic Risk Assessment and Severe Accident Evaluation | 6/30/2011 |
| 19 | 19-515 | 750 | 5675 | Responded | Probabilistic Risk Assessment and Severe Accident Evaluation | 6/30/2011 |
| 19 | 19-516 | 750 | 5675 | Responded | Probabilistic Risk Assessment and Severe Accident Evaluation | 6/30/2011 |
| 19 | 19-519 | 750 | 5675 | Responded | Probabilistic Risk Assessment and Severe Accident Evaluation | 6/30/2011 |
| 7 | 07.09-24 | 778 | 5866 | Responded | Data Communication Systems | 8/1/2011 |
| 19 | 19-533 | 773 | 5646 | Responded | Probabilistic Risk Assessment and Severe Accident Evaluation | 8/22/2011 |
| 19 | 19-534 | 773 | 5646 | Responded | Probabilistic Risk Assessment and Severe Accident Evaluation | 8/22/2011 |
| 19 | 19-536 | 773 | 5646 | Responded | Probabilistic Risk Assessment and Severe Accident Evaluation | 8/22/2011 |
| 19 | 19-537 | 773 | 5646 | Responded | Probabilistic Risk Assessment and Severe Accident Evaluation | 8/22/2011 |
| 19 | 19-539 | 773 | 5646 | Responded | Probabilistic Risk Assessment and Severe Accident Evaluation | 8/22/2011 |
| 19 | 19-540 | 773 | 5646 | Responded | Probabilistic Risk Assessment and Severe Accident Evaluation | 8/22/2011 |
| 19 | 19-541 | 773 | 5646 | Responded | Probabilistic Risk Assessment and Severe Accident Evaluation | 8/22/2011 |
| 19 | 19-542 | 773 | 5646 | Responded | Probabilistic Risk Assessment and Severe Accident Evaluation | 8/22/2011 |
| 19 | 19-545 | 773 | 5646 | Responded | Probabilistic Risk Assessment and Severe Accident Evaluation | 8/22/2011 |
| 7 | 07.08-17 | 753 | 5742 | Responded | Diverse Instrumentation and Control Systems | 9/30/2011 |
| 7 | 07.08-18 | 753 | 5742 | Responded | Diverse Instrumentation and Control Systems | 9/30/2011 |
| 7 | 07.08-19 | 753 | 5742 | Responded | Diverse Instrumentation and Control Systems | 9/30/2011 |
| 7 | 07.08-20 | 753 | 5742 | Responded | Diverse Instrumentation and Control Systems | 9/30/2011 |
| 7 | 07.08-21 | 753 | 5742 | Responded | Diverse Instrumentation and Control Systems | 9/30/2011 |
| 7 | 07.08-22 | 753 | 5742 | Responded | Diverse Instrumentation and Control Systems | 9/30/2011 |



3. DC Review Status



➤ RAI responses and closure status

- ✓ Second area of focus – RAIs identified with Confirmatory Actions
 - Focus is still needed on items identified as 'Discussion Needed' as a closure path is not understood by Mitsubishi.
 - RAI questions able to be closed have decreased in number but remain at 72.
 - A breakdown by Chapter is shown in Table 3-4.

| Table 3-2 - Confirmatory Action (Applicant and NRC) | | | | |
|---|-----------|-----------|----------|------------|
| eRAI Data Date | 2/21/2012 | 4/30/2012 | 7/5/2012 | Difference |
| Discussion Needed | 87 | 77 | 47 | -30 |
| No Evaluation | 113 | 0 | 0 | 0 |
| In DCD Docketed | 114 | 90 | 57 | -33 |
| In Official Submittal | 13 | 18 | 14 | -4 |
| In-Progress | 97 | 89 | 68 | -21 |
| Living DCD Matches RAI | 76 | 202 | 259 | +57 |
| Total | 500 | 476 | 445 | -31 |

3. DC Review Status



➤ RAI responses and closure status

- ✓ Third area of focus – RAIs identified with Question Closed/Issue Unresolved
 - Identifying follow-up RAIs or confirming closure of RAI responses with the status QC/IU continues to be an issue, as shown by 210 questions needing discussion.
 - A breakdown by Chapter is shown in Table 3-4.

| Table 3-3 - Question Closed/Issue Unresolved | | | | |
|--|-----------|-----------|----------|------------|
| eRAI Data Date | 2/21/2012 | 4/30/2012 | 7/5/2012 | Difference |
| Discussion Needed | 226 | 290 | 225 | -65 |
| No Evaluation | 84 | 0 | 0 | 0 |
| Follow-up Question Identified | 481 | 492 | 485 | -7 |
| Issue Closure Confirmed | 97 | 97 | 97 | 0 |
| Total | 888 | 879 | 807 | -72 |

3. DC Review Status



➤ RAI responses and closure status

| Table 3-4 - MNES Evaluation based on Chapter, 07/05/12 vs. 04/30/12 Data | | | | | |
|--|--------------------------|--------------------------|--|--|------------------------------|
| Chapter | Responded - < 90 days | Responded - > 90 days | Confirmatory Action - In DCD Docketed or In Official Submittal | Confirmatory Action - Discussion Needed | QC/IU - Discussion Needed |
| 1 | | | | | |
| 2 | | | | | |
| 3 | 44 (-9) | 42 (+29) | 17 (+2) | 17 (-8) | 145(+7) |
| 4 | 5 (-1) | 7 | 1 | 5 (-1) | 10 (-1) |
| 5 | 0 (-1) | 1 (+1) | 0 (-1) | 0 (-2) | 1 |
| 6 | 13 (+12) | 9 (-1) | 1 | 2 (-2) | 13(+1) |
| 7 | | 7 | 2 (-3) | 2 | 0 (-3) |
| 8 | | 1 (-1) | 0 (-2) | | 0 (-1) |
| 9 | 0 (-1) | 2 | 0 (-26) | 0 (-1) | 0 (-61) |
| 10 | 0 (-4) | 0 (-3) | 3 (+1) | 0(-3) | 2 |
| 11 | | | 0 (-8) | | |
| 12 | 8 | | 15 | | |
| 13 | | | | | |
| 14 | 3 (+1) | 5 (+1) | 2 (-1) | 1 (-14) | 1 |
| 15 | 0 (-4) | 7 (-4) | | | |
| 16 | | | 3 | 1 | |
| 17 | | | | | |
| 18 | 0 (-16) | 18 (+14) | 7 (-2) | 3 (-1) | |
| 19 | 4 (-4) | 24 (+5) | 20 (+3) | 16 (-4) | 53 (-7) |

3. DC Review Status



➤ Status of Topical Reports

- ✓ Topical Reports under review are progressing within the associated Chapter Phase 2 review.
- ✓ Exceptions and challenges are indicated below:
 - MUAP-07001 (The Advanced Accumulator) – Closure of issued RAIs continues. Resolution of 2 outstanding RAI questions has been discussed, analysis will be completed and submitted to the Staff in July.

3. DC Review Status



➤ Discussion topics

- ✓ Seismic (Ch 3)
 - Identified Issues:
 - Time History
 - ESWPT
 - Studying options, analytical solutions and impacts (deliverables' content and schedule)
 - Meeting requested July 26th to provide an update

3. DC Review Status



➤ Discussion topics (continued)

✓ GSI-191 (Ch 6)

- Additional testing has been completed and overview discussed with the Staff. Some RAIs remain and are being discussed with the Staff.
- Public meeting will be held 7/19/2012 with another planned for September.
- Test results to be completed and submitted by the end of August 2012.
- Schedule is shown on the following slide.

3. DC Review Status



| | Start | Finish | April | May | June | July | August | September | October |
|--|----------|--------|-------|-----|------|------|--------|-----------|---------|
| Interaction with NRC | | | | | | | | | |
| Public Meeting #1 (Closure Plan) | 2/8 | 2/8 | | | | | | | |
| Public Meeting #2 (Test Results) | 7/19 | 7/19 | | | | | | | |
| Public Meeting #3 (MHI Output Summary) | Sept TBD | | | | | | | | |
| Audit | | | | | | | | | |
| Audit (Design Change and DCD Impact) | 4/16 | 4/17 | | | | | | | |
| NRC Audit Report | 4/18 | 8/17 | | | | | | | |
| Re-Test | | | | | | | | | |
| Head Loss Test | 4/1 | 6/30 | | | | | | | |
| CIB Test | 4/1 | 7/31 | | | | | | | |
| DCD/TEC | | | | | | | | | |
| DCD Mark-up | 4/1 | 5/31 | | | | | | | |
| Technical Reports w/o Test Results | 4/1 | 5/31 | | | | | | | |
| Technical Reports w/ Test Results | 7/1 | 8/31 | | | | | | | |
| RAI Responses to be Revised | | | | | | | | | |
| Round 1 (RAI 373, 530, 695, 715, 740, 839, 815) | 5/1 | 5/31 | | | | | | | |
| Round 2 (RAI 912, 354, 839) | 7/1 | 7/31 | | | | | | | |
| New RAIs | | | | | | | | | |
| Pre-Audit | | | | | | | | | |
| NRC Issue - Planned | 4/1 | 4/6 | | | | | | | |
| NRC Issue - Actual | 4/16 | 4/16 | | | | | | | |
| MHI Responses | 4/17 | 5/31 | | | | | | | |
| Post-Audit | | | | | | | | | |
| NRC Issue - Target | 4/17 | 5/18 | | | | | | | |
| NRC Issue - Actual | 4/24 | 6/28 | | | | | | | |
| MHI Responses | 5/30 | 7/31 | | | | | | | |
| Safety Evaluation Report | | | | | | | | | |
| Tech Staff Completion Date | 10/31 | 10/31 | | | | | | | |
| Chapter Completion | 11/1 | 1/31 | | | | | | | |
| Issue Ph 2 SE to ACRS | 2/1 | 3/20 | | | | | | | |
| ACRS Review of Ph 2 SE | 2/1 | 3/20 | | | | | | | |
| ACRS Subcommittee Meeting | 3/21 | 3/22 | | | | | | | |



3. DC Review Status



➤ Discussion topics (continued)

- ✓ Risk Significant Components in TS (Ch 19 and 16)
 - Staff have identified the need for TS control of risk significant components, rather than relying on administrative controls already in place.
 - New guidance is being developed, had been expected in mid-May. Mitsubishi will review and consider the new guidance when available.
- ✓ Chapter 18
 - Roadmap was submitted to the Staff. Review of documents completed at the end of June. Revisions to documents are planned by the end of September.
 - Mitsubishi is finalizing the plan to submit document revisions.
- ✓ ITAAC
 - CIB review of DCD R3 ITAAC was completed, with 107 RAI questions issued to Mitsubishi. 2 RAIs responded and 6 RAIs in-process.

4. RCOLA Review Status



➤ Phase Status by Chapter – as of July 11

| | 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 | | 8/12 | | 2/13 | 10/12 | | TBD | | | | | | | TBD | 1/13 | TBD | 1/13 |
| Phase 3 Sub | | TBD | | 9/12 | | 3/13 | 11/12 | | TBD | | | | 10/12 | | | TBD | 2/13 | TBD | 2/13 |
| Phase 3 Full | | | | | | | | | | | | | | | | | | | |
| Phase 4 | | | | | | | | | | | | | | | | | | | |
| Phase 5 | | | | | | | | | | | | | | | | | | | |
| Phase 6 | | | | | | | | | | | | | | | | | | | |

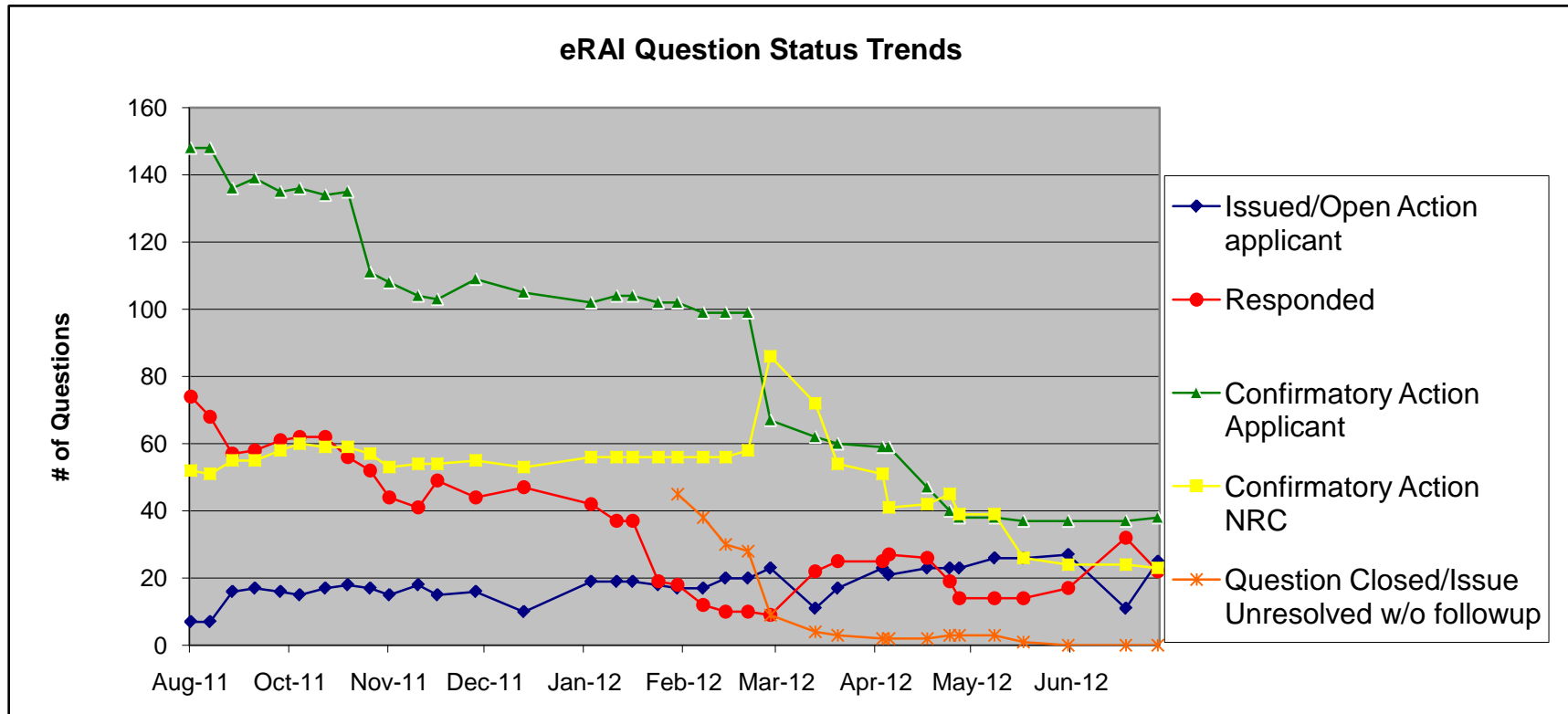
| | | | | | |
|--|------------------------------------|--|--|--|--|
| | Complete | | Not complete (date indicates forecast date for completion) | | Date not changed subsequent to 5/2/12 DCWG |
| | Complete subsequent to 5/2/12 DCWG | | Date changed subsequent to 5/2/12 DCWG | | |

ACRS Dates continue to move and numerous briefings are unscheduled.

4. RCOLA Review Status



➤ RAI Questions – Progress to Closure – as of June 28

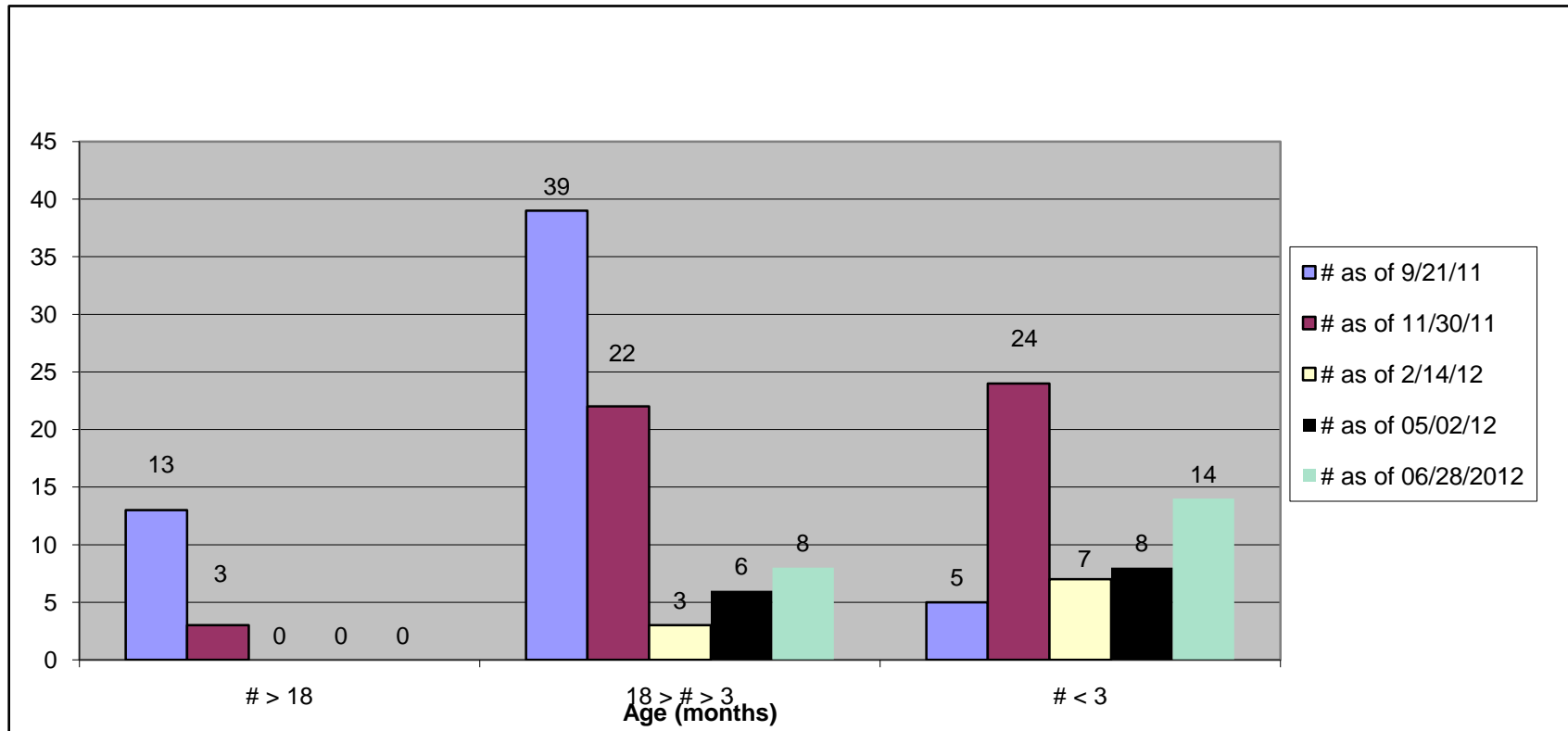


Progress on Confirmatory questions has leveled off, but should trend down due to R-COLA Rev 3. Questions Closed/Issue Unresolved without followup remain at zero.

4. RCOLA Review Status



➤ RAI Questions – Responded Category Age



The number of "Responded" questions greater than 3 months old is small but is trending up.

4. RCOLA Confirmation Required



- **R-COLA Rev 3 issued June 28, 2012**
- **35 Confirmatory status questions responses incorporated in COLA Rev. 3**
- **38 Confirmatory status questions now available for NRC reviewer confirmation of proper incorporation**
- **23 Confirmatory status questions require Luminant action**
 - ✓ 14 linked to IHCP or ISCP
 - ✓ 9 currently planned for COLA R4
- **List of all confirmatory questions is available**

4. RCOLA Review Challenges



- **Site-specific Seismic** – Closure plan submitted April 16, 2012 with a public meeting May 24, 2012
 - ✓ Product submittals to staff September 2012 through June 2013
 - Potential standard plant layout changes are pushing the September evaluation work and October deliverables but dates have not changed yet.
- **Hydrology** – Closure Plan submitted April 27, 2012 with a public meeting May 24, 2012
 - ✓ Product submittals to staff November 2012 through February 2013
 - Potential standard plant layout changes are pushing grading, drainage, surface water and erosion work. December deliverables may be impacted but the schedule has not changed yet.

4. RCOLA Review Challenges

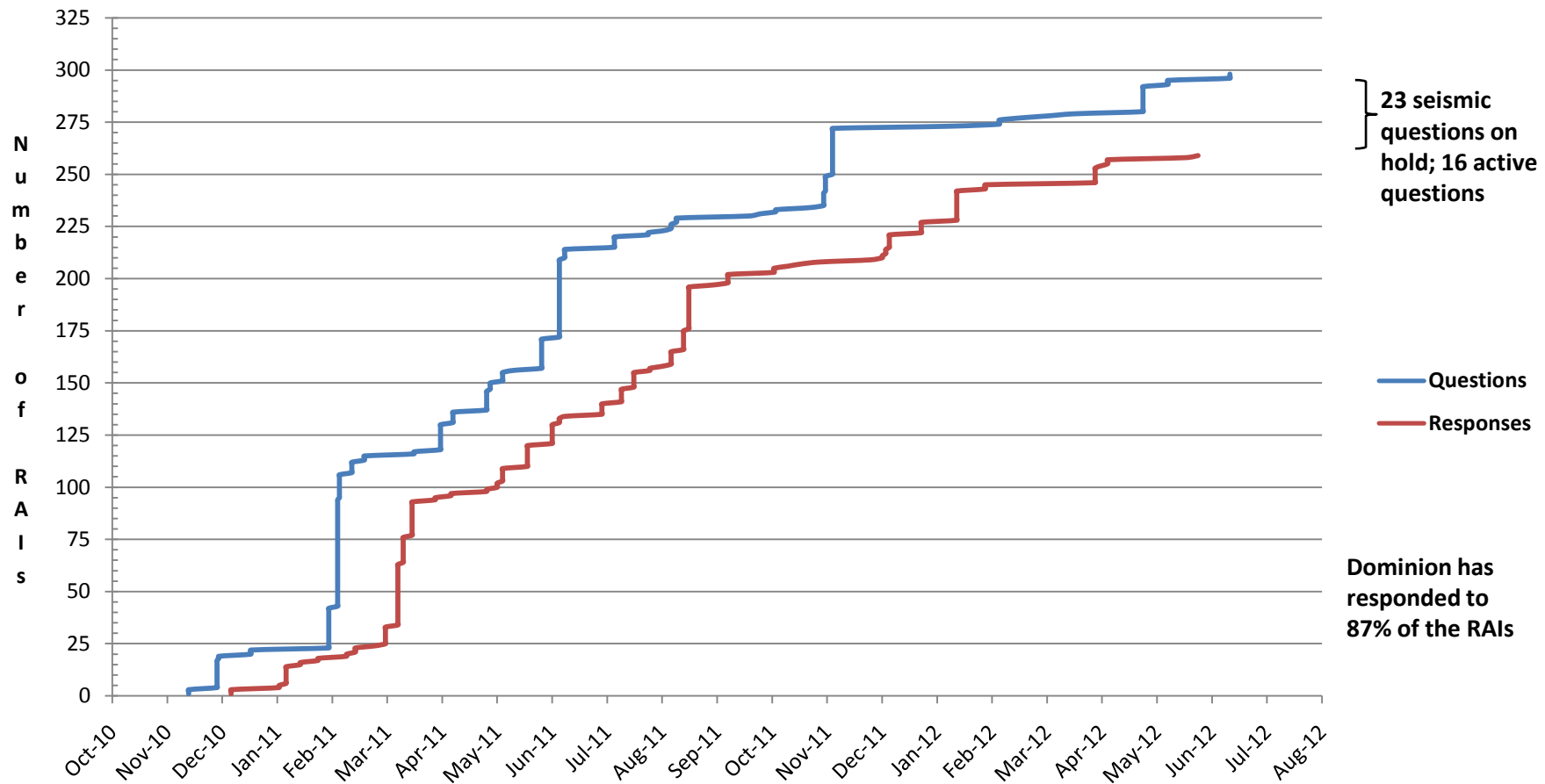


- **Negation Action Plan** – Reinstate discussion with NRC on or before second quarter of 2013
- **Chapter 3** – Review scheduled being pushed by request from NRC staff for procurement specifications which do not yet exist
- **Chapter 9** – Review started late and significant focus from Luminant and NRC staff needed to maintain overall review schedule

5. SCOLA Review Status



➤ RAI Performance is Tracking Closely

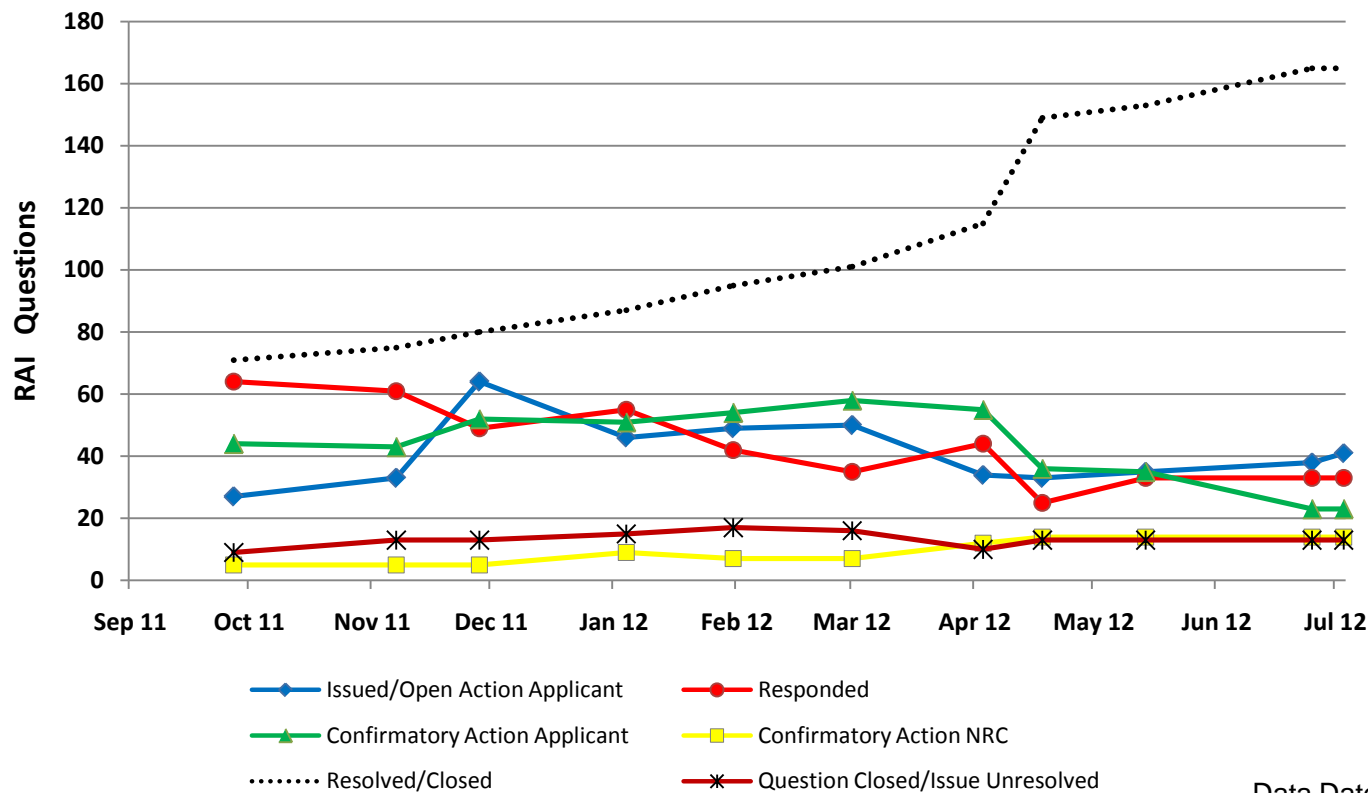


Data date: 7/3/2012

5. SCOLA Review Status



➤ RAI Questions – Progress to Closure



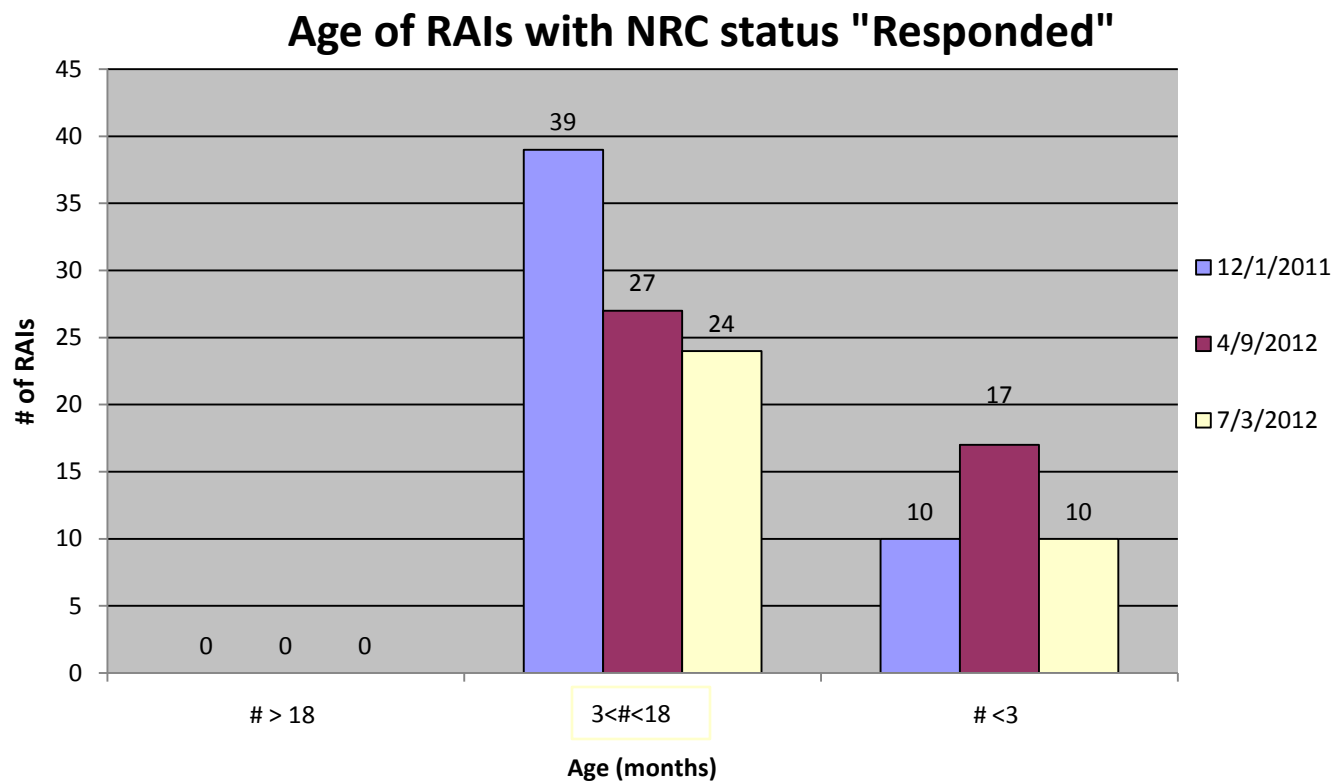
Data Date 7/3/2012

Trends in all categories continue to be favorable

5. SCOLA Review Status



➤ RAI Questions – Responded Category Age



Trends continue as-expected and favorable.

5. SCOLA Topics



➤ Seismic Closure Plan (SCP)

- ✓ The NA3 SCP was submitted on schedule May 29
- ✓ An SCP overview meeting was held with NRC June 7
- ✓ The NA3 SCP forms the basis for a revised NRC review schedule currently expected to be published by the NRC in the near future
- ✓ The initial SCP deliverables (FSAR 2.5, 2.5.1, and 2.5.3) are on schedule for submittal in July
- ✓ Some SCP deliverables may be impacted due to
 - CEUS SSC model update
 - Standard plant identified issues

5. SCOLA Topics



➤ RAI Endorsement Process

- ✓ Dominion announced its intent to explore alternate approaches to a more timely RAI endorsement process in May 2012
- ✓ To that end, Luminant and Dominion have been collaborating to streamline the process. We expect to realize some success in the near term:
 - Chapter 9 RAI responses
 - Certain Fukushima-related RAI responses
- ✓ However, supporting a real-time assessment and endorsement process for R-COLA RAIs, in addition to providing timely S-COLA RAI responses, has proven to be more challenging than originally anticipated and may not be 100% achievable because of its highly resource-driven nature
- ✓ Dominion's goal remains to provide a timely endorsement of R-COLA RAIs and COLA mark-ups, when appropriate

6. ACRS Meeting Schedule



| Chapter | Phase Completion Dates (Comparison to 5/2/2012 DCWG Meeting) | | | | | |
|---------|--|----------------|------------------|---------------|---------|---------|
| | Phase 1 | Phase 2 | Phase 3 | Phase 4 | Phase 5 | Phase 6 |
| 1 | Complete | 11/29/13 (+10) | TBD | | | |
| 2 | Complete | Complete | Complete | 9/24/13 (+11) | | |
| 3 | Complete | 11/29/13 (+10) | TBD | | | |
| 4 | Complete | 7/25/12 | 9/20-21/12 | | | |
| 5 | Complete | Complete | Complete | 10/19/12 (+3) | | |
| 6 | Complete | 1/30/13 | 3/21-22/13 | | | |
| 7 | Complete | TBD | 11/15-16/12 (+5) | | | |
| 8 | Complete | Complete | Complete | 11/29/12 (+2) | | |
| 9 | Complete | Complete | Complete | 2/4/13 (+1) | | |
| 10 | Complete | Complete | Complete | 10/25/12 (+3) | | |
| 11 | Complete | Complete | Complete | 12/27/12 (+4) | | |
| 12 | Complete | Complete | Complete | 5/24/13(+8) | | |
| 13 | Complete | Complete | Complete | Complete | | |
| 14 | Complete | 11/29/13 (+10) | TBD | | | |
| 15 | Complete | Complete | 7/9-10/12 | | | |
| 16 | Complete | Complete | Complete | 10/3/12 | | |
| 17 | Complete | 12/28/12 | 2/21-22/13 | | | |
| 18 | Complete | 10/16/12 | 4/25-26/13 (+6) | | | |
| 19 | Complete | 12/28/12 | 2/21-22/13 | | | |

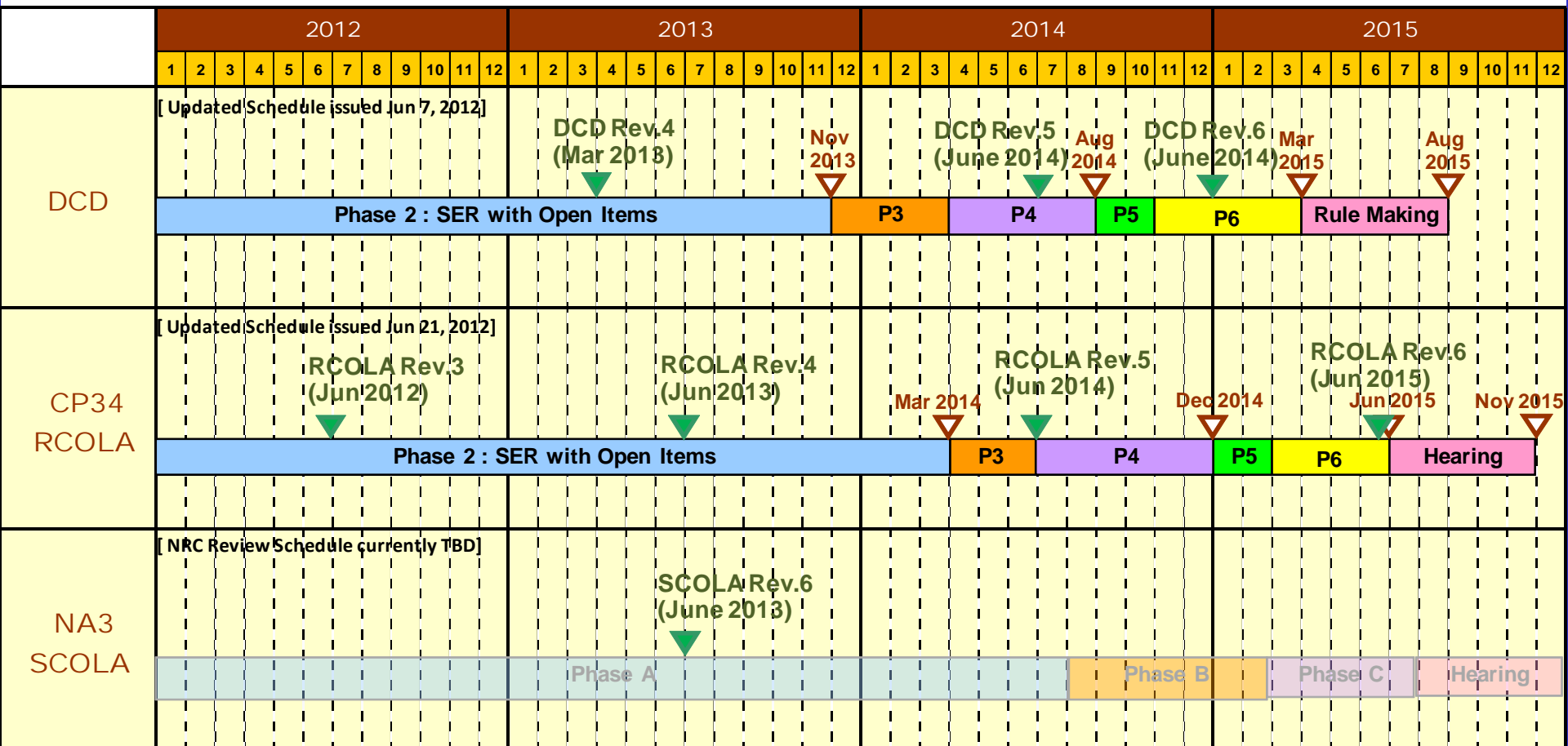
YELLOW: Date Change
BLUE: New Information



7. Integrated DCWG Schedules



US-APWR NRC Review Schedule DCD and COLAs



8. Special Generic Topics



➤ Fukushima Task Force

- ✓ Meeting planned for 7/16/2012
- ✓ Topics include:
 - Mitigation Strategies for Beyond Design Basis Events
 - Future Technical Report contents
 - Responses to Staff feedback on the RCP Seal Test Plan
 - RCP Seal Test Status

9. Review of Actions



- **Actions captured throughout this meeting will be reviewed at the start of future DCWG meetings**
- **Going Forward**
 - ✓ Clearly understand RAI status
 - ✓ Long-term goals (2012-14):
 - Provide quality submittals to address pending issues
 - Approaches to eliminate further schedule delay
 - ✓ Next DCWG meeting proposed September 13th, 2012