## WBN2Public Resource

**From:** Poole, Justin
**Sent:** Thursday, June 16, 2011 9:53 AM
**To:** Epperson, Dan
**Cc:** WBN2HearingFile Resource
**Subject:** FW: NRC PM Open Items List 6-17-11.docx
**Attachments:** NRC PM Open Items List 6-17-11.docx

*Justin C. Poole*
*Project Manager*
*NRR/DORL/LPWB*
*U.S. Nuclear Regulatory Commission*
*(301)415-2048*
*email: Justin.Poole@nrc.gov*

---

**From:** Boyd, Desiree L [mailto:dlboyd@tva.gov]
**Sent:** Thursday, June 16, 2011 9:40 AM
**To:** Poole, Justin; Milano, Patrick; Campbell, Stephen
**Cc:** Arent, Gordon; Smith, James D; Bryan, Robert H Jr; Smith, James D
**Subject:** FW: NRC PM Open Items List 6-17-11.docx

***For tomorrow's phone call.***

~*~*~*~*~*~*~*~*~*~*~*~*~*~
*Désireé L. Boyd*
***WBN 2 Licensing Support***
***Sun Technical Services***
*dlboyd@tva.gov*
***423-365-8764***

**Hearing Identifier:** Watts_Bar_2_Operating_LA_Public
**Email Number:** 418

**Mail Envelope Properties** (19D990B45D535548840D1118C451C74D8CB267B3BB)

**Subject:** FW: NRC PM Open Items List 6-17-11.docx
**Sent Date:** 6/16/2011 9:53:00 AM
**Received Date:** 6/16/2011 9:53:02 AM
**From:** Poole, Justin

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

**Recipients:**
"WBN2HearingFile Resource" <WBN2HearingFile.Resource@nrc.gov>
Tracking Status: None
"Epperson, Dan" <Dan.Epperson@nrc.gov>
Tracking Status: None

**Post Office:** HQCLSTR02.nrc.gov

| **Files** | **Size** | **Date & Time** |
|---|---|---|
| MESSAGE | 675 | 6/16/2011 9:53:02 AM |
| NRC PM Open Items List 6-17-11.docx | 59200 | |

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

**NRC PM Open Items List**
**6/17/11**
**(423) 751-6338 ID 657601**

| No. | Description | Status | Additional Comments | Resp Org/Person |
|---|---|---|---|---|
| 1. | Cyber Security Plan/Controls and Implementation | Plan for Common Systems 6/8/11A<br><br>Identify Required Exemptions 6/8/11A<br><br>Provide forecast for Inspection Readiness 6/8/11A<br><br>NRC TI issued TBD<br><br>NRC Table Top/Pilot Oct 2011<br><br>Procedures complete 9/30/11<br><br>Inspection Dec 2011 | NRC Inspection in 2011<br><br>Provide detail for systems (unit specific and common) which will be complete and which will not be complete for Unit 2 fuel load. | Heinrich/Snyder (Bryan) |

| No. | Description | Status | Additional Comments | Resp Org/Person |
|---|---|---|---|---|
| 2. | Instrumentation RAI List (Knuettel) | Ongoing<br><br>6/22/11 | RAI Responses<br><br>Provide response to Q377 and Q375, item 9 | Eng/Hilmes (Smith) |
| 3. | Resolve Licensing Basis Preservation Self Assessment PERs (Crouch) | 6/16/11 | TVA to provide QA audit results. Audit is complete. Will docket the audit. | Eng/Freeman (Smith) |
| 4. | Status of GSI 199 Eastern Seismicity (Crouch) | Fall 2011 | No action pending upcoming Generic Letter | TVA/NRR |
| 5. | Complete Implementation (Hemmer) | Diesel 8/1/11<br><br>Pump Relocation 10/1/11<br><br>Procedures Issued 6/30/11<br><br>Inspection - November 2011<br><br>Phase I commitments 8/1/11 | Diesel is onsite, need support equipment<br><br>Additional clarification to phase I actions will be needed. Fleet wide issue. | Hemmer (Smith) |
| 6. | Provide feedback on the status of NRC review of Integrated Safeguards Test submittal | SSER 23 | NRC to provide status of review in SSER 23 | NRR |

| No. | Description | Status | Additional Comments | Resp Org/Person |
|---|---|---|---|---|
| 7. | Document Control Issues for two letters | 6/15/11 | 7/15, 10/5, 10/21 and 10/29 letters. NRC to reprint 7/15 letter and provide to NRC Document control. TVA/Bechtel to provide non-proprietary version of documents that can be released to the public. TVA to provide revised letter that says non-prop once prop documents removed. NRC action to contact Kenny Nguyen, NRC Document Control regarding A102. Additional copy of A102 provided to NRC on 6/7/11. | Licensing/Boyd |
| 8. | Chapter 15.5 RAIs | TBD | Additional question regarding meteorology data from 2008-2009. Calc revisions required. TVA formulating plan/schedule. Small increases in doses expected except control room which will decrease. NRC is targeting SSER 24 (early August) to contain this updated information. NRC to perform confirmatory runs in parallel. Will provide data by 6/27/11. | Wastrack (Bryan) |
| 9. | Fire Protection Report Questions regarding OMA | TBD<br><br>6/21/11<br><br>TBD<br><br>6/30/11<br><br>TBD | Justifications - date will be determined by 6/17/11.<br><br>Set 5 RAIs<br><br>Clarification to 5/26/11 ltr Qs VII-2, VIII-13,14 and 6/7/11 ltr Qs II-43, VIII-17 - telecom week of 6/13/11<br><br>Technical Meeting<br><br>Group 6 RAIs to come shortly. | ENG/Hilmes (Crouch) |
| 10. | IST Tech Spec Change | 6/17/11 | Schedule by 6/17/11.<br>Pre-submittal meeting being arranged. | TVA Corporate Licensing (Shea) |
| 11. | Tech Spec Revisions from latest T/S markup and NRC Review comments | 6/20/11<br><br>TBD<br><br>June, 2011<br><br>June, 2011 | Submittal to address NRC review comments<br><br>CSST A & B<br><br>I-131 DEI<br><br>Diesel Generator Frequency | Licensing/Elton (Bryan) |

| No. | Description | Status | Additional Comments | Resp Org/Person |
|---|---|---|---|---|
| 12. | ASME III to XI transition | Need NRC Letter | When does ISI program begin with partial plant N-3? Are repairs/mods after N-5 controlled under Section III or Section XI? The timing for the NIS-2 in the letter does not comply with the ASME Code . The NIS-2 must be before commercial operation.<br><br>Review Code Cases 801/802 vs TVA letter for conflicts. Review complete - no impact. | Eng/Helms (Crouch) |
| 13. | Chapter 11/FSEIS RAIs | 6/20/11<br><br>7/29/11<br><br>complete | NRC Computer Code Input Request<br><br>Cost Benefit Analyses – need to improve date<br><br>NRC to provide additional RAIs | Chem/Woods (Bryan) |
| 14. | Letter to notify NRC when Vital Area Boundary returned to original location | 11/1/11 | Security Plan Update - Boundary to be restored by 9/30/11 | Lic/Crouch |
| 15. | Part 70 License | EA - 6/13/11A<br>FL - 6/15/11 | NRC to issue Part 70 license. Fuel receipt is 6/20/11. | Milano |
| 16. | ACRS Topics | 7/12/11 | Improvements, Inspection status, Refurb status, Construction Status, Japan, IST Re-Presentation, Cyber Security, Ch 7 digital upgrades. Agenda has been finalized. | |
| 17. | SAMDA RAIs | 6/16/11 | 5 questions regarding 2nd submittal | |
| 18. | SSER 22/23 Open Items Response | 7/15/11 | 7/15 is the target date for the next SSER update. The expanded HH list and it's status is provided at the end of this letter. | |
| 19. | Chapter 12 RAI on Instrument Channel Operability Tests | 6/24/11 | | ENG/Hilmes |
| 20. | Transient Analysis issues<br><br>Additional Follow up Audit | 6/28-30/11 & 7/1/11 until noon, if necessary<br><br>6/13/11A | TVA/WEC confirming availability of personnel. Final audit plan to come.<br><br>NRC to provide audit questions | ENG/Koontz<br>WEC/Morgan |
| 21. | FSAR A105 | 7/29/11 | | Lic/Stockton |

| No. | Description | Status | Additional Comments | Resp Org/Person |
|---|---|---|---|---|
| 22. | IEB 88-02 SG Tube Cracking | 6/13-17/11 NRC to setup telecon | What are the SG inspection plans in light of the experience with a French reactor exhibiting SG tube cracking early? Is TVA planning to change the inspection plan due to this operating experience? | Corp SG/ Webber ISI/Tinley |
| 23. | Develop list of planned License Conditions, Exemptions and Relief Requests (Crouch) | 9/1/11 | Review Unit 1 SER for exemptions. | NRR/TVA (Bryan) |
| 24. | Submit final REP prior to fuel load (Spink) | 10/1/11 | Submit Final REP and EPIPs 180 days prior to OL. | EP/ Detchemendy (Bryan) |
| 25. | Issue two Unit Offsite Dose Calculation Manual (Beach) Review TS Chapter 5 programs also | 9/1/11 | | Chemistry/ Woods (Bryan) |
| 26. | Copy of Site Plan for NSIR | TBD | No action until inspection scheduled.<br>NRC to determine level of detail is needed. | Fire Ops/Sterchi |
| 27. | Issue Unit 2 Completion Letter (Crouch) | 3/1/12 | | Licensing |
| 28. | Combined U1/U2 FSAR (Stockton) | 3/1/12 | | Licensing |
| 29. | Submit final as-constructed FSAR figures | 10/1/11 | | Licensing/ Stockton |
| 30. | Verify Tech Spec Setpoints match calcs | 8/1/11 | | Eng/Hilmes (Bryan) |
| 31. | Letter to terminate Part 30/40 License after receipt of Part 50 License | 4/1/12 | | Licensing (Crouch) |
| 32. | B 2011-01 60 day response | | | Licensing (Gordon) |
| 33. | TMI action items | | Review list | Licensing (Gordon) |

| SSER Item No. | SSER Item Description | TVA Status | NRC Status |
|---|---|---|---|
| 1. | *Review evaluations and corrective actions associated with a power assisted cable pull. (NRC safety evaluation dated August 31, 2009, ADAMS Accession No. ML092151155)* | For NRC Inspection / Review | |
| 2. | *Conduct appropriate inspection activities to verify cable lengths used in calculations and analysis match as-installed configuration. (NRC safety evaluation dated August 31, 2009, ADAMS Accession No. ML092151155)* | For NRC Inspection / Review | |
| 3. | *Confirm TVA submitted update to FSAR section 8.3.1.4.1. (NRC safety evaluation dated August 31, 2009, ADAMS Accession No. ML092151155)* | Response provided in TVA to NRC letter dated April 6, 2011. | |
| 4. | *Conduct appropriate inspection activities to verify that TVA's maximum SWBP criteria for signal level and coaxial cables do not exceed the cable manufacturers maximum SWBP criteria. (NRC safety evaluation dated August 31, 2009, ADAMS Accession No. ML092151155)* | Closed by IR 2010604 | |
| 5. | *Verify timely submittal of pre-startup core map and perform technical review. (TVA letter dated September 7, 2007, ADAMS Accession No. ML072570676)* | Response provided in TVA to NRC letter dated April 6, 2011. | |
| 6. | *Verify implementation of TSTF-449. (TVA letter dated September 7, 2007, ADAMS Accession No. ML072570676)* | Response provided in TVA to NRC letter dated April 6, 2011. | |
| 7. | *Verify commitment completion and review electrical design calculations. (TVA letter dated October 9, 1990, ADAMS Accession No. ML073551056)* | For NRC Inspection / Review | |
| 8. | *Verify rod control system operability during* | Response provided in TVA | |

| SSER Item No. | SSER Item Description | TVA Status | NRC Status |
|---|---|---|---|
| | *power ascension. TVA should provide a pre-startup map to the NRC staff indicating the rodded fuel assemblies and a projected end of cycle burnup of each rodded assembly for the initial fuel cycle 6-months prior to fuel load. (NRC safety evaluation dated May 3, 2010, ADAMS Accession No. ML101200035)* | to NRC letter dated April 6, 2011. | |
| 9. | *Confirm that education and experience of management and principal supervisory positions down through the shift supervisory level conform to Regulatory Guide 1.8. (Section 13.1.3)* | For NRC Inspection / Review | |
| 10. | *Confirm that TVA has an adequate number of licensed and non-licensed operators in the training pipeline to support the preoperational test program, fuel loading, and dual unit operation. (Section 13.1.3)* | TVA to answer later. | |
| 11. | *The plant administrative procedures should clearly state that, when the Assistant Shift Engineer assumes his duties as Fire Brigade Leader, his control room duties are temporarily assumed by the Shift Supervisor (Shift Engineer), or by another SRO, if one is available. The plant administrative procedures should clearly describe this transfer of control room duties. (Section 13.1.3)* | For NRC Inspection / Review | |
| 12. | *TVA's implementation of NGDC PP-20 and EDCR Appendix J is subject to future NRC audit and inspection. (Section 25.9)* | For NRC Inspection / Review | |
| 13. | *TVA is expected to submit an IST program and specific relief requests for WBN Unit 2* | TVA to answer later. | |

| SSER Item No. | SSER Item Description | TVA Status | NRC Status |
|---|---|---|---|
| | *nine months before the projected date of OL issuance. (Section 3.9.6)* | | |
| 14. | *TVA stated that the Unit 2 PTLR is included in the Unit 2 System Description for the Reactor Coolant System (WBN2-68-4001), which will be revised to reflect required revisions to the PTLR by September 17, 2010. (Section 5.3.1)* | Response provided in TVA to NRC letter dated April 6, 2011. | |
| 15. | *TVA should confirm to the NRC staff the completion of Primary Stress Corrosion Cracking (PWSCC) mitigation activities on the Alloy 600 dissimilar metal butt welds (DMBWs) in the primary loop piping. (Section 3.6.3)* | Response provided in TVA to NRC letter dated April 6, 2011. | |
| 16. | *Based on the uniqueness of EQ, the NRC staff must perform a detailed inspection and evaluation prior to fuel load to determine how the WBN Unit 2 EQ program complies with the requirements of 10 CFR 50.49. (Section 3.11.2)* | For NRC Inspection / Review | |
| 17. | *The NRC staff should verify the accuracy of the WBN Unit 2 EQ list prior to fuel load. (Section 3.11.2.1)* | For NRC Inspection / Review | |
| 18. | *Based on the extensive layup period of equipment within WBN Unit 2, the NRC staff must review, prior to fuel load, the assumptions used by TVA to re-establish a baseline for the qualified life of equipment. The purpose of the staff's review is to ensure that TVA has addressed the effects of environmental conditions on equipment during the layup period. (Section 3.11.2.2)* | Response provided in TVA to NRC letter dated April 6, 2011. | |

| SSER Item No. | SSER Item Description | TVA Status | NRC Status |
|---|---|---|---|
| 19. | *The NRC staff should complete its review of TVA's EQ Program procedures for WBN Unit 2 prior to fuel load. (Section 3.11.2.2.1)* | For NRC Inspection / Review | |
| 20. | *Resolve whether or not routine maintenance activities should result in increasing the EQ of the 6.9 kV motors to Category I status in accordance with 10 CFR 50.49. (Section 3.11.2.2.1).* | Response provided in TVA to NRC letter dated April 6, 2011. | |
| 21. | *The NRC staff should confirm that the Electrical Penetration Assemblies (EPAs) are installed in the tested configuration, and that the feedthrough module is manufactured by the same company and is consistent with the EQ test report for the EPA. (Section 3.11.2.2.1)* | For NRC Inspection / Review | |
| 22. | *TVA must clarify its use of the term "equivalent" (e.g., identical, similar) regarding the replacement terminal blocks to the NRC staff. If the blocks are similar, then a similarity analysis should be completed and presented to the NRC for review. (Section 3.11.2.2.1)* | Response provided in TVA to NRC letter dated April 6, 2011. | |
| 23. | *Resolve whether or not TVA's reasoning for not upgrading the MSIV solenoid valves to Category I is a sound reason to the contrary, as specified in 10 CFR 50.49(l). (Section 3.11.2.2.1)* | Response provided in TVA to NRC letter dated April 6, 2011. | |
| 24. | *The NRC staff requires supporting documentation from TVA to justify its establishment of a mild environment threshold for total integrated dose of less than $1x10^3$ rads for electronic components* | Response provided in TVA to NRC letter dated April 6, 2011. | |

| SSER Item No. | SSER Item Description | TVA Status | NRC Status |
|---|---|---|---|
| | *such as semiconductors or electronic components containing organic material. (Section 3.11.2.2.1)* | | |
| 25. | *Prior to the issuance of an operating license, TVA is required to provide satisfactory documentation that it has obtained the maximum secondary liability insurance coverage pursuant to 10 CFR 140.11(a)(4), and not less than the amount required by 10 CFR 50.54(w) with respect to property insurance, and the NRC staff has reviewed and approved the documentation. (Section 22.3)* | TVA to answer later. | |
| 26. | *For the scenario with an accident in one unit and concurrent shutdown of the second unit without offsite power, TVA stated that Unit 2 pre-operational testing will validate the diesel response to sequencing of loads on the Unit 2 emergency diesel generators (EDGs). The NRC staff will evaluate the status of this issue and will update the status of the EDG load response in a future SSER. (Section 8.1)* | Response provided in TVA to NRC letter dated April 6, 2011. | |
| 27. | *TVA should provide a summary of margin studies based on scenarios described in Section 8.1 for CSSTs A, B, C, and D. (Section 8.2.2)* | Response provided in TVA to NRC letter dated April 6, 2011. | |
| 28. | *TVA should provide to the NRC staff a detailed discussion showing that the load tap changer is able to maintain the 6.9 kV bus voltage control band given the normal and post-contingency transmission operating* | Response provided in TVA to NRC letter dated April 6, 2011. | |

| SSER Item No. | SSER Item Description | TVA Status | NRC Status |
|---|---|---|---|
| | *voltage band, bounding voltage drop on the grid, and plant conditions. (Section 8.2.2)* | | |
| 29. | *TVA should provide the transmission system specifics (grid stability analyses) to the NRC staff. In order to verify compliance with GDC 17, the results of the grid stability analyses must indicate that loss of the largest electric supply to the grid, loss of the largest load from the grid, loss of the most critical transmission line, or loss of both units themselves, will not cause grid instability. (Section 8.2.2)* | Response provided in TVA to NRC letter dated June 7, 2011. | |
| 30. | *TVA should confirm that all other safety-related equipment (in addition to the Class 1E motors) will have adequate starting and running voltage at the most limiting safety related components (such as motor operated valves, contactors, solenoid valves or relays) at the degraded voltage relay setpoint dropout setting. TVA should also confirm that the final Technical Specifications are properly derived from these analytical values for the degraded voltage settings. (Section 8.3.1.2)* | TVA to answer later. | |
| 31. | *TVA should evaluate the re-sequencing of loads, with time delays involved, in the scenario of a LOCA followed by a delayed LOOP, and ensure that all loads will be sequenced within the time assumed in the accident analysis. (Section 8.3.1.11)* | Response provided in TVA to NRC letter dated April 6, 2011. | |
| 32. | *TVA should provide to the NRC staff the details of the administrative limits of EDG* | TVA to answer later. | |

| SSER Item No. | SSER Item Description | TVA Status | NRC Status |
|---|---|---|---|
| | *voltage and speed range, and the basis for its conclusion that the impact is negligible, and describe how it accounts for the administrative limits in the Technical Specification surveillance requirements for EDG voltage and frequency. (Section 8.3.1.14)* | | |
| 33. | *TVA stated in Attachment 9 of its letter dated July 31, 2010, that certain design change notices (DCNs) are required or anticipated for completion of WBN Unit 2, and that these DCNs were unverified assumptions used in its analysis of the 125 V dc vital battery system. Verification of completion of these DCNs to the NRC staff is necessary prior to issuance of the operating license. (Section 8.3.2.3)* | Response provided in TVA to NRC letter dated April 6, 2011. | |
| 34. | *TVA stated that the method of compliance with Phase I guidelines would be substantially similar to the current Unit 1 program and that a new Section 3.12 will be added to the Unit 2 FSAR that will be materially equivalent to Section 3.12 of the current Unit 1 FSAR. (Section 9.1.4)* | Response provided in TVA to NRC letter dated April 6, 2011. | |
| 35. | *TVA should provide information to the NRC staff that the CCS will produce feedwater purity in accordance with BTP MTEB 5-3 or, alternatively, provide justification for producing feedwater purity to another acceptable standard. (Section 10.4.6)* | Response provided in TVA to NRC letter dated June 7, 2011. | |
| 36. | *TVA should provide information to the NRC staff to enable verification that the SGBS* | Response provided in TVA to NRC letter dated April 6, | |

| SSER Item No. | SSER Item Description | TVA Status | NRC Status |
|---|---|---|---|
| | *meets the requirements and guidance specified in the SER or provide justification that the SGBS meets other standards that demonstrate conformance to GDC 1 and GDC 14. (Section 10.4.8)* | 2011. | |
| 37. | *The NRC staff will review the combined WBN Unit 1 and 2 Appendix C prior to issuance of the Unit 2 OL to confirm (1) that the proposed Unit 2 changes were incorporated into Appendix C, and (2) that changes made to Appendix C for Unit 1 since Revision 92 and the changes made to the NP-REP since Revision 92 do not affect the bases of the staff's findings in this SER supplement. (Section 13.3.2)* | TVA to answer later. | |
| 38. | *The NRC staff will confirm the availability and operability of the ERDS for Unit 2 prior to issuance of the Unit 2 OL. (Section 13.3.2.6)* | For NRC Inspection / Review | |
| 39. | *The NRC staff will confirm the adequacy of the communications capability to support dual unit operations prior to issuance of the Unit 2 OL. (Section 13.3.2.6)* | For NRC Inspection / Review | |
| 40. | *The NRC staff will confirm the adequacy of the emergency facilities and equipment to support dual unit operations prior to issuance of the Unit 2 OL. (Section 13.3.2.8)* | For NRC Inspection / Review | |
| 41. | *TVA committed to (1) update plant data displays as necessary to include Unit 2, and (2) to update dose assessment models to provide capabilities for assessing releases from both WBN units. The NRC staff will confirm the adequacy of these items prior to* | For NRC Inspection / Review | |

| SSER Item No. | SSER Item Description | TVA Status | NRC Status |
|---|---|---|---|
| | *issuance of the Unit 2 OL. (Section 13.3.2.9)* | | |
| 42. | *The NRC staff will confirm the adequacy of the accident assessment capabilities to support dual unit operations prior to issuance of the Unit 2 OL. (Section 13.3.2.9)* | For NRC Inspection / Review | |
| 43. | *Section V of Appendix E to 10 CFR Part 50 requires TVA to submit its detailed implementing procedures for its emergency plan no less than 180 days before the scheduled issuance of an operating license. Completion of this requirement will be confirmed by the NRC staff prior to the issuance of an operating license. (Section 13.3.2.18)* | TVA to answer later. | |
| 44. | *TVA should provide additional information to clarify how the initial and irradiated $RT_{NDT}$ was determined. (Section 5.3.1)* | Response provided in TVA to NRC letter dated April 6, 2011. | |
| 45. | *TVA stated in its response to RAI 5.3.2-2, dated July 31, 2010, that the PTLR would be revised to incorporate the COMS arming temperature. (Section 5.3.2)* | Response provided in TVA to NRC letter dated April 6, 2011. | |
| 46. | *The LTOP lift settings were not included in the PTLR, but were provided in TVA's response to RAI 5.3.2-2 in its letter dated July 31, 2010. TVA stated in its RAI response that the PTLR would be revised to incorporate the LTOP lift settings into the PTLR. (Section 5.3.2)* | Response provided in TVA to NRC letter dated April 6, 2011. | |
| 47. | *The NRC staff noted that TVA's changes to Section 6.2.6 in FSAR Amendment 97, regarding the implementation of Option B of Appendix J, were incomplete, because* | Response provided in TVA to NRC letter dated June 7, 2011. | |

| SSER Item No. | SSER Item Description | TVA Status | NRC Status |
|---|---|---|---|
| | *several statements remained regarding performing water-sealed valve leakage tests "as specified in 10 CFR [Part] 50, Appendix J." With the adoption of Option B, the specified testing requirements are no longer applicable; Option A to Appendix J retains these requirements. The NRC discussed this discrepancy with TVA in a telephone conference on September 28, 2010. TVA stated that it would remove the inaccurate reference to Appendix J for specific water testing requirements in a future FSAR amendment. (Section 6.2.6)* | | |
| 48. | *The NRC staff should verify that its conclusions in the review of FSAR Section 15.4.1 do not affect the conclusions of the staff regarding the acceptability of Section 6.5.3. (Section 6.5.3)* | Response provided in TVA to NRC letter dated June 7, 2011. | |
| 49. | *The NRC staff was unable to determine how TVA linked the training qualification requirements of ANSI N45.2-1971 to TVA Procedure TI-119. Therefore, the implementation of training and qualification for inspectors will be the subject of future NRC staff inspections. (NRC letter dated July 2, 2010, ADAMS Accession No. ML101720050)* | For NRC Inspection / Review | |
| 50. | *TVA stated that about 5 percent of the anchor bolts for safety-related pipe supports do not have quality control documentation, because the pull tests have not yet been performed. Since the documentation is still* | For NRC Inspection / Review | |

| SSER Item No. | SSER Item Description | TVA Status | NRC Status |
|---|---|---|---|
| | *under development, the NRC staff will conduct inspections to follow-up on the adequate implementation of this construction refurbishment program requirement. (NRC letter dated July 2, 2010, ADAMS Accession No. ML101720050)* | | |
| 51. | *The implementation of TVA Procedure TI-119 will be the subject of NRC follow-up inspection to determine if the construction refurbishment program requirements are being adequately implemented. (NRC letter dated July 2, 2010, ADAMS Accession No. ML101720050)* | For NRC Inspection / Review | |
| 52[A] | *TVA should provide an update to the FSAR replacing Table 12.2-3 with the expected source strength values of the freshly irradiated IITAs. (Section 12.3)* | Response provided in TVA to NRC letter dated June 7, 2011. | |
| 53 | TVA should provide an update to the FSAR reflecting the information provided in its letter dated October 4, 2010, regarding the WBN radiation protection design features, including controlled access areas, decontamination areas, and onsite laboratories and counting rooms. (Section 12.4) | | |
| 54 | TVA should provide adequate technical justification to the staff to relax the frequency of the radiation monitor channel quarterly operability tests. TVA should provide sufficient information to the staff to determine that the portable airborne radiation monitors comply with the requirements of 10 CFR 20.1501. TVA should provide sufficient information to the staff to determine that the licensing or TVA program requirements for the calibration and operability testing of area radiation monitors are sufficient to meet the regulatory requirements of 10 CFR 20.1501. (Section 12.4) | | |
| 55 | TVA should provide sufficient information to the staff to demonstrate that the two area radiation monitors for the Spent Fuel Pit comply with the requirements of 10 CFR | | |

| SSER Item No. | SSER Item Description | TVA Status | NRC Status |
|---|---|---|---|
| | 70.24 and 10 CFR 50.68 for radiation monitoring in areas where fuel is handled or stored. (Section 12.4) | | |
| 56 | TVA should update the FSAR to reflect the information regarding the dose assessment program provided in its letter the ~~the~~ NRC dated June 3, 2010. (Section 12.5) | | |
| 57 | TVA should update the FSAR to reflect the qualification standards of the RPM as provided in its letter to the NRC dated October 4, 2010. (Section 12.6) | | |
| 58 | The staff has insufficient information to conclude that TVA has taken appropriate actions to reduce radiation levels and increase the capability of operators to control and mitigate the consequences of an accident at WBN Unit 2, in accordance with the guidance of NUREG-0737, Item II.B.2, or can maintain occupational doses to plant operators within the requirements of GDC 19. Therefore, the staff cannot conclude that the plant shielding for WBN Unit 2 is acceptable. (Section 12.7.1) | | |
| 59[B] | *The staff's evaluation of the compatibility of the ESF system materials with containment sprays and core cooling water in the event of a LOCA is incomplete pending resolution of GSI-191 for WBN Unit 2. (Section 6.1.1.4)* | Response provided in TVA to NRC letter dated June 7, 2011. | |
| 60[C] | *TVA should amend the FSAR description of the design and operation of the spent fuel pool cooling and cleanup system in FSAR Section 9.1.3 as proposed in its December 21, 2010, letter to the NRC. (Section 9.1.3)* | Response provided in TVA to NRC letter dated June 7, 2011. | |
| 61[D] | *TVA should provide information to the NRC staff to demonstrate that PAD 4.0 can conservatively calculate the fuel temperature and other impacted variables, such as stored energy, given the lack of a fuel thermal conductivity degradation model. (Section 4.2.2.1)* | Will result in a License Condition. | |
| 62[E] | *Confirm TVA's change to FSAR Section 10.4.9 to reflect its intention to operate with each CST* | Response provided in TVA to NRC letter dated June 7, | |

| SSER Item No. | SSER Item Description | TVA Status | NRC Status |
|---|---|---|---|
| | *isolated from the other. (Section 10.4.9)* | 2011. | |
| 63[F] | *TVA should confirm to the NRC staff that testing prior to Unit 2 fuel load has demonstrated that two-way communications is impossible with the Eagle 21 communications interface. (Section 7.2.1.1)* | TVA to answer later. | |
| 64[G] | *TVA stated that, "Post modification testing will be performed to verify that the design change corrects the Eagle 21, Rack 2 RTD accuracy issue prior to WBN Unit 2 fuel load. This issue is open pending NRC review of the testing results.* | For NRC Inspection / Review | |
| 65[H] | *TVA should provide justification to the staff regarding why different revisions of WCAP-13869 are referenced in WBN Unit 1 and Unit 2. (Section 7.2.1.1)* | Response provided in TVA to NRC letter dated June 7, 2011. | |
| 66[I] | *TVA should clarify FSAR Section 9.2.5 to add the capability of the UHS to bring the non accident unit to cold shutdown within 72 hours. (SRP Section 9.2.5)* | TVA to answer later. | |
| 67[J] | *TVA should confirm, and the NRC staff should verify, that the component cooling booster pumps for Unit 2 are above PMF level. (Section 9.2.2)* | For NRC Inspection / Review | |
| 68[K] | *TVA should clarify to the NRC staff how the CSS complies with GDC 5. (Section 9.2.2)* | TVA to answer later. | |
| 69[L] | *The WBN Unit 2 RCS vent system is acceptable, pending verification that the RCS vent system is installed. (Section 5.4.5)* | For NRC Inspection / Review | |
| 70[M] | *TVA should provide the revised WBN Unit 2 PSI program ASME Class 1, 2, and 3 Supports "Summary Tables," to include numbers of components so that the NRC staff can verify that the numbers meet the reference ASME Code.* | TVA to answer later. | |

| SSER Item No. | SSER Item Description | TVA Status | NRC Status |
|---|---|---|---|
| | *(Section 3.2.3 of Appendix Z of this SSER)* | | |
| 71[N] | *TVA should confirm to the staff the replacement of the current Unit 2 clevis insert bolts to the latest design, which uses an X-750 alloy with an HTH process, rolled threads, and a larger radius on the undercut of the cap screw head. (Section 3.9.5)* | Response provided in TVA to NRC letter dated June 7, 2011. | |
| 72[O] | *Based on its review, the staff asked TVA several questions regarding the ICC instrumentation. TVA responded to the staff questions by letter dated October 26, 2010 (ADAMS Accession No. ML103020322). The NRC staff has not completed the review of the additional information provided by TVA. The staff will provide its evaluation after completion of that review. (Section 4.4.8)* | For NRC Inspection / Review | |
| 73[P] | *The NRC staff will inspect to confirm that TVA has completed the WBN Unit 2 EOPs prior to fuel load. (Section 7.5.3)* | For NRC Inspection / Review | |
| 74[Q] | *The NRC staff will verify installation of the acoustic-monitoring system for the power-operated relief valve (PORV) position indication in WBN Unit 2 before fuel load. (Section 7.8.1)* | For NRC Inspection / Review | |
| 75[R] | *The NRC staff will verify that the test procedures and qualification testing for auxiliary feedwater initiation and control and flow indication are completed in WBN Unit 2 before fuel load. (Section 7.8.2)* | For NRC Inspection / Review | |
| 76[S] | *The NRC staff will verify that the derivative time constant is set to zero in WBN Unit 2 before fuel load. (Section 7.8.3)* | For NRC Inspection / Review | |
| 77 | It is unclear to the NRC staff which software V&V documents are applicable to the HRCAR monitors. TVA | | |

| SSER Item No. | SSER Item Description | TVA Status | NRC Status |
|---|---|---|---|
| | should clarify which software V&V documents are applicable, in order for the staff to complete its evaluation. (Section 7.5.2.3) | | |
| 78 | TVA intends to issue a revised calculation reflecting that the TID in the control room is less than $10^3$ rads, which will be evaluated by the NRC staff. (Section 7.5.2.3) | | |
| 79 | TVA should perform a radiated susceptibility survey, after the installation of the hardware but prior to the RM-1000 being placed in service, to establish the need for exclusion distance for the HRCAR monitors while using handheld portable devices (e.g., walkie-talkie) in the control room, as documented in Attachment 23 to TVA's letter dated February 25, 2011, and item number 355 of TVA's letter dated April 15, 2011. (Section 7.5.2.3) | | |
| 80 | TVA should provide clarification to the staff on how TVA Standard Specification SS-E18-14.1 meets the guidance of RG 1.180, and should address any deviations from the guidance of the RG. (Section 7.5.2.3) | | |
| 81 | The extent to which TVA's supplier, General Atomics (GA), complies with EPRI TR-106439 and the methods that GA used for its commercial dedication process should be provided by TVA to the NRC staff for review. (Section 7.5.2.3) | | |
| 82 | The staff concluded that the information provided by TVA pertaining to the in-containment LPMS equipment qualification for vibration was incomplete. TVA should provide (item number 362 of ADAMS Accession No. ML111050009), documentation that demonstrates the LPMS in-containment equipment has been qualified to remain functional in its normal operating vibration environment, per RG 1.133, Revision 1. (Section 7.6.1) | | |
| 83 | TVA should confirm to the NRC staff the completion of the data storm test on the DCS. (Section 7.7.1.4) | | |
| 84 | TVA should provide additional information for the NRC staff to complete its review of post-LOCA long term cooling boric acid precipitation. (Section 15.3.1) | | |
| 85 | The 95/95 peak local oxidation was calculated to be 1.04 percent, while core-wide oxidation was calculated to be much less than 0.1 percent. TVA should provide to the | | |

| SSER Item No. | SSER Item Description | TVA Status | NRC Status |
|---|---|---|---|
| | NRC staff the value of the decay heat multiplier used for this limiting large break, in order for the staff to complete its evaluation. (Section 15.3.1) | | |
| 86 | TVA should demonstrate to the staff, in the WCOBRA/TRAC analysis of the limiting break, that the core remains covered with a two-phase mixture and can be cooled for an indefinite period of time. (Section 15.3.1) | | |
| 87 | In order for the staff to complete its evaluation, TVA should provide (1) a time step sensitivity study for the limiting break displaying downcomer boiling, (2) a list of ten key parameter plots for the worst case downcomer boiling transient, (3) values for the lateral k-factors used in the evaluation, and (4) the manner in which condensation was modeled in the downcomer. (Section 15.3.1) | | |
| 88 | It is also unclear to the staff that the entrainment correlation information has been incorporated into the EOP, to ensure that operators do not initiate hot and cold side injection during the period of time that entrainment could preclude injection into the hot legs. TVA should provide the EOP guidance/instructions for the operators to the staff for review. (Section 15.3.1) | | |
| 89 | TVA should demonstrate, quantitatively, the applicability of the generic analysis to WBN Unit 2, to demonstrate that the EOP instructions to the operators can effectively deal with the failure of a bottom mounted instrument tube in the lower head. (Section 15.3.1) | | |
| 90 | Verify that the ERCW pumps meet GDC 5 requirements for two unit operation. (Section 9.2.1) | | |
| 91 | TVA should update the FSAR with information describing how WBN Unit 2 meets GDC 5, assuming the worst case single failure and a LOOP, as provided in TVA's letter dated April 13, 2011. (Section 9.2.1) | | |
| 92 | The NRC staff should perform an inspection in accordance with NRC Temporary Instruction 2515/087, "Inspection of Licensee's Implementation of Multi-Plant Action A-17: Instrumentation for Nuclear Power Plants to Assess Plant and Environs Conditions During and Following an Accident (Regulatory Guide 1.97)." (Section 7.5.2.1.4) | | |
| 93 | TVA should confirm to the staff that testing of the Eagle 21 | | |

| SSER Item No. | SSER Item Description | TVA Status | NRC Status |
|---|---|---|---|
| | system has sufficiently demonstrated that two-way communication to the ICS is precluded with the described configurations. (Section 7.9.3.2) | | |
| 94 | TVA should provide to the staff either information that demonstrates that the WBN Unit 2 Common Q PAMS meets the applicable requirements in IEEE Std. 603-1991, or justification for why the Common Q PAMS should not meet those requirements. (Section 7.5.2.2.3) | | |
| 95 | TVA should update FSAR Table 7.1-1, "Watts Bar Nuclear Plant NRC Regulatory Guide Conformance," to reference IEEE Std. 603-1991 for the WBN Unit 2 Common Q PAMS. (Section 7.5.2.2.3) | | |
| 96 | TVA should (1) update FSAR Table 7.1-1 to include RG 1.100, Revision 3, for the Common Q PAMS, or (2) demonstrate that the Common Q PAMS is in conformance with RG 1.100, Revision 1, or provide justification for not conforming. (Section 7.5.2.2.3) | | |
| 97 | TVA should demonstrate that the WBN Unit 2 Common Q PAMS is in conformance with RG 1.153, Revision 1, or provide justification for not conforming. (Section 7.5.2.2.3) | | |
| 98 | TVA should demonstrate that the WBN Unit 2 Common Q PAMS is in conformance with RG 1.152, Revision 2, or provide justification for not conforming. (Section 7.5.2.2.3) | | |
| 99 | TVA should update FSAR Table 7.1-1 to reference IEEE 7-4.3.2-2003 as being applicable to the WBN Unit 2 Common Q PAMS. (Section 7.5.2.2.3) | | |
| 100 | TVA should update FSAR Table 7.1-1 to reference RG 1.168, Revision 1; IEEE 1012-1998; and IEEE 1020-1997 as being applicable to the WBN Unit 2 Common Q PAMS. (Section 7.5.2.2.3) | | |
| 101 | TVA should demonstrate that the WBN Unit 2 Common Q PAMS application software is in conformance with RG 1.168, Revision 1, or provide justification for not conforming. (Section 7.5.2.2.3) | | |
| 102 | TVA should update FSAR Table 7.1-1 to reference RG 1.209 and IEEE Std. 323-2003 as being applicable to the WBN Unit 2 Common Q PAMS. (Section 7.5.2.2.3) | | |
| 103 | TVA should demonstrate that the WBN Unit 2 Common Q PAMS conforms to RG 1.209 and IEEE Std. 323-2003, or | | |

| SSER Item No. | SSER Item Description | TVA Status | NRC Status |
|---|---|---|---|
| | provide justification for not conforming. (Section 7.5.2.2.3) | | |
| 104 | The NRC staff will review the WEC self assessment to verify that it the WBN Unit 2 PAMS is compliant to the V&V requirements in the SPM or that deviations from the requirements are adequately justified. (Section 7.5.2.2.3.4.2) | | |
| 105 | TVA should produce an acceptable description of how the WBN Unit 2 Common Q PAMS SysRS and SRS implement the design basis requirements of IEEE Std. 603-1991 Clause 4. (Section 7.5.2.2.3.4.3.1) | | |
| 106 | TVA should produce a final WBN Unit 2 Common Q PAMS SRS that is independently reviewed. (Section 7.5.2.2.3.4.3.1) | | |
| 107 | TVA should provide to the NRC staff documentation to confirm that the final WBN Unit 2 Common Q PAMS SDDs that are independently reviewed. (Section 7.5.2.2.3.4.3.2) | | |
| 108 | TVA should demonstrate to the NRC staff that there are no synergistic effects between temperature and humidity for the Common Q PAMS equipment. (Section 7.5.2.2.3.5.2) | | |
| 109 | TVA should demonstrate to the NRC staff acceptable data storm testing of the Common Q PAMS. (Section 7.5.2.2.3.7.1.8) | | |
| 110 | TVA should provide information to the NRC staff describing how the WBN Unit 2 Common Q PAMS design supports periodic testing of the RVLIS function. (Section 7.5.2.2.3.9.2.6) | | |
| 111 | TVA should provide the technical specifications for the Common Q PAMS to the NRC staff for review. (Section 7.5.2.2.3.11) | | |