WBN2Public Resource

From: Poole, Justin
Sent: Wednesday, November 24, 2010 11:10 AM
To: Crouch, William D
Cc: WBN2HearingFile Resource
Subject: FW: Updated OI List
Attachments: 20101124 Open Item List Master NRC Update 11-24-10.docx

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

-----Original Message-----
From: Darbali, Samir
Sent: Wednesday, November 24, 2010 11:04 AM
To: Poole, Justin
Cc: Garg, Hukam; Wiebe, Joel
Subject: Updated OI List

Justin,

Attached is the updated OI list to be sent out to TVA.

Thanks,
Samir

Hearing Identifier: Watts_Bar_2_Operating_LA_Public
Email Number: 197

Mail Envelope Properties (19D990B45D535548840D1118C451C74D7A49394CC4)

Subject: FW: Updated OI List
Sent Date: 11/24/2010 11:10:11 AM
Received Date: 11/24/2010 11:10:15 AM
From: Poole, Justin

Created By: Justin.Poole@nrc.gov

Recipients:
"WBN2HearingFile Resource" <WBN2HearingFile.Resource@nrc.gov>
Tracking Status: None
"Crouch, William D" <wdcrouch@tva.gov>
Tracking Status: None

Post Office: HQCLSTR02.nrc.gov

Files	Size	Date & Time
MESSAGE	396	11/24/2010 11:10:15 AM
20101124 Open Item List Master NRC Update 11-24-10.docx	400045	

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

No.	SE Sec.	FSAR Sec.	NRC POC	Issue	TVA Response(s)	Response Acceptable Y/N	Status/ Current Actions	Resolution Path	RAI No. & Date	RAI Resp. Date	Comments
001	All	All	C B	The Watts Bar Nuclear Plant FSAR red-line for Unit 2 (Agency wide Documents Access and Management System Accession	12/15/2009 Presentation Slides	Y	Closed	Closed	EICB RAI ML092230343, Item	3/12/2010	**NNC 11/19/09:** The FSAR contains mostly description of the function that
002	All	All	C B	Are there I&C components and systems that have changed to a new or different digital technology without the change being	12/15/2009 Presentation Slides	Y	Closed	Closed	EICB RAI ML092230343, Item	3/12/2010	**NNC 11/19/09:** The FSAR contains mostly description of the function that
003	All	All	C B	Because a digital I&C platform can be configured and programmed for different applications, the review process can be divided	12/15/2009 Presentation Slides	Y	Closed	Closed	EICB RAI ML092230343, Item	3/12/2010	**NNC 11/19/09:** The FSAR contains mostly description of the function that
004	All	All	C B	Please identify the information that will be submitted for each unreviewed digital I&C system and component and the associated	Responder: Webb 1/13/10 Public Meeting	Y	Closed	Closed	EICB RAI ML092230343, Item	January 13, 2010	**NNC 11/19/09:** LIC-110 Rev. 1 Section 6.2.2 states: "Design features and
005	7.1.3.1			By letter date February 28, 2008 (Agencywide Documents Access and Management System (ADAMS) Accession Number	Responder: Craig/Webb	Y	Closed	Closed	EICB RAI ML093431118, Item	TVA Letter dated 2/5/10	
006				Amendment 95 of the FSAR, Chapter 7.3, shows that change 7.3-1 consists of updating a reference from revision 5 to revision 7 and	By letter dated February 5, 2010: TVA provided the Unit 2 setpoint methodology (WCAP-17044-P Revision 0, dated	Y	Closed	Closed	EICB RAI ML093431118, Item	TVA Letter dated 2/5/10	**NNC:** WCAP-12096 Rev. 7 (ML073460281) is in ADAMS
007	7.1.3.1			The setpoint methodology has been reviewed and approved by the NRC staff in Section 7.1.3.1 of NUREG-0847 (ML072060490)	TVA Letter Dated March 12, 2010 (Enclosure 1, Item No. 7 on Page 7 of 15): TVA responded to this request for	Y	Closed This item is reviewed in FSAR	Closed	EICB RAI ML093431118, Item	TVA Letter dated 3/12/10	TVA to provide Rev. 8 of the Unit 1 document (which is the current one) if
008	7.3			There are several staff positions that provide guidance on setpoint methodology (e.g., Reg Guide 1.105, BTP 7-12, PIS-2006-17 and	TVA Letter Dated March 12, 2010 (Enclosure 1, Item No. 8 on Page 7 of 15): TVA responded to this request for	Y	Closed	Closed	EICB RAI ML093431118, Item	TVA Letter dated 3/12/10	
009	7.3.2	5.6, 6.3.5	D a	Change 7.3-2, identified in Watts Bar Nuclear Plant FSAR red-line for Unit 2 (ADAMS Accession Number ML080770366), refers to	TVA Letter Dated March 12, 2010 (Enclosure 1, Item No. 9 on Page 8 of 15): TVA responded to this request for	Y	Closed	Closed	EICB RAI ML093431118, Item	3/12/10, ML101680598	
010	7.3	7.3	D a	The original SER on Watts Bar (NUREG-0847) documents that the scope of the review of FSAR Section 7.3, "Engineered Safety	TVA Letter Dated March 12, 2010 (Enclosure 1, Item No. 10 on Page 8 of 15): TVA responded to this request for	Y	Closed	Closed	EICB RAI ML093431118, Item	3/12/10, ML101680598	
011	7.3.2	5.6, 6.3.5	D a	NUREG-0847 Supplement No. 2 Section 7.3.2 includes an evaluation of a change in containment sump level measurement	TVA Letter Dated March 12, 2010 (Enclosure 1, Item No. 11 on Page 13 of 15): TVA responded to this request for	Y	Closed	Closed	EICB RAI ML093431118, Item	ML101680598, Item 9	
012	7.4	7.4	D a	The original SER on Watts Bar (NUREG-0847) documents that the scope of the review of FSAR Section 7.4, "Systems Required for	TVA Letter Dated March 12, 2010 (Enclosure 1, Item No. 12 on Page 13 of 15): TVA responded to this request for	Y	Closed	Closed	EICB RAI ML093431118, Item	TVA Letter dated 3/12/10	
013	7.1.3.1			Chapter 7 and Chapter 16 of Amendment 95 to the FSAR do not include any setpoint values. Please describe how and when	TVA Letter Dated March 12, 2010 (Enclosure 1, Item No. 13 on Page 14 of 15): TVA responded to this request for	Y	Closed	Closed	EICB RAI ML093431118, Item	TVA Letter dated 3/12/10	TS have been docketed.
014	All	All	C B	Provide the justification for any hardware and software changes that have been made since the previous U.S. Nuclear Regulatory	Date: 4/27/10 Responder: TVA	Y	Closed	Closed	NRC Meeting Summary	TVA Letter dated 4/27/10	
015				Verify that the refurbishment of the power range nuclear instrumentation drawers resulted in only like-for-like replacements	Date: 4/27/10 Responder: TVA	Y	Closed	Closed	NRC Meeting Summary	TVA Letter dated 4/27/10	
016				Identify the precedents in license amendment requests (LARs), if any, for source range monitors or intermediate range monitors	Date: 4/27/10 Responder: TVA	Y	Closed	Closed	NRC Meeting Summary	TVA Letter dated 4/27/10	
017	7.3.1	7.3.1, 5.5.5	D a	Identify precedents in LARs, if any, for the solid state protection system. Also, identify any hardware deviation from the precedent	Date: 4/27/10	Y	Closed	Closed	NRC Meeting Summary	TVA Letter dated 4/27/10	
018				Identify any changes made to any instrumentation and control (I&C) system based on prior knowledge of failures	Date: 4/27/10 Responder: TVA	Y	Closed	Closed	NRC Meeting Summary	TVA Letter dated 4/27/10	
019				Verify that the containment purge isolation radiation monitor is the same as used in Watts Bar Unit 1, or identify any hardware	Date: 4/27/10	Y	Closed	Closed	NRC Meeting Summary	TVA Letter dated 4/27/10	
020				Provide environmental qualification information pursuant to Section 50.49 of Title 10 of the Code of Federal Regulations (10 CFR) for	Date: 4/27/10 Responder: TVA	Y	Closed	Closed	NRC Meeting Summary	TVA Letter dated 4/27/10	**NNC 4/30/10:** SRP Section 7.0 states: "The organization responsible for the
021		7.3		For the Foxboro Spec 200 platform, identify any changes in hardware from the precedent systems. Provide the design report	Date: 5/25/10	Y	Closed The resolution of this item will	Closed	NRC Meeting Summary	TVA Letter dated 6/18/10	The resolution of this item will be covered by OI#288
022	7.3.2	5.6, 6.3.5	D a	Verify the auxiliary feedwater control refurbishment results in a like-for-like replacement, and identify any changes from the	Date: 4/27/10	Y	Closed	Closed	NRC Meeting Summary	TVA Letter dated 4/27/10	
023				Provide environmental qualification (10 CFR 50.49) information for safety-related control transmitters and complete the deviation	Date: 4/27/10 Responder: TVA	Y	Closed	Closed	NRC Meeting Summary	TVA Letter dated 4/27/10	**NNC 4/30/10:** SRP Section 7.0 states: "The organization responsible for the
024				Provide a schedule by the January 13, 2010, meeting for providing information in accordance with I&C Interim Staff Guidance (ISG) 6	During the January 13, 2010 meeting, TVA presented a schedule for completing various documents for the PAMS	Y	Closed	Closed	NRC Meeting Summary	N/A – Request for schedule	**NNC 4/30/10:** Carte to address response with respect to PAMS and
025	7.5.2	7.5.1	S	For the containment radiation high radiation monitor, verify that the information provided by TVA is consistent with the information	Date: 4/27/10	Y	Closed	Closed	NRC Meeting Summary	ML101230248, Item 12	
026				Provide environmental qualification (10 CFR 50.49) information for safety-related monitoring transmitters	Date: 4/27/10 Responder: TVA	Y	Closed	Closed	NRC Meeting Summary	TVA Letter dated 4/27/10	**NNC 4/30/10:** SRP Section 7.0 states: "The organization responsible for the
027	7.7.1.4			For Foxboro I/A provide information regarding safety/non-safety-related interaction, common cause failures, and communication	Date: 4/27/10 Responder: TVA	Y	Closed	Closed	NRC Meeting Summary	TVA Letter dated 4/27/10	
028				For the turbine control AEH system, verify that the refurbishment results in a like-for-like replacement	Responder: Mark Scansen Date: 4/27/10	Y	Closed	Closed	NRC Meeting Summary	TVA Letter dated 10/5/10	
029				For the rod control system, verify that the refurbishment results in a like-for-like replacement	Date: 4/27/10 Responder: TVA	Y	Closed	Closed	NRC Meeting Summary	TVA Letter dated 4/27/10	

No.	SE Sec.	FSAR Sec.	NRC POC	Issue	TVA Response(s)	Response Acceptable Y/N	Status/ Current Actions	Resolution Path	RAI No. & Date	RAI Resp. Date	Comments
030				Regarding the refurbishment of I&C equipment, identify any component digital upgrades and, if so, provide the supporting	Responder: Clark	Y	Closed	Closed	NRC Meeting Summary	TVA Letter dated 10/5/10	
031				For the rod position indication system (CERPI), provide information in accordance with ISG 4. Need to consider cyber security issues	Date: 4/27/10 Responder: TVA	Y	Closed	Closed	NRC Meeting Summary	TVA Letter dated 4/27/10	CERPI is non-safety related. Note: The issue of interlock with rod
032				For the process computer, need to consider cyber security issues and emergency response data system needs	Date: 4/27/10 Responder: TVA	Y	Closed	Closed	NRC Meeting Summary	TVA Letter dated 4/27/10	EICB will no longer consider cyber issues
033				For the loose parts monitoring system, provide information regarding interactions with safety related equipment	Date: 4/27/10 Responder: TVA	Y	Closed	Closed	NRC Meeting Summary	TVA Letter dated 4/27/10	The loose parts monitoring system is not connected to any other system
034				2/4/2010	Responder: TVA	Y	Closed Awaiting NRC evaluation of	Closed	N/A	TVA Letter dated 4/27/10	
034.1				Chapter 7.1 – Introduction Reactor Coolant System Flow Rate Measurement		Y	Close	Closed	N/A	N/A	
034.2				Chapter 7.2 - Reactor Trip System Deletion of Neutron Flux Negative Rate Trip		Y	Close	Closed	N/A	N/A	
034.3	7.3	7.3		Chapter 7.3 – ESFAS Design Basis Analysis Parameters		Y	Closed	Closed	N/A	N/A	
034.4	7.5.1.1	7.5.2		Chapter 7.5 - Instrumentation Systems Important to Safety Plant Process Computer Replacement		Y	Closed	Closed	N/A	N/A	Closed
034.5	7.5.1.1 7.6.1	7.5.2 7.6.7		Chapter 7.6 - All Other Systems Required for Safety Plant Process Computer Replacement		Y	Closed	Closed	N/A	N/A	Closed
034.6				Chapter 7.7 Control Systems Alternate Means for Monitoring Control or Shutdown		Y	Closed	Closed	N/A	N/A	
035				2/18/2010	Responder: Clark	Y	Closed	Closed	RAI No. 1 ML102980005	TVA Letter dated 3/12/10	LIC-110 Section 6.2.2 states: "Design features and administrative programs
036	7.5.2	7.5.1		February 18, 2010	Date: 5/25/10 Responder: Clark	Y	Closed	Closed	NRC Meeting Summary		**NNC:** Unit 2 FSAR Section 7.5.1, "Post Accident Monitoring Instrumentation."
037	7.5.1.1	7.5.2		2/18/2010	Responder: Clark Date: 5/25/10	Y	Closed	Closed 09/16/10	N/A	TVA Letter dated 10/5/10	FSAR Amendment 100 provides information
038	7.5.1.1	7.5.2		2/18/2010	Responder: Clark Date: 5/25/10	Y	Closed	Closed	EICB RAI ML102861885	TVA Letter dated 10/5/10	The slides presented at the December 15, 2010 meeting (ML093520067)
039				January 13, 2010	Responder: Clark Date: 5/25/10	Y	Closed	Closed	EICB RAI ML102910008	FSAR amendment 98	The equation for the calculation of the estimated average hot leg temperature
040				January 13, 2010	Responder: Clark Date: 5/25/10	Y	Closed	Closed	EICB RAI EICB RAI ML102910008	FSAR amendment 98	The equation for the calculation of the power fraction on page 7.2-14 of
041	7.5.2	7.5.1	EICB (Carte)	2/19/2010 Please provide the following Westinghouse documents: (1) WNA-DS-01617-WBT Rev. 1, "PAMS System Requirements Specification" (2) WNA-DS-01667-WBT Rev. 0, "PAMS System Design Specification" (3) WNA-CD-00018-GEN Rev. 3, "CGD for QNX version 4.5g" Please provide the following Westinghouse documents or pointers to where the material was reviewed and approved in the CQ TR or SPM: (4) WNA-PT-00058-GEN Rev. 0, "Testing Process for Common Q Safety systems" (5) WNA-TP-00357-GEN Rev. 4, "Element Software Test Procedure"	Responder: WEC Items (1) and (2) were docketed by TVA letter dated April 8, 2010. **Item (3) will be addressed by Revision 2 of the Licensing Technical Report. Due 12/3/10** Item (4) will be addressed by Westinghouse developing a WBN2 Specific Test Plan to compensate for the fact that the NRC disapproved WNA-PT-00058-GEN during the original Common Q review. **Due 12/7/10** Item (5) Procedures that are listed in the SPM compliance table in the Licensing Technical Report revision 1 supersede that test procedure WNA-TP-00357-GEN.**Due 10/22/10**	N	Open Partial Response is included in letter dated 10/5/10. The SysRS and SRS incorporate requirements from many other documents by reference. **NNC 8/25/10:** (3) An earlier version of this report was docketed for the Common Q topical report; therefore, there should be no problem to docket this version. (4) Per ML091560352, the testing process document does not address the test plan requirements of the SPM. Please provide a test plan that implements the requirements of the SPM.	Open-TVA/WEC Due: (3) 12/3/10 (4) 12/10/10 TVA to docket information indentified in ISG6.	NRC Meeting Summary NRC Meeting Summary ML093560019, Item No. 11	TVA Letter dated 6/18/10 TVA Letter dated 10/5/10	See also Open Item Nos. 226 & 270.
042	All	All		February 25, 2010: Telecom	Date: 5/25/10 Responder: Clark	Y	Closed	Closed	EICB RAI ML102910002	TVA Letter dated 6/18/10	The drawing provided did not have the identification numbers as in the FSAR

No.	SE Sec.	FSAR Sec.	NRC POC	Issue	TVA Response(s)	Response Acceptable Y/N	Status/ Current Actions	Resolution Path	RAI No. & Date	RAI Resp. Date	Comments
043	7.5.2	7.5.1	EICB (Carte)	2/19/2010 The PAMS ISG6 compliance matrix supplied as Enclosure 1 to TVA letter dated February 5, 2010 is a first draft of the information needed. The shortcomings of the first three lines in the matrix are: Line 1: Section 11 of the Common Q topical report did include a commercial grade dedication program, but this program was not approved in the associated SE. Westinghouse stated that this was the program and it could now be reviewed. The NRC stated that TVA should identified what they believe was previously reviewed and approved. Line 2: TVA stated the D3 analysis was not applicable to PAMS, but provided no justification. The NRC asked for justification since SRP Chapter 7.5 identified SRM to SECV-93-087 Item II.Q as being SRP acceptance criteria for PAMS. Line 3: TVA identified that the Design report for computer integrity was completed as part of the common Q topical report. The NRC noted that this report is applicable for a system in a plant, and the CQ topical report did no specifically address this PAMS system at Watts Bar Unit 2. NRC then concluded that TVA should go through and provide a more complete and thorough compliance matrix.	Responder: WEC Date: 5/25/10 The PAMS ISG6 compliance matrix supplied as Enclosure 1 to TVA letter dated February 5, 2010 is a first draft of the information needed. By letter dated April 8, 2010 TVA provided the PAMS Licensing Technical Report provided additional information. Attachment 3 contains the revised Common Q PAMS ISG-6 Compliance Matrix, dated June 11, 2010, that addresses these items (Reference 13). By letter Dated June 18, 2010 (see Attachment 3) TVA provided a table, "Watts Bar 2 - Common Q PAMS ISG-6 Compliance Matrix." It is TVA's understanding that this comment is focused on the fact that there are documents that NRC has requested that are currently listed as being available for audit at the Westinghouse offices. For those Common Q PAMS documents that are TVA deliverable documents from Westinghouse, TVA has agreed to provide those to NRC. Westinghouse documents that are not deliverable to TVA will be available for audit as stated above. Requirements Traceability Matrix issues will be tracked under NRC RAI Matrix Items 142 (Software Requirements Specification) and 145 (System Design Specification). Commercial Item Dedication issues will be tracked under NRC RAI Matrix Item 138. This item is considered closed.	N	Open Response is included in letter dated 10/5/10. Revised compliance matrix is unacceptable. **NNC 8/12/10:** It is not quite enough to provide all of the documents requested. There are two possible routes to review that the NRC can undertake: (1) follow ISG6, and (2) follow the CQ SPM. The TVA response that was originally pursued was to follow ISG6, but some of the compliance items for ISG6 were addressed by referencing the SPM. The NRC approved the CQ TR and associated SPM; it may be more appropriate to review the WBN2 PAMS application to for adherence to the SPM that to ISG6. In either path chosen, the applicant should provide documents and a justification for the acceptability of any deviation from the path chosen. For example, it appears that the Westinghouse's CDIs are commercial grade dedication plans, but Westinghouse maintains that they are commercial grade dedication reports; this apparent deviation should be justified or explained.	Open-NRC Review Due 12/1/10	EICB RAI ML102910002 Item No. 2	TVA Letter dated 2/5/10 TVA Letter dated 5/12/10 TVA Letter dated 6/18/10 TVA Letter dated 10/5/10	**NNC 8/25/10:** A CQ PAMS ISG6 compliance matrix was docketed on: (1) February, 5 12010, (2) March 12, 2010, & (3) June 18, 2010. The staff has expressed issued with all of these compliance evaluations. The staff is still waiting for a good compliance evaluation. **NNC 11/23/10:** WNA-LI-00045-WT-P Rev. 1 Section 7 does not include the RSED documents, and it should. Table 6-1 Item No. 15 should also include the RSED RTMs.
044	7.5.2	7.5.1	EICB (Carte)	February 25, 2010	Date: 5/25/10 Responder: Clark	Y	Closed	Closed	EICB RAI ML102910002	TVA Letter dated 6/18/10	
045			EICB (Carte)	February 25, 2010	Date: 5/25/10 Responder: Clark	Y	Closed	Closed	EICB RAI ML102910002	TVA Letter dated 7/30/10	
046			EICB (Carte)	February 25, 2010	Date: 5/25/10 Responder: Clark	Y	Closed	Closed	N/A – Request for help finding	N/A	
047	7.5.2	7.5.1	EICB (Carte)	4/8/2010	Responder: WEC/Hilmes Date: 5/25/10	Y	Closed	Closed	EICB RAI ML102910002	TVA Letter dated 7/30/10	
048	7.5.2	7.5.1	EICB (Carte)	April 8, 2010	Date: 5/25/10 Responder: WEC	Y	Closed	Closed	EICB RAI ML102910002	TVA Letter dated 6/18/10	
049	7.5.2	7.5.1	EICB (Carte)	4/8/2010	Responder: WEC Date: 5/25/10	Y	Closed	Closed	EICB RAI ML102910002	TVA Letter dated 6/18/10	
050	7.5.2	7.5.1	EICB (Carte)	4/8/2010 How should the "shall" statements outside of the bracketed requirements in Common Q requirements documents be interpreted?	Responder: WEC Date: 5/25/10 These sections are descriptive text and not requirements. The next revision of the Watts Bar Unit 2 PAMS System Requirements Specification will remove "shall" from the wording in those sections. A date for completing the next revision of the System Requirements Specification will be	N	Open TVA response is inconsistent (e.g., WNA-DS-01667-WBT Rev. 1 page 1-1, Section 1.3.1 implies that "SysRS Section ###" has requirements. See	Open-TVA/WEC Due_____ Discuss at 11/22 phone call.	EICB RAI ML102910002 Item No. 8	TVA Letter dated 6/18/10 TVA Letter dated 10/29/10 Enclosure 1 Item No. 1	**NNC 11/18/10:** SysRS Rev. 2 contains several "Reference 8", however, Reference 8 has been deleted.

No.	SE Sec.	FSAR Sec.	NRC POC	Issue	TVA Response(s)	Response Acceptable Y/N	Status/ Current Actions	Resolution Path	RAI No. & Date	RAI Resp. Date	Comments
					provided no later than August 31, 2010. The System Requirements Specification will be revised by September 30, 2010 and submitted within two of receipt from Westinghouse. **TVA Revised Response** Shall statements within the scope of the System Requirements Specification (SysRS) and System Design Specification (SysDS) were reviewed by Westinghouse. The statements were either relocated to the numbered requirements section or the wording was changed to identify that it was not a requirement. This item is resolved by submittal of revision 2 of the SysRS and the SysDS (attachments 7 and 8 of TVA Letter to NRC dated 10/25/10).		also SDS4.4.2.1-1 on page 4-32). Is there a requirement on the shall referenced above?? Response is provided in letter dated 10/29/10. TVA Revised Response in TVA Letter dated 10/29/10 Enclosure 1 Item No. 1 is Acceptable **NNC 11/18/10:** Revised Response is not a statement of fact. SysRS Rev. 2 (i.e., WNA-DS-01617-WBT Rev. 2) contains many "shalls" that are not within numbered requirements sections, for example: (1) Page 2-1, Section 2.3.1 – See guidance statement (2) Page 2-10, top of page 1 – See guidance statement				
051				April 15, 2010	Date: 5/25/10 Responder: Craig/Webb	Y	Closed	Closed	N/A	N/A	Review addressed by another Open Item
052	7.5.2	7.5.1		April 19, 2010	Date: 5/25/10 Responder: Slifer	Y	Closed	Closed	RAI No. 12 ML102980005		
053	7.5.2	7.5.1		April 19, 2010	Date: 5/25/10 Responder: Slifer	Y	Closed	Closed	RAI No. 13 ML102980005		
054	7.5.2	7.5.1		4/19/2010	Responder: Slifer/Clark Date: 5/25/10	Y	Closed	Closed Response acceptable	RAI No. 14 ML102980005	TVA Letter dated 6/18/10	
055	7.5.2	7.5.1		4/19/2010	Responder: Slifer/Clark Date: 5/25/10	Y	Closed	Closed Response acceptable	RAI No. 15 ML102980005	TVA Letter dated 6/18/10	
056				April 19, 2010	Date: 5/25/10 Responder: Slifer	Y	Closed	Closed	RAI No. 16 ML102980005	TVA Letter dated 6/18/10	Sorrento Radiation Monitoring
057	7.5.2	7.5.1		4/19/2010	Responder: TVA I&C Staff Date: 5/25/10	Y	Closed	Closed	RAI No. 17 ML102980005	TVA Letter dated 6/18/10	
058	7.5.0	7.5		April 19, 2010	Date: 5/25/10 Responder: Slifer	Y	Closed	Closed	RAI No. 18 ML102980005	TVA Letter dated 6/18/10	
059	7.5.2	7.5.1		April 19, 2010	Date: Responder: Slifer	Y	Closed	Closed	RAI No. 19 ML102980005	TVA Letter dated 6/18/10	
060	7.5.2	7.5.1		April 19, 2010	Date: 5/25/10 Responder: Clark	Y	Closed	Closed	N/A	N/A	Addressed by Open Item No. 47
061	7.5.2	7.5.1		April 19, 2010	Date: 5/25/10 Responder: Clark	Y	Closed	Closed	N/A	N/A	Addressed by Open Item No. 48
062	7.5.2	7.5.1		April 19, 2010	Date: 5/25/10 Responder: Clark	Y	Closed	Closed	N/A	N/A	Addressed by Open Item No. 49
063	7.5.2	7.5.1		April 19, 2010	Date: 5/25/10 Responder: Clark	Y	Closed	Closed	N/A	N/A	Addressed by Open Item No. 50
064	7.5.2	7.5.1		By letter dated March 12, 2010 TVA stated that the target submittal date for the D3 Analysis was April 2, 2010	Responder: Webb Date: 4/8/2010	Y	Closed	Closed	N/A - No question was asked. Item	TVA Letter dated 10/5/10	
065	7.5.2	7.5.1		By letter dated March 12, 2010 TVA stated that the target submittal date for the EMEA was August 31, 2010	Responder: WEC Date: 5/25/10	Y	Closed	Closed	N/A - No question was asked. Item	TVA Letter dated 10/5/10	
066	7.5.2	7.5.1		By letter dated March 12, 2010 TVA stated that the target submittal date for the "Watts Bar 2 RAMS Software Design Description (two	Responder: WEC Date: 5/25/10	Y	**Closed**	**Closed**	N/A - No question was asked. Item	TVA Letter dated 6/18/10	
067	7.5.2	7.5.1		By letter dated March 12, 2010 TVA stated that the target submittal	Responder: WEC Date: 5/25/10	N	Open	Open-TVA/WEC	N/A - No question	TVA Letter dated	

No.	SE Sec.	FSAR Sec.	NRC POC	Issue	TVA Response(s)	Response Acceptable Y/N	Status/ Current Actions	Resolution Path	RAI No. & Date	RAI Resp. Date	Comments
				date for the "Commercial Grade Dedication Instructions for AI687, AI688, Upgraded PC node box and flat panels." was September 28, 2010.	The following status is from the revised WB2 Common Q PAMS ISG-6 Compliance Matrix submitted in response to Item 43: a. AI687, AI688 – Scheduled for September 28, 2010 b. Upgraded PC node box and flat panel displays – Per Westinghouse letter WBT-D-2024 (Reference 7), these items are available for audit at the Westinghouse Rockville office. c. Power supplies – Per Westinghouse letter WBT-D-2035 (Reference 12), these items are available for audit at the Westinghouse Rockville office. To be addressed during 9/20-9/21 audit		This item is addressed in Rev. 2 of the Licensing Technical Report	Due 12/3/10	was asked. Item was opened to track comm8ittment made by applicant.	6/18/10	
068	7.5.2	7.5.1	EICB (Carte)	By letter dated March 12, 2010 TVA stated that the target submittal date for the "Summary Report on acceptance of AI687, AI688, Upgraded PC node box, flat panels, and power supplies." was September 28, 2010.	Responder: WEC Date: 5/25/10 The following status is from the revised WB2 Common Q PAMS ISG-6 Compliance Matrix submitted in response to Item 43: a. AI687, AI688 – Scheduled for September 28, 2010 b. Upgraded PC node box – Per Westinghouse letter WBT-D-2024 (Reference 7), this item is available for audit at the Westinghouse Rockville office. c. Flat panel displays – Per Westinghouse letter WBT-D-2024 (Reference 7), this item is available for audit at the Westinghouse Rockville office. d. Power supplies – Per Westinghouse letter WBT-D-2035 (Reference 12), these items are available for audit at the Westinghouse Rockville office. To be addressed during 9/20-9/21 audit	N	Open This item is addressed in Rev. 2 of the Licensing Technical Report	Open-TVA/WEC Due 12/3/10	N/A - No question was asked. Item was opened to track comm8ittment made by applicant.	TVA Letter dated 6/18/10	
069	7.5.2	7.5.1	EICB (Carte)	By letter dated March 12, 2010 TVA stated that the target submittal date for the "Watts Bar 2 PAMS Specific FAT Report" was October 2010.	Responder: WEC Date: 5/25/10	N	Open Awaiting for document to be docketed by TVA.	Open-TVA/WEC **Due 2/18/11**	N/A - No question was asked. Item was opened to track comm8ittment made by applicant.	N/A	
070	7.5.2	7.5.1	EICB (Carte)	By letter dated March 12, 2010 TVA stated that the target submittal date for the "Concept and Definition Phase V&V Report" was March 31, 2010.	Responder: WEC Date: 5/25/10 Per Westinghouse letter WBT-D-1961, this document is available for audit at the Westinghouse Rockville office. WNA-VR- 00283-WBT, Rev 0 was submitted on TVA letter to the NRC dated August 20, 2010. The submitted V&V did not address the Requirements Traceability Matrix and did not summarize anomalies. At the September 15th public meeting, Westinghouse agreed to include the Concept and Definitions Phase Requirements Traceability Matrix (RTM) in the next IV&V report along with	N	Open Partial Response is included in letter dated 10/5/10. Regulations require that the NRC review be based on docketed material. Awaiting for document to be docketed by TVA. **NNC 8/25/10:** Requirements Phase SVVR provided by TVA	Open-TVA/WEC **Due 12/17/10**	N/A - No question was asked. Item was opened to track comm8ittment made by applicant.	TVA Letter dated 6/18/10 TVA Letter dated 8/20/10 TVA Letter dated 10/5/10	**NNC 11/23/10:** The dues date in this open item does not agree with the due dated in Open Item No. 71.

No.	SE Sec.	FSAR Sec.	NRC POC	Issue	TVA Response(s)	Response Acceptable Y/N	Status/ Current Actions	Resolution Path	RAI No. & Date	RAI Resp. Date	Comments
					partial Design Phase updates to the RTM. **TVA Revised Response:** TVA submitted WNA-VR- 00283-WBT, Rev 0 to NRC in letter dated August 20, 2010 (Reference 6). The next Independent Verification and Validation (IV&V) report will include the Design Phase Requirements Traceability Matrix. The Design Phase IV&V Report will be submitted to NRC by February 11, 2011.		letter dated 8/20/10. **NNC 11/23/10:** The requirements Phase SVVR provided by TVA on 8/20/10, is not complete. This report should address the RTM, which it did not. TVA/WEC agreed to address the concept phase RTM in the next revision.				
071	7.5.2	7.5.1	EICB (Carte)	By letter dated March 12, 2010 TVA stated that the target submittal date for Revision 2 of the I V&V Report" covering the Design and Implementation phases was July 30, 2010.	Responder: WEC Date: 5/25/10	N	Open Awaiting for document to be docketed by TVA.	Open-TVA/WEC Due 12/10/10	N/A - No question was asked. Item was opened to track commitment made by applicant.	N/A	**NNC 11/23/10:** The dues date in this open item does not agree with the due dated in Open Item No. 70.
072	7.5.2	7.5.1	EICB (Carte)	By letter dated March 12, 2010 TVA stated that the target submittal date for the "Implementation Phase V&V Report" was September 30, 2010.	Responder: WEC Date: 5/25/10	N	Closed Awaiting for document to be docketed by TVA.	Closed to item 71. Per WEC, the design and implementation phase IV&V reports are combined.	N/A - No question was asked. Item was opened to track commitment made by applicant.	N/A	
073	7.5.2	7.5.1	EICB (Carte)	By letter dated March 12, 2010 TVA stated that the target submittal date for Revision 3 of the IV&V Report covering the Integration phase was October 29, 2010.	Responder: WEC Date: 5/25/10	N	Open Awaiting for document to be docketed by TVA.	Open-TVA/WEC Due 12/22/10	N/A - No question was asked. Item was opened to track commitment made by applicant.	N/A	
074	7.5.2	7.5.1	EICB (Carte)	By letter dated March 12, 2010 TVA stated that the target submittal date for the Post FAT IV&V Phase Summary Report was November 30, 2010.	Responder: WEC Date: 5/25/10	N	Open TVA to provide due date.	Open-TVA/WEC Due 2/21/11	N/A - No question was asked. Item was opened to track commitment made by applicant.	N/A	
075	7.5.2	7.5.1	EICB (Carte)	By letter dated March 12, 2010 TVA stated that the target submittal date for the "Watts Bar 2 PAMS Specific FAT Procedure" was September 30, 2010.	Responder: WEC Date: 5/25/10	N	Open Awaiting for document to be docketed by TVA.	Open-TVA/WEC Due 12/3/10	N/A - No question was asked. Item was opened to track commitment made by applicant.	N/A	
076	7.5.2	7.5.1	b – C	By letter dated March 12, 2010 TVA stated that the target submittal date for the "Watts Bar 2 PAMS Specific Processor Module	Responder: Clark Date: 5/25/10	Y	Closed	Closed	N/A - No question was asked. Item	N/A	
077	7.5.2	7.5.1	b – C	By letter dated March 12, 2010 TVA stated that the target submittal date for seven other documents was "TDR". Please provide a	Responder: WEC Date: 5/25/10	Y	Closed	Closed	N/A - No question was asked. Item	TVA Letter dated 6/18/10	
078			b – G	4/26/2010	Responder: Clark Date: 5/25/10	Y	Closed	Closed	EICB RAI ML102910008	TVA Letter dated 10/5/10	
079			b – G	4/26/2010	Responder: Clark Date: 5/25/10	Y	Closed	Closed	EICB RAI ML102910008	TVA Letter dated 10/5/10	Reviewed under Item 154
080			b – S	4/26/2010	Responder: WEC	Y	Closed	Closed	RAI No. 2 ML102980005	TVA Letter dated 7/30/10	
081	7.5.2	7.5.1	EICB (Carte)	5/6/2010 The PAMS Licensing Technical Report (WNA-LI-00058-WBT Rev. 0, Dated April 2010), in Section 7, lists codes and standards applicable to the Common Q PAMS. This list contains references to old revisions of several regulatory documents, for example: (1) RG 1.29 - September 1978 vs. March 2007 (2) RG 1.53 - June 1973 vs. November 2003 (a) IEEE 379-1994 vs. -2000	Responder: Merten/WEC The codes and standards documents listed in Section 7 of the Common Q PAMS Licensing Technical Report are the documents that the Common Q platform was licensed to when the NRC approved the original topical report and issued the approved SER. The WBN Unit 2 Common Q PAMS is designed in accordance with the approved Common Q topical report and approved SER and the codes	N	Open ML101600092 Item No.1: There are three sets of regulatory criteria that relate to a Common Q application (e.g. WBN2 PAMS): (a) Common Q platform components – Common Q TR	Open-TVA/WEC Due 12/22/10 TVA to provide requested information.	EICB RAI ML102910002 Item No. 9	TVA Letter dated 6/18/10	

No.	SE Sec.	FSAR Sec.	NRC POC	Issue	TVA Response(s)	Response Acceptable Y/N	Status/ Current Actions	Resolution Path	RAI No. & Date	RAI Resp. Date	Comments
				(3) RG 1.75 - September 1975 vs. February 2005 (a) IEEE 384-1992 vs. -1992 (4) RG 1.100 - June 1988 vs. September 2009 (a) IEEE 344-1987 vs. -2004 (5) RG 1.152 - January 1996 vs. January 2006 (a) IEEE 7-4.33.2-1993 vs. -2003 (6) RG 1.168 - September 1997 vs. February 2004 (a) IEEE 1012-1986 vs. -1998 (b) IEEE 1028-1988 vs. -1997 (7) IEEE 279-1991 vs. 603-1991 (8) IEEE 323-1983 vs. -1974 (RG 1.89 Rev. 1 June 1984 endorses 323-1974) However, LIC-110, "Watts Bar Unit 2 License Application Review," states: "Design features and administrative programs that are unique to Unit 2 should then be reviewed in accordance with the current staff positions." Please identify all differences between the versions referenced and the current staff positions. Please provide a justification for the acceptability PAMS with respect to these differences.	and standards on which the SER was based. Since the current versions referenced are not applicable to WBN Unit 2, there is no basis for a comparison review. Bechtel to develop a matrix and work with Westinghouse to provide justification.		(b) Application Development Processes – Common Q SPM (c) Application Specific – current regulatory criteria The Common Q Topical Report and associated appendices primarily addressed (a) and (b). The Common Q SER states: '…Appendix 1, "Post Accident Monitoring Systems," provides the functional requirements and conceptual design approach for upgrading an existing PAMS based on Common Q components (page 58, Section 4.4.1.1, "Description")…On the basis of the above review, the staff concludes that Appendix 1 does not contain sufficient information to establish the generic acceptability of the proposed PAMS design (page 56, Section 4.4.1.3, "PAMS Evaluation")…' The NRC did not approve the proposed PAMS design. Section 6, "References," and Section 7, "Codes and Standards Applicable to the Common Q PAMS," of the PAMS Licensing Technical Report contain items that are not the current regulatory criteria. Please provide an explanation of how the WBN2 PAMS conforms with the application specific regulatory criteria applicable to the WBN2 PAMS design. For example IEEE Std. 603-1991 Clause 5.6.3, "Independence Between Safety Systems and Other Systems," and Clause 6.3, "Interaction Between the Sense and Command Features and Other Systems," contain application specific requirements that must be addressed by a PAMS system. Awaiting TVA Response.				
082	7.5.2	7.5.1	EICB (Carte	5/6/2010 The PAMS Licensing Technical Report (WNA-LI-00058-WBT Rev.	Responder: WEC Date: 6/18/10 These components can be found in the Summary	N	Open Regulations require that the	Open-TVA/WEC Due 12/3/10	EICB RAI ML102910002 Item No. 10	TVA Letter dated 7/30/10	**NNC 11/18/10:** See also Open Item No. 41, Item No. 3.

No.	SE Sec.	FSAR Sec.	NRC POC	Issue	TVA Response(s)	Response Acceptable Y/N	Status/ Current Actions	Resolution Path	RAI No. & Date	RAI Resp. Date	Comments
				0, Dated April 2010), in Section 2.3, lists hardware/software changes to the Common Q PAMS previously reviewed by the NRC. However the Common Q ISG-6 Compliance Matrix does not contain activities that address qualification of all changes specifically:	Qualification Report Of Hardware Testing For Common Q Applications, 00000-ICE-37764, Rev 3 and TWICE Qualification Status Report, WNAQR-00011-SSP Per Westinghouse letter WBT-D-2024, (Reference __) dated June 9, 2010, these documents are available for audit at the Westinghouse Rockville Office. TVA provided information by letter dated July 30, 2010 (ML102160349) - See Enclosure 1 Item No. 7. Revision 1 of the Licensing Technical Report provides additional detail on the platform specific to WBN2 and references to the evaluation documentation.		NRC review be based on docketed material. Awaiting for document to be docketed by TVA. **NNC 8/9/10:** per telephone conversation on 8/5/10, it is not clear how Westinghouse Commercial Grade Dedication Plans and Reports for Digital I&C. Westinghouse agree to present to the NRC in a public meeting on August 17, 2010, and explanation of how their system addresses regulatory criteria for both commercial grade dedication and equipment qualification. **NNC 8/25/10:** In the August 17, 2010 public meeting Westinghouse stated that the CDI were the plans. The NRC requested that the plans and associated reports be docketed. **NNC 11/18/10:** During the September 20-21, 2010 audit, TVA agreed to put a description of the commercial grade dedication program and implementation in Rev. 2 of the CQ PAMS LTR.	Commercial Grade Dedication to be addressed in LTR Rev. 2,			
083	7.5.2	7.5.1	b – c	May 6, 2010	Date: 6/18/10 Responder: WEC	Y	Closed	Closed	EICB RAI ML102910002	TVA Letter dated 7/30/10	
084	7.5.2	7.5.1	b – c	May 6, 2010	Date: 6/18/10 Responder: Clark	Y	Closed	Closed	EICB RAI ML102910002	TVA Letter dated 6/18/10	
085	7.5.2	7.5.1	EICB (Carte)	5/6/2010 Please provide a detailed description of the PAMS MTP data link to the plant computer. This description should identify all equipment (model & version) and describe the functions that each piece of equipment performs. This description should be of sufficient detail for the NRC to independently evaluate the statements made in WNA-LI-00058-WBT Rev. 0, Section 5.3.	Responder: WEC Is the WEC ISG4 evaluation inadequate? Operation of the MTP as a barrier device. MTP Fails as a barrier device. Describe what prevents a MTP failure from propagating to the AC160? Node loss on the bus? Bus loss? Revise the ISG4 section of the Licensing Technical Report (Rev. 2) to provide a more detailed description of the MTP as a barrier device.	N	Open A response will be provided by 10/31/10 **NNC 8/11/10:** Design information should be available now. By letter dated July 30, 2010 (ML102160349) TVA stated that the MTP was connected to a Red Hat Linux Server (see Enclosure 1, Item No. 14 part b.). It is presumed that this server is not safety-related. IEEE 603-1991 Clause 5.6.3(1) states, "Isolation devices used to affect a safety system boundary shall be classified as part of the safety system."	Open-TVA/WEC Due 12/3/10 Hardware is in Rev. 1 of the Licensing Technical Report due 10/22. **NNC 8/25/10:** Disagree with path forward input by TVA above. An explanation is about the design is needed. FAT test procedure to include data storm testing of the MTP interface	EICB RAI ML102910002 Item No. 13		

No.	SE Sec.	FSAR Sec.	NRC POC	Issue	TVA Response(s)	Response Acceptable Y/N	Status/ Current Actions	Resolution Path	RAI No. & Date	RAI Resp. Date	Comments
							Please describe how the MTP serves as the isolation device.	**NNC 11/18/10:** WEC response states that CQ PAMS LTR Rev. 2 will contain relevant information.			
086	7.5.2	7.5.1	EICB (Carte)	5/6/2010 The PAMS Licensing Technical Report (WNA-LI-00058-WBT Rev. 0, Dated April 2010), in Section 6, lists references applicable to the Common Q PAMS. This list contains references to old revisions of several regulatory documents, for example: (1) DI&C-ISG04 - Rev. 0 (ML072540138) vs. Rev. 1 (ML083310185) However, LIC-110, "Watts Bar Unit 2 License Application Review," states: "Design features and administrative programs that are unique to Unit 2 should then be reviewed in accordance with the current staff positions." Please identify all differences between the versions referenced and the current staff positions. Please provide a justification for the acceptability PAMS with respect to these differences.	Responder: WEC Date: 5/24/10 The regulatory documents listed in the Common Q PAMS Licensing Technical Report are the documents that the Common Q platform was licensed to when the NRC approved the original topical report and issued the approved SER. The WBN Unit 2 Common Q PAMS is designed in accordance with the approved Common Q topical report and approved SER and the regulatory documents on which the SER was based. Since the current versions referenced are not applicable to WBN Unit 2, there is no basis for a comparison review. Rev 0 of the Licensing Technical Report references Rev. 1 of ISG4	N	Open **TVA to address with item OI 81.**	Open-TVA/WEC Due 12/22/10	EICB RAI ML102910002 Item No. 14	TVA Letter dated 6/18/10	
087	7.5.2	7.5.1	[illegible]	May 6, 2010	Date: 5/24/10 Responder: Slifer	Y	Closed	Closed	RAI No. 20 ML102980005	TVA Letter dated 6/18/10	
088	7.5.2	7.5.1	B (S) in	May 6, 2010	Date: 5/24/10 Responder: Slifer	Y	Closed	Closed	RAI No. 21 ML102980005	TVA Letter dated 6/18/10	
089			[illegible] C	5/6/2010	Responder: Clark	Y	Closed	Closed	EICB RAI ML102910002	TVA Letter dated 3/12/10	**NNC:** Docketed response states that the applicable FSAR Sections are:
090			[illegible] C	5/6/2010	Responder: Clark Date: 5/25/10	Y	Closed	Closed	EICB RAI ML102910002	TVA Letter dated 3/12/10	
091	7.4	7.4	[illegible] D a	May 20, 2010	Date: 5/25/10 Responder: Clark	Y	Closed	Closed	EICB RAI No.1 ML102910017	TVA Letter dated 6/18/10	
092			DORL (Poole)	5/20/2010 TVA to review Licensee Open Item list and determine which items are proprietary.	Responder: Hilmes This item will close when we are no longer using this document as a communications tool.	Y	Open	Open-TVA Due: SER Issue Continuous review as items are added			
093			[illegible] G	May 20, 2010	Date: 5/25/10 Responder: Knuettel	Y	Closed	Closed	N/A	N/A	Will be reviewed under item 154
094			[illegible] G	5/20/2010	Responder: Clark Date: 5/25/10	Y	Closed	Closed	N/A	N/A	Information was found in FSAR
095	7.8.1, 7.8.4	XX	[illegible] D a	May 20, 2010	Date: Responder:	Y	Closed	Closed	EICB RAI No. 2 ML102910017	TVA Letter dated 7/30/10	
096	7.7.5	XX	[illegible] D a	5/20/2010	Responder:	Y	Closed	Closed	EICB RAI No.3 ML102910017	TVA Letter dated 7/30/10	
097	7.4.2	7.4	[illegible] D a	May 20, 2010	Date: Responder:	Y	Closed	Closed	EICB RAI No.4 ML102910017	TVA Letter dated 7/30/10	
098	7.4.2	7.4	[illegible] D a	May 25, 2010	Date: Responder:	Y	Closed	Closed	EICB RAI No.5 ML102910017	TVA Letter dated 7/30/10	
099			[illegible] (B	April 12, 2010	Date: Responder: WEC	Y	Closed	Closed			Closed to Item 129
100			[illegible] C	5/20/2010	Responder: WEC	Y	Closed	Closed	N/A - No question was asked. Item	N/A	
101			DORL (Poole)	4/12/2010 The non-proprietary versions of the following RM-1000, Containment High Range Post Accident Radiation Monitor documents will be provided by June 30, 2010.	Responder: Slifer The documents, and affidavits for withholding for the listed documents were submitted to the NRC on TVA letter to the NRC dated July 15, 2010.	Y	Open Documents provided in letter dated 07/15/10	Open-NRC Review Due 10/14/10 **Confirm receipt.**	N/A		TVA is working with the vendor to meet the 6/30 date, however there is the potential this will slip to 7/14.

No.	SE Sec.	FSAR Sec.	NRC POC	Issue	TVA Response(s)	Response Acceptable Y/N	Status/ Current Actions	Resolution Path	RAI No. & Date	RAI Resp. Date	Comments
				1. V&V Report 04508006A 2. System Description 04508100-1TM 3. Qualification Reports 04508905-QR, 04508905-1 SP, 04508905-2SP, 04508905-3SP 4. Functional Testing Report 04507007-1TR							
102			b – C	May 24, 2010	Date: 5/24/10 Responder: WEC	Y	Closed	Closed	N/A	TVA Letter dated 6/18/10	Request for schedule not information.
103	7.4	7.4	– D a	5/27/2010	Responder: Ayala Date: 5/27/10	Y	Closed	Closed	EICB RAI No.1 ML102910017	TVA Letter dated 10/29/10	Submittal date is based on current EDCR scheduled issue date.
104	7.4	7.4	– D a	5/27/2010	Responder: Merten Date: 5/27/10	Y	Closed	Closed	EICB RAI No.1 ML102910017	TVA Letter dated 10/29/10	Submittal date is based on current EDCR scheduled issue date.
105			b – G	April 29, 2010	Date: Responder: Langley	Y	Closed	Closed	N/A	N/A	Will be reviewed under item 154.
106			B (S in	May 6, 2010	Date: 5/25/10 Responder: Davies	Y	Closed	Closed	RAI No. 9 ML102980005	TVA Letter dated 6/18/10	
107			B (S in	May 6, 2010	Date: 5/28/10 Responder: Clark	Y	Closed	Closed	RAI No. 22 ML102980005	TVA Letter dated 6/18/10	
108			b – G	May 6, 2010	Date: 5/25/10 Responder: Webb/Hilmes	Y	Closed	Closed	N/A	N/A	Will be reviewed under OI#154
109.b			b – C	5/6/2010	Responder: N/A	Y	Closed	Closed	N/A	N/A	Duplicate of another open Item.
109.a	7.8	XX	– D a	5/6/2010	Responder: N/A	Y	Closed	Closed	N/A	N/A	
110			b – G	May 6, 2010	Date: Responder: Clark	Y	Closed	Closed	N/A	N/A	Information was found.
111			b – C	May 6, 2010	Date: 5/28/10 Responder: Clark	Y	Closed	Closed	N/A	TVA Letter dated 6/18/10	Request to help find, not a request for information
112			B – G	June 1, 2010	Date: Responder: Clark	Y	Closed	Closed	N/A	N/A	Information was received
113			b – G	6/1/2010	Responder: Clark	Y	Closed	Closed	EICB RAI ML102910008	TVA Letter dated 6/18/10	
114	7.2	7.2	b – G	6/1/2010	Responder: WEC	Y	Close	Closed	EICB RAI ML102910008	TVA Letter dated 6/18/10	
115			b – C	2/25/2010	Responder: Clark	Y	Closed	Closed	EICB RAI ML102910002	TVA Letter dated 6/18/10	
116			b – G	6/3/2010	Responder: WEC	Y	Closed	Closed	EICB RAI ML102910008	TVA Letter dated 10/5/10	Letter sent to Westinghouse requesting the basis information and
117	7.1	7.1	EICB (Garg)	6/3/2010 Does TVA use a single sided or double sided methodology for as-found and as-left instrument setpoint values. (RIS2006-7)	Responder: Hilmes Reactor Protection System (RPS) (comprised of Reactor Trip (RPS) and Engineered Safety Features Actuation System (ESFAS)) setpoint values are monitored by periodic performance of surveillance tests in accordance with Technical Specification requirements. TVA uses double-sided as-found and as-left tolerances for Reactor Trip and ESFAS trip setpoint surveillance tests as described in FSAR amendment 100. **TVA Revised Response:** For TSTF-493 parameters WBN Unit 2 uses only double sided correction factors. Attachment 3 contains the revised FSAR section 7.1.2.1.9 that will be included in FSAR Amendment 102 that reflects this change.	Y	Open Revised response is included in letter dated 10/29/10	Open-TVA/A102 Pending FSAR Amendment 102 submittal Due 12/17/10 TVA needs to address that trip setpoint and allowable value uncertainties are not reduced by the reduction factor for the single sided reduction factor. TVA response not acceptable. TVA need to clarify if single sided methodology has been used in calculating trip setpoint	EICB RAI ML102910008 Item#21	TVA Letter dated 10/29/10 Enclosure 1 Item No. 7	

No.	SE Sec.	FSAR Sec.	NRC POC	Issue	TVA Response(s)	Response Acceptable Y/N	Status/ Current Actions	Resolution Path	RAI No. & Date	RAI Resp. Date	Comments
								and allowable value and if it is used then provide justifications.			
118	7.4	7.4	D a	6/8/2010	Responder: Merten	Y	Closed	Closed	EICB RAI No.1 ML102910017	TVA Letter dated 10/29/10	Submittal date is based on current EDCR scheduled issue date. Note:
119			S .	June 10, 2010	Date: Responder:	Y	Closed	Closed	RAI No. 23 ML102980005	TVA Letter dated 7/30/10	
120			C	5/6/2010	Responder: Hilmes/Merten/Costley	Y	Closed	Closed	EICB RAI ML102910002	TVA Letter dated 7/30/10	
121			C	5/6/2010	Responder: Webb/Webber	Y	Closed	Closed	EICB RAI ML102980066 Item	TVA Letter dated 7/30/10	
122			C	June 14, 2010	Date: Responder: WEC	Y	Closed	Closed	N/A - Request for schedule not	N/A	
123	7.7.3	7.4.1, 9.3.4.2	D a	6/14/2010	Responder:	Y	Closed	Closed	ML101720589, RAIs 21 and 22	TVA Letter dated 7/30/10	
124	7.7.5	XX	D a	6/14/2010	Responder:	Y	Closed	Closed	ML101720589, Item No. 23, 6/25/10 and	TVA Letter dated 7/30/10	
125	7.7.8	7.7.1.12	D a	6/14/2010	Responder:	Y	Closed	Closed	ML101720589, Item Nos 24 and 25	TVA Letter dated 7/30/10	
126	7.8	7.8	D a	June 14, 2010	Date: Responder:	Y	Closed	Closed	ML101720589, Item No. 26, 6/25/10 and	TVA Letter dated 7/30/10	
127	7.2	7.2	G	6/16/2010	Responder: WEC/Clark	Y	Closed	Closed	EICB RAI ML102910008	TVA Letter dated 6/18/10	
128	7.2	7.2	G	6/18/2010	Responder: WEC Drake /TVA Craig	Y	Closed	Closed	EICB RAI ML102910008	TVA Letter dated 10/29/10	Track through SE open item
129			P	6/12/2010	Responder: WEC	Y	Closed	Closed	N/A	TVA Letter dated 10/5/10	
130			P	6/28/2010	Responder: Clark	Y	Closed	Closed	N/A	TVA Letter dated 10/5/10	
131			P	6/28/2010	Responder: Clark	Y	Closed	Closed	N/A	TVA Letter dated 10/5/10	
132			P	6/28/2010	Responder: Clark	Y	Closed	Closed	N/A	TVA Letter dated 10/5/10	
133			P	6/28/2010	Responder: Clark	Y	Closed	Closed		TVA Letter dated 10/5/10	
134			P	6/28/2010	Responder: Clark	Y	Closed	Closed		TVA Letter dated 10/5/10	
135	7.3.1	7.3.1	D a	6/30/2010	Responder: Clark	Y	Closed	Closed	RAI not necessary because this item	TVA Letter dated 10/5/10, item 27	
136	7.3.2, 7.4	7.4, 5.6, 6.3.5	D a	6/30/2010	Responder: Clark	Y	Closed	Closed	RAI not necessary because this item	TVA Letter dated 10/5/10, item 28	
137			C	Several WBN2 PAMS documents contain a table titled, "Document Traceability & Compliance."	Responder: WEC	Y	Closed	Closed	ML101650255, Item No. 1	TVA Letter dated 10/5/10	
138			EICB (Carte)	By letter dated February 3, 2010, Westinghouse informed TVA that certain PAMS documentation has been completed. (a) The draft ISG6 states that a commercial grade dedication plan should be provided with an application for a Tier 2 review. By letter dated February 5, 2010, TVA stated that the commercial grade dedication plan was included in the Common Q Topical Report Section 11, "Commercial Grade Dedication Program." Section 11 includes a description of the Common Q Commercial Grade Dedication Program, and states: "A detailed review plan is developed for each Common Q hardware or software component that requires commercial grade dedication." Please provide the commercial grade dedication plans for each	Responder: WEC **This item is used to track all Commercial Grade Dedication issues.**	N	Open TVA agreed to include a description of the generic Westinghouse hardware commercial grade dedication process in the PAMS licensing technical report. (see ML102920031 Item No 1) TVA agreed to include (in the PAMS licensing technical report) an evaluation of WBN2 critical characteristics for commercial Westinghouse hardware	Open-TVA/WEC Due 12/3/10 To be addressed by Rev. 2 of the Licensing Technical Report.	ML101650255, Item No. 2		

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				Common Q hardware or software component that has not been previously reviewed and approved by the NRC. (b) The draft ISG6 states that a commercial grade dedication report should be provided within 12 months of requested approval for a Tier 2 review. (i) Please provide 00000-ICE-37722 Rev. 0, "Commercial Grade Dedication Report for the QNX Operating System for Common Q Applications." (ii) Please provide WNA-CD-00018-GEN Rev. 3, "Commercial Dedication Report for QNX 4.25G for Common Q Applications."			components against the generic critical characteristics. (see ML102920031 Item No 2) TVA agreed to include a description of the generic Westinghouse software commercial grade dedication process in the PAMS licensing technical report. (see ML102920031 Item No 3) TVA agreed to include (in the PAMS licensing technical report) an evaluation of WBN2 critical characteristics for commercial software components against the generic critical characteristics. (see ML102920031 Item No 4)				
139			b – C	The WBN2 PAMS System Requirements Specification (WBN2 PAMS SysRS) contains a table (see page iii) titled, "Document	Responder: WEC	Y	Closed	Closed	ML101650255, Item No. 3	TVA Letter dated 10/5/10	WBN2 PAMS System Requirements Specification
140			EICB (Carte)	The first requirement in the WBN2 PAMS SysRS (i.e., R2.2-1) states: "The PAMS shall be capable of operation during normal and abnormal environments and plant operating modes." The rational for this requirement is that it is necessary to meet Regulatory Guide (RG) 1.97. What document specifies which RG 1.97 variables are implemented in the Common Q based WBN2 PAMS?	Responder: Clark WBN Unit 2 FSAR Amendment 100 Section 7.5.1.8, "Post Accident Monitoring System (PAMS)" specifies the Reg. Guide 1.97 variables implemented in the Common Q based WBN Unit 2 PAMS	N	Open **NNC 11/3/10:** The origin of the requirements in the SysRS are not clearly document. Rev. 1 of the Common Q PAMS Licensing Technical Report contains an open item that will be addressed in Rev. 2; this open item is to include "TVA's enhanced contract compliance matrix". It is expected that this matrix will address this open item.	Open-TVA/WEC Due 12/3/10 TVA to docket PAMS Licensing Technical Report Rev. 2.	ML101650255, Item No. 4	TVA Letter dated 10/29/10 Enclosure 1 Item No. 10	WBN2 PAMS System Requirements Specification TVA docketed WNA-DS-01617-WBT Rev. 1, "RRAS Watts Bar 2 NSSS Completion Program I&C Projects Post Accident Monitoring System- System Requirements Specification," dated December 2009.
141			b – C	Deleted by DORL	Date: Responder:	Y	Closed	Closed	ML101650255, Item No. 5		WBN2 PAMS System Requirements Specification
142			EICB (Carte)	The applicable regulatory guidance for reviewing the WBN2 PAMS SysRS would be IEEE 830 as endorsed by Regulatory Guide 1.172 and BTP 7-14 Section B.3.3.1, Requirements Activities – Software Requirements Specifications." IEEE 830-1994 Section 4.3.8, "Traceable," states: "A [requirements specification] is traceable of the origin of each of its requirements is clear…" 1. How did TVA ensure the traceability of each requirement in the WBN2 PAMS SysRS. 2. Explain the source(s) of the requirements present in the Post Accident Monitoring System's Software Requirements Specification. To clarify, many documents have requirements that are incorporated by reference into the SRS, but what served to direct the author to include those various documents in the SRS or, if the requirement is based on the System Requirements Specification, what directed the author to include the requirement there? 3. Clarify whether the unnumbered paragraphs in the Post Accident Monitoring System's Software Requirements	Responder: WEC **This item is used to track all traceability issues with the Software Requirements Specification (SRS).** At the September 15 public meeting in Rockville, the following actions were agreed to. These items address the traceability concerns with the Software Requirements Specification. 1. Westinghouse will perform completed a review of the Requirements Traceability Matrix(RT), using the issues identified at the 9/15 public meeting as a guide (documented below) and update the RTM as required. 2. The next issue of the IV&V report will include the Requirements phase review of the RTM and a partial review for the Design phase. 3. Westinghouse will add a comments column in the Requirements Traceability Matrix (RTM) to address	N	Open TVA/Westinghouse agreed to include the V&V evaluation of their reusable software element development process in the V&V design phase summary report. This evaluation would include an evaluation against the development process requirements. This evaluation would also include an evaluation of how the WBN2 specific requirements were addressed by the reusable software elements. (see ML102920031 Item No 5)	Open-TVA/WEC Due 12/22/10 To be addressed by Revision of the RTM, SRS, SysRS, and SysDS.	ML101650255, Item No. 6		WBN2 PAMS System Requirements Specification TVA docketed WNA-DS-01617-WBT Rev. 1, "RRAS Watts Bar 2 NSSS Completion Program I&C Projects Post Accident Monitoring System- System Requirements Specification," dated December 2009.

No.	SE Sec.	FSAR Sec.	NRC POC	Issue	TVA Response(s)	Response Acceptable Y/N	Status/ Current Actions	Resolution Path	RAI No. & Date	RAI Resp. Date	Comments
				Specification, such as in the section headings, or are all such sections simply considered to be informative? Does the same apply to documents referenced by the SRS? Such as WCAP-16096-NP-A, Rev. 1A, "Software Program Manual for Common Q Systems," which is incorporated by reference in requirement R2.3-2 in the SRS. R2.3-2 [The PAMS software shall comply with the requirements and guidelines defined in WCAP-16096-NP-A, "Software Program Manual for Common Q Systems" (reference 5).] If any requirements are expressed in such unnumbered paragraph form instead of individually identified requirements, please list them, describe why they satisfy the fundamental requirement of unambiguity, and describe how they were verified. 4. Are there any sources of requirements in parallel with the Post Accident Monitoring System's Software Requirements Specification? Meaning does the SRS contain, explicitly or by reference, all the requirements that were used in the design phase for the application specific software, or do software design phase activities use requirements found in any other source or document? If so, what are these sources or documents? 5. References 12, 27, 29, and 31-44 in the Post Accident Monitoring System's Software Requirements Specification are various types of "…Reusable Software Element…". These references are used in the body of the SRS, for example:" R5.3.14-2 [The Addressable Constants CRC error signal shall be TRUE when any CAL CRC's respective ERROR terminal = TRUE (WNA-DS-00315-GEN, "Reusable Software Element Document CRC for Calibration Data" [Reference 12]).] They are also included via tables such as found in requirement R7.1.2-1 [The Watts Bar 2 PAMS shall use the application-specific type circuits and custom PC elements listed in Table 7.1-1.] Do the referenced reusable software element documents include requirements not explicitly stated in the SRS? If so what is their origin?	items not in the SRS or SysRS. 4. IEEE 830 says you shouldn't have planning information in the SRS. Westinghouse has agreed to remove this information. 5. IEEE 830 says you shouldn't have process requirements in the SRS. Westinghouse has agreed to remove these requirements. 6. Westinghouse will perform and document an evaluation of the SRS to ensure compliance with Reg. Guide 1.172 and justify any deviations. 7. 25 issues identified by V&V where some requirements have not been included in the SDS (14) and SRS (11) at the revisions reviewed by V&V. Have these been addressed? Yes. The next revisions of the SDS and SRS address these issues. 8. Some hardware requirements are contained in the SRS instead of the System Design Specification (SDS). These will be removed from the SRS and incorporated into the next revision of the SDS. 9. RTM item R4.2-2 protection class software set to 0. Needs to be fixed internally write CAPs to revise the application restrictions document on AC160. 10. Westinghouse to improve the traceability of the tests that are performed with the function enable (FE) switch in the "ENABLE" position. 11. Westinghouse to revise documents to be consistent with referring to the FE switch in the "ENABLE" position 12. The flow of information is from the SysRS to the SDS (hardware) and SRS (software). Describe how the documents are used. Describe in 1.1 of the SysRS. Need a good write up of how the process works. 13. Westinghouse and TVA will develop a revised schedule for document submittals and provide it to the NRC no later than 9/30/10 14. TVA will update the Procurement Requisition Resolution Matrix and submit it to show how the Common Q PAMS design meets the contract requirements. 15. Westinghouse to add the Software Design Descriptions to the RTM 16. Westinghouse to clarify how requirements or documents are incorporated by reference into the Common Q PAMS requirements. 17. Westinghouse to review the use of "shall" outside of numbered paragraphs in requirements documents to ensure that all requirements are captured and clearly						

No.	SE Sec.	FSAR Sec.	NRC POC	Issue	TVA Response(s)	Response Acceptable Y/N	Status/ Current Actions	Resolution Path	RAI No. & Date	RAI Resp. Date	Comments
					identified. 18. Westinghouse to resolve the following questions concerning SDDs a. Is the SDD a standalone document or will it incorporate the generic SDD by reference? b. What are the SDDs? c. PAMS is a delta document so how do we capture all the generic requirements for traceability. For Reusable Software Elements, Westinghouse to describe as qualified libraries by following the SPM and qualified using the Software Elements Test procedure under Appendix B program. Provide a summary of RSEDs generic WCAP. Westinghouse to determine if the WCAP was docketed under the AP1000 RSED concept is not in the SPM. WCAP-15927 AP-1000 does not discuss RCEDs. WCAP process was acceptable. RSEDs are listed in the SDD References.						
143			EICB (Carte)	The WBN2 PAMS Software Requirements Specification (WBN2 PAMS SRS – ML101050202) contains a table (see page iii) titled, "Document Traceability & Compliance," which states that the WBN2 PAMS SRS was created to support the three documents identified (one of which is the WBN2 PAMS SysRS). Section 1.1, "Overview," of the WBN2 PAMS SRS states: "This document describes requirements for the major software components …" (a) Please list and describe each of the "major software components". Please include a description of any NRC review for each of these components. (b) Please list and describe each of the other software components. Please include a description of any NRC review for each of these components. (c) What other documents contain the requirements for the other software components? The WBN2 PAMS System Design Specification (WBN2 PAMS SDS) contains a table (see page iii) titled, "Document Traceability & Compliance," which states that the WBN2 PAMS SysRS was created to support the WBN2 PAMS SysRS. Section 1.1, "Purpose," of the WBN2 PAMS SDS states: "The purpose of this document is to define the hardware design requirements …" (c) Do the WBN2 PAMS SRS and SDS, together, implement all of the requirements in the WBN2 PAMS SysRS? (e) Please briefly describe all of the documents that implement the WBN2 PAMS SysRS.	Responder: WEC Addressed in the 9/15 public meeting and 9/20 - 9/21 audit. A detailed explanation will be provided.	N	Open	Open-TVA/WEC Due 12/22/10 To be addressed by Revision of the RTM, SRS, SysRS, and SysDS.	ML101650255, Item No. 7		WBN2 PAMS System Requirements Specification TVA docketed WNA-DS-01617-WBT Rev. 1, "RRAS Watts Bar 2 NSSS Completion Program I&C Projects Post Accident Monitoring System- System Requirements Specification," dated December 2009.
144			EICB (Carte)	The WBN2 PAMS Software Requirements Specification (WBN2 PAMS SRS) contains a table (see page iii) titled, "Document Traceability & Compliance," which states that the WBN2 PAMS SRS was created to support the three documents identified (two of these documents have been provided on the docket).	Responder: WEC (a) The purpose of NABU-DP-00014-GEN document is to define the process for system level design, software design and implementation, and hardware design and	N	Open Response provided in letter dated 10/5/10	Open-TVA/WEC Due 12/3/10 Responses to items a	ML101650255, Item No. 8	TVA Letter dated 10/5/10	WBN2 PAMS Software Requirements Specification By letter dated April 8, 2010 (ML10101050203), TVA docketed

No.	SE Sec.	FSAR Sec.	NRC POC	Issue	TVA Response(s)	Response Acceptable Y/N	Status/ Current Actions	Resolution Path	RAI No. & Date	RAI Resp. Date	Comments
				(a) Please describe the third document (i.e., NABU-DP-00014-GEN Revision 2, "Design Process for Common Q Safety Systems"). (b) Please describe the flow of information between these three documents. (c) Does the PAMS SRS implement the requirements in these three documents? (d) Please describe if and how these three documents are used in the development of the PAMS Software Design Description. (e) Do the WBN2 V&V activities include verification that the requirements of these three documents have been incorporated into the WBN2 PAMS SRS.	implementation for Common Q safety system development. This document supplements the Common Q SPM, WCAP-16096-NP-A. The scope of NABU-DP-00014-GEN includes the design and implementation processes for the application development. For a fuller description of the design process described in NABU-DP-00014-GEN please refer to the Design Process for AP1000 Common Q Safety Systems, WCAP-15927 on the AP1000 docket. Since this is a Westinghouse process document that is not specifically referenced in the SRS, it will be removed in the next revision of the document. (b) – Closed to items 142 and 145 (c) – Closed 142 (d) – Closed to Item 142 (e) WBN2 PAMS Software Requirements Specification (WNA-SD-00239-WBT, Rev. 1) refers to Document Traceability & Compliance table on page iii. This table has three entries; Design Process for Common Q Safety Systems (NABU-DP-00014-GEN, Rev. 2), RRAS Watts Bar 2 NSSS Completion Program I&C Projects Post Accident Monitoring System – System Requirements Specification (WNA-DS-01617-WBT, Rev. 1), and RRAS Watts Bar 2 NSSS Completion Program I&C Projects Post Accident Monitoring System – System Design Specification (WNA-DS-01667-WBT, Rev. 1). IV&V performed a Requirements Traceability Assessment during which it reviewed Software Requirements Specification (WBN2 PAMS SRS, WNA-SD-00239-WBT, Rev. 1) against System Requirements Specification (WNA-DS-01617-WBT, Rev. 1) and System Design Specification (WNA-DS-01667-WBT, Rev. 1). Requirements within Software Requirements Specification that are referring to NABU-DP-00014-GEN, Rev 2, Design Process for Common Q Safety Systems, have also been reviewed for traceability and compliance. During IV&V's RTA effort the anomaly reports V&V-769 and V&V- 770 have been initiated and reported in the IV&V Phase Summary Report for the System Definition Phase, WNA-VR-00283-WBT, Rev. 0. IV&V has verified that the requirements in SRS are derived from the specified documents listed in the Document Traceability and Compliance Table of WBN2 PAMS SRS.		NRC Review and WEC to complete response. b-d to be addressed at public meeting and audit. Will require information to be docketed.	and e provided. **NNC 11/18/10:** (1) Items b-d closed to other Open Item nos. (2) The point of these questions was to understand how the origin of the requirements in the requirements specifications were documented. TVA stated that the origin of the requirements would be demonstrated in Rev. 2 of the CQ PAMS LTR.			WNA-SD-00239-WBT, Revision 1, ""RRAS Watts Bar 2 NSSS Completion Program I&C Projects, Software Requirements Specification for the Post Accident Monitoring System," dated February 2010 (ML101050202).
145			EICB (Carte)	The WBN2 PAMS System Design Specification (WBN2 PAMS SDS) contains a table (see page iii) titled, "Document Traceability & Compliance," which states that the WBN2 PAMS SDS was created to support the WBN2 PAMS SysRS. (a) Does the WBN2 PAMS SDS implement all of the hardware requirements in the WBN2 PAMS SysRS? (b) Please briefly describe all of the documents that implement the hardware requirements of the WBN2 PAMS SysRS.	Responder: WEC **This item is used to track all traceability issues with the System Design Specification (SDS).** **At the September 15 public meeting in Rockville, the following actions were agreed to. These items partially address the traceability concerns with the System Design Specification. This item will be updated with the results of the September 20 and 21 Commercial Grade Dedication and SDS RTM audit.**	N	Open During the September 20-21, 2010 audit at Westinghouse, it was acknowledged that TVA/Westinghouse had previously (in September 15, 2010 public meeting) stated: TVA would provide the RSED RTM. (see ML102920031 Item	Open-TVA/WEC Due 12/22/10 To be addressed by Revision of the RTM, SRS, SysRS, and SysDS.	ML101650255, Item No. 9		WBN2 PAMS System Design Specification TVA docketed WNA-DS-01667-WBT Rev. 1, "RRAS Watts Bar 2 NSSS Completion Program I&C Projects Post Accident Monitoring System- System Design Specification," dated December 2009.

No.	SE Sec.	FSAR Sec.	NRC POC	Issue	TVA Response(s)	Response Acceptable Y/N	Status/ Current Actions	Resolution Path	RAI No. & Date	RAI Resp. Date	Comments
					1. Westinghouse will perform completed a review of the Requirements Traceability Matrix(RT), using the issues identified at the 9/15 public meeting as a guide (documented below) and update the RTM as required. 2. Some hardware requirements are contained in the SRS instead of the System Design Specification (SDS). These will be removed from the SRS and incorporated into the next revision of the SDS. 3. 25 issues identified by V&V where some requirements have not been included in the SDS (14) and SRS (11) at the revisions reviewed by V&V. Have these been addressed? Yes. The next revisions of the SDS and SRS address these issues. 4. TVA will update the Procurement Requisition Resolution Matrix and submit it to show how the Common Q PAMS design meets the contract requirements. 5. The next issue of the IV&V report will include the Requirements phase review of the RTM and a partial review for the Design phase. 6. Westinghouse to provide the generic AC160 and flat panel specifications. 7. Westinghouse and TVA to develop a schedule of licensing document submittals that can be met by the project team. 8. The flow of information is from the SysRS to the SDS (hardware) and SRS (software). Describe how the documents are used. Describe in 1.1 of the SysRS. Need a good write up of how the process works.		No 6) TVA would revise and resubmit the PAMS RTM to address all types of issues identified in the public meeting. (see ML102920031 Item No 7) TVA would revise and resubmit the Software Verification and Validation phase summary report for the requirements phase to document the completion of the requirements phase review. (see ML102920031 Item No 8)				
146			b – C	6/17/2010	Responder:	Y	Closed	Closed	ML101650255, Item No. 10		PAMS System Requirements Specifications
147			b – C	6/17/2010	Responder:	Y	Closed	Closed	ML101650255, Item No. 11		PAMS System Requirements Specifications
148			b – C	6/17/2010	Responder:	Y	Closed	Closed	ML101650255, Item No. 12		PAMS System Requirements Specifications
149	7.2	7.2	b – G	FSAR Section 7.1.1.2(2), Overtemperature delta T and Overpressure delta T equations have been simplified and many	Responder: Tindell	Y	Close	Closed	ML101720589, Item No. 1	TVA Letter dated 10/5/10	
150	7.2	7.2	b – G	Many of the changes were based on the Westinghouse document N3 99 4003. Provide this document for staff's review so the staff	Responder: Clark	Y	Close Response provided in letter	Closed	ML101720589, Item No. 2	TVA Letter dated 10/5/10	
151	7.2	7.2	b – G	Provide the EDCR 52378 and 54504 which discusses the basis for many changes to this FSAR section	Responder: Clark	Y	Close	Closed	ML101720589, Item No. 3	TVA Letter dated 10/5/10	
152	7.2	7.2	b – G	Deleted portion of FSAR section 7.2.3.3.4 and moved to FSAR section 7.2.1.1.5. However, the FSAR section 7.2.1.1.5 does not	Responder: Merten/Clark	Y	Close	Closed	ML101720589, Item No. 4	TVA Letter dated 10/5/10	
153	7.2	7.2	b – G	FSAR section 7.2.1.1.7 added the reference to FSAR section 10.4.4.3 for exception to R.12. However, FSAR section 10.4.4.3	Responder: Craig/Webb	Y	Close	Closed	ML101720589, Item No. 5	TVA Letter dated 10/21/10	
154	7.2	7.2	EICB (Garg)	FSAR section 7.2.1.1.10, setpoints: NRC staff has issued RIS 2006-17 to provide guidance to the industry regarding the instrument setpoint methodology which complies with 10 CFR 50.36 requirements. Provide the information on how the WBN2 setpoint methodology meets the guidance of RIS 2006-17 and	Responder: Craig/Webb (Q1) Refer to the response to letter item 13, RAI Matrix Item 51.	Y	Open Response is not acceptable. A revised response will be submitted in the letter dated	Open-TVA/A102 Due 12/17/10 Pending FSAR	ML101720589, Item No. 6 and EICB RAI ML102861885 Item No. 8	TVA Letter dated 10/5/10 TVA Letter dated 10/29/10	EICB RAI ML102861885 sent to DORL

No.	SE Sec.	FSAR Sec.	NRC POC	Issue	TVA Response(s)	Response Acceptable Y/N	Status/ Current Actions	Resolution Path	RAI No. & Date	RAI Resp. Date	Comments
				include this discussion in this section. Also, by letter dated May 13, 2010, TVA provided Rev. 7 of EEB-TI-28 to the staff. The staff noted that section 4.3.3.6 of EEB-TI-28 discusses the correction for setpoints with a single side of interest. It should be noted that the staff has not approved this aspect of setpoint methodology for Unit 1. The staff finds this reduction in uncertainties is not justified unless it can be demonstrated that the 95/95 criteria is met. Therefore, either remove this reduction factor for single sided uncertainties or justify how you meet the 95/95 criteria given in RG 1.105.	(Q2) EEB-TI-28's single sided methodology conforms with WBN's design basis commitment to ensure that 95% of the analyzed population is covered by the calculated tolerance limits as defined in NRC Reg Guide 1.105, Revision 2, 1986 that was in affect during WBN Unit 1 licensing. The single sided methodology is not used for any TSTF-493 setpoints that use TI-28 methodology. **TVA Revised Response:** In order to respond to other NRC comments on the setpoint methodology discussion in FSAR Amendment 100, TVA reviewed the previous response to this RAI. This resulted in a complete rewrite of the responses to this question as shown below. As a result, the response does not specifically address the NRC Follow-up Request. However, the overall responses to all of the NRC RAIs on setpoint methodology addresses this item. (Q1) WBN 2 implementation of TSTF-493, Rev. 4, Option A includes addition of a discussion of the WBN setpoint methodology in FSAR section 7.1.2.1.9. (Q2) Electrical Engineering Branch (EEB) Technical Instruction (TI) 28, Setpoint Calculations, single-sided methodology conforms to WBN's design basis commitment to ensure that 95% of the analyzed population is covered by the calculated tolerance limits as defined in NRC Reg Guide 1.105, Revision 2, 1986, which was in effect during WBN Unit 1 licensing. Single-sided multipliers are not used for any TSTF-493 setpoints. There are some areas where a 95% confidence level could not be achieved. Some examples would be harsh environment instrumentation where only 2 or 3 devices were tested in the 10CFR50.49 program. In these situations, the Confidence is referred to as “high.”.		10/29/10.	Amendment 102 submittal. FSAR AMD 100. Since all the setpoint and allowable value for Unit 2 is calculated and added to TS, TVA needs to address the latest criteria and that include 95/95 criteria. Why the last sentence has been modified by adding TI-28. It was NRC’s understanding that all setpoints have to meet TI-28		Enclosure 1 Item No. 13	
155	7.2	7.2	b – G	Summary of FSAR change document section 7.2 states that sections 7.2.1.1.9 and 7.2.2.2(4) are changed to show that these	Date: Responder: Stockton	Y	Closed	Closed	ML101720589, Item No. 7		
156	7.2	7.2	EICB (Garg)	FSAR section 7.2.2.1.1 states that dashed lines in Figure 15.1-1……designed to prevent exceeding 121% of power…….The value of 121% is changed from 118%. The justification for this change states that this was done to bring the text of this section in agreement with section 4.3.2.2.5, 4.4.2.2.6 and table 4.1-1. However, Table 4.1-1 and section 4.3.2.2.5 still show this value as 118%. Justify the change.	Responder: WEC Per Westinghouse letter WBT-D-2340, TENNESSEE VALLEY AUTHORITY WATTS BAR NUCLEAR PLANT UNIT 2 FSAR Markups Units I and 2 118% vs. 121 % and Correction to RAI Response SNPB 4.3.2-7, (Reference 17) the 118% value should be 121%. Depending on the use in the FSAR either 118% or 121% are the correct values. As a result of the question, Westinghouse reviewed all locations where either 118% or 121% are used and the context of use and provided a FSAR markup to reflect the correct value at the specific location. These changes will be incorporated in a future FSAR amendment. **TVA Response to Follow-up NRC Request:**	N	Open Response is included in letter dated 10/5/10	Open-TVA/WEC Due _____ Amendment 101 Submitted 10/29/10. TVA needs to justify why some places 121% is used and other places 118% is used . What does 121% or 118% means.	ML101720589, Item No. 8	TVA Letter dated 10/5/10	Response on hold pending Westinghouse review.

No.	SE Sec.	FSAR Sec.	NRC POC	Issue	TVA Response(s)	Response Acceptable Y/N	Status/ Current Actions	Resolution Path	RAI No. & Date	RAI Resp. Date	Comments
					Pending response from Westinghouse.						
157	7.2	7.2	b — G	FSAR section 7.2.2.1.1, fifth paragraph was deleted except for the last sentence. The last sentence states that, "The P-8 interlock	Responder: Tindell	Y	Close	Closed	ML101720589, Item No. 9	TVA Letter dated 10/5/10	
158	7.2	7.2	b — G	FSAR section 7.2.2.1.1, paragraph six was changed to state that the design meets the requirements of Criterion 23 of the 1971	Responder: Tindell	Y	Closed	Closed	ML101720589, Item No. 10	TVA Letter dated 10/5/10	
159	7.2	7.2	b — G	FSAR section 7.2.2.1.2 discusses reactor coolant flow measurement by elbow taps. However, it further states that for	Responder: Craig	Y	Close	closed	ML101720589, Item No. 11	TVA Letter dated 10/5/10	
160	7.2	7.2	b — G	FSAR section 7.2.2.2(7) deleted text which has references 12 and 14. These references are not included in the revised text. Provide	Responder: Tindell	Y	Close	Closed	ML101720589, Item No. 12	TVA Letter dated 10/5/10	
161	7.2	7.2	b — G	FSAR section 7.2.2.3 states that changes to the control function description in this section are expected to be required after vendor	Responder: Clark	Y	Closed	Closed	ML101720589, Item No. 13	TVA Letter dated 10/5/10	
162	7.2	7.2	b — G	FSAR section 7.2.2.2(14) states that bypass of a protection channel during testing is indicated by an alarm in the control room	Responder: Tindell	Y	Closed	Closed	ML101720589, Item No. 14	TVA Letter dated 10/5/10	
163	7.2	7.2	b — G	Deleted by DORL	Date: Responder:	Y	Closed	Closed	ML101720589, Item No. 15		
164	7.2 7.5.1.1	7.2	r — G	FSAR section 7.2.2.2(20) has been revised to include the plant computer as a means to provide information read out for all signals	Responder: Perkins	Y	Closed	Closed	ML101720589, Item No. 16 and EICB	TVA Letter dated 10/5/10	Item No. 8 sent to DORL
165	7.2	7.2	b — G	FSAR section 7.2.2.3.2, last paragraph of this section has been deleted. The basis for this deletion is that discussion regarding the	Responder: Clark	Y	Closed	Closed	ML101720589, Item No. 17	TVA Letter dated 10/5/10	
166	7.2	7.2	b — G	Changes to FSAR section 7.2.2.2(20) are justified based on the statement that the integrated computer system is implemented	Responder: Clark	Y	Closed	Closed	ML101720589, Item No. 18	TVA Letter dated 10/5/10	
167	7.2	7.2	b — G	FSAR section 7.2.2.4, provide an analysis or reference to chapter 15 analysis which demonstrate that failure of rod stop during a rod	Responder: Clark	Y	Close	closed	ML101720589, Item No. 19	TVA Letter dated 10/5/10	
168	7.2	7.2	b — G	FSAR table 7.2-4, item 9 deleted loss of offsite power to station auxiliaries (station blackout) based on the fact that station blackout	Responder: Clark	Y	Close Response provided in letter	Closed	ML101720589, Item No. 20	TVA Letter dated 10/5/10	
169			b — G	6/18/2010	Responder: Clark	Y	Closed	Closed			
170			b — G	6/17/2010	Responder: Clark	Y	Closed	Closed			
171	7.2	7.2	b — G	6/17/2010	Responder: Craig	Y	Closed	Closed	EICB RAI ML102910008	TVA Letter dated 10/21/10	Closed to SE Open Item
172			b — G	6/17/2010	Responder: Craig	Y	Closed	Closed	EICB RAI ML102910008		
173	7.1	7.1	b — G	6/17/2010	Responder: Craig/Webb/Powers	Y	Closed	Closed	EICB RAI ML102910008		
174			b — G	6/28/2010	Responder: Hilmes/Craig	Y	Closed	Closed	EICB RAI ML102910008		
175			b — G	June 28, 2010	Responder:	Y	Closed	Closed	EICB RAI ML102910008		
176	7.1	7.1	b — G	6/28/2010	Responder: Craig/Webb	Y	Closed	Closed	EICB RAI ML102910008		
177	7.5.2.1	7.5.1	r — M a	7/15/2010	Responder: Clark	Y	Closed	Closed	N/A	TVA Letter dated 10/5/10	RAI not required
178	7.5.2.1	7.5.1	r — M a	7/15/2010	Responder: Clark	Y	Closed	Closed	N/A	TVA Letter dated 10/5/10	RAI not required
179			b — C	An emphasis is placed on traceability in System Requirements Specifications in the SRP, in the unmodified IEEE std 830-1993	Responder: WEC	Y	Closed	Closed	N/A – Closed to Item No. 142	NA	
180			b — C	The SRP, BTP 7-14, Section B.3.3.1 states that Regulatory Guide 1.172 endorses, with a few noted exceptions, IEEE Std 830-1993	Responder: WEC	Y	Closed	Closed	N/A – Closed to Item No. 142	NA	
181			b — C	An emphasis is placed on traceability in System Requirements Specifications in the SRP, in the unmodified IEEE std 830-1993	Responder: WEC	Y	Closed	Closed	N/A – Closed to Item No. 142	NA	
182			b — C	Characteristics that the SRP states that a Software Requirements Specifications should have include unambiguity, verifiability, and	Responder: WEC	Y	Closed	Closed	N/A – Closed to Item No. 142	NA	
183			EICB (Carte)	7/15/2010 An emphasis is placed on traceability in System Requirements Specifications in the SRP, in the unmodified IEEE std 830-1993, and even more so given the modifications to the standard listed in	Responder: WEC The generic Software Requirements Specification applies except as modified by the WBN Unit 2 System Requirements Specification.	Y	Open Response provided in letter dated 10/21/10	Open-TVA/WEC Due 12/3/10 **NNC 11/18/10**: The	EICB RAI ML102980066 Item No. 9	TVA Letter dated 10/21/10 Enclosure 1 Item No. 4	

No.	SE Sec.	FSAR Sec.	NRC POC	Issue	TVA Response(s)	Response Acceptable Y/N	Status/ Current Actions	Resolution Path	RAI No. & Date	RAI Resp. Date	Comments
				Regulatory Guide 1.172, which breaks with typical NRC use of the word "should" to say "Each identifiable requirement in an SRS must be traceable backwards to the system requirements and the design bases or regulatory requirements that is satisfies" On page 1-2 of the Post Accident Monitoring System's Software Requirements Specification in the background section, is the sentence "Those sections of the above references that require modification from the generic PAMS are defined in the document" referring purely to the changes from WNA-DS-01617-WBT "Post Accident Monitoring System-System Requirements Specification" or is it saying that there are additional changes beyond those and that the SRS defines them? If there are additional changes, what is their origin?				point behind this open item was that TVA must demonstrate that the origin of each requirement in the WEC requirements specification is known and documented. TVA stated that this information would be in CQ PAMS LTR Rev. 2.			
184			) – C	7/15/2010	Responder: WEC	Y	Closed	Closed	N/A – Closed to Item No. 142	N/A	
185			EICB (Carte)	7/15/2010 An emphasis is placed on the traceability of requirements in Software Requirements Specifications in the SRP, in the unmodified IEEE std 830-1993, and even more so given the modifications to the standard listed in Regulatory Guide 1.172, which breaks with typical NRC use of the word "should" to say "Each identifiable requirement in an SRS must be traceable backwards to the system requirements and the design bases or regulatory requirements that is satisfies" Also the NRC considers that the SRS is the complete set of requirements used for the design of the software, whether it is contained within one document or many. In order to evaluate an SRS against the guidance in the SRP the staff needs access to all the requirements. References 12, 27, 29, and 31-44 in the Post Accident Monitoring System's Software Requirements Specification are various types of "…Reusable Software Element…". These references are used in the body of the SRS, for example:" R5.3.14-2 [The Addressable Constants CRC error signal shall be TRUE when any CAL CRC's respective ERROR terminal = TRUE (WNA-DS-00315-GEN, "Reusable Software Element Document CRC for Calibration Data" [Reference 12]).] They are also included via tables such as found in requirement R7.1.2-1 [The Watts Bar 2 PAMS shall use the application-specific type circuits and custom PC elements listed in Table 7.1-1.] Do the referenced reusable software element documents include requirements not explicitly stated in the SRS? If so what is their origin?	Responder: WEC Steve Clark to look at how to combine traceability items. Was addressed to during the 9/15 meeting and 9/20 - 9/21 audit.	N	Open	Open-TVA/WEC **Due (1) 12/3/10** **(2) _____** **NNC 11/18/10**: **(1)**The point behind this open item was that TVA must demonstrate that the origin of each requirement in the WEC requirements specification is known and documented. TVA stated that this information would be in CQ PAMS LTR Rev. 2. **(2)** TVA also said it would provide a RTM for the RSED	EICB RAI ML102980066 Item No. 17		
186	7.7.8	7.7.1.12	(D a	7/15/2010	Responder: Perkins/Clark	Y	Closed	Closed	EICB RAI No.6 ML102910017	TVA Letter dated 10/5/10	
187			EICB (Carte)	By letter dated June 18, 2010, TVA docketed responses to NRC requests for information.	Responder: Merten 1) Please refer to the revised response to letter dated	N	Open Partial Response provided in	Open-TVA/WEC Due 12/22/10	ML101970033, Item No. 1 & 2	TVA Letter dated 10/5/10	Are these connections already docketed?

No.	SE Sec.	FSAR Sec.	NRC POC	Issue	TVA Response(s)	Response Acceptable Y/N	Status/ Current Actions	Resolution Path	RAI No. & Date	RAI Resp. Date	Comments
				1) Enclosure 1, Item No. 33 of the TVA letter dated June 18, 2010, did not identify any connection from the PAMS Operator Modules (OMs) to the plant computer and printers; however, Figure 2.1-1 of the PAMS System Requirements Specification (WNA-DS-01617-WBT Rev. 1 – ML101680578) shows a TCP connection from the OMs to the plant computer and printer. Please explain. 2) Please clarify whether any digital safety-related systems or components have a digital communications path to non-safety-related systems or with safety related systems in another division. If so, NRC staff will need these paths identified on the docket.	10/5/10 Item 18 (RAI Matrix item 115). 2) This is a duplicate of closed RAI Matrix Item 45.		letter dated 10/5/10 **NNC 8/25/10:** Why did TVA not catch this on the review of the PAMS SysRS or SRS? Does TVA check that the CQ PAMS system meets the requirements in its purchase specifications?	Revise Response			
188			b – C	By letter dated June 30, 2010, TVA docketed, "Tennessee Valley Authority (TVA) Watts Bar Unit 2 (WBN2) – Post-Accident	Responder: Clark	Y	Closed	Closed	ML101970033, Item No. 3 & 4	TVA Letter dated 10/5/10	
189		7.6.7	b – S	7/20/2010	Responder: Clark	Y	Closed	Closed	RAI No. 3 ML102980005	TVA Letter dated 10/5/10	
190	7.9		b – S	FSAR Table 7.1-1 states: "Regulatory Guide 1.133, May 1981 "Loose-Part Detection Program for the Primary System of Light	Responder: Clark	Y	Closed	Closed	RAI No. 4 ML102980005	TVA Letter dated 10/5/10	Closed to OI-331.
191	7.9		b – C	NUREG-0800 Chapter 7, Section 7.9, "Data Communication Systems" contains review criteria for data communication systems	Responder: Jimmie Perkins	Y	Closed	Closed	ML10197016, Item Nos. 1-3	TVA Letter dated 10/5/10	
192	7.5.1.1	7.5.2	– M a	The NRC Staff is using SRP (NUREG-0800) Chapter 7 Section 7.5 "Instrumentation Systems Important to Safety," to review the	Responder: Clark	Y	Closed	Closed	Item No. 1 sent to DORL 7/20/2010	TVA Letter dated 10/5/10	EICB RAI ML1028618855 sent to DORL
193	7.5.1.1	7.5.2	– M a	The WBU2 FSAR, Section 7.5.2, "Plant Computer System," contains three subsections	Responder: Clark	Y	Closed	Closed	Item No. 2 sent to DORL 7/20/2010	TVA Letter dated 10/5/10	EICB RAI ML1028618855 sent to DORL
194	7.5.1.1 1	7.5.2.1	– M a	The WBU2 FSAR Section 7.5.2.1, "Safety Parameter Display System," contains a description of the Safety Parameter Display	Responder: Costley/Norman	Y	Closed	Closed	Item No. 3 sent to DORL 7/20/2010	TVA Letter dated 10/5/10	EICB RAI ML1028618855 sent to DORL
195	7.5.1.1 2	7.5.2.2	– M a	Bypassed and Inoperable Status Indication (BISI)	Responder: Costley/Norman	Y	Closed	Closed	Item No. 4 sent to DORL 7/20/2010	TVA Letter dated 10/5/10	EICB RAI ML1028618855 sent to DORL
196	7.5.1.1 2	7.5.2.2	– M a	Bypassed and Inoperable Status Indication (BISI)	Responder: Costley/Norman	Y	Closed	Closed	Item No. 5 sent to DORL 7/20/2010	TVA Letter dated 10/5/10	EICB RAI ML1028618855 sent to DORL
197			X	Open Item 197 was never issued.		Y	Closed	Closed			
198	7.5.1.1 2	7.5.2.2	– M a	SRP Section 7.5, Subsection III, "Review Procedures" states: Recommended review emphasis for BISI	Responder: Costley/Norman	Y	Closed	Closed	Item No. 6 sent to DORL 7/20/2010	TVA Letter dated 10/5/10	EICB RAI ML1028618855 sent to DORL
199	7.5.1.1 3	7.5.2.3	– M a	The WBU2 FSAR Section 7.5.2.3, "Technical Support Center and Nuclear Data Links," contains a description of the Technical	Responder: Costley/Norman	Y	Closed	Closed	Item No. 7 sent to DORL 7/20/2010	TVA Letter dated 10/5/10	Related SE Section 7.5.5.3 EICB RAI ML1028618855 sent to DORL
200	7.2 7.3			7/21/2010	Responder: Clark The statement in SER Section 7.5.1 is supported by the	Y	Closed	Closed	EICB RAI ML102980066 Item	TVA Letter dated 10/5/10	
201	7.7.1.1 1	7.7.11	b – C	7/21/2010	Responder: Webb	Y	Closed	Closed	EICB RAI ML102980066 Item	TVA Letter dated 10/5/10	
202	7.5.2		EICB (Carte)	7/22/2010 The letter (ML0003740165) which transmitted the Safety Evaluation for the Common Q topical report to Westinghouse stated: "Should our criteria or regulations change so that our conclusions as to the acceptability of the report are invalidated, CE Nuclear Power and/or the applicant referencing the topical report will be expected to revise and resubmit their respective documentation, or submit justification for continued applicability of the topical report without revision of the respective documentation." Question No 81 identified many criteria changes; please revise the respective documentation or submit justification for continued applicability of the topical report.	Responder: WEC Revision 1 of the Licensing Technical Report will provide more detailed information on the changes to the platform. Rev. 2 of the Licensing Technical Report will include the applicability of guidance.	N	Open Partial Response provided in letter dated 10/5/10	Open-TVA/WEC Due 12/3/10 Licensing Technical Report R2	EICB RAI ML102980066 Item No. 4	TVA Letter dated 10/5/10	
203	7.5.1.1	7.5.2	– M a	7/26/2010	Responder: Clark	Y	Closed	Closed	EICB RAI ML102861885 Item	TVA Letter dated 10/5/10	EICB RAI ML102861885 sent to DORL
204	7.5.1.1	7.5.2	– M a	7/26/2010	Responder: Costley/Norman	Y	Closed	Closed NRC to issue formal	EICB RAI ML102861885 Item	TVA Letter dated 10/5/10	EICB RAI ML102861885 sent to DORL
205			b – G	7/26/2010	Responder: Clark	Y	Closed	Closed	EICB RAI ML102910008	TVA Letter dated 10/5/10	Question B related to prior NRC approval of this system or 50.59

No.	SE Sec.	FSAR Sec.	NRC POC	Issue	TVA Response(s)	Response Acceptable Y/N	Status/ Current Actions	Resolution Path	RAI No. & Date	RAI Resp. Date	Comments
206	7.5.1.1	7.5.2	Mahan	7/27/2010	Responder: Clark	Y	Closed	Closed	EICB RAI ML102861885 Item	TVA Letter dated 10/5/10	EICB RAI ML102861885 sent to DORL
207			Cai	July 27, 2010	Date: Responder:	Y	Closed	Closed			
208	7.5.2.1	7.5.1	Mahan	7/27/2010	Responder: Clark	Y	Closed	Closed	EICB RAI ML102861885 Item	TVA Letter dated 10/5/10	EICB RAI ML102861885 sent to DORL
209	7.5.2.1	7.5.1	Mahan	7/27/2010	Responder: Clark	Y	Closed	Closed	EICB RAI ML102861885 Item	TVA Letter dated 10/5/10	EICB RAI ML102861885 sent to DORL
210	7.5.2.1	7.5.1	Mahan	7/27/2010	Responder: Clark	Y	Closed	Closed	EICB RAI ML102861885 Item	TVA Letter dated 10/5/10	EICB RAI ML102861885 sent to DORL
211	7.5.1.1 7.5.2		Cai	7/27/2010	Responder: Clark	Y	Closed	Closed	EICB RAI ML102980066 Item	TVA Letter dated 10/5/10	Relates to SE Sections: 7.5.5, Plant Computer
212	7.5.2		EICB (Carte)	7/27/2010 By letter dated June 18, 2010 (ML101940236) TVA stated (Enclosure 1, Attachment 3, Item No. 3) that the PAMS system design specification and software requirements specification contain information to address the "Design Report on Computer Integrity, Test and Calibration..." The staff has reviewed these documents, and it is not clear how this is the case. (1) Please describe how the information provided demonstrates compliance with IEEE 603-1991 Clauses 5.5, 5.7, 5.10, & 6.5. (2) Please describe how the information provided demonstrates conformance with IEEE 7-4.3.2-2003 Clauses 5.5 & 57.	Responder: WEC Application specific requirements for testing. This cannot be addressed in a topical report. Evaluation of how the hardware meets the regulatory requirements. WEC to provide the information and determine where the information will be located.	N	Open	Open-TVA/WEC Due 12/10/10 To be addressed by WBN2 specific test plan	EICB RAI ML102980066 Item No. 10		
213	7.5.2		EICB (Carte)	7/27/2010 By letter dated June 18, 2010 (ML101940236) TVA stated (Enclosure 1, Attachment 3, Item No. 3) that the PAMS system design specification and software requirements specification contain information to address the "Theory of Operation Description." The staff has reviewed these documents, and it is not clear how this is the case. The docketed material does not appear to contain the design basis information that is required to evaluate compliance with the Clause of IEEE 603. (1) Please provide the design basis (as described in IEEE 604 Clause 4) of the Common Q PAMS. (2) Please provide a regulatory evaluation of how the PAMs complies with the applicable regulatory requirements for the theory of operation. For example: Regarding IEEE 603 Clause 5.8.4 (1) What are the manually controlled protective actions? (2) How do the documents identified demonstrate compliance with this clause?	Responder: WEC Conformance with IEEE 603 is documented in the revised Common Q PAMS Licensing Technical Report and the Common Q PAMS System Design Specification. Attachment 1 contains the proprietary version of Westinghouse document "Tennessee Valley Authority (TVA), Watts Bar Unit 2 (WBN2), Post-Accident Monitoring System (PAMS), Licensing Technical Report, Revision 1, WNA-LI-00058-WBT-P, Dated October 2010" Attachment 8 contains the proprietary version of Westinghouse document "Nuclear Automation Watts Bar 2 NSSS Completion Program I&C Projects Post Accident Monitoring System – System Design Specification", WNA-DS-01667-WBT, Rev. 2 dated September 2010.	N	Open Response is included in letter dated 10/25/10 NNC to review and revise this question after LTR R2 is received.	Open-NRC Review Due 12/31/10.	EICB RAI ML102980066 Item No. 18		
214			Cai	7/27/2010	Responder: WEC	Y	Closed	Closed	EICB RAI ML102980066 Item	TVA Letter dated 10/5/10	
215			Pal	7/29/2010	Responder: WEC	Y	Closed	Closed			
216	7.5.1.1	7.5.2	Mahan	7/29/2010	Responder: Clark	Y	Closed	Closed	EICB RAI ML102861885 Item	TVA Letter dated 10/5/10	EICB RAI ML102861885 sent to DORL
217			Gai	7/6/2010	Responder: Clark	Y	Close	Closed	EICB RAI ML102910008	TVA Letter dated 7/30/10	
218			Gai	7/6/2010	Responder: Clark	Y	Closed	Closed	EICB RAI ML102910008	TVA Letter dated 7/30/10	
219			Gai	8/4/2010	Responder: TVA Licensing	Y	Closed	Closed	EICB RAI ML102910008		
220			Gai	8/4/2010	Responder: Ayala	Y	Closed	Closed	EICB RAI ML102910008	TVA Letter dated 10/5/10	
221	7.7.1.2	7.7.1.3	Mahan	8/4/2010	Responder: Trelease	Y	Closed	Closed	EICB RAI ML102861885 Item	TVA Letter dated 10/5/10	EICB RAI ML102861885 sent to DORL

No.	SE Sec.	FSAR Sec.	NRC POC	Issue	TVA Response(s)	Response Acceptable Y/N	Status/ Current Actions	Resolution Path	RAI No. & Date	RAI Resp. Date	Comments
222				8/4/2010	Responder: Clark	Y	Close	Closed	EICB RAI ML102910008	TVA Letter dated 10/5/10	
223				8/4/2010	Responder: Clark	Y	Closed	Closed	EICB RAI ML102910008		
224	7.5.1.1	7.5.2		8/4/2010	Responder: Norman (TVA CEG)	Y	Closed	**Closed**	EICB RAI ML102861885 Item	TVA Letter dated 10/5/10	EICB RAI ML102861885 sent to DORL
225				8/4/2010	Responder: Scansen	Y	Close	Closed	EICB RAI ML102910008	TVA Letter dated 10/5/10	
226				8/4/2010	Responder: TVA Licensing	Y	Closed	Closed	N/A – Information requested under	TVA Letter dated 8/11/10	See also Open Item Nos. 41 & 270.
227				8/4/2010	Responder: Clark	Y	Close	Closed	EICB RAI ML102910008	TVA Letter dated 10/5/10	
228				8/4/2010	Responder: Clark	Y	Closed	Closed	EICB RAI ML102980066 Item	TVA Letter dated 10/5/10	
229				8/4/2010	Responder: Clark	Y	Closed	Closed	EICB RAI ML102980066 Item	TVA Letter dated 10/5/10	
230				8/4/2010	Responder: Webb	Y	Closed	Closed	EICB RAI ML102980066 Item	TVA Letter dated 10/5/10	
231				8/4/2010	Responder: Clark	Y	Closed	Closed	EICB RAI ML102910008	TVA Letter dated 10/5/10	
232				8/4/2010	Responder: Clark	Y	Closed	Closed	RAI No. 5 ML102980005	TVA Letter dated 10/5/10	
233				8/4/2010	Responder: Clark	Y	Closed	Closed	EICB RAI ML102980066 Item	TVA Letter dated 10/5/10	
234				8/4/2010	Responder:	Y	Closed	Closed	N/A – Duplicate Item	N/A	
235				8/4/2010	Responder: TVA Licensing	Y	Closed	Closed	N/A	N/A	
236				8/4/2010	Responder: Clark	Y	Close	Closed	EICB RAI ML102910008	TVA Letter dated 10/5/10	
237				8/4/2010	Responder: Clark	Y	Closed	Closed	EICB RAI ML102980066 Item	TVA Letter dated 10/5/10	
238				8/4/2010	Responder: Webb/Hilmes	Y	Closed	Closed	N/A – Duplicate Item	N/A	
239				8/4/2010	Responder: Hilmes	Y	Closed	Closed	N/A – Meeting request	N/A	
240				8/4/2010	Responder: Clark	Y	Close	Closed	MI102910008 Item#29	TVA Letter dated 10/5/10	
241				8/4/2010	Responder: Davies	Y	Closed	Closed	RAI No. 10 ML102980005	TVA Letter dated 10/5/10	
242				8/4/2010	Responder: Hilmes	Y	Close	Closed	EICB RAI ML102910008	TVA Letter dated 10/5/10	
243				8/3/2010	Responder: WEC	Y	Closed	Closed	N/A – Closed to Item No. 142	N/A	
244			EICB (Carte)	8/3/2010 Section 8.2.2 of the Common Q SPM (ML050350234) states that the Software Requirements Specification (SRS) shall be developed using IEEE 830 and RE 1.172. Clause 4.8, "Embedding project requirements in the SRS," of the IEEE 830 states that an SRS should address the software product, not the process of producing the software. In addition Section 4.3.2.1 of the SPM states "Any alternatives to the SPM processes or additional project specific information for the ...SCMP...shall be specified in the PQP. Contrary to these two statements in the SPM, the WBN2 PAMS SRS (ML101050202) contains many process related requirements, for example all seventeen requirements in Section 2.3.2,	Responder: WEC The process related requirements have been removed from revision 2 of the Software Requirements Specification (SRS). Attachment 3 of letter dated 10/25/10 contains the proprietary version of Westinghouse document “Nuclear Automation, Watts Bar 2 NSSS Completion Program, I&C Projects, Software Requirements Specification for the Post Accident Monitoring System”, WNA-SD-00239-WBT, Revision 2, Dated September 2010.	N	Open Response is provided in letter dated 10/25/10. **NNC 11/18/10:** SysRS Rev. 2 also contains process requirements that are more appropriately incorporated into process documentation.	Open-TVA/WEC Due 12/22/10	EICB RAI ML102980066 Item No. 14	Response is provided in letter dated 10/25/10.	LIC-101 Rev. 3 Appendix B Section 4, "Safety Evaluation" states: "the information relied upon in the SE must be docketed correspondence." LIC-101 Rev. 3 states: "The safety analysis that supports the change requested should include technical information in sufficient detail to enable the NRC staff to make an independent assessment regarding the acceptability of the proposal in terms of regulatory requirements and the protection of public health and safety."

No.	SE Sec.	FSAR Sec.	NRC POC	Issue	TVA Response(s)	Response Acceptable Y/N	Status/ Current Actions	Resolution Path	RAI No. & Date	RAI Resp. Date	Comments
				"Configuration Control," address process requirements for configuration control. Please explain how the above meets the intent of the approved SPM.							
245			EICB (Carte)	8/3/2010 Section 5.8 of the Common Q SPM (ML050350234) identifies the required test documentation for systems developed using the Common Q SPM. Please provide sufficient information for the NRC staff to independently assess whether the test plan for WBN2 PAMS, is as described in the SPM (e.g., Section 5.8.1).	Responder: WEC Relates to the commitment to provide the test plan and the SPM compliance matrix	N	Open	Open-TVA/WEC Due 12/10/10	EICB RAI ML102980066 Item No. 119		LIC-101 Rev. 3 Appendix B Section 4, "Safety Evaluation" states: "the information relied upon in the SE must be docketed correspondence." LIC-101 Rev. 3 states: "The safety analysis that supports the change requested should include technical information in sufficient detail to enable the NRC staff to make an independent assessment regarding the acceptability of the proposal in terms of regulatory requirements and the protection of public health and safety."
246			EICB (Carte)	8/3/2010 Section 4.3.2.1, "Initiation Phase" of the Common Q SPM (ML050350234) requires that a Project Quality Plan (PQP) be developed. Many other section of the SPM identify that this PQP should contain information required by ISG6. Please provide the PQP. If "PQP" is not the name of the documentation produced, please describe the documentation produced and provide the information that the SPM states should be in the PQP.	Responder: WEC As agreed ISG6 does not apply to the Common Q PAMS platform. The information required to address this question concerning the PQP and SPM has been added to compliance matrix in revision 1 of the Licensing Technical Report. Attachment 1 of letter dated 10/25/10 contains the proprietary version of Westinghouse document "Tennessee Valley Authority (TVA), Watts Bar Unit 2 (WBN2), Post-Accident Monitoring System (PAMS), Licensing Technical Report, Revision 1, WNA-LI-00058-WBT-P, Dated October 2010"	N	Open Response is provided in letter dated 10/25/10 **NNC 11/18/10:** PQP has not been provided and CQ PAMS LTR Rev. 1 does not contain comparable information.	Open-NRC Review Due 10/22/10 **NNC 11/18/10:** NRC to go to WEC Rockville Offices and look at PQP to decide if it must docketed.	EICB RAI ML102980066 Item No. 15	Response is provided in letter dated 10/25/10	LIC-101 Rev. 3 Appendix B Section 4, "Safety Evaluation" states: "the information relied upon in the SE must be docketed correspondence." LIC-101 Rev. 3 states: "The safety analysis that supports the change requested should include technical information in sufficient detail to enable the NRC staff to make an independent assessment regarding the acceptability of the proposal in terms of regulatory requirements and the protection of public health and safety."
247			EICB (Carte)	8/8/2010	Responder: WEC	Y	Closed	Closed	EICB RAI ML102980066 Item	Response is	LIC-101 Rev. 3 Appendix B Section 4, "Safety Evaluation" states: "the
248			EICB (Carte)	8/8/2010	Responder: WEC	Y	Closed	Closed		Response is	LIC-101 Rev. 3 Appendix B Section 4, "Safety Evaluation" states: "the
249			EICB (Carte)	8/8/2010	Responder: WEC	Y	Closed	Closed			LIC-101 Rev. 3 Appendix B Section 4, "Safety Evaluation" states: "the
250			EICB (Carte)	8/8/2010 The SPM describes the software and documents that will be created and placed under configuration control. The SCMP (e.g., SPM Section 6, "Software Configuration Management Plan") describes the implementation tasks that are to be carried out. The acceptance criterion for software CM implementation is that the tasks in the SCMP have been carried out in their entirety. Documentation should exist that shows that the configuration management tasks for that activity group have been successfully accomplished. Please provide information that shows that the CM tasks have been successfully accomplished for each life cycle activity group.	Responder: WEC Westinghouse develops Software Release Reports/Records and a Configuration Management Release Report. Describe the documents and when they will be produced. Summarize guidance on how to produce these records, focus on project specific requirements in SPM etc.	N	Open Response included in letter dated 10/25/10.	Open-TVA/WEC Due 12/22/10 10/25/10 is a partial response. Still waiting on Software Test Plan and all other testing documentation.			LIC-101 Rev. 3 Appendix B Section 4, "Safety Evaluation" states: "the information relied upon in the SE must be docketed correspondence." LIC-101 Rev. 3 states: "The safety analysis that supports the change requested should include technical information in sufficient detail to enable the NRC staff to make an independent assessment regarding the acceptability of the proposal in terms of regulatory requirements and the protection of public health and safety."
251			EICB (Carte)	8/8/2010 The SPM describes the software testing and documents that will be created. The SPM also describes the testing tasks that are to	Responder: WEC The software testing performed and documents created are addressed by the SPM Compliance matrix contained in	N	Open Partial response is provided in letter dated 10/25/10	Open-TVA/WEC Due 12/22/10.			LIC-101 Rev. 3 Appendix B Section 4, "Safety Evaluation" states: "the information relied upon in the SE must be docketed correspondence."

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				be carried out. The acceptance criterion for software test implementation is that the tasks in the SPM have been carried out in their entirety. Please provide information that shows that testing been successfully accomplished.	Revision 1 of the Licensing Technical Report. Attachment 1 of the letter dated 10/25/10 contains the Proprietary version of Westinghouse's document titled: "Tennessee Valley Authority (TVA), Watts Bar Unit 2 (WBN2), Post-Accident Monitoring System (PAMS), Licensing Technical Report, Revision 1, WNA-LI-00058-WBT-P, Dated October 2010"			10/25/10 is a partial response. Still waiting on Software Test Plan and all other testing documentation.			LIC-101 Rev. 3 states: "The safety analysis that supports the change requested should include technical information in sufficient detail to enable the NRC staff to make an independent assessment regarding the acceptability of the proposal in terms of regulatory requirements and the protection of public health and safety."
252			EICB (Carte)	8/8/2010 The SPM contain requirements for software requirements traceability analysis and associated documentation (see Section 5.4.5.3, "Requirements Traceability Analysis"). Please provide information that demonstrates that requirements traceability analysis has been successfully accomplished.	Responder: WEC Explain response to AP1000 audit report. RTM docketed NRC awaiting V&V evaluation of RTM.	N	Open Read ML091560352	Open-TVA/WEC Due 12/10/10 Check on this Hilmes			LIC-101 Rev. 3 Appendix B Section 4, "Safety Evaluation" states: "the information relied upon in the SE must be docketed correspondence." LIC-101 Rev. 3 states: "The safety analysis that supports the change requested should include technical information in sufficient detail to enable the NRC staff to make an independent assessment regarding the acceptability of the proposal in terms of regulatory requirements and the protection of public health and safety."
253			EICB (Carte)	8/8/2010	Responder: Clark	Y	Closed	Closed		TVA Letter dated 10/5/10	Related to Open Item no. 83.
254			EICB (Carte)	8/10/2010	Responder: WEC	Y	Closed	Closed	N/A - Request to make documents	TVA Letter dated 10/21/10	
255			EICB (Carte)	8/10/2010	Responder: WEC	Y	Closed	Closed	N/A - Request to make documents	TVA Letter dated 10/21/10	
256			EICB (Carte)	8/10/2010	Responder: WEC	Y	Closed	Closed	N/A - Request to make documents	TVA Letter dated 10/21/10	
257			EICB (Carte)	8/10/2010	Responder: WEC	Y	Closed	Closed	N/A - Request to make documents	N/A	
258			EICB (Carte)	8/10/2010	Responder: WEC	Y	Closed	Closed	N/A - Request to make documents	N/A	
259			EICB (Carte)	8/10/2010	Responder: WEC	Y	Closed	Closed	N/A - Request to make documents	TVA Letter dated 10/21/10	
260			EICB (Carte)	8/10/2010	Responder: WEC	Y	Closed	Closed	N/A - Request to make documents	N/A	
261			EICB (Carte)	8/10/2010	Responder: WEC	Y	Closed	Closed	N/A – Closed to Item No. 142	TVA Letter dated 8/20/10	LIC-110 Rev. 1 Section 6.2.2 states: "Design features and administrative
262			EICB (Carte)	8/10/2010	Responder: WEC	Y	Closed	Closed	N/A - Request to make documents	N/A	
263			EICB (Carte)	8/11/2010 Based on an examination of document available at the	Responder: WEC	Y	Closed	Closed	ML101650255, Item No. 2		
264			EICB (Carte)	8/11/2010	Responder: WEC	Y	Closed	Closed	ML101650255, Item No. 2		
265			EICB (Carte)	8/11/2010	Responder: WEC	Y	Closed	Closed	ML101650255, Item No. 2		
266			EICB (Carte)	8/11/2010	Responder: Webb/Webber	Y	Closed	Closed		TVA Letter dated 10/21/10	
267			EICB (Carte)	8/11/2010	Responder: WEC	Y	Closed	Closed			
268			EICB (Carte)	8/19/2010 By letter dated March 12, 2010 (ML101680577), TVA stated that the application specific hardware and software architecture	Responder: WEC 11/18/10 Warren Odess-Gillett took action to discuss with Design Engineering to generate a non-prop figure	N	Open	Open-TVA/WEC Due 12/22/10			

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				descriptions are addressed in the WBN2 PAMS System Design Specification (ML101680579, ML102040481, & ML102040482) and Software Requirements Specification (ML101050202, ML102040486, & ML1022040487). Neither of these documents contain a non-proprietary figure of the architecture that can be used in the SE. Please provide a non-proprietary figure of the architecture.							
269			P	8/20/2010	Responder: NRC	Y	Closed	Closed	N/A	N/A	
270			C	8/23/2010	Responder: Clark	Y	Closed	Closed			See also Open Item Nod. 41 & 245.
271			C	8/23/2010	Responder: WEC	Y	Closed	Closed	N/A – Closed to Item No. 142	NA	
272	7.5.2.1	7.5.1	a	8/26/2010	Responder: Clark	Y	Closed	Closed	EICB RAI ML102861885 Item	TVA Letter dated 10/21/10	EICB RAI ML102861885 sent to DORL
273	7.5.2.1	7.5.1	a	8/26/2010	Responder: Clark	Y	Closed	Closed	EICB RAI ML102861885 Item	TVA Letter dated 10/5/10	EICB RAI ML102861885 sent to DORL
274.a	7.5.2.1	7.5.1	a	8/26/2010	Responder: Clark	Y	Closed	Closed	EICB RAI ML102861885 Item	TVA Letter dated 10/21/10	EICB RAI ML102861885 sent to DORL
274.b			EICB (Singh)	8/26/2010 Loose Parts Monitoring System: TR 3.3 refers to section 4.4.6 of the FSAR for description of the loose parts monitoring system. However, this section of the FSAR is not available. TVA to check the reference and respond.	Responder: Clark The reference will be changed to FSAR section 7.6.7 Loose Part Monitoring System (LPMS) System Description in next revision of the Technical Requirements Manual as shown below: 1. Watts Bar FSAR, Section 7.6.7, "Lose Part Monitoring System." (Note: Bechtel I&C to submit TRM change package to TVA Licensing.)	Y	Open Response provided in letter dated 10/21/10	Open-TVA/Bechtel Due _____ Pending TRM amendment submittal. Response acceptable. TVA to complete stated action.	RAI No. 6 ML102980005 10/26/2010	TVA Letter dated 10/21/10 Enclosure 1 Item No. 12	
275			S	8/27/2010	Responder: Clark	Y	Closed	Closed	Not Required Answer exists in	N/A	
276	7.6	7.6	EICB (Garg)	8/27/2010 In order for the staff to review the effects of multi control systems failure, provide the summary of the analyses documenting the effect on the plant based on the following events: (1) loss of power to all control systems powered by a single power supply; (2) failure of each instrument sensor which provides signal to two or more control systems; (3) Break of any sensor impulse line which is used for sensors providing signals to two or more control systems; and (4) failure of digital system based on the common cause software failure affecting two or more control systems. For each of these events, confirm that the consequences of these events will not be outside chapter 15 analyses or beyond the capability of operators or safety systems.	Responder: Webb The NRC reviewer confirmed this question applies to non-safety systems. The Distributed Control System (DCS) implemented using Foxboro I/A hardware, replaces most of the non-safety related control systems for WBN Unit 2. The other non-safety-related control systems within the scope of this question are: a. Rod Control - Failures of this system are addressed in FSAR Chapter 15. b. Main Turbine Electro-Hydraulic Control System The following provides the requested summaries for the four events listed: (1) The (DCS) segmentation analysis submitted on TVA letter to NRC dated August 11, 2010, Enclosure 2 (Reference 7) demonstrates that the loss of any single power source does not result in a loss of any DCS function. The other systems within the scope of this	Y	Open Response provided in letter dated 10/21/10 Response Acceptable. 11/17/10 TVA changed the response in the latest writeup. The scope of the question applies to all non safety related control systems and is not limited to just three system listed by the TVA. TVA could use to envelope other control systems by Unit 1 analysis if they applies to Unit 2 systems also.	Open-TVA/Bechtel Due 11/24/10 TVA to provide justification for non-safety system other than DCS. The statement that failure of sense line where more than one transmitter is connected would be bounded by the failure of a single transmitter does not make sense. TVA needs to make a statement that all non-safety control systems have been evaluated against these criteria and have determined	EICB RAI ML102910008 Item#60	TVA Letter dated 10/21/10 Enclosure 1 Item No. 13	

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					question are configured in the same manner as Unit 1, with redundant power sources such that the failure of a single power source does not cause a loss of function. (2) Signals shared by more than one control function within the DCS are addressed in the DCS segmentation analysis submitted on TVA letter to NRC dated August 11, 2010, Enclosure 2 (Reference 7) which demonstrates that the loss of a single signal does not cause a failure of any critical control function. The impact of a loss of signal to the other systems within the scope of this question is bounded by the loss of that signal to the individual system and has the same effect as for Unit 1. (3) Where feasible, the Unit 2 design includes separate sense lines for redundant transmitters, thereby eliminating multiple single point failures which are present in Unit 1. A review of the transmitter sense line database was performed to identify multiple sensors on a single sense line that had control functions (transmitters and switches). Attachment 9 provides the results of the review and an analysis of the functions impacted by a sense line failure. There are no transmitters on shared sense lines, such that a sense line failure would impact any combination of the DCS, Rod Control or Main Turbine Electro-Hydraulic Control Systems. (4) Limiting DCS failures were addressed in the segmentation analysis, supplemented by Fault Handling in the I/A Series System, Revision 1, submitted on TVA letter to NRC dated October 5, 2010, Attachment 42 (Reference 1). The other systems within the scope of this question are analog and therefore this question is not applicable. All non-safety control systems have been evaluated against these criteria and TVA has determined that their failure does not have consequences which will put the plant outside chapter 15 analyses. **TVA Response to Follow-up NRC Request:** All non-safety related control systems were reviewed in the context of this question. Only those control systems (i.e. the Distributed Control System (DCS), Rod Control and the Main Turbine Electro-hydraulic Control System) previously discussed in the TVA to NRC letter dated October 21, 2010 (Reference 3) are within the scope of this question. The review found that failures of non-safety related control systems based on the scenarios in this RAI, do not have consequences which will put the plant outside the Chapter 15 analyses.			that their failure does not have consequences which will put the plant outside chapter 15 analyses.			
277	7.6	7.6.3	b – g	8/27/2010	Responder: Clark	Y	Close	Closed	EICB RAI ML102910008	TVA Letter dated 10/29/10	
278	7.6	7.6.6	b – g	8/27/2010	Responder: Trelease	Y	Close	Closed	EICB RAI ML102910008	TVA Letter dated 10/21/10	

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279	7.6	7.6.6	b – G	8/27/2010	Responder: Mather	Y	Close	Closed	EICB RAI ML102910008	TVA Letter dated 10/21/10	
280	7.6	7.6.6	b – G	8/27/2010	Responder: Trelease	Y	Close	Closed	EICB RAI ML102910008	TVA Letter dated 10/21/10	
281	7.6	7.6.8	EICB (Garg)	8/27/2010 For FSAR Section 7.6.8 in amendment 96, redline version has completely rewritten this section of the FSAR, however, the staff is not able to determine any changes made to the section. Explain what changes have been made to this FSAR Section.	Responder: Webb Attachment 5 contains the WBN Unit 2 FSAR markup for Section 7.6.8, "Interlocks for RCS Pressure Control During Low Temperature Operation," showing what was changed between Amendments 95 and 96. **TVA Response to Follow-up NRC Request:** The interlock for the RCS Pressure Control for Unit 2 is implemented differently than Unit 1 implementation. There are no differences between Unit 1 and Unit 2 interlocks, operation of interlocks and operator interface for operation of the RCS Pressure Control. Primary sensing elements and final control elements are identical and operations of these devices are identical. For Unit 2, once signals are processed by the Eagle 21 system, interlock implementation is by software modules in the Foxboro I/A Distributed Control System (DCS). Hardware outputs, generated in the DCS, operate the PORVs. The Unit 2 DCS is implemented via EDCRs 52378 and 54504. Section 7.6.8 in Amendment 101 of the WBN Unit 2 FSAR reflects the Unit 2 changes associated with implementation of the DCS.	Y	Close Response provided in letter dated 10/29/10	Close Due 11/24/10 Provide the basis for the changes. Look at Foxboro I/A impact.	EICB RAI ML102910008 Item#65	TVA Letter dated 10/29/10 Enclosure 1 Item No. 16	
282	7.6	7.6.9	b – G	8/27/2010	Responder: Trelease	Y	Close Response is acceptable	Closed	EICB RAI ML102910008	TVA Letter dated 10/21/10	
283	7.7.5	XX	– D a	8/27/2010	Responder: Clark	Y	Closed	Closed	EICB RAI No.13 ML102910017	TVA Letter dated 10/29/10	This item is a follow-up question to item 96
284	7.7.3	7.4.1	– D a	8/27/2010	Responder: Webber	Y	Closed	Closed	EICB RAI No.14 ML102910017	TVA Letter dated 10/21/10	This item is a follow-up question to item 123
285	7.3.3	7.3	– D a	8/27/2010	Responder: McNeil	Y	Closed	Closed	EICB RAI No.15 ML102910017	TVA Letter dated 10/29/10	This item is a follow-up question to item 22
286	7.7.3	9.3.4.2.4	– D a	8/27/2010	Responder: Webber	Y	Closed	Closed	EICB RAI No.16 ML102910017	TVA Letter dated 10/21/10 Item No	
287	7.3	7.3-1	– D a	8/27/2010	Responder: Elton	Y	Closed	Closed	ML102390538, Item No. 1, 9/10/10 and	Response received in 11-9	
288	7.3		EICB (Garg)	9/2/2010 *(1) Can we add a section to chapter 7 giving a brief overview of the Foxboro Spec 200 in Section 7.3?* **Additional Clarification provided by the NRC** *(2) TVA should include the list of all the functions where Spec 200 is used and discuss differences between unit 1 and unit 2. (3) This discussion should also include loops which are currently used for Unit 1 operation (4) If Spec 200 components have also been qualified to RG 1.209, it should be stated and if not why not.*	Responder: McNeil (1) and (2) The following new section and reference will be added to the WBN Unit 2 FSAR as part of Amendment 102: **7.3.1.1.3 Analog Instrumentation** The miscellaneous safety-related analog process control and indication loops are made up of discrete analog modules that have been tested and qualified for use in safety related systems. The various components have been qualified to IEEE Standard 323-1983 (R-1996) IEEE Standard for Qualifying Class IE Equipment for Nuclear Power Generating Stations, IEEE Standard 344-1987 (R-1993) IEEE Standard Recommended Practices for Seismic Qualification of Class IE Equipment for Nuclear Power Generating Stations, and IEEE Standard 384-1984 (R-1992) IEEE Standard Criteria for Independence of Class IE Equipment and Circuits. The modules are	Y	Close **TVA committed to adding a description of the Foxboro Spec 200 hardware at the 10/12 NRC Public Meeting.**	Close Due 11/24/10 TVA should include the list of all the functions where Spec 200 is used and discuss differences between unit 1 and unit2. This discussion should also include loop which are currently used for Unit 1 operation If Spec 200 components have also been qualified to RG 1.209, it should be stated and if not why not.	EICB RAI ML102910008 Item#67		

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					arranged in instrument loops to provide the safety functions listed below: • Turbine driven AFW Pump Flow Control • Motor driven AFW pump differential pressure indication and recirculation valve control • Steam generator AFW flow and level indication and control • Containment Pressure indication • Upper and Lower Compartment Containment Ambient Temperature indication • RHR Heat Exchanger CCS Supply Header Flow • Sample Heat Exchanger Header CCS Differential Flow • ERCW Strainer Differential Pressure, Backwash and Flush Control • CCS Heat Exchanger B Inlet Pressure • CCS Surge Tank Level Control • CCS Heat Exchanger B Outlet Temperature • Reactor Vessel Head Vent Throttle Manual Loading Station (Unit 2 Only) • EGTS Annulus Differential Pressure Control The components are physically arranged in the racks to meet the requirements of IEEE-279 and Watts Bar Design Criteria WB-DC-30-4, Separation/Isolation. (Unit 2 Only) Two IE analog modules are used to isolate IE to Non-IE signals. These are the Contact Output Isolator and Voltage-to-Current Converter, both of which have the Input and Output signals isolated. EMI testing and acceptance by TVA of the Foxboro Spec 200 hardware is documented in Reference [8]. **References:** (8) Invensys Process Systems Document No. 800063-1830, "Electromagnetic Compatibility Test Reports," dated August 21, 2008, Rev. 0. (2) As agreed to by TVA and the NRC reviewer, the level of detail necessary to describe the differences between Unit 1 and Unit 2 is down to the specific hardware manufacturer. This level of detail was agreed to not be appropriate in Chapter 7 which discusses the functions and design requirements for the plant control systems. The hardware manufacturer level of detail is addressed in Chapter 3.10 which describes the qualification of the specific hardware for safety related functions. (3) While not specifically identified as such, loops in service for Unit 1 (Essential Raw Cooling Water etc.) are described in the FSAR chapters describing the systems the loops serve. (4) Reg. Guide 1.209, "Guidelines for Environmental Qualification of Safety-Related Computer-Based Instrumentation and Control Systems in Nuclear Power						

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					Plants," is not applicable to the analog Foxboro Spec 200 hardware.						
289			b – S	9/2/2010	Responder: Faulkner	Y	Closed	Closed Response acceptable	RAI No. 24 ML102980005	TVA Letter dated 10/21/10	
290		7.7	b – C	9/7/2010	Responder: Clark	Y	Closed	Closed	N/A	N/A	This item is a duplicate of item 291.
291		7.7	b – C	9/7/2010	Responder: Clark	Y	Closed	Closed		TVA Letter dated 10/21/10	
292	7.2.5	7.2	b – G	9/7/2010	Responder: Craig	Y	Closed	Closed	EICB RAI ML102910008	TVA Letter dated 10/21/10	
293	7.7.4	7.2.2.3.5	– M a	9/8/2010	Responder: Craig	Y	Closed	Closed	EICB RAI ML102861885 Item	TVA Letter dated 10/29/10	EICB RAI ML102861885 sent to DORL
294	7.3	7.3.1.1.1	– D a	9/9/2010	Responder: Elton	Y	Closed	Closed	ML102390538, Item No. 2 9/10/10	Response received in 11 9	
295	7.3	7.3.1.1.2	– D a	9/9/2010	Responder: Elton	Y	Closed	Closed	ML102390538, Item No. 3 9/10/10	Response received in 11 9	
296	7.3	7.3.1.2.1	– D a	9/9/2010	Responder: Elton	Y	Closed	Closed	ML102390538, Item No. 4 9/10/10	Response received in 11 9	
297	7.3	7.3.1.2.2	– D a	9/9/2010	Responder: Elton	Y	Closed	Closed	ML102390538, Item No. 5 9/10/10	Response received in 11 9	
298	7.3	XX	– D a	9/9/2010	Responder: Clark	Y	Closed	Closed	ML102390538, Item No. 6 9/10/10	Response received in 11 9	
299			b – C	Provide Common Q Software Requirements Specification Post Accident Monitoring System 00000-ICE-3238 Rev. 5	Attachment 41 of the 10/5 letter contains the Common Q Software Requirements Specification Post Accident	Y	Closed	Closed		TVA Letter dated 10/5/10	
300			EICB (Singh)	Need Radiation Monitoring System Description/Design Criteria Are detectors different from Unit 1. Describe any differences. Are there any commercially dedicated parts in the RM-1000? If so, how are they dedicated? Please confirm that digital communication ports available in RM-1000 are not used.	Responder: Temples/Mather (1) The Radiation Monitoring Design Criteria Document, WB-DC-40-24, Revision 21 is contained in Attachment 6 to letter dated October 31, 2010. (2) Attachment 7 contains the General Atomics detector differences report. The containment high range radiation monitors are loops 271-274. (3) For safety-related applications, General Atomics Electronic Systems, Inc. supplies the RM-1000 module assembly as a Basic Component. This assembly does contain component parts that are Safety-Related Commercial Grade Items (SRCGI). Because these SRCGI components are assembled into the delivered Basic Component, they are dedicated to the assembly by virtue of the acceptance test of the full RM-1000 assembly. Safety-related commercial grade items are dedicated in accordance with General Atomics approved 10 CFR 50 Appendix B program. (4) The digital communications ports on the safety-related RM-1000 radiation monitors are not used. **TVA Response to Follow-up NRC Request:** General Atomics Electronics Systems, Inc. is an approved 10 CFR 50 Appendix B supplier. They have a commercial grade dedication program.	Y	Open Response is included in letter dated 10/29/10	Open-TVA/GA Due 11/24/10 TVA to address the following comments: (1) Is it Att. 5 or Att. 6? (2) Pl. confirm that HRRMs are loops 271-274. (3) TVA to clarify that GA has a commercial dedication program in place and that GA is an approved 10CFR50, App. B supplier. App B does not address commercial grade dedication . Revised response is acceptable. Please submit response. (4) Response acceptable.	RAI No. 25 ML102980005 10/26/2010	TVA Letter dated 10/29/10 Enclosure 1 Item No. 20	

No.	SE Sec.	FSAR Sec.	NRC POC	Issue	TVA Response(s)	Response Acceptable Y/N	Status/ Current Actions	Resolution Path	RAI No. & Date	RAI Resp. Date	Comments
301			EICB (Singh)	1.TVA is requested to address the consequences of software common cause failure including all potential resulting failures (i.e. total loss of CERPI, system fail as-is). 2. In addition, address how the actions stipulated in the plant Technical Specifications will be taken when the CERPI system indications are lost. Information notice IN 2010-10 (ML100080281) addresses the need to consider software failures and the actions required to assure that the plant will stay within its licensing basis. 3. Provide FMEA in support of your response. 4. FSAR Table 7.7-1, Plant Control System Interlocks lists interlock C-11 to block automatic rod withdrawal when 1/1 Control Bank D rod position is above setpoint. This interlock capability would be lost in case of total loss of CERPI. How is the rod block assured for this event? 5. How is automatic rod withdrawal affected in case of total loss of signals from the CERPI to the ICS? Is this interlock fail safe? 6.FSAR chapter 15, Section 2.3.2.1states that the resolution of the rod position indicator channel is 5% of span (7.2 inches). The CERPI system accuracy specified in the CERPI System requirements Specification, WNDS-DS-00001_WBT, Rev. 2 is 12 steps or 5.19%. The specified system accuracy seems to be greater than the accuracy assumed in the FSAR Chapter 15. Please clarify this anomaly.	**Responder: WEC/Davies/Clark** **TVA Partial Response:** For all accidents analyzed in WBN Unit 2 FSAR, Chapter 15, no credit is taken for the rod position indication system. For all continuous rod withdrawal accidents analyzed in WBN Unit 2 FSAR, Chapter 15, no credit is taken for any rod stop/block. **(1)** Technical Specification 3.1.8, Rod Position Indication, does not have an action for total loss of indication; therefore, a total loss of CERPI puts the plant into LCO 3.0.3 which states: When an LCO is not met and the associated ACTIONS are not met, an associated ACTION is not provided, or if directed by the associated ACTIONS the unit shall be placed in a MODE or other specified condition in which the LCO is not applicable. Action shall be initiated within 1 hour to place the unit, as applicable, in: MODE 3 within 7 hours; MODE 4 within 13 hours; and MODE 5 within 37 hours. Exceptions to this Specification are stated in the individual Specifications. Where corrective measures are completed that permit operation in accordance with the LCO or ACTIONS, completion of the actions required by LCO 3.0.3 is not required. **(2)** CERPI common mode software failure **Description of the CERPI systems installed at Watts Bar (Unit 1 & 2):** Each Programmable Logic Controller (PLC), Maintenance Test Panel (MTP), and Operators Module (OM) is isolated within its own Train, A or B. Rod position information is provided to the OMs in the main control room via redundant data links. Each train (PLC, MTP, and OM) is electrically isolated from the other train. Communications within a CERPI train (PLC, MTP, and OM) are continuously monitored. If communication is interrupted, this condition is annunciated to the operator in the control room. The MTP and OM display screens have rotating cursors in the upper right-hand corner of the display to indicate that the system is operating. **History of CERPI:** The basic PLC software associated with the CERPI system has been in use for over ten years. The first plant to utilize the CERPI PLC software was Beaver Valley. In 2003, the CERPI software was deployed with interfaces to the Common Q MTP and OM interfaces	N	Open Partial response in 10/29 letter.	Open-TVA/WEC Due 11/24/10 1) Please address how fail-as-is is detected i.e. alarms, rod position deviation alarms, etc. 2) Response acceptable. 3) Response acceptable. 4) a. Response acceptable. b. Pl. address failure mode on fail-as-is. 5) Response acceptable. 6) Response acceptable. TVA to address common cause failure as stated under response item 2. Please explain how various alarms will continue to annunciate on software lockup? Need better explanation to understand the rationale behind the response.	RAI No. 11 ML102980005 10/26/2010	TVA Letter dated 10/29/10 Enclosure 1 Item No. 21	

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					within the systems for Surry Units 1 & 2, and Watts Bar Unit 1. In 2009, the Watts Bar Unit 1 CERPI system was modified to allow for two independent trains of CERPI. The Watts Bar Unit 2 CERPI system is based on the Unit 1 design. Only the detectors and the detector interface boards are not redundant within the Watts Bar CERPI systems. **CERPI Software Failure Analysis** With regard to the CERPI system software: • The software used on PLC-A is identical to that used on PLC-B. • The software used on MTP-A is identical to that used on MTP-B • The software used on OM-A is identical to that used on OM-B. A common cause failure affecting the software of one CERPI train would affect the other train as well. Common cause problems associated with the CERPI software were mitigated by the Westinghouse software development process, factory acceptance testing, and site acceptance testing. There is no "fail as-is" scenario. Any failure of a hardware/software component (resulting in processor lock-up) would be immediately annunciated (Main Control Room alarm). A loss of communication to the MTP, or OM would be annunciated, and the data values on the flat panel display would be displayed in magenta (indicating failure). A hardware/software failure in the PLC (resulting in processor lock-up) would result in an annunciator because of the watchdog alarm circuit associated with the PLC processor module. A total loss of CERPI indication (e.g., loss of both AC power sources to the rod position cabinets) is possible, but this condition would be immediately annunciated. A complete loss of CERPI indication would lead to entering Technical Specification LCO 3.0.3. A more likely scenario would be loss of a single train of CERPI due to a hardware failure; in which case, there are no technical specification conditions to enter because a single train is capable of providing all rod indications needed for control. **(3)** There is no FMEA for the CERPI system. **(4)** Control Bank D Automatic Rod Withdrawal Limit would be assured by Operations and control circuitry by the following 2 methods: a. A simultaneous failure of all indications of the Rod Position Indication System places the plant in LCO 3.0.3, since it would prevent compliance with actions in LCO 3.1.8.						

No.	SE Sec.	FSAR Sec.	NRC POC	Issue	TVA Response(s)	Response Acceptable Y/N	Status/ Current Actions	Resolution Path	RAI No. & Date	RAI Resp. Date	Comments
					b. CERPI cabinet relays A-KX-18 and B-KX-18 are the PLC controlled components of Rod Withdrawal Limit. The relays are "active low" requiring power to activate the contacts in the control circuit. Total loss of CERPI will open the contacts and block Automatic Rod Withdrawal. Additionally, Annunciator window 64F will annunciate to show "C-11 BANK D AUTO WITHDRAWAL BLOCKED." **(5)** The CERPI Maintenance and Test Panels are used to set the Rod Withdrawal Limit with output signal to ICS as a parallel path. As stated above, the relays are the controlling functions and loss of signal to ICS will not affect the capability of the control circuit to disable the Automatic Rod Withdrawal function. The C-11 interlock is fail safe with regards to loss of power. **(6)** The cycle-specific analyses for the static rod misalignment assume full misalignment of an individual rod from the bank position indicator(s). Such a misalignment exceeds that which is possible during plant operations when accounting for the most adverse combination of the rod deviation alarm and uncertainty of the rod position indicator (both 12 steps). For consistency of parameter (and units) with the deviation alarm and position indicator uncertainty, the WBN Unit 2 FSAR Chapter 15, Section 2.3.1 will be revised in Amendment 102 to read: "The resolution of the rod position indicator channel is ± 12 steps. Deviation of any RCCA from its group by twice this distance (24 steps) will not cause power distributions worse than the design limits. The deviation alarm alerts the operator to rod deviation with respect to group demand position in excess of 12 steps. If the rod deviation alarm is not operable, the operator is required to take action as required by the Technical Specifications." This change is consistent with FSAR section 4.3.2.2.5, Limiting Power Distributions Page 4.3-13, which states the maximum deviation assumed is 12 steps.						
302	7.5.2.1	7.5.1	EICB (Garg)	09/17/2010	Responder: Tindell	Y	Closed	Closed	EICB RAI ML102861885 Item	TVA Letter dated 10/29/10	EICB RAI ML102861885 sent to DORL
303	7.5.2.1	7.5.1	EICB (Garg)	09/17/2010	Responder: Tindell	Y	Closed	Closed	EICB RAI ML102861885 Item	TVA Letter dated 10/29/10	EICB RAI ML102861885 sent to DORL
304	7.5.2.1	7.5.1	EICB (Garg)	09/17/2010	Responder: Tindell	Y	Closed	Closed	EICB RAI ML102861885 Item	TVA Letter dated 10/29/10	EICB RAI ML102861885 sent to DORL
305	7.5.2.1	7.5.1	EICB (Garg)	09/17/2010	Responder: Tindell	Y	Closed	Closed	EICB RAI ML102861885 Item	TVA Letter dated 10/29/10	EICB RAI ML102861885 sent to DORL
306	7.1	7.1	EICB (Garg)	FSAR amendment 100, page 7.1-12 provides the definition of Allowable value which is not consistent with TSTF-493 as allowable value is the value beyond which instrument channel is declared inoperable.	Responder: Hilmes The FSAR Allowable Value definition will be revised to be consistent with the TSTF-493 in FSAR Amendment 102. Attachment 3 contains the revised FSAR section 7.1.2.1.9 that will be included in FSAR Amendment 102 that reflects this change.	Y	Open Response is included in letter dated 10/29/10	Open-TVA/A102 Due 12/17/10 Pending FSAR Amendment 102 submittal	EICB RAI ML102910008 Item#69	TVA Letter dated 10/29/10 Enclosure 1 Item No. 26	

No.	SE Sec.	FSAR Sec.	NRC POC	Issue	TVA Response(s)	Response Acceptable Y/N	Status/ Current Actions	Resolution Path	RAI No. & Date	RAI Resp. Date	Comments
307	7.1	7.1	EICB (Garg)	(1) FSAR amendment 100, Section 7.1, page 7.1-12, definition of Acceptable as found tolerance is not in accordance with TSTF-493 as AAF is the limit beyond which the instrument channel is degraded but may be operable and its operability must be evaluated. (2) Also it states that AAF is based on measurable instrument channel uncertainties, such as drift, expected during the surveillance interval. These wording should be revised to agree with the wording given in RIS2006-17 as these wordings are very vague. (3) Also it states that RPS functions use double sided tolerance limits for the AAF. Since AAF is a band it will always be double sided and therefore, this clarification does not mean anything and it clouds the issue.	Responder: Hilmes (1) The Acceptable As Found (AAF) definition will be revised to be consistent with TSTF-493 in FSAR Amendment 102. Attachment 3 contains the revised FSAR section 7.1.2.1.9 that will be included in FSAR Amendment 102 that reflects this change. (2) Additional detail on the AAF methodology was provided in sections 7.1.2.1.9.1, Westinghouse Setpoint Methodology, and 7.1.2.1.9.2, TVA Setpoint Methodology. These sections will be revised to clarify the AAF calculations in FSAR Amendment 102. Attachment 3 contains the revised FSAR section 7.1.2.1.9 that will be included in FSAR Amendment 102 that reflects this change. (3) The statement about double sided limits addresses a TSTF requirement that the AAF tolerance consider errors in both the conservative and non-conservative directions and ensures that an as-found value which exceeds these limits, even in the conservative direction (away from the safety limit), will be evaluated. Attachment 3 contains the revised FSAR section 7.1.2.1.9 that will be included in FSAR Amendment 102 that reflects this change.	Y	Open Response is included in letter dated 10/29/10	Open-TVA/A102 Due 12/17/10 Pending FSAR Amendment 102 submittal	EICB RAI ML102910008 Item#70	TVA Letter dated 10/29/10 Enclosure 1 Item No. 27	
308	7.1	7.1	EICB (Garg)	(1) FSAR Amendment 100, Section 7.1, page 7.1-13, definition of Acceptable as left tolerance is not in accordance with TSTF-493 as it states that this may take calibration history into consideration. This is very vague and ambiguous. (2) Also it states that RPS functions use double sided tolerance limits. Since ALF is a band it will always be double sided and therefore, this clarification does not mean anything and clouds the issue.	Responder: Hilmes (1) The statement about using calibration history to determine the Acceptable As Left (AAL) will be deleted in FSAR Amendment 102. Attachment 3 contains the revised FSAR section 7.1.2.1.9 that will be included in FSAR Amendment 102 that reflects this change. (2) See response to letter item 27 (NRC Matrix Item 307).	Y	Open Response is included in letter dated 10/29/10	Open-TVA/A102 Due 12/17/10 Pending FSAR Amendment 102 submittal	EICB RAI ML102910008 Item#71	TVA Letter dated 10/29/10 Enclosure 1 Item No. 28	
309	7.1	7.1.2.1.9.1	EICB (Garg)	(1) FSAR amendment 100, Page 7.1-14, Westinghouse setpoint methodology, states that AAF is the algebraic sum of the ….. This is not acceptable. As algebraic sum is non conservative compared to the SRSS method and will mask the operability of the instrument channel and therefore, it is not acceptable to the staff. (2) It also make the statement that ALT may take calibration history into consideration which is vague and ambiguous.	Responder: Hilmes (1) The AAF calculation for Westinghouse setpoint methodology calculations in TI-28 for TSTF-493 will be revised to use the Square Root Sum of the Squares (SRSS) method. (2) AAF definition will be revised to be consistent with TSTF-493 as discussed with the NRC Staff, in FSAR Amendment 102. Attachment 3 contains the revised FSAR Amendment 102 Change Markup that reflects this change.	Y	Open Response is included in letter dated 10/29/10	Open-TVA/A102 Due 12/17/10 Pending FSAR Amendment 102 submittal	EICB RAI ML102910008 Item#72	TVA Letter dated 10/29/10 Enclosure 1 Item No. 29	
310	7.1	7.1.2.1.9.2	EICB (Garg)	(1) FSAR amendment 100, Page 7.1-14, TVA setpoint methodology, states that for AAF ….and other measurable uncertainties as appropriate (i.e., those present during calibration….) should be changed to present during normal operation…… (2) Also on page 7.1-15, states that ALT may take calibration history into consideration which is vague and ambiguous.	Responder: Hilmes **TVA Response:** (1) The AAF definition will be revised in FSAR Amendment 102 to read: "A tolerance band on either side of the NTSP which defines the limits of acceptable instrument	Y	Open Response is included in letter dated 10/29/10	Open-TVA/A102 Due 12/17/10 Pending FSAR Amendment 102 submittal	EICB RAI ML102910008 Item#73	TVA Letter dated 10/29/10 Enclosure 1 Item No. 30	

No.	SE Sec.	FSAR Sec.	NRC POC	Issue	TVA Response(s)	Response Acceptable Y/N	Status/ Current Actions	Resolution Path	RAI No. & Date	RAI Resp. Date	Comments
					performance, beyond which the channel may be considered degraded and must be evaluated for operability prior to returning it to service. Channels which exceed the AAF will be entered into the Corrective Action Program for further evaluation and trending. The Acceptable As Found tolerance is the SRSS combination of drift, maintenance and test equipment (M&TE) accuracy and readability, and calibration/reference accuracy. Other uncertainties may be included in the AAF if applicable." This revision eliminates the concern regarding uncertainties. Attachment 3 contained in the October 29, 2010 letter provided the revised FSAR Section 7.1.2.1.9 that will be included in FSAR Amendment 102 that reflects this change. (2) The AAL definition will be revised in FSAR Amendment 102 to read: "A tolerance band on either side of the NTSP within which an instrument or instrument loop is left after calibration or setpoint verification. The Acceptable As Left tolerance is equal to or less than the SRSS combination of reference accuracy, M&TE accuracy and M&TE readability. Other uncertainties may be included in the AAL if applicable." This revision eliminates the concern regarding calibration history. Attachment 3 contained in the October 29, 2010 letter provided the revised FSAR Section 7.1.2.1.9 that will be included in FSAR Amendment 102 that reflects this change.						
311	7.1	7.1	EICB (Garg)	Both Westinghouse and TVA setpoint methodology do not have any discussion on single sided calculation. Please confirm that single sided calculation has not been used for all setpoints with TSTF-493 and provide a statement to that effect in the FSAR.	Responder: Hilmes A statement that single-sided corrections are not used for TSTF-493 setpoints will be included in FSAR Amendment 102. Attachment 3 contains the revised FSAR section 7.1.2.1.9 that will be included in FSAR Amendment 102 that reflects this change.	Y	Open Response is included in letter dated 10/29/10	Open-TVA/A102 Due 12/17/10 Pending FSAR Amendment 102 submittal	EICB RAI ML102910008 Item#74	TVA Letter dated 10/29/10 Enclosure 1 Item No. 31	
312		7.0	b_GG	By letter dated September 10,2010, TVA provided the summary evaluation of 50.59 reports which were related to FSAR Chapter	Responder: Stockton	Y	Close	Closed	EICB RAI ML102910008	TVA Letter dated 10/21/10	
313	7.7.8	7.7.1.12	_Da	EDCR 52408 (installation of AMSAC in Unit 2) states that Design Criteria WB-DC-40-57 needs to be modified to reflect AMSAC in	Responder: Ayala	Y	Closed	Closed	EICB RAI No.18 ML102910017	TVA Letter dated 10/29/10	
314	7.3	7.3	_Da	The following 50.59 changes were listed in the March 12 RAI response letter (item 10) but were not included in the September 9	Responder: Stockton	Y	Closed	Closed	EICB RAI No. 19 ML102910017	TVA Letter dated 10/21/10	Related to OI 10
315	7.5.3	7.5.3	b_GG	IE Bulletin 79-27 required that emergency operating procedures to be used by control room operators to attain safe shutdown upon	Responder: S. Smith (TVA Operations)	Y	Close	Closed	EICB RAI ML102910008	TVA Letter dated 10/21/10	
316	7.5.2.3	7.5	b_SS	TVA has provided various documents in support of RM-1000 high range monitors for WBN2	Responder: Temples/Mather	Y	Closed	Closed	RAI No. 26 ML102980005		
317	7.5.2.3	7.5	b_SS	TVA has provided a proprietary and a non-proprietary version of Technical Manual for RM-1000 Digital Radiation Processor under	Responder: Temples	Y	Closed	Closed	RAI No. 27 ML102980005	TVA Letter dated 10/29/10	
318	7.5.2.3	7.5	EICB (Singh)	TVA has provided the following documents for RM-1000 equipment qualification: (i) Qualification Test Report for RM-1000 Processor Module and Current-To-Frequency Converter 04508905-QR (January 2001)	Responder: Temples (i) Applicable to WBN Unit 2. 04508905-1QR is applicable only in regards to the RM-1000, with the exception of re-qualification of certain RM-1000 equipment differences covered in the -1SP report.	N	Open **Note check 04508905-1QR or QR. Staff version is QR only.** Response is included in letter	Open-TVA/GA Due 12/22/10 Response update required. It is clear that	RAI No. 28 ML102980005 10/26/2010	TVA Letter dated 10/29/10 Enclosure 1 Item No. 34	

No.	SE Sec.	FSAR Sec.	NRC POC	Issue	TVA Response(s)	Response Acceptable Y/N	Status/ Current Actions	Resolution Path	RAI No. & Date	RAI Resp. Date	Comments
				(ii) Qualification Test Report Supplement, RM-1000 Upgrades 04508905-1SP (June 2006) (iii) Qualification Test Report Supplement, RM-1000 Upgrades 04508905-2SP (June 2008) (iv) Qualification Test Report Supplement, RM-1000 Upgrades 04508905-3SP (May 2008) Please clarify whether all of these are fully applicable to WBN2 or are they applicable with exceptions? If with exceptions, then please clarify what those are. Supplement 3 was issued one month prior to supplement 2. Please explain the reason for the same.	The Current-to-Frequency (I-F) converter module qualifications in the base report and the -1SP report are not applicable to the RM-1000s, and will be used later as references in the WBN Unit 2 specific qualification reports. (ii) Applicable to WBN Unit 2. (iii) Not applicable to WBN Unit 2 (iv) Not applicable to WBN Unit 2 The 04508905-3SP report was prepared for another TVA plant, as a monitor system-level report, where the system included equipment mostly based on the base report equipment items. These two -2SP and -3SP supplement reports were essentially worked concurrently, but the -2SP document review/release process resulted in the release time difference.		dated 10/29/10	04508903-2SP and -3SP are not applicable. The response for applicability of 04508905-QR and -1SP to RM-1000 and IF converter is not clear. Check page numbers of Appendix F (missing/duplicate pages). Check applicability of Appendix C to RM1000 instead of RM2300? See items 336 and 337. All equipment qualification reports including supplements 2SP and 3SP have been reviewed as vendor drawings for WBN-2. Please explain the reason for applicability of one report and not the other. Further all TVA/Bechtel reviews seems to be dispositioned as Code 4, “Review not required. Work may proceed.” The applicable reports should have been reviewed prior to dispositioning them. Please explain the apparent lack of review of WBN-2 applicable documents. Was appropriate review guidance used?.			
319	7.5.2.3	7.5	EICB(Garg)	TVA provided System Verification Test Results 04507007-1TR (July 1999) for Sequoyah to support test verification. However, the	Responder: Temples	Y	Closed	Closed Response Acceptable	RAI No. 29 ML102980005	TVA Letter dated 10/29/10	
320			EICB(Garg)	Per Westinghouse letter WBT-D-2340, TENNESSEE VALLEY AUTHORITY WATTS BAR NUCLEAR PLANT UNIT 2 FSAR	Responder: Clark	Y	Closed	Closed	N/A	N/A	Duplicate of item 156
321			EICB(Garg)	For the purposes of measuring reactor coolant flow for Reactor Protection functions, elbow taps are used for both Unit 1 and 2	Responder: Clark	Y	Closed	Closed	N/A	N/A	Duplicate of OI# 157
322		7.7.1.11	EICB(Garg)	Section 7.7.1.11 will be added to FSAR Amendment 101 to provide a discussion of the Distributed Control System	Responder: Clark	Y	Closed	Closed			
323			EICB(Garg)	WCAP-13869 revision 1 was previously reviewed under WBN Unit 1 SER SSER 13 (Reference 8). Unit 2 references revision 2. An analysis of the differences and their acceptability will be submitted to the NRC by November 15, 2010	Responder: Hilmes/Unit 1 Attachment 12 contains the WCAP 13869 Revision 1 to Revision 2 Change Analysis.	Y	Open Response is included in letter dated 10/29/10 The staff is confused with the	Open-TVA Unit 1 Due: 12/22/10		TVA Letter dated 10/29/10 Enclosure 1 Item No. 36	

No.	SE Sec.	FSAR Sec.	NRC POC	Issue	TVA Response(s)	Response Acceptable Y/N	Status/ Current Actions	Resolution Path	RAI No. & Date	RAI Resp. Date	Comments
							response since both units have reference leg not insulated Rev 2 should apply to Unit 1 also and there should be no difference between Unit 1 and 2				
324			[illegible] M a	Per the NRC reviewer, the BISI calculation is not required to be submitted		Y	Closed	Closed			
325			[illegible] G	The Unit 2 loops in service for Unit 1 that are scheduled to be transferred to the Foxboro Spec 200 hardware will be transferred	Responder: TVA Startup Olson	Y	Closed	Closed			Closed to open item ?
326			EICB(Garg)	TVA uses double-sided methodology for as-found and as-left Reactor Trip and ESFAS instrument setpoint values. The FSAR will be revised in a future amendment to reflect this methodology	Responder: Webb Attachment 3 contains the revised FSAR section 7.1.2.1.9 that will be included in FSAR Amendment 102 that reflects this change.	Y	Open October 22, 2010 Response is included in letter dated 10/29/10	Open-TVA/A102 Due 12/17/10 Pending FSAR Amendment 102 submittal		TVA Letter dated 10/29/10 Enclosure 1 Item No. 37	
327			DORL (Poole)	Attachment 36 contains Foxboro proprietary drawings 08F802403-SC-2001 sheets 1 through 6. An affidavit for withholding and non-proprietary versions of the drawings will be submitted by January 31, 2011.	Responder: Webber In accordance with correspondence from Foxboro, there is no proprietary information contained in the 08F802403-SC-2001 drawings. Based on this, no affidavit for withholding is required. Attachment 1 contains versions of the drawings with the proprietary information block removed.	Y	Open	Open-TVA/Bechtel Due 11/24/10			
328	7.5.2.3	7.5	[illegible] S	Provide the model number for the four containment high range area monitors, RM-1000 and identify how the software V&V and	Responder: Temples	Y	Closed	Closed Response Acceptable	RAI No. 30 ML102980005	TVA Letter dated 10/29/10	
329	7.6.1	7.6.7	EICB (Singh)	Section 7.6.7 of the FSAR (Amendment 100) states that, "The DMIMS-DX™ audio and visual alarm capability will remain functional after an Operating Basis Earthquake (OBE). All of the DMIMS-DX™ components are qualified for structural integrity during a Safe Shutdown Earthquake (SSE) and will not mechanically impact any safety-related equipment." TVA to clarify the seismic qualification of the loose parts monitoring system and include the appropriate information in Table 3.10 (or another suitable section) of the FSAR.	Responder: Clark The title of FSAR Section 3.10 is Seismic Design of Category I Instrumentation and Electrical Equipment. Since the Loose Part Monitoring System is not a Category 1 system, it is not included in the scope of 3.10. FSAR Section 7.6.7, "Loose Parts Monitoring System (LPMS) System Description," identifies basic system seismic design criteria which are consistent with the requirements of TVA Design Criteria, WB-DC-30-31, Loose Parts Monitoring System. As identified in FSAR Table 7.1-1, Watts Bar Nuclear Plant NRC Regulatory Guide Conformance, the system conforms to Reg. Guide 1.133 as modified by Note 12. Reg. Guide 1.133 identifies the seismic requirements and Note 12 does not contain any exception to the Regulatory Guide seismic requirements. The Westinghouse LPMS seismic report, EQ-QR-33-WBT, Revision 0, Seismic Evaluation of the Digital Metal Impact Monitoring System (DMIMS-DX™) for Watts Bar Unit 2, will be added as Reference 7 to FSAR section 7.6 in amendment 102.	N	Open Response is included in letter dated 10/29/10	Open-TVA/A102 Due 12/17/10 Pending FSAR Amendment 102 submittal. TVA to confirm that the equipment has been seismically qualified as required and that TVA reviewed and found the report acceptable. TVA response does not list the seismic test document and its acceptance by TVA. FSAR should reference the test document as the source document for tracking conformance.	RAI No. 1 ML102980005 10/26/2010	TVA Letter dated 10/29/10 Enclosure 1 Item No. 39	
330	7.3	7.3	EICB (Darbali)	Related to Item 298 IE Bulletin 80-06 calls for review of engineered safety features with the objective of ensuring that no device will change position solely because of the 'reset' action. In Supplement 3 of NUREG-0847, section 7.3.5, the staff approved	Responder: Hilmes/Faulkner The original response to IE Bulletin 80-06 for both WBN Unit 1 and 2 was provided on TVA letter to NRC dated March 11, 1982 (ML073530129) (Reference 4). Subsequent design changes have impacted the original response such that some equipment that originally changed state no longer does	Y	Closed	Closed	EICB RAI No.20 ML102910017, 10/19/10	Item 7, TVA letter dated November 24, 2010	

No.	SE Sec.	FSAR Sec.	NRC POC	Issue	TVA Response(s)	Response Acceptable Y/N	Status/ Current Actions	Resolution Path	RAI No. & Date	RAI Resp. Date	Comments
				the design modifications proposed by the applicant that would allow certain devices to remain unchanged upon an ESF reset. **The staff also found acceptable the applicant's justification for some safety-related equipment that does not remain in its emergency mode after an ESF reset.** **Please list for Unit 1 and Unit 2 the safety-related equipment that does not remain in its emergency mode after an ESF reset.**	so and some equipment has been deleted. There are no additions to the list originally provided in TVA letter to NRC dated March 11, 1982 (ML073530129) (Reference 4). The following is the current list of equipment that does not remain in its emergency mode after an ESF reset: 1. Unit 1 and 2 Equipment (prefix 1- (Unit 1) or 2- (Unit 2) a. Auxiliary Feedwater Pump Turbine Speed Control Valve, FCV-1-52 b. Auxiliary Feedwater (AFW) Level Control Valves as listed below: i. LCV-3-172 - SG3 - Level Control Valve ii. LCV-3-173 - SG2 - Level Control Valve iii. LCV-3-174 - SG1 - Level Control Valve iv. LCV-3-175 - SG4 - Level Control Valve v. LIC-3-172 - SG3 - Level Indicating Controller vi. LIC-3-173 - SG2 - Level Indicating Controller vii. LIC-3-174 - SG1 - Level Indicating Controller viii. LIC-3-175 - SG4 - Level Indicating Controller ix. LCV-3-148 - SG3 - Level Valve x. LCV-3-156 - SG2 - Level Valve xi. LCV-3-164 - SG1 - Level Valve xii. LCV-3-171 - SG4 - Level Valve xiii. LCV-3-148A - SG3 - Level Bypass Control Valve xiv. LCV-3-156A - SG2 - Level Bypass Control Valve xv. LCV-3-164A - SG1 - Level Bypass Control Valve xvi. LCV-3-171A - SG4 - Level Bypass Control Valve xvii. LIC-3-148 - SG3 - Controller xviii. LIC-3-156 - SG2 - Controller xix. LIC-3-164 - SG1 - Controller xx. LIC-3-171 - SG4 - Controller c. Lower and Upper Compartment Cooler Fans and Control Rod Drive Mechanism Cooler Fan d. Penetration Room Cooler Fans Elevations 737, 692 and 713 e. Pipe Chase Cooler Fans 2. Common Equipment a. Shutdown Board Room A Pressurizing Fans b. Control Building Ventilation Dampers as listed below: i. 0-FCO-31-9 - Spreading Room Supply Fan						

No.	SE Sec.	FSAR Sec.	NRC POC	Issue	TVA Response(s)	Response Acceptable Y/N	Status/ Current Actions	Resolution Path	RAI No. & Date	RAI Resp. Date	Comments
					Damper ii. 0-FCO-31-10 - Spreading Room Supply Fan Damper iii. 0-FCO-31-16 - Toilet a Locker Room Exhaust Fan Exhaust Damper iv. 0-FCO-31-17 - Toilet a Locker Room Exhaust Fan Exhaust Damper v. 0-FCO-31-3 - Main Control Room Isolation Damper vi. 0-FCO-31-4 - Main Control Room Isolation Damper vii. 0-FCO-31-36 - Spreading Room Fresh Air Supply Damper viii. 0-FCO-31-37 - Spreading Room Fresh Air Supply Damper c. Cask Loading Exhaust Dampers as listed i. 0-FCO-30-122 - Cask Loading Area Exhaust Damper ii. 0-FCO-30-123 -Cask Loading Area Exhaust Damper d. Auxiliary Building General Supply Exhaust Fans Elevation 737 e. CCW and AFT Pump Space Cooler Fans f. Spent Fuel Pit Pumps Space Coolers g. EGTS Room Coolers h. Turbine Driven AFW and Boric Acid Space Coolers						
331	7.6.1	7.6.7	EICB (Singh)	As a follow up of OI 190, Staff has reviewed the proprietary version of the DMIMS-DX system description to verify the conformance claims in the FSAR. Staff has noted the following insufficiencies and discrepancies between the FSAR and the proprietary version of the system description for loose parts monitoring system provided by TVA. 1) FSAR, Amendment 100, page 7.6-5 states, "During baseline testing, the reactor vessel and steam generator are impacted three feet from each sensor with a force of 0.5 ft-lb. Loose parts detection is accomplished at a frequency of 1 kHz to 20 kHz, where background signals from the RCS are acceptable. Spurious alarming from control rod stepping is prevented by a module that detects CRDM motion commands and automatically inhibits alarms during control rod stepping. The online sensitivity of the DMIMS-DX™ is such that the system will detect a loose part that weighs from 0.25 to 30 lb and impacts with a kinetic energy of 0.5 ft-lb on the inside surface of the RCS pressure boundary within 3 ft of a sensor." The source of this information is not cited nor is it described in the system description. TVA to provide the source of the information and update the system description as needed.	Responder: WEC/Harless/Clark **TVA Partial Response:** 1) The source of the information is the DMIMS-DXTM Operations and Maintenance Manual, TS3176, Revision 0, dated August 2010. Attachment 14 contains the revised system description, "Westinghouse DIMMS-DX™ Loose Part Detection System Description," Revision 1. The Westinghouse DIMMS-DX™ Loose Part Detection System Description," Revision 1 will be added as Reference 9 to section 7.6 in FSAR Amendment 102. 2) The source of the information is the DMIMS-DXTM seismic qualification report, Westinghouse report EQ-QR-33-WBT, Revision 0, Seismic Evaluation of the Digital Metal Impact Monitoring System (DMIMS-DXTM) for Watts Bar Unit 2. Attachment 14 contains the revised system description, "Westinghouse DIMMS-DXTM Loose Part Detection System Description," Revision 1. 3) The entries for the following items in FSAR Section	N	Open	Open-TVA/WEC Due _____ Pending FSAR Amendment 102 submittal TVA to reference the DMIMS-DXTM Operations Manual in the FSAR as the source document TVA to reference the source document for item# 4 per the response.	RAI No. 8 ML102980005 10/26/2010	TVA Letter dated 10/29/10 Enclosure 1 Item No. 40	Follow-up of OI-190.

No.	SE Sec.	FSAR Sec.	NRC POC	Issue	TVA Response(s)	Response Acceptable Y/N	Status/ Current Actions	Resolution Path	RAI No. & Date	RAI Resp. Date	Comments
				2) Regulatory Guide (RG) 1.133, rev.1, regulatory position C.1.g states that, "*Operability for Seismic and Environmental Conditions.* Components of the loose-part detection system within containment should be designed and installed to perform their function following all seismic events that do not require plant shutdown, i.e., up to and including the Operating Basis Earthquake (OBE). Recording equipment need not function without maintenance following the specified seismic event provided the audio or visual alarm capability remains functional. The system should also be shown to be adequate by analysis, test, or combined analysis and test for the normal operating radiation, vibration, temperature, and humidity environment. FSAR, Amendment 100, page 7.6-5 states, "The DMIMS-DX™ audio and visual alarm capability will remain functional after an Operating Basis Earthquake (OBE). All of the DMIMS-DX™ components are qualified for structural integrity during a Safe Shutdown Earthquake (SSE) and will not mechanically impact any safety-related equipment." Paragraphs 4.c and 4.d of the system description are not consistent with the seismic qualifications described in the FSAR. TVA to provide the source of the information contained in the FSAR and update the system description as needed. 3) The system description clearly describes the "In-containment equipment" and "DIMMS-DX Cabinet equipment. The FSAR should be updated to reflect the equipment locations for clarification purposes. 4) The information regarding frequency ranges of the sensors is included on page 7.6-6 of Amendment 100 of the FSAR but the system description does not contain this information. Please provide the source of this information and update the system description to reflect the appropriate information. 5) Please provide information as to how the in-containment components are qualified for vibration as addressed in regulatory position C.1.g of RG 1.133.	7.6.7 will be modified in Amendment 102 as shown in Attachment 3 for draft revision to WBN Unit 2 FSAR Section 7.6.7, "Loose Part Monitoring System (LPMS) System Description." Sensors **(In Containment)** Softline Cable **(In Containment)** Preamplifier **(In Containment)** Attachment 3 contains the FSAR Amendment 102 Change Markups that reflect these changes. 4) The source of the information is Westinghouse Letter WBT-D-2580, Tennessee Valley Authority Watts Bar Nuclear Plant Unit 2 Response to NRC RAIs on LPMS (Reference 5). Attachment 14 contains "Westinghouse DIMMS-DXTM Loose Part Detection System Description," Revision 1. In responding to Item 4, conflicting information was found between the Westinghouse-prepared FSAR section and various Westinghouse technical documents. To fully respond to this item, a change to the FSAR is required to change the minimum flat sensor frequency response from 5 Hz to 10 Hz. Attachment 3 contains the FSAR Amendment 102 Change Markups that reflect the revised frequency response of the sensor. Westinghouse document 1TS3182, Revision 0, Watts Bar Unit 2 DMIMS-DXTM System Validation Data Package, dated July 2010 has been added as reference 8 to FSAR Section 7.6 in amendment 102. Per Westinghouse letter WBT-D-2580, this document will be revised to reflect the 10Hz minimum frequency and provide the basis for the frequency response values in the FSAR. 5) In-containment component qualification for vibration as addressed in regulatory position C.1.g of RG 1.133, will be addressed in a future RAI response letter.						
332	7.5.2.1	7.5.1	M. Ma	10/26/2010		Y	Closed	Closed	ML103000105 Item No. 1	TBD	EICB RAI ML103000105 sent to DORL
333	7.5.2.1	7.5.1	M. Ma	10/27/2010		Y	Closed	Closed	ML103000105 Item No. 2	TBD	EICB RAI ML103000105 sent to DORL
334	7	7	EICB (Darbali)	FSAR Figure 7A-3 "Mechanical Flow and Control Diagram Symbols" doesn't show the symbols for the first column of valves. Please correct this in a future FSAR amendment.	Responder: Stockton	Y	Open Figure will be corrected in FSAR Amendment 102.	Open-TVA/A102 Due 12/17/10 Pending FSAR Amendment 102 submittal.	RAI not required.	N/A	RAI not required because the figure is not part of any SE section.
335	7.6.1	7.6.7	EICB (Singh)	LPMS: Reference to OI-331, sub item 2. Provide analysis, test, or combined analysis and test for normal operating radiation, temperature, and humidity environment per regulatory position C.1.g of RG 1.133. As an alternate TVA may confirm that the required equipment has been qualified for the	Responder: WEC	N	Open	Open-TVA/WEC Due _____			

No.	SE Sec.	FSAR Sec.	NRC POC	Issue	TVA Response(s)	Response Acceptable Y/N	Status/ Current Actions	Resolution Path	RAI No. & Date	RAI Resp. Date	Comments
				environments stated in RG 1.133, position C.1.g and that TVA has reviewed the test report and found it acceptable.							
336	7.5.2.3	7.5	EICB (Singh)	Re: RM-1000 Report 04508905-QR Please check the page numbering in Appendix F, Closed Nonconforming Material Reports. Pages 1 and 6 are missing and page 2 is included multiple times. Also identify which page number is the last page number.	Responder: GA General Atomics was not able to determine where the duplicate page 2 originated. The master document does not contain any duplicate pages. Due a clerical error during document development, the master document starts at page 2 and ends at page 9, for a total of 8 pages. In May of this year, the NRC discovered that the master document was missing page 6. The master document was revised and re-submitted. Attachment 2 contains the missing page 6. The Nonconforming Material (NCM) reports found on Appendix F are complete.	Y	Open	Open-TVA/Bechtel Due 11/24/10 Response acceptable. Please submit response.			
337	7.5.2.3	7.5	EICB (Singh)	Re: RM-1000 Report 04508905-QR Appendix C is titled as Seismic Test Fixture for RM2300, See Drawing 04619028. Please verify whether or not it applies to RM-1000? If applicable, then please identify how it is applicable.	Responder: GA The test fixture listed on Appendix C is applicable to the RM-1000, as indicated in the second and third paragraph of section 4.3.1, of the 04508905-QR report. The RM-1000's and the I/F converters are mounted on a standard 19 inch NIM-Bin, and this test rack is configured to simulate the field installation of a standard 19 inch rack. This seismic test fixture was originally built for the seismic testing of the RM2300's which are also mounted on a standard 19 in NIM-Bin."	Y	Open	Open-TVA/Bechtel Due 11/24/10 Response acceptable. Please submit response.			
338	7.5.2.3	7.5	EICB (Singh)	In page 3-15 and appendix B of Qualification Test Report 04508905-QR, licensee described the selection of seismic required response spectra (RRS) and indicated Figure 3-2 (page 3-17), Figure 3-3 (page 3-18) are the RRSs used. The RRS curves used for actual testing are lower than the RRS curves that are shown on Figures 3-2 and 3-3. The RRS curves used for testing are shown in Figure 4-5, 4-6, 4-7, 4-8, 4-11, 4-12, 4-13, and 4-14 (pages 4-25, 4-26, 4-28, 4-29, 4-37, 4-38, 4-40, 4-41). Please clarify and justify why the RRS curves used in actual tests are lower than the RRS curves determined in Figures 3-2 and 3-3. In addition please justify that the RRS used for testing envelopes the RRS required for WBN-2 application specific seismic conditions.	Responder: Civil EQB Get date from Bob Brown	N	Open	Open-TVA/Bechtel Due: 12/17/10			
339	7.5.2.3	7.5	EICB (Singh)	In the Qualification Test Report 04508905-QR, the licensee provided only eight Safe Shutdown Earthquake (SSE) Test Response Spectra (TRS) as mentioned in the previous open item (OI-338). Please provide all SSE and Operating Basis Earthquake (OBE) TRS plots for NRC review.	Responder: Bob Brown	N	Open	Open-TVA/Bechtel Due: 12/17/10			
340	7.5.2.3	7.5	EICB (Singh)	Provide test result curves for all EMI/RFI tests listed in Table 3.2.3 (page 3-8) of the Qualification Test Report 04508905-QR. In addition, please provide the standards or the guidance documents used as the source for ENV 50140, ENV 55011 Class A, and EN 55022 Class B.	Responder: GA	N	Open	Open-TVA/GA Due:12/22/10			