## PMSTPCOL PEmails

**From:** Eudy, Michael
**Sent:** Thursday, March 29, 2012 1:32 PM
**To:** 'Chappell, Coley'
**Cc:** Banerjee, Maitri; STPCOL
**Subject:** FW: STP COLA - ACRS Action Item List
**Attachments:** STPABWR SC Action Items 100411.docx

Coley,

Can you address Maitri's questions below regarding any prop or security info the the ACRS action item list ? Thanks.

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**From:** Banerjee, Maitri
**Sent:** Thursday, March 29, 2012 9:58 AM
**To:** Eudy, Michael
**Cc:** Joseph, Stacy; Wunder, George
**Subject:** STP COLA - ACRS Action Item List

Someone from DTE is asking one of the ACRS staff for a copy of the attached list. I checked with Stacy some time ago to see if the list contains any proprietary or security related information requiring it to be non-public. And I was told it did not. If I remember right, STP had reviewed it for that purpose also. I did not want to surprise anyone, and hence contacting you (as George is not available) to confirm.

Thanks for your help.

Maitri Banerjee, PE
Senior Staff Engineer, ACRS
US Nuclear Regulatory Commission
301-415-6973

**Hearing Identifier:** SouthTexas34Public_EX
**Email Number:** 3345

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**Subject:** FW: STP COLA - ACRS Action Item List
**Sent Date:** 3/29/2012 1:31:44 PM
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**From:** Eudy, Michael

**Created By:** Michael.Eudy@nrc.gov

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# ACRS ABWR Subcommittee Action Items

| No. | MTG/ date generated | ACTION ITEM | CONTEXT | AREA | LEAD(s) | COMMENTS / ACTION / DISPOSITION | Date Resolved |
|---|---|---|---|---|---|---|---|
| March 2, 2010 ABWR Subcommittee Meeting | | | | | | | |
| 1 | 3/2/10 | Dr. Armijo expressed interest in the fuel related topical reports and the effect of the fuel change (amendment to COL) on the analyses in Chapters 4 and 15.<br>Communicate ACRS desire to review fuel amendment (first reload) application that replaces GE 7 fuel (DCD) to contemporary fuel (Armijo) | Chapter 4 | SER | ACRS<br>(Abdullahi/ Banerjee) | Potential impact to other areas including Chapters 6 and 15 in addition to Chapter 4.<br>Closed as Follows: A list of fuel amendment related technical/ topical reports has been provided. ACRS (Dr. Armijo lead) to determine which ones the Committee would like to review and the responsible Subcommittee(s). Proposal to be presented at the April P&P.<br>ACRS, with Member Banerjee lead, will review the TRs. | 4/9/10 |
| 2 | 3/2/10 | Future presentation of staff and STP to address diesel qualification to 60 degrees C, related occupancy issues and HVAC changes. (Abdel-Khalik) | Chapter 9 | COLA/SER | STP/NRO | STP to provide additional discussion on habitability at future Subcommittee meeting on impact of higher temperature (departure T1 2.15-2) when Chapter 9 is presented to the Subcommittee. The issue of diesel qualification was addressed at 3/18/10 meeting and the issue of habitability was addressed at 10/20/10 meeting satisfactory to the members. | 10/20/10 |

# ACRS ABWR Subcommittee Action Items

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|---|---|---|---|---|---|---|---|
| 3 | 3/2/10 | Part 21 reports issued on stability analysis post DCD need to be addressed (Abdel-Khalik) | Chapters 4 and 15 | COLA/SER | STP/NRO | STP and staff to address at March 18, 2010 meeting. Closed as follows:<br>STPNOC will provide an updated Stability Option III analyses including resolution of the Part 21 issues before fuel load (COM 4.4-3)<br>Staff will follow-up commitment through established processes. | 3/18/10 |
| 4 | 3/2/10 | Part 21 reports issued post DCD - how staff identifies, captures and addresses Part 21 issues that affect the ABWR design? (Abdel-Khalik) | Chapters? | COLA/SER | NRO/STP | Staff plans to address it at a future meeting.<br>STP is preparing a list of all applicable Part 21 items since original design certification and will develop a process to address them in the COLA space. Staff to follow-up and address at a future ACRS meeting. STP provided additional information on 6/8/10 (slides 8 and 9) and at 10/20/10 (slides 9 -11, ACRS Action Items). STPNOC made changes to FSAR and TS bases to address 1988 Part 21 on BWR operation with a MSL isolated.<br>The EDO response dated 9/10/10 to ACRS interim letter, dated 8/9/10, committed to develop guidance for addressing Part 21 reports in new reactor licensing process. The staff will update ACRS when such guidance is completed. | STP response is complete for NINA. See item 51. This item is closed. |

# ACRS ABWR Subcommittee Action Items

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|---|---|---|---|---|---|---|---|
| 5 | 3/2/10 | Deletion of MSIV closure and scram on hi radiation | Chapters 7 and 19 | DCD | - | BWROG Topical Report reviewed and approved by NRC. Closed | 3/2/10 |
| 6 | 3/2/10 | FW line break mitigation – This accident is not described in Chapter 15 (Abdel-Khalik). | Chapter 6 | COLA/SER | STP/NRO | The applicant stated that this accident does not affect Chapter 15 doses and that the entirety of the accident and its effects will be discussed in the presentation on Chapter 6.<br>Addressed during 6/24/10 meeting. Refer to Sections 6.2, 6.3 and 15.6. | 6/24/10 |
| 7 | 3/2/10 | FPGA – address in more detail (e.g., inter-channel communication, determinancy)<br>Application of Common Q platform (Brown) | Chapter 7 | COLA/SER | STP/NRO | Staff to discuss at 5/20 meeting. NRO to provide documents to Subcommittee in advance of briefing on this topic as needed.<br>Based on 5/20 meeting FPGA is closed. Application of Common Q platform, independence and determinancy are being considered by Member Brown.<br>Based on the applicant's presentation on Chapter 7 at 2/8/11 SC meeting this item is closed. | 2/8/11 |
| 8 | 3/2/10 | Address GSI-191 flow blockage (not just for fuel) (Abdel- Khalik) | Chapter 6 | COLA/SER | STP/NRO | Staff and STP to discuss this issue during presentation on strainers and downstream effects testing as part of Chapter 6 on 6/24, 2010.<br>This item is part of item 47. | 6/24/10 |

# ACRS ABWR Subcommittee Action Items

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| 9 | 3/2/10 | Address how underground release is handled (e.g., H3) in STP design and operational programs. Address if underground piping carrying radioactive liquids run through tunnels, designed for zero leakage, or above/ below the water table. (Ryan) | Chapter 11 | COLA/SER | STP | To be discussed at a future meeting. Implementation of commitments made in STP RAI response, letters U7-C-STP-NRC-100156, 6/30/10 and U7-C-STP-NRC-090121, 8/26/09, and staff follow-up will be the subject.<br>AT 10/20/10 ABWR SC - STPNOC slide 12 on Action Items, committed to NEI 08-08A. More details about corrosion resistance of material, coatings, wrappings and types of connection (flanged?) were asked. | 3/9/11<br>Closed per NINA briefing (slide # 7 under Chapter 11 |
| 10 | 3/2/10 | GALE code – impact of the very conservative approach used by the staff and need for uncertainty analysis and use of actual experience data. (Ryan) | Chapter 12 | SER | NRO | Dr. Ryan asked if staff has any insights on how results from the new GALE code will compare to results from the old GALE code. What impact is this likely to have on the application? He also expressed concern regarding the effect on the applicant of making significant changes to RGs in the middle of a review?<br>Staff to address this issue generically at a future meeting.<br>Staff discussed the issue at 3/18/10 SC meeting to Committee's satisfaction. The issue is closed. | 3/18/10 |

# ACRS ABWR Subcommittee Action Items

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|---|---|---|---|---|---|---|---|
| 11 | 3/2/10 | Disparity between staff and STP presentation related to all x/q values being bounded by DCD. | Chapter 15 | SER | NRO | Staff acknowledged error in presentation slides. Issue closed. | 3/2/10 |
| 12 | 3/2/10 | Related to HFE, how specific DAC acceptance criteria be amenable to staff inspection (Bley) | Chapter 18 | SER | ACRS | DAC issues will be closed after the issuance of the COL. This means that the Committee will not be able to track the closure of DAC-related technical issues before they are requested to write a letter on the staff's SER.<br>ACRS to receive briefing on digital I&C DAC at 570 ACRS meeting on 3/5/10, and decide if further follow-up is needed.<br>Also see item 17. At 10/20/10 ABWR SC meeting members decided that this issue will be rolled into the generic ACRS comments on the DAC process. This item was closed. | 10/20/10 |
| 13 | 3/2/10 | Subcommittee would like a better understanding of how adding dry/wetwell pressure indication on SPDS gives higher assurance of control room capability post accident when SPDS is non-safety related (Stetkar) | Chapter 18 | SER | NRO | Staff to provide additional information to ACRS.<br>Staff presentation at 10/20/10 ABWR SC meeting. See meeting minutes. This item was closed based on information provided and the application of the HFE process. | 10/20/10 |

# ACRS ABWR Subcommittee Action Items

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| 14 | 3/2/10 | EDG qualification to increased ambient temperature (Stetkar) | Chapters 8, 9 | FSAR/SER | STP/NRO | STP to discuss at next meeting. DG qualified to room temperature and electronics are located in cabinet outside room. This item is closed. | 3/18/10 |
| 15 | 3/2/10 | Subcommittee would like a better understanding of the basis for SER conclusion related to MCR and RSS and operator ability in switching from a digital MCR to analog RSS (Stetkar) | Chapter 18 | SER | NRO | Staff to address this question in the context of the Chapters 7 and 18 discussions on RSS. Staff presentation at 10/20/10 ABWR SC meeting. See meeting minutes. This item was closed based on information provided and the application of the HFE process through design and operator training. | 10/20/10 |
| 16 | 3/2/10 | May need more aggressive staff review of HFE. Dr. Bonaca indicated that he might have questions on Chapter 18 (human factors engineering) after he reflected on the presentation. (Bonaca) | Chapter 18 | SER | ACRS/NRO | Staff to address:<br>Dr. Bonaca referring to questions from Dr. Stetkar above – Treatment of SPDS, core cooling display parameters and their bases. Closed-refer to item 15 above. | Closed |
| 17 | 3/2/10 | Staff needs to formalize handling of DAC | Chapter 18 | NRO Programs | ACRS/NRO | ACRS comments in their 7/24/09 letter applies, plus another letter is expected to be drafted in July 2010. At 10/20/10 ABWR SC meeting members decided that this issue will be rolled into the generic ACRS comments on the DAC process. This item was closed. | 10/20/10 |

# ACRS ABWR Subcommittee Action Items

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| 18 | 3/2/10 | Related to SER open item 1-3 on aging management, it was noted that detailed technical review is conducted under license renewal process when it should be an issue to consider from the first day on. Dr. Stetkar noted that additional guidance in the area may be helpful. | Chapter 1 | Aging management | ACRS/NRO | Staff plans to close this issue in the staff's final SER with no open items.<br>Item closed per staff presentation slide #4 on Chapter 1. The applicant is following the regulatory requirements. | 4/21/11 |
| 19 | 3/2/10 | Occupational doses received from ABWRs and how they compare to occupational doses at other reactors. Can we compare ABWR to other Japanese BWRS as well as to U.S. BWRs? (Ryan) | Chapter 12 | ABWR occupational dose | NRO | Staff to address this issue at a future meeting.<br>At 3/18 SC meeting, NRO and STP provided occupational dose data for Japanese and US BWRs since 1993 and the average dose for the Kashiwazaki-Kariwa plants, two of which are ABWR units, from 1997 thru 2002. | 3/18/10 |

# ACRS ABWR Subcommittee Action Items

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| March 18, 2010 ABWR Subcommittee Meeting | | | | | | | |
| 20 | 3/18/10 | Number of times RCIC is expected to cycle on and off during an 8 hour SBO event (Stetkar) | Chapter 5 | RCIC | STP | RCIC qualification and Operator response may be challenged due to repeated cycling (Response-4 times during 8 hr. SBO-STP slide 18 and 19, 6/8/10 ABWR SC-Closed) | 6/8/10 |
| 21 | 3/18/10 | Rx vessel EOL fluence value and error band (Abdel-Khalik/Armijo) | Chapter 5 | Rx Vessel Material | STP | COLA uses DCD value, will be updated once PTLR is finalized/approved | 3/18/10 |
| 22 | 3/18/10 | Ensure all documents (engineering, design, procedures, PTS etc) at the plant use a consistent set of units (either British or Metric). (Abdel-Khalik) | All | All | STP | Too may number of problems and near misses happen when operators and technicians at the plant have to take action based on inconsistent units.<br>Closed per STP slide 8&9 presented at 6/24/10 meeting. | 6/24/10 |
| 23 | 3/18/10 | Address how K6 and K7 RCS leakage TS limits compare with proposed STP numbers, and justify STP limits, if higher.<br>Also address instrument sensitivity and how it compares with 1 gpm number. (Armijo) | Chapter 5 | PTS | STP | Unidentified leakage limit was increased from 1 gpm DCD value to 5 gpm STP TS as STP is not using LBB.<br>Closed per STP slide 10&11 presented at 6/24/10 meeting. | 6/24/10 |
| 24 | 3/18/10 | Confirm that East transmission lines are capable of supplying all 4 units' safety loads when other lines are lost. (Stetkar/Sieber) | Chapter 8 | FSAR | STP | Concern was that given shared transmission right of way and towers, all other lines could be lost under a storm situation. Closed per STP slide 10, ABWR SC meeting 6/8/10. | 6/8/10 |

# ACRS ABWR Subcommittee Action Items

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| 25 | 3/18/10 | State if there are single or double closing coils on switchyard breakers. (Stetkar) | Chapter 8 | FSAR | STP | There may be additional questions if the answer is "single." 6/8/10 ABWR SC – STP slide 11, answer is "single closing coil." Stetkar question-demonstration of capability to reclose upon (single?) failure of DC power under worst switchyard fault to restore one offsite power supply.<br>Closed per STP slide page 12 presented at 6/24/10 meeting. | 6/24/10 |
| 26 | 3/18/10 | Provide switchyard control system backup battery discharge time. (Stetkar/Sieber) | Chapter 8 | FSAR | STP | Breakers may not close after LOOP clears if battery exhausted. Batteries sized to operate 10 hrs, expected life 15-20 yrs.- re: STP slide 12 at 6/8/10 ABWR SC. | 6/8/10 |
| 27 | 3/18/10 | Performance of switching logic under various electrical transients. (Stetkar) | Chapter 8 | FSAR | STP | STP may a want to address it beyond COL while detailed design is finalized. STP slides 14-16, 6/8/10 ABWR SC meeting. Stetkar to review and decide if sufficient to close action item. See STP slides 7-11 on Chapter 8 at 10/20/10 ABWR SC. | 10/20/10 |
| 28 | 3/18/10 | NRO to address how the SBO rule requirements are being ensured after operator action time is factored into the scenario with STP specification of "less than 10 minutes CTG startup time." (Stetkar) | Chapter 8 | SER | NRO | As STP chose not to do SBO coping analysis, they have to demonstrate that the CTGs are capable of powering shutdown buses within 10 minutes of the onset of SBO (10 CFR 50.63 (c)(2)). The scenario involves needed operator action to shed/load buses before breaker can be closed.<br>EDO letter, 9/1/10 – discuss at next Chapter 8 briefing | 10/20/10 – See NRO slides on Chapter 8, page 4 and backup-closed. |

# ACRS ABWR Subcommittee Action Items

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| 29 | 3/18/10 | Address qualification of submerged 345 KV cables. (Brown) | Chapter 8 | FSAR | STP | High water table prompted question on qualified life. STP slide 13, 6/8/10 ABWR SC meeting. | 6/8/10 |
| 30 | 3/18/10 | Address when DRAP list will be effectively populated and staff review is completed.<br>How does staff ensure the DRAP list and the process (COLA vs. ITAAC) related to it are acceptable? (Stetkar) | Chapter 17 | FSAR/SER | STP/NRO | With evolving plant PRA and DRAP, members were concerned that ITAAC may not be an appropriate closer mechanism for DRAP list. STP slide 20 6/8/10 ABWR SC meeting –List and justifying analysis to be available to ACRS 3rd quarter 2011. Staff to address the ACRS review timing question.<br>At the 6/24/10 ABWR SC meeting the staff discussed their review of evolving DRAP list thru an audit (3rd quarter of 2010 and inspection late 2011. STP/NRO will brief ABWR SC in future, time to be determined.<br>10/20/10 ABWR SC STP slide 14 – Provided draft DRAP list, staff to provide audit report when available. Future presentation by STP on process with examples.<br>STP Slides 8-12 on Chapter 17 at 4/21/11 meeting. NINA will show DRAP list at 6/21/11 meeting and NRO will provide audit report when completed. (ML11264A058 provided to Drs. Stetkar and Bley on 11/1/11) | 6/21/11-see NINA slides on this item and transcript for discussion. Closed. |
| 31 | 3/18/10 | 4.16 kV winding in CTG1 bus could carry two PIP buses together with one safety bus (Stetkar) | Chapter 8 | FSAR/SER | STP | STP to confirm at a future meeting. STP slide 17 6/8/10 ABWR SC – confirmed | 6/8/10 |

# ACRS ABWR Subcommittee Action Items

# ACRS ABWR Subcommittee Action Items

| May 20, 2010 ABWR Subcommittee Meeting | | | | | | | |
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| 32 | 5/20/10 | During the presentation on preoperational testing, members Stetkar and Brown noted that they had identified “overlap testing” requirements for various systems but could not identify end-to-end testing requirements. | Chapter 14 | FSAR | STP | STP to address at a future meeting. Closed per STP slide page 13 &14 presented at 6/24/10 meeting. | 6/24/10 |
| 33 | 5/20/10 | Dr. Abdel-Khalik wanted to know the steam velocity and how it compares to other plants that have undergone extended uprate. | Chapter 14 | FSAR | STP | STP to address at a future meeting. Re: STP slide 15 of 10/20/10 ABWR SC presentation on Action items. | 10/20/10 |
| 34 | 5/20/10 | Dr. Abdel-Khalik wants the staff to provide reports submitted regarding reactor flow induced vibration for review by the Committee, and a briefing on their review of the predictive analysis. | Chapter 14<br>Section 3.9.2 | Tech. Report | NRO | This technical report is due from STPNOC in later 2010. | |
| 35 | 5/20/10 | Member Brown raised the issue of cyber-security ITAAC and whether or not it should be included in Chapter 14. | Chapter 14 | ITAAC | NRO | NRO staff to address at a future meeting. 3/9/11 staff presentation of Chapter 13, cyber security is an operational program, it has no ITAAC. | |
| 36 | 5/20/10 | Dr. Stetkar pointed out a possible inconsistency between the diagram of the backup SCRAM control circuit and the description of that circuit in the text. | Chapter 14 | FSAR/SER | STP/NRO | STP and NRO staff to address at a future meeting. Text clarification withdrawn by STP. Re: Slide 16, 17 of 10/20/10 ABWR SC briefing on Action Items. | 10/20/10 |

# ACRS ABWR Subcommittee Action Items

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| June 8, 2010 ABWR Subcommittee Meeting | | | | | | | |
| 37 | 6/8/10 | Compile ABWR SSAR in a CD and provide to members | - | DCD | ACRS Staff | CD mailed to the members during the week of 6/13/10 | Closed |
| 38 | 6/8/10 | STP White paper on PRA screening process for plant changes – provide to members | Chapter 19 | FSAR | STP | E-mailed to members on 6/10/10 and a CD provided on 6/11/10. | 6/10/10 |
| 39 | 6/8/10 | 2006 MCR dam failure screening assessment | Chapter 19 | FSAR | STP | E-mailed to members on 6/10/10 and a CD provided on 6/11/10. | 6/10/10 |
| 40 | 6/8/10 | Dam failure risk – Baecher paper, US Bureau of Reclamation data and Army Corps of Engineer report used in SER | Chapter 19 | SER | NRO | E-mailed to members on 6/10/10 and a CD provided on 6/11/10 | 6/10/10 |
| 41 | 6/8/10<br>10/20/10 | DW flooder valve failure modes other than failure of fusible links considered in FSAR. Operating experience? A small leak during normal operation would go undetected thus accumulating water in the lower drywell. Toshiba test results. (Bley) | Chapter 19<br>Section 9.5.12 | FSAR | STP | STP Slide 18, ABWR SC 10/20/10 provided results of a FEMA. Additional question on valve leak during normal operation (10/20/10).<br>Closed per STP presentation slide #8-10 on Chapter 19 at 4/21/11 meeting. | 4/21/10 |

# ACRS ABWR Subcommittee Action Items

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| June 23-24, 2010 ABWR Subcommittee Meeting | | | | | | | |
| 42 | 6/23/10 | Main turbine missile analysis and maintenance program will be submitted to the NRC within 3 years after issuance of COL. ACRS wanted to be informed about staff's decision-making regarding adequacy of program. | Chapter 10, 3 | SER | STP/NRO | The turbine design will meet acceptance criteria of SRP 3.5.1.3 and RG 1.115, will meet the minimum requirements in Table 3.5-1, STP Commitment. 3.5-1. Expected to be addressed in next Chapter 10 presentation.<br>NINA slide #12&13 on Chapter 10 at 4/6/11 refers to Toshiba ULTR-0008-P, R1, 9/10 and ULTR-0009-P, 9/10 – Members did not find the reports to be of good quality. It lacks plant specific analysis. NINA will consider adding to the STP corrective action program. Staff does not plan to act on these reports. NINA may brief ACRS at a future meeting. | 6/21/11-closed per NINA Slide 16 under ACRS Action items briefing. |
| 43 | 6/23/10 | Documented basis for adequacy of turbine rotor integrity related to FATT and Cv departure. | Chapter 10 | FSAR/SER | STP/NRO | EDO letter, 9/1/10 – discuss resolution at future briefing.<br>Closed per NINA slide #16&17 and staff slide #11-14 on Chapter 10 at 4/6/11 ABWR SC meeting | 4/6/11 |
| 44 | 6/23/10 | NRO process for review of Tier 2 departures (review if qualifies as T2, not the technical adequacy) | Generic | SER | ACRS | ACRS to decide if they want to raise any issue regarding it. | |

# ACRS ABWR Subcommittee Action Items

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| 45 | 6/23/10,<br>ACRS Letter 8/9/10 | Provide RAI response regarding redundancy and diversity of turbine overspeed sensors including power supply – ITAAC very general in scope<br><br>Staff to provide RAI response with or before the SER. | Chapter 10 | RAI response | STP/NRO | EDO letter 9/10/10 – Resolution will be presented with final SE with no OI.<br>Update provided by STP at 2/8/11 ABWR SC meeting. NINA will submit additional details on redundancy and diversity and on ITAAC.<br>NINA letter dated 2/21/11 provided to members. Item closed per NINA slide #11on Chapter 10 at 4/6/11 ABWR SC meeting. | 4/6/11 |
| 46 | 6/24/10 | Identify and justify assumptions regarding ppm Boron in solution used in chemical effects analysis (GSI 191 ECCS Strainer) | Chapter 6 | FSAR | STP/NRO | Important contributor regarding concentration of Al in SP (ECCS recirculating water). Closed per NINA slide#11/staff briefing at 3/8/11 ABWR SC meeting | 3/8/11 |
| 47 | 6/24/10 | a. Downstream effects:<br>Future briefing on test and analysis (Lic. Condn.)<br>b.Basis for assuming destroyed fiber (10% of 1 $ft^{3)}$ reaching fuel | Chapter 6<br>Chapter 4 | FSAR/SER | STP/NRO | Provide downstream effects test procedure to ACRS. At 10/4/11 ABWR SC, NINA slide # 22-23 under Chapter 6 Long Term Cooling Followup, noted test will be performed 18 months prior to fuel load and the test procedure to be provided to the NRC 6 months prior to performance of the test.<br>At 3/8/11 ABWR SC meeting NINA noted that the assumption of 10% has been changed to 100% (Chapter 6 Slide#12) | 3/8/11-Item 47b is closed<br>ACRS/NRO resolution for post-COL review |
| 48 | 6/24/10 | Provide three ERI reports used in staff review of containment analysis | Chapter 6 | SER | NRO | Provided by NRO and included in background documents CD for 3/8/11 ABWR SC meeting to members. | Closed |

# ACRS ABWR Subcommittee Action Items

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| 49 | 6/24/10 | Future briefing on design of vacuum breaker shield | Chapter 6 | FSAR | STP | To address loading and height of water level. Closed per NINA briefing (Slides# 13-17) at 3/8/11 SC meeting. | 3/8/11 |
| 50 | 6/24/10,<br>EDO letter 9/10/10 | Presentation on Toshiba Technical reports - strainer design and pool swell analyses | Chapter 6 | FSAR | STP/NRO | NRO and ACRS staff to schedule.<br>Closed per staff briefing at 3/8/11 SC meeting | 3/8/11 |
| 51 | EDO letter 9/10/10 | Staff to update ACRS after developing guidance on the process of addressing Part 21 reports in new reactor licensing. | ACRS Letter dated 8/9/10 | COLA/DC review process | NRO | NRO to advise ACRS staff when such briefing can be scheduled. Closed per briefing on 4/21/11. ACRS will have opportunity to review revisions to the SRP and RG 1.206. | 4/21/11 |
| 52 | EDO letter 9/10/10 | Staff to brief ACRS on Long term cooling | SRM dated 5/8/08 | COLA | NRO | NRO and ACRS staff to schedule | |
| | | | October 20, 2010 ABWR Subcommittee Meeting | | | | |
| 53 | 10/20/10 | NRO to submit for ACRS review technical report on reactor flow induced vibration | Section 3.9.2 | SER | NRO | This technical report is due from STPNOC in later 2010. | Closed, duplicate of 34 |
| 54 | 10/20/10 | Basis for STP being bounded by the DCD wind loading and design basis hurricane, i.e., basis for 3 second gust wind loading and the 100 year history record of hurricane within 50 miles of site (Stetkar). | Section 3.3<br>Chapter 2 | FSAR | STP | STPNOC to address at 11/30 ABWR SC meeting. See Slide 41 | Closed |

## ACRS ABWR Subcommittee Action Items

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| 55 | 10/20/10 | Basis for the use of Regulatory Guide 1.76 Region II parameters | Section 3.3<br>Chapter 2 | FSAR | STP | STPNOC to address at 11/30 ABWR SC meeting. See Slides 42-44 | Closed |
| 56 | 10/20/10 | Confirm rail/truck large equipment access bay door in reactor building is water tight. (Stetkar) | Section 3.4<br>Chapter 2 | FSAR | STP | STPNOC to address at 11/30 ABWR SC meeting. See Slides 45 | Closed |
| 57 | 10/20/10 | Confirm levels of water-proofing of foundation of RSW pump house. (Stetkar) | Section 3H.6.6.4 | FSAR | STP | STPNOC to address at 11/30 ABWR SC meeting. See Slides 46 | Closed |
| 58 | 10/20/10 | Clarify various water level parameters discussed in Chapter 3 and how they were derived. (Stetkar) | Section 3.4 | FSAR | STP | STPNOC to clarify FSAR (11/30/10 meeting slide 40) | |
| 59 | 10/20/10 | A value of 1 x $10^{-2}$ per year per plant was chosen as a conservative value for the product of strike and damage probabilities-provide basis. | Section 3.5,<br>Chapter 10 | FSAR | STP | STP to address at next Chapter 10 briefing.<br>4/6/11 ABWR SC – NINA slides 14&15 discussed a simple model approach. Member Stetkar comment – Fold final turbine missile analysis to provide plant specific result. | Closed-Post COL turbine missile analysis to be provided to ACRS |
| 60 | 10/20/10 | Types of commercial aircraft and frequency considered. (Stetkar) | Sections 3.5, 2.3 | FSAR | STP | RAI response dated 9/14/09 provided to members. | 10/25/10 |
| 61 | 10/20/10 | Justify deviation from SRP related to wave height. | Chapter 2 | FSAR | STP | Open item in SER | |

# ACRS ABWR Subcommittee Action Items

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| 62 | 10/20/10 | The basis and application of the 30 minute response time upon a single passive failure of the RSW piping and how the analysis justify a 30 day supply for the UHS while accounting for the pipe failure. (Stetkar) | Section 9.2.5.5.2 | FSAR | STP | Closed per NINA presentation at 10/4/11 ABWR SC, slides 6-7 on ACRS Action Items 62, 63, 87 and 101 | 10/4/11 |
| 63 | 10/20/10 | The basis for approx. 17 meter RSW pump NPSH and how it was calculated (specifically at end of 30d). | Section 9.2.15.2 | FSAR | STP | Closed per NINA presentation at 10/4/11 ABWR SC, slides 8, 12 on ACRS Action Items 62, 63, 87 and 101 | 10/4/11 |
| 64 | 10/20/10 | Generation of spurious signals in digital I&C cabinets containing only fiber optic cables due to heat related to fire in the room. (Stetkar) | Section 9.5.1 | FSAR | NRO | | |
| | | | November 30, 2010 ABWR Subcommittee Meeting | | | | |
| 65 | 11/30/10 | How MCR breach width derived from Froehlich's equation used in the FLDWAV model compare with the value used in confirmatory BREACH model | Section 2.4.4 | FSAR/SER | STPNOC | | |
| 66 | 11/30/10 | Comparison of staff's confirmatory SLOSH and STPNOC's ADCIRC at Gulf Coast | Section 2.4.4 | FSAR/SER | STPNOC/NRO | The requested information provided by NRO staff was e-mailed to the members present at the 11/30 ABWR SC meeting on 12/1/10. | Closed |
| | | | February 8, 2011 ABWR Subcommittee Meeting | | | | |

# ACRS ABWR Subcommittee Action Items

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| 67 | 2/8/11 | Add to FSAR a statement regarding hardware for the watchdog timer that is independent and diverse from FPGA | Chapter 7 | FSAR | NINA | Closed per NINA presentation slide #4 on ACRS Action items at 3/9/11 ABWR SC Meeting | 3/9/11 |
| 68 | 2/8/11 | a. Provide qualification test of Common Q platform at 70% loading.<br>b.Confirm FSAR App. 7D maintains design to <70% loading. | Chapter 7 | FSAR | NINA | Closed per NINA presentation on ACRS Action item #68 at 4/6/11 ABWR SC Meeting, and review of qualification document by ACRS members (Brown, Bley, Stetkar) | 4/6/11 |
| 69 | 2/8/11 | During Chapter 16 presentation to ABWR SC (3/9/11) address bypass of combination of sensors and channels of ELCS. | Chapter 7 | | NINA | Closed per NINA presentation slides #6-12 on Chapter 16 at 3/9/11 ABWR SC Meeting | 3/9/11 |
| | | | March 8, 2011 ABWR Subcommittee Meeting | | | | |
| 70 | 3/8/11 | NPSH for RCIC at 100 C (vice 77C) – number used for vapor pressure head needs to be justified (Stetkar) | Chapter 5, Table 5.4-1a | FSAR | NINA | 6/21/11-closed per NINA Slides 12-13 under ACRS Action items briefing (see transcript for open meeting). | 6/21/11 |
| 71 | 3/8/11 | RCIC pump qualification w.r.t internal components and quality of lube water (Stetkar) | Chapter 5 | FSAR | NINA | 6/21/11-closed per NINA Slides 9-11 under ACRS Action items briefing. | 6/21/11 |
| 72 | 3/8/11 | How hydrodynamic load definition are developed and evaluated for ECCS strainers also at 100C? (Wallis) | Chapters 6, 3 | FSAR | NINA | 6/21/11-closed per NINA Slides 11-14 under Chapter 6 and long term cooling (LTC) briefing. New item #98 added. | 6/21/11 |

# ACRS ABWR Subcommittee Action Items

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| 73 | 3/8/11 | Does analysis for Japanese plant bound thin bed effects? (Wallis) | Chapter 6 | FSAR | NINA | 6/21/11- Although the members and Consultant Wallis did not agree with the applicability of NINA slide 17 under Chapter 6 and LTC briefing, they agreed to close the item based on future downstream fuel effects test. | 6/21/11 |
| 74 | 3/8/11 | Justify use of Nukon fiberglass fiber vs. textile fiber, and as a surrogate. (Wallis) | Chapter 6 | FSAR/SER | NINA/NRO | 6/21/11- closed per Slides 19, 44, 45 under NINA Chapter 6 and LTC briefing. Also, see NRO slides 3-5. Member Armijo and Consultant Wallis questioned staff's conclusion that fiberglass would mimic latent fiber given natural fiber's tendency to felting at increased temperature. However, given very low fiber amount, this issue was dropped. | 6/21/11 |
| 75 | 3/8/11 | Al-oxy-hydroxide an appropriate surrogate for ZnOxide? Experimental verification? (Wallis) | Chapter 6 | FSAR | NINA/NRO | 6/21/11- closed per Slides 21 under NINA Chapter 6 and LTC briefing, and NRO slides 7-9. See new item 99. | 6/21/11 |
| 76 | 3/8/11 | Will STP use Zn injection? (Armijo) | Chapter 6 | FSAR | NINA | 6/21/11- closed per Slides 23 under NINA Chapter 6 and LTC briefing. | 6/21/11 |
| 77 | 3/8/11 | Justify use of partial length fuel assembly in test (Abdel-Khalik, Wallis) | Chapter 6 | FSAR | NINA | Analyze post COL test data and determine need for future ACRS briefing.<br>6/21/11- closed per Slide 25 under NINA Chapter 6 and LTC briefing indicating commitment to evaluate the issue based on industry proposed tests. | 6/21/11 |

# ACRS ABWR Subcommittee Action Items

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| 78 | 3/8/11 | Justify use of unheated test | Chapter 6 | FSAR | NINA | See item 77 above.<br>6/21/11- closed per Slide 27 under NINA Chapter 6 and LTC briefing indicating commitment to evaluate the issue based on industry proposed tests. | 6/21/11 |
| 79 | 3/8/11 | NRC-accepted protocol for addition of debris- introduction of debris in different sequence may provide worse results (Wallis) | Chapter 6 | FSAR/SER | NINA/NRO | 6/21/11- closed per Slides 29, 30 under NINA Chapter 6 and LTC briefing indicating commitment to evaluate the issue based on industry proposed tests, and NRO slides 11-13. | 6/21/11 |
| 80 | 3/8/11 | RE: pressure drop modeling of the debris bed in test acceptance criteria, justify use of 2 power of flow rate in test acceptance criteria vs. use of other exponent such as 1.2. (Wallis) | Chapter 6 | FSAR | NINA | 6/21/11- NINA Slide 32 under Chapter 6 and LTC did not close item given tests indicating variability of exponent with debris amount.<br>10/4/11- NINA Slide # 19-21 and 25-30, on Chapter 6 Long Term Cooling Followup, addressed this item. Left open pending NINA showing the variability of the margin with use of different exponents and adjusted K-factors to justify why power of 2 is conservative or appropriate. | |
| 81 | 3/8/11 | Multiple tests at same condition to demonstrate margin. | Chapter 6 | FSAR | NINA | 6/21/11- closed per Slide 34 under NINA Chapter 6 and LTC briefing indicating commitment to do multiple tests. | 6/21/11 |
| 82 | 3/8/11 | Justify shorter transient loop time in test vs. actual debris deposition time. (Wallis) | Chapter 6 | FSAR | NINA | 6/21/11- closed per Slide 36 under NINA Chapter 6 and LTC briefing. | 6/21/11 |

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| 83 | 3/8/11 | Justification that 1.7 factor is bounding given uneven distribution of debris at lower plenum, downward flow of HPCF thru core (Wallis) | Chapter 6 | FSAR | NINA | Need to show margin.<br>6/21/11- closed per Slide 38 under NINA Chapter 6 and LTC briefing. | 6/21/11 |
| 84 | 3/8/11 | Parametric study of K-factor vs. flow rate (AK, Wallis) | Chapter 6 | FSAR | NINA | 6/21/11- closed per Slides 40-42 under NINA Chapter 6 and LTC briefing. Also see slides NINA 40-47 on Chapter 6, presented at 3/8/11 ABWR Subcommittee, for analysis basis for test acceptance criteria. Slide 45 shows change in PCT with and without blockage. | 6/21/11 |
| | | | March 9, 2011 ABWR Subcommittee Meeting | | | | |
| 85 | 3/9/11 | STP Cyber Security program (safeguards document) | Chapter13 COLA Part 8 | FSAR/COLA | ACRS | Members to review program document provided by NRO and decide need for briefing, also see item 35 | |
| | | | April 6, 2011 ABWR Subcommittee Meeting | | | | |
| 86 | 4/6/11 | Monoblock rotor-consider SRP revision (Abdel-Khalik) | Chapter 10 | SRP | NRO | To address changing technology related to FATT and Cv energy at minimum operating temperature | |

# ACRS ABWR Subcommittee Action Items

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| 87 | 4/6/11 | FSAR 10.2.2.4, Turbine Overspeed (OS) Protection System- address primary OS sensor failure (Brown) | Chapter 10 | FSAR | NINA | NINA may revise RAI response.<br>6/21/11- NINA Slides 14, 15 on ACRS Action items briefing – alarm in main control room, procedure direct operators to timely action (investment protection covered by insurance requirements).<br>10/4/11 - NINA slide #4-5 on ACRS Action Items 62, 63, 87 and 101- Member Brown was concerned that certain common mode failure of normal and emergency overspeed trip functions, generating a false input of zero turbine rpm, needed to be addressed specifically when the primary passive overspeed detection system (no trip function) could be taken offline. | ~~Open pending Member Brown's review~~<br>10/4/11 - This item was left open pending NINA showing other trip functions that preclude such scenario. |
| 88 | 4/6/11 | Startup Administrative Manual does not seem to include NSR SSCs going into RAP following PRA or Expert Panel (Stetkar) | Chapter 14 | FSAR | NINA | NINA Plans to address at 4/21/11 ABWR SC. Closed per STP Slide #13 on Chapter 17 at 4/21 meeting. | 4/21/11 |
| | | | April 21, 2011 ABWR Subcommittee Meeting | | | | |
| 89 | 4/21/11 | Discussion on manual control of RCIC under various scenarios including SBO, show seal cooling via diagram. (Abdel-Khalik /Ray) | Chapter 19 | FSAR | NINA | NINA plans to address at 6/21 meeting.<br>6/21/11-closed per NINA Slide 8 under ACRS Action items briefing. | 6/21/11 |

# ACRS ABWR Subcommittee Action Items

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| 90 | 4/21/11 | Provide RAI response on ADCIRC and code validation. (Banerjee) | Chapter 2 | SER | NRO | NINA provided the RAI response 02.04.05-10 and 11. Provided to the members via e-mail from M. Banerjee on 6/2/11. | Closed |
| | | | | Dr.Hinze' Comments on Chapter 2 | | | |
| 91 | 6/15/11 | Inconsistency in climate change effects treatment for natural phenomenon in characterizing the STP site. Potential maximum tsunami (Section 2.4S.6) address sea level rise from global climate change in the next century, but no mention of the potential increase in wind and rain accompanying future hurricanes in section 2.3 | Chapter 2 | SER | NRO | | |
| 92 | 6/15/11 | What criteria will be used to initiate use of global climate change predictions and revise analysis of impact of natural phenomena on the STP site? | Chapter 2 | SER | NRO | | |
| 93 | 6/15/11 | Will the results of the PMT impact on the site be modified significantly if the roughness coefficient is compromised by, for example, destruction of the vegetation by fire? | Chapter 2 | SER | NRO | | |

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| 94 | 6/15/11 | What arrangements have been made for replenishing the UHS water | Chapter 2 | SER | NRO |
| 95 | 6/15/11 | Will the removal of ground water to replenish UHS change the local flow of ground water and lead to surface subsidence that could impact the STP 3 & 4 structures? | Chapter 2 | SER | NRO |
| 96 | 6/15/11 | Would high-resolution shallow zone seismic reflection profiling using appropriate apertures, detail and best available techniques provide useful information on the presence and nature of growth faults in the STP 3 & 4 construction zone and in the vicinity of growth fault GMO and the nearby GMP fault in the southwest corner of the main cooling reservoir? | Section 2.5.3 | SER | NRO |
| 97 | 6/15/11 | Will it be necessary to determine the impact of the new seismic source characterization model on the results obtained using the EPRI-SOG model? | Section 2.5.2 | SER | NRO |

# ACRS ABWR Subcommittee Action Items

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| 98 | 6/21/11 | Address modeling of perforated sump screen loading. Provide evidence-no local damage to strainer pockets due to loads imposed during vent clearing, condensation bubble collapse, and condensation oscillations. | Chapters 6, 4 | FSAR/SER | NINA/NRO | NINA presentation at 10/4/11 ABWR SC, slide # 5-13 on Chapter 6 Long Term Cooling Followup | 10/4/11 |
| 99 | 6/21/11 | Documentation of <<1.6 ppm (solubility limit) ZnO2 in sump water. | Chapters 6 | FSAR/SER | NINA/NRO | NINA presentation at 10/4/11 ABWR SC, slide # 14-18 on Chapter 6 Long Term Cooling Followup | 10/4/11 |
| 100 | 6/21/11 | Member Stetkar questioned no required mitigating strategy for providing DC power backup to ADS in its use to depressurize the RPV. | COLA Part 11, Rev. 5, Section 7.10 | COLA Part 11, Mitigative Strategies Report | NINA | NINA and staff presentation and slides at 10/4/11 ABWR SC, on ACRS Action Item 100 (non-public). | 10/4/11 |
| 101 | 6/21/11 | Time it takes for the SP to reach 77 degrees C under DBA | Chapter 5 | FSAR | NINA | NINA presentation at 10/4/11 ABWR SC, slides 9-10, 13 on ACRS Action Items 62, 63, 87 and 101 | 10/4/11 |