

WBN2Public Resource

From: Poole, Justin
Sent: Tuesday, November 02, 2010 5:08 PM
To: Garg, Hukam; Carte, Norbert; Darbali, Samir; Singh, Gursharan; Marcus, Barry
Cc: WBN2HearingFile Resource
Subject: FW: Update NRC RAI Matrix
Attachments: 20101028 Open Item List and Count TVA Update 11-2 R1.docx

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From: Clark, Mark Steven [<mailto:msclark0@tva.gov>]
Sent: Tuesday, November 02, 2010 5:06 PM
To: Crouch, William D; Hilmes, Steven A
Cc: Poole, Justin
Subject: Update NRC RAI Matrix

Bill:

Attached is the updated matrix for distribution to the NRC.

Regards,

Steve

Steve Clark
Bechtel Power Corp.
Control Systems
Watts Bar 2 Completion Project
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Hearing Identifier: Watts_Bar_2_Operating_LA_Public
Email Number: 146

Mail Envelope Properties (19D990B45D535548840D1118C451C74D6FD376F71C)

Subject: FW: Update NRC RAI Matrix
Sent Date: 11/2/2010 5:08:12 PM
Received Date: 11/2/2010 5:08:22 PM
From: Poole, Justin

Created By: Justin.Poole@nrc.gov

Recipients:

"WBN2HearingFile Resource" <WBN2HearingFile.Resource@nrc.gov>
Tracking Status: None
"Garg, Hukam" <Hukam.Garg@nrc.gov>
Tracking Status: None
"Carte, Norbert" <Norbert.Carte@nrc.gov>
Tracking Status: None
"Darbali, Samir" <Samir.Darbali@nrc.gov>
Tracking Status: None
"Singh, Gursharan" <Gursharan.Singh@nrc.gov>
Tracking Status: None
"Marcus, Barry" <Barry.Marcus@nrc.gov>
Tracking Status: None

Post Office: HQCLSTR02.nrc.gov

Files	Size	Date & Time
MESSAGE	667	11/2/2010 5:08:22 PM
20101028 Open Item List and Count TVA Update 11-2 R1.docx		345273

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	☐	The Watts Bar Nuclear Plant FSAR red-line for Unit 2 (Agencywide Documents Access and Management)	12/15/2009 Presentation Slides	1. Y	Closed	Closed	EICB RAI MI 002220242	3/12/2010	NNC 11/19/09: The FSAR contains mostly description of
002	All	All	☐	Are there I&C components and systems that have changed to a new or different digital technology	12/15/2009 Presentation Slides	2. Y	Closed	Closed	EICB RAI MI 002220242	3/12/2010	NNC 11/19/09: The FSAR contains mostly description of
003	All	All	☐	Because a digital I&C platform can be configured and programmed for different applications, the review	12/15/2009 Presentation Slides	3. Y	Closed	Closed	EICB RAI MI 002220242	3/12/2010	NNC 11/19/09: The FSAR contains mostly description of
004	All	All	☐	Please identify the information that will be submitted for each unreviewed digital I&C system and	Responder: Webb 1/13/10 Public Meeting	4. Y	Closed	Closed	EICB RAI MI 002220242	January 13, 2010	NNC 11/19/09: LIC-110 Rev. 1 Section 6.2.2 states: "Design
005	7.1.3.1		☐	By letter date February 28, 2008 (Agencywide Documents Access and Management System	Responder: Craig/Webb	5. Y	Closed	Closed	EICB RAI MI 002421118	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	By letter dated February 5, 2010: TVA provided the Unit 2 setpoint methodology (WCAP 177044	6. Y	Closed	Closed	EICB RAI MI 002421118	TVA Letter dated 2/5/10	NNC: WCAP-12096 Rev. 7 (MI 072460281) 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	TVA Letter Dated March 12, 2010 (Enclosure 1, Item No. 7 on Page 7 of 15); TVA responded to	7. Y	Closed This item is reviewed in	Closed	EICB RAI MI 002421118	TVA Letter dated 3/12/10	TVA to provide Rev. 8 of the Unit 1 document (which is the current
008	7.3		☐	There are several staff positions that provide guidance on setpoint methodology (e.g., Reg Guide 1.105, RTP	TVA Letter Dated March 12, 2010 (Enclosure 1, Item No. 8 on Page 7 of 15); TVA responded to	8. Y	Closed	Closed	EICB RAI MI 002421118	TVA Letter dated 3/12/10	
009	7.3.2	5.6, 6.3.5	☐	Change 7.3-2, identified in Watts Bar Nuclear Plant FSAR red line for Unit 2 (ADAMS Accession Number	TVA Letter Dated March 12, 2010 (Enclosure 1, Item No. 9 on Page 8 of 15); TVA responded to	9. Y	Closed	Closed	EICB RAI MI 002421118	3/12/10, MI 101680598	
010	7.3	7.3	☐	The original SER on Watts Bar (NUREG-0847) documents that the scope of the review of FSAR	TVA Letter Dated March 12, 2010 (Enclosure 1, Item No. 10 on Page 8 of 15); TVA responded to	10.	Closed	Closed	EICB RAI MI 002421118	3/12/10, MI 101680598	
011	7.3.2	5.6, 6.3.5	☐	NUREG-0847 Supplement No. 2 Section 7.3.2 includes an evaluation of a change in containment	TVA Letter Dated March 12, 2010 (Enclosure 1, Item No. 11 on Page 13 of 15); TVA responded	11.	Closed	Closed	EICB RAI MI 002421118	ML101680598, Item 9	
012	7.4	7.4	☐	The original SER on Watts Bar (NUREG-0847) documents that the scope of the review of FSAR	TVA Letter Dated March 12, 2010 (Enclosure 1, Item No. 12 on Page 13 of 15); TVA responded	12.	Closed	Closed	EICB RAI MI 002421118	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	TVA Letter Dated March 12, 2010 (Enclosure 1, Item No. 13 on Page 14 of 15); TVA responded	13.	Closed	Closed	EICB RAI MI 002421118	TVA Letter dated 3/12/10	TS have been docketed.
014	All	All	☐	Provide the justification for any hardware and software changes that have been made since the previous U.S.	Date: 4/27/10 Responder: TVA	14.	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	Date: 4/27/10 Responder: TVA	15.	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	Date: 4/27/10 Responder: TVA	16.	Closed	Closed	NRC Meeting Summary	TVA Letter dated 4/27/10	
017	7.3.1	7.3.1, 5.5.5	☐	Identify precedents in LARs, if any, for the solid state protection system. Also, identify any hardware	Date: 4/27/10	17.	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	Date: 4/27/10 Responder: TVA	18.	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	Date: 4/27/10	19.	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	Date: 4/27/10 Responder: TVA	20.	Closed	Closed	NRC Meeting Summary	TVA Letter dated 4/27/10	NNC 4/30/10: SRP Section 7.0 states: "The organization
021		7.3	☐	For the Foxboro Spec 200 platform, identify any changes in hardware from the precedent systems	Date: 5/25/10	21.	Closed The resolution of this item	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	☐	Verify the auxiliary feedwater control refurbishment results in a like-for-like replacement, and identify any	Date: 4/27/10	22.	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	Date: 4/27/10 Responder: TVA	23.	Closed	Closed	NRC Meeting Summary	TVA Letter dated 4/27/10	NNC 4/30/10: SRP Section 7.0 states: "The organization
024			☐	Provide a schedule by the January 13, 2010, meeting for providing information in accordance with I&C	During the January 13, 2010 meeting, TVA presented a schedule for completing various	24.	Closed	Closed	NRC Meeting Summary	N/A – Request for schedule	NNC 4/30/10: Carte to address response with respect to PAMS
025	7.5.2	7.5.1	☐	For the containment radiation high radiation monitor, verify that the information provided by TVA is	Date: 4/27/10	25.	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	26.	Closed	Closed	NRC Meeting Summary	TVA Letter dated 4/27/10	NNC 4/30/10: SRP Section 7.0 states: "The organization
027	7.7.1.4		☐	For Foxboro I/A provide information regarding safety/non safety related interaction, common cause	Date: 4/27/10 Responder: TVA	27.	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	28.	Closed	Closed	NRC Meeting Summary	TVA Letter dated 4/27/10	
029			☐	For the rod control system, verify that the refurbishment results in a like for like replacement	Date: 4/27/10 Responder: TVA	29.	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	Responder: Clark	30.	Closed	Closed	NRC Meeting Summary	TVA Letter dated 10/5/10	
031			✓	For the rod position indication system (CERPI), provide information in accordance with ISC 4. Need to	Date: 4/27/10 Responder: TVA	31.	Closed	Closed	NRC Meeting Summary	TVA Letter dated 4/27/10	CERPI is non-safety related. Note: The issue of interlock with
032			✓	For the process computer, need to consider cyber security issues and emergency response data system	Date: 4/27/10 Responder: TVA	32.	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	Date: 4/27/10 Responder: TVA	33.	Closed	Closed	NRC Meeting Summary	TVA Letter dated 4/27/10	The loose parts monitoring system is not connected to any
034			✓	2/4/2010	Responder: TVA	34.	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		35.	Close	Closed	N/A	N/A	
034.2			✓	Chapter 7.2 - Reactor Trip System Deletion of Neutron Flux Negative Rate Trip		36.	Close	Closed	N/A	N/A	
034.2	7.3	7.3	✓	Chapter 7.3 – ESFAS Design Basis Analysis Parameters		37.	Closed	Closed	N/A	N/A	
034.4	7.5.1.1	7.5.2	✓	Chapter 7.5 - Instrumentation Systems Important to Safety		38.	Closed	Closed	N/A	N/A	Closed
034.5	7.5.1.1	7.5.2.7	✓	Chapter 7.6 - All Other Systems Required for Safety Plant Process Computer Replacement		39.	Closed	Closed	N/A	N/A	Closed
034.6			✓	Chapter 7.7 Control Systems Alternate Means for Monitoring Control or		40.	Closed	Closed	N/A	N/A	
035			✓	2/18/2010	Responder: Clark	41.	Closed	Closed	RAI No. 1 MI 102080005	TVA Letter dated 3/12/10	LIC-110 Section 6.2.2 states: "Design features and
036	7.5.2	7.5.1	✓	February 18, 2010	Date: 5/25/10 Responder: Clark	42.	Closed	Closed	NRC Meeting Summary		NNC: Unit 2 FSAR Section 7.5.1 "Post Accident Monitoring
037	7.5.1.1	7.5.2	✓	2/18/2010	Responder: Clark Date: 5/25/10	43.	Closed	Closed 00/16/10	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	44.	Closed	Closed	EICB RAI MI 102061885	TVA Letter dated 10/5/10	The slides presented at the December 15, 2010 meeting
039			✓	January 13, 2010	Responder: Clark Date: 5/25/10	45.	Closed	Closed	EICB RAI MI 102040008	FSAR amendment 08	The equation for the calculation of the estimated average hot leg
040			✓	January 13, 2010	Responder: Clark Date: 5/25/10	46.	Closed	Closed	EICB RAI EICB RAI	FSAR amendment 08	The equation for the calculation of the power fraction on page
042	All	All	✓	February 25, 2010: Telecom	Date: 5/25/10 Responder: Clark	47.	Closed	Closed	EICB RAI MI 102040002	TVA Letter dated 6/18/10	The drawing provided did not have the identification numbers
044	7.5.2	7.5.1	✓	February 25, 2010	Date: 5/25/10 Responder: Clark	48.	Closed	Closed	EICB RAI MI 102040002	TVA Letter dated 6/18/10	
045			✓	February 25, 2010	Date: 5/25/10 Responder: Clark	49.	Closed	Closed	EICB RAI MI 102040002	TVA Letter dated 7/30/10	
046			✓	February 25, 2010	Date: 5/25/10 Responder: Clark	50.	Closed	Closed	N/A – Request for help finding	N/A	
047	7.5.2	7.5.1	✓	4/8/2010	Responder: WEC/Hilmes Date: 5/25/10	51.	Closed	Closed	EICB RAI MI 102040002	TVA Letter dated 7/30/10	
048	7.5.2	7.5.1	✓	April 8, 2010	Date: 5/25/10 Responder: WEC	52.	Closed	Closed	EICB RAI MI 102040002	TVA Letter dated 6/18/10	
049	7.5.2	7.5.1	✓	4/8/2010	Responder: WEC Date: 5/25/10	53.	Closed	Closed	EICB RAI MI 102040002	TVA Letter dated 6/18/10	
051			✓	April 15, 2010	Date: 5/25/10 Responder: Craig/Mebh	54.	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	55.	Closed	Closed	RAI No. 12 MI 102080005		
053	7.5.2	7.5.1	✓	April 19, 2010	Date: 5/25/10 Responder: Slifer	56.	Closed	Closed	RAI No. 13 MI 102080005		
056			✓	April 19, 2010	Date: 5/25/10 Responder: Slifer	57.	Closed	Closed	RAI No. 16 MI 102080005	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	58.	Closed	Closed	RAI No. 17 MI 102080005	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
058	7.5.0	7.5	☹	April 19, 2010	Date: 5/25/10 Responder: Slifer	59.	Closed	Closed	RAI No. 18 MI 102980005	TVA Letter dated 6/18/10	
059	7.5.2	7.5.1	☹	April 19, 2010	Date: Responder: Slifer	60.	Closed	Closed	RAI No. 19 MI 102980005	TVA Letter dated 6/18/10	
060	7.5.2	7.5.1	☹	April 19, 2010	Date: 5/25/10 Responder: Clark	61.	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	62.	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	63.	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	64.	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	Responder: Webb Date: 4/8/2010	65.	Closed	Closed	N/A - No question was	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 "Watte Bar 2 DAMS	Responder: WEC Date: 5/25/10	66.	Closed	Closed	N/A - No question was	TVA Letter dated 6/18/10	
076	7.5.2	7.5.1	☹	By letter dated March 12, 2010 TVA stated that the target submittal date for the "Watte Bar 2 DAMS	Responder: Clark Date: 5/25/10	67.	Closed	Closed	N/A - No question was	N/A	
077	7.5.2	7.5.1	☹	By letter dated March 12, 2010 TVA stated that the target submittal date for seven other documents was	Responder: WEC Date: 5/25/10	68.	Closed	Closed	N/A - No question was	TVA Letter dated 6/18/10	
078			☹	4/26/2010	Responder: Clark Date: 5/25/10	69.	Closed	Closed	EICB RAI MI 102910008	TVA Letter dated 10/5/10	
079			☹	4/26/2010	Responder: Clark Date: 5/25/10	70.	Closed	Closed	EICB RAI MI 102910008	TVA Letter dated 10/5/10	Reviewed under Item 154
080			☹	4/26/2010	Responder: WEC	71.	Closed	Closed	RAI No. 2 MI 102980005	TVA Letter dated 7/30/10	
083	7.5.2	7.5.1	☹	May 6, 2010	Date: 6/18/10 Responder: WEC	72.	Closed	Closed	EICB RAI MI 102910002	TVA Letter dated 7/30/10	
084	7.5.2	7.5.1	☹	May 6, 2010	Date: 6/18/10 Responder: Clark	73.	Closed	Closed	EICB RAI MI 102910002	TVA Letter dated 6/18/10	
087	7.5.2	7.5.1	☹	May 6, 2010	Date: 5/24/10 Responder: Slifer	74.	Closed	Closed	RAI No. 20 MI 102980005	TVA Letter dated 6/18/10	
088	7.5.2	7.5.1	☹	May 6, 2010	Date: 5/24/10 Responder: Slifer	75.	Closed	Closed	RAI No. 21 MI 102980005	TVA Letter dated 6/18/10	
089			☹	5/6/2010	Responder: Clark	76.	Closed	Closed	EICB RAI MI 102910002	TVA Letter dated 3/12/10	NNC: Docketed response states that the applicable ESAP
090			☹	5/6/2010	Responder: Clark Date: 5/25/10	77.	Closed	Closed	EICB RAI MI 102910002	TVA Letter dated 3/12/10	
091	7.4	7.4	☹	May 20, 2010	Date: 5/25/10 Responder: Clark	78.	Closed	Closed	EICB RAI No.1 MI 102910017	TVA Letter dated 6/18/10	
093			☹	May 20, 2010	Date: 5/25/10 Responder: Knuettel	79.	Closed	Closed	N/A	N/A	Will be reviewed under item 154
094			☹	5/20/2010	Responder: Clark Date: 5/25/10	80.	Closed	Closed	N/A	N/A	Information was found in FSAR
095	7.8.1, 7.8.4	XX	☹	May 20, 2010	Date: Responder:	81.	Closed	Closed	EICB RAI No. 2 MI 102910017	TVA Letter dated 7/30/10	
096	7.7.5	XX	☹	5/20/2010	Responder:	82.	Closed	Closed	EICB RAI No.3 MI 102910017	TVA Letter dated 7/30/10	
097	7.4.2	7.4	☹	May 20, 2010	Date: Responder:	83.	Closed	Closed	EICB RAI No.4 MI 102910017	TVA Letter dated 7/30/10	
098	7.4.2	7.4	☹	May 25, 2010	Date: Responder:	84.	Closed	Closed	EICB RAI No.5 MI 102910017	TVA Letter dated 7/30/10	
099			☹	April 12, 2010	Date: Responder: WFC.	85.	Closed	Closed			Closed to Item 129
100			☹	5/20/2010	Responder: WEC	86.	Closed	Closed	N/A - No question was	N/A	
102			☹	May 24, 2010	Date: 5/24/10 Responder: WEC	87.	Closed	Closed	N/A	TVA Letter dated 6/18/10	Request for schedule not information
105			☹	April 29, 2010	Date: Responder: Langley	88.	Closed	Closed	N/A	N/A	Will be reviewed under item 154.

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
106			☞	May 6, 2010	Date: 5/25/10 Responder: Davies	89.	Closed	Closed	RAI No. 9 MI 102980005	TVA Letter dated 6/18/10	
107			☞	May 6, 2010	Date: 5/28/10 Responder: Clark	90.	Closed	Closed	RAI No. 22 MI 102980005	TVA Letter dated 6/18/10	
108			☞	May 6, 2010	Date: 5/25/10 Responder: Webb/Hilmes	91.	Closed	Closed	N/A	N/A	Will be reviewed under OI#154
109.			☞	5/6/2010	Responder: N/A	92.	Closed	Closed	N/A	N/A	Duplicate of another open item.
109.	7.8	XX	☞	5/6/2010	Responder: N/A	93.	Closed	Closed	N/A	N/A	
110			☞	May 6, 2010	Date: Responder: Clark	94.	Closed	Closed	N/A	N/A	Information was found.
111			☞	May 6, 2010	Date: 5/28/10 Responder: Clark	95.	Closed	Closed	N/A	TVA Letter dated 6/18/10	Request to help find, not a request for information
112			☞	June 1, 2010	Date: Responder: Clark	96.	Closed	Closed	N/A	N/A	Information was received
113			☞	6/1/2010	Responder: Clark	97.	Closed	Closed	EICB RAI MI 102010008	TVA Letter dated 6/18/10	
115			☞	2/25/2010	Responder: Clark	98.	Closed	Closed	EICB RAI MI 102010002	TVA Letter dated 6/18/10	
116			☞	6/3/2010	Responder: WEC	99.	Closed	Closed	EICB RAI MI 102010008	TVA Letter dated 10/5/10	Letter sent to Westinghouse requesting the basic information
119			☞	June 10, 2010	Date: Responder:	100.	Closed	Closed	RAI No. 23 MI 102080005	TVA Letter dated 7/30/10	
120			☞	5/6/2010	Responder: Hilmes/Merten/Costley	101.	Closed	Closed	EICB RAI MI 102010002	TVA Letter dated 7/30/10	
121			☞	5/6/2010	Responder: Webb/Webber	102.	Closed	Closed	EICB RAI MI 102080066	TVA Letter dated 7/30/10	
122			☞	June 14, 2010	Date: Responder: WEC	103.	Closed	Closed	N/A - Request for schedule not	N/A	
123	7.7.3	7.4.1, 7.3.4	☞	6/14/2010	Responder:	104.	Closed	Closed	ML101720589, RAIs 21 and 22	TVA Letter dated 7/30/10	
124	7.7.5	XX	☞	6/14/2010	Responder:	105.	Closed	Closed	ML101720589, Item No. 23	TVA Letter dated 7/30/10	
125	7.7.8	7.7.1.12	☞	6/14/2010	Responder:	106.	Closed	Closed	ML101720589, Item No. 24	TVA Letter dated 7/30/10	
126	7.8	7.8	☞	June 14, 2010	Date: Responder:	107.	Closed	Closed	ML101720589, Item No. 26	TVA Letter dated 7/30/10	
127	7.2	7.2	☞	6/16/2010	Responder: WEC/Clark	108.	Closed	Closed	EICB RAI MI 102010008	TVA Letter dated 6/18/10	
128	7.2	7.2	☞	6/18/2010	Responder: WEC Drake /TVA Craig	109.	Closed	Closed	EICB RAI MI 102010008		Track through SE open item
129			☞	6/12/2010	Responder: WEC	110.	Closed	Closed	N/A	TVA Letter dated 10/5/10	
130			☞	6/28/2010	Responder: Clark	111.	Closed	Closed	N/A	TVA Letter dated 10/5/10	
131			☞	6/28/2010	Responder: Clark	112.	Closed	Closed	N/A	TVA Letter dated 10/5/10	
132			☞	6/28/2010	Responder: Clark	113.	Closed	Closed	N/A	TVA Letter dated 10/5/10	
133			☞	6/28/2010	Responder: Clark	114.	Closed	Closed		TVA Letter dated 10/5/10	
134			☞	6/28/2010	Responder: Clark	115.	Closed	Closed		TVA Letter dated 10/5/10	
135	7.3.1	7.3.1	☞	6/30/2010	Responder: Clark	116.	Closed	Closed	RAI not necessary	TVA Letter dated 10/5/10	
136	7.3.2, 7.4	7.4, 5.6	☞	6/30/2010	Responder: Clark	117.	Closed	Closed	RAI not necessary	TVA Letter dated 10/5/10	

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
137			☞	Several WBN2 PAMS documents contain a table titled, "Document Traceability & Compliance."	Responder: WEC	118.	Closed	Closed	ML101650255, Item No. 1	TVA Letter dated 10/5/10	
139			☞	The WBN2 PAMS System Requirements Specification (WBN2 PAMS SysRS) contains a table (see page iii)	Responder: WEC	119.	Closed	Closed	ML101650255, Item No. 2	TVA Letter dated 10/5/10	WBN2 PAMS System Requirements Specification
141			☞	Deleted by DORL	Date: Responder:	120.	Closed	Closed	ML101650255, Item No. 5		WBN2 PAMS System Requirements Specification
146			☞	6/17/2010	Responder:	121.	Closed	Closed	ML101650255, Item No. 10		PAMS System Requirements Specifications
147			☞	6/17/2010	Responder:	122.	Closed	Closed	ML101650255, Item No. 11		PAMS System Requirements Specifications
148			☞	6/17/2010	Responder:	123.	Closed	Closed	ML101650255, Item No. 12		PAMS System Requirements Specifications
149	7.2	7.2	☞	FSAR Section 7.1.1.2(2), Overtemperature delta T and Overpressure delta T equations have been simplified	Responder: Tindell	124.	Close	Closed	ML101720589, Item No. 1	TVA Letter dated 10/5/10	
150	7.2	7.2	☞	Many of the changes were based on the Westinghouse document N3 00 4003. Provide this	Responder: Clark	125.	Close Response provided in letter	Closed	ML101720589, Item No. 2	TVA Letter dated 10/5/10	
151	7.2	7.2	☞	Provide the EDCR 52378 and 54504 which discusses the basis for many changes to this FSAR section	Responder: Clark	126.	Close	Closed	ML101720589, Item No. 3	TVA Letter dated 10/5/10	
152	7.2	7.2	☞	Deleted portion of FSAR section 7.2.3.3.4 and moved to FSAR section 7.2.1.1.5. However, the FSAR	Responder: Merten/Clark	127.	Close	Closed	ML101720589, Item No. 4	TVA Letter dated 10/5/10	
153	7.2	7.2	☞	FSAR section 7.2.1.1.7 added the reference to FSAR section 10.4.1.3 for exception to D 12. However	Responder: Craig/Webb	128.	Close	Closed	ML101720589, Item No. 5	TVA Letter dated 10/21/10	
155	7.2	7.2	☞	Summary of FSAR change document section 7.2 states that sections 7.2.1.1.9 and 7.2.2.2(4) are	Date: Responder: Stockton	129.	Closed	Closed	ML101720589, Item No. 7		
157	7.2	7.2	☞	FSAR section 7.2.2.1.1, fifth paragraph was deleted except for the last sentence. The last sentence states	Responder: Tindell	130.	Close	Closed	ML101720589, Item No. 9	TVA Letter dated 10/5/10	
158	7.2	7.2	☞	FSAR section 7.2.2.1.1, paragraph six was changed to state that the design meets the requirements of	Responder: Tindell	131.	Closed	Closed	ML101720589, Item No. 10	TVA Letter dated 10/5/10	
159	7.2	7.2	☞	FSAR section 7.2.2.1.2 discusses reactor coolant flow measurement by elbow taps. However, it further	Responder: Craig	132.	Close	closed	ML101720589, Item No. 11	TVA Letter dated 10/5/10	
160	7.2	7.2	☞	FSAR section 7.2.2.2(7) deleted text which has references 12 and 14. These references are not	Responder: Tindell	133.	Close	Closed	ML101720589, Item No. 12	TVA Letter dated 10/5/10	
161	7.2	7.2	☞	FSAR section 7.2.2.3 states that changes to the control function description in this section are expected	Responder: Clark	134.	Closed	Closed	ML101720589, Item No. 13	TVA Letter dated 10/5/10	
162	7.2	7.2	☞	FSAR section 7.2.2.2(14) states that bypass of a protection channel during testing is indicated by an	Responder: Tindell	135.	Closed	Closed	ML101720589, Item No. 14	TVA Letter dated 10/5/10	
163	7.2	7.2	☞	Deleted by DORL	Date: Responder:	136.	Closed	Closed	ML101720589, Item No. 15		
164	7.2 7.5.1	7.2	☞	FSAR section 7.2.2.2(20) has been revised to include the plant computer as a means to provide information	Responder: Perkins	137.	Closed	Closed	ML101720589, Item No. 16 and	TVA Letter dated 10/5/10	Item No. 8 sent to DORL
165	7.2	7.2	☞	FSAR section 7.2.2.3.2, last paragraph of this section has been deleted. The basis for this deletion is that	Responder: Clark	138.	Closed	Closed	ML101720589, Item No. 17	TVA Letter dated 10/5/10	
166	7.2	7.2	☞	Changes to FSAR section 7.2.2.2(20) are justified based on the statement that the integrated computer	Responder: Clark	139.	Closed	Closed	ML101720589, Item No. 18	TVA Letter dated 10/5/10	
167	7.2	7.2	☞	FSAR section 7.2.2.4, provide an analysis or reference to chapter 15 analysis which demonstrate that failure	Responder: Clark	140.	Close	closed	ML101720589, Item No. 19	TVA Letter dated 10/5/10	
168	7.2	7.2	☞	FSAR table 7.2-4, item 9 deleted loss of offsite power to station auxiliaries (station blackout) based on the	Responder: Clark	141.	Close Response provided in letter	Closed	ML101720589, Item No. 20	TVA Letter dated 10/5/10	
169			☞	6/18/2010	Responder: Clark	142.	Closed	Closed			
170			☞	6/17/2010	Responder: Clark	143.	Closed	Closed			
171	7.2	7.2	☞	6/17/2010	Responder: Craig	144.	Closed	Closed	EICB RAI ML 102010008	TVA Letter dated 10/21/10	Closed to SE Open Item
172			☞	6/17/2010	Responder: Craig	145.	Closed	Closed	EICB RAI ML 102010008		
173	7.1	7.1	☞	6/17/2010	Responder: Craig/Webb/Powers	146.	Closed	Closed	EICB RAI ML 102010008		

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174			✓	6/28/2010	Responder: Hilmes/Craig	147.	Closed	Closed	EICB RAI ML102010008		
175			✓	June 28, 2010	Responder:	148.	Closed	Closed	EICB RAI ML102010008		
176	7.1	7.1	✓	6/28/2010	Responder: Craig/Webb	149.	Closed	Closed	EICB RAI ML102010008		
177	7.5.2.1	7.5.1	Σ	7/15/2010	Responder: Clark	150.	Closed	Closed	N/A	TVA Letter dated 10/5/10	RAI not required
178	7.5.2.1	7.5.1	Σ	7/15/2010	Responder: Clark	151.	Closed	Closed	N/A	TVA Letter dated 10/5/10	RAI not required
179			✓	An emphasis is placed on traceability in System Requirements Specifications in the SRP in the	Responder: WEC	152.	Closed	Closed	N/A – Closed to Item No. 142	NA	
180			✓	The SRP, BTP 7-14, Section B.3.3.1 states that Regulatory Guide 1.172 endorses, with a few noted	Responder: WEC	153.	Closed	Closed	N/A – Closed to Item No. 142	NA	
181			✓	An emphasis is placed on traceability in System Requirements Specifications in the SRP in the	Responder: WEC	154.	Closed	Closed	N/A – Closed to Item No. 142	NA	
182			✓	Characteristics that the SRP states that a Software Requirements Specifications should have include	Responder: WEC	155.	Closed	Closed	N/A – Closed to Item No. 142	NA	
184			✓	7/15/2010	Responder: WEC	156.	Closed	Closed	N/A – Closed to Item No. 142	N/A	
188			✓	By letter dated June 30, 2010, TVA docketed, "Tennessee Valley Authority (TVA) Watts Bar Unit 2	Responder: Clark	157.	Closed	Closed	ML101970033, Item No. 3 & 4	TVA Letter dated 10/5/10	
189		7.6.7	✓	7/20/2010	Responder: Clark	158.	Closed	Closed	RAI No. 3 ML102080005	TVA Letter dated 10/5/10	
190	7.9		✓	FSAR Table 7.1-1 states: "Regulatory Guide 1.133, May 1981 "Loss of Part Detection Program for the	Responder: Clark	159.	Closed	Closed	RAI No. 4 ML102080005	TVA Letter dated 10/5/10	Closed to OI-331.
191	7.9		✓	NUREG-0800 Chapter 7, Section 7.9, "Data Communication Systems" contains review criteria for	Responder: Jimmie Perkins	160.	Closed	Closed	ML10197016, Item Nos. 1 & 3	TVA Letter dated 10/5/10	
192	7.5.1.1	7.5.2	Σ	The NRC Staff is using SRP (NUREG-0800) Chapter 7 Section 7.5 "Instrumentation Systems Important to	Responder: Clark	161.	Closed	Closed	Item No. 1 sent to DOP	TVA Letter dated 10/5/10	EICB RAI ML1028618855 sent to DOP
193	7.5.1.1	7.5.2	Σ	The WB2 FSAR, Section 7.5.2, "Plant Computer System" contains three subsections	Responder: Clark	162.	Closed	Closed	Item No. 2 sent to DOP	TVA Letter dated 10/5/10	EICB RAI ML1028618855 sent to DOP
194	7.5.1.1.1	7.5.2.1	Σ	The WB2 FSAR Section 7.5.2.1, "Safety Parameter Display System" contains a description of the Safety	Responder: Costley/Norman	163.	Closed	Closed	Item No. 3 sent to DOP	TVA Letter dated 10/5/10	EICB RAI ML1028618855 sent to DOP
195	7.5.1.1.2	7.5.2.2	Σ	Bypassed and Inoperable Status Indication (BISI)	Responder: Costley/Norman	164.	Closed	Closed	Item No. 4 sent to DOP	TVA Letter dated 10/5/10	EICB RAI ML1028618855 sent to DOP
196	7.5.1.1.2	7.5.2.2	Σ	Bypassed and Inoperable Status Indication (BISI)	Responder: Costley/Norman	165.	Closed	Closed	Item No. 5 sent to DOP	TVA Letter dated 10/5/10	EICB RAI ML1028618855 sent to DOP
197			✗	Open Item 197 was never issued.		166.	Closed	Closed			
198	7.5.1.1.2	7.5.2.2	Σ	SRP Section 7.5, Subsection III, "Review Procedures" states: Recommended review emphasis for BISI	Responder: Costley/Norman	167.	Closed	Closed	Item No. 6 sent to DOP	TVA Letter dated 10/5/10	EICB RAI ML1028618855 sent to DOP
199	7.5.1.1.3	7.5.2.3	Σ	The WB2 FSAR Section 7.5.2.3, "Technical Support Center and Nuclear Data Links" contains a description	Responder: Costley/Norman	168.	Closed	Closed	Item No. 7 sent to DOP	TVA Letter dated 10/5/10	Related SE Section 7.5.5.3 EICB RAI ML1028618855 sent to
203	7.5.1.1	7.5.2	Σ	7/26/2010	Responder: Clark	169.	Closed	Closed	EICB RAI ML102861885	TVA Letter dated 10/5/10	EICB RAI ML102861885 sent to DOP
204	7.5.1.1	7.5.2	Σ	7/26/2010	Responder: Costley/Norman	170.	Closed	Closed NRC to issue	EICB RAI ML102861885	TVA Letter dated 10/5/10	EICB RAI ML102861885 sent to DOP
205			✓	7/26/2010	Responder: Clark	171.	Closed	Closed	EICB RAI ML102010008	TVA Letter dated 10/5/10	Question B related to prior NRC approval of this system or 50.50
206	7.5.1.1	7.5.2	Σ	7/27/2010	Responder: Clark	172.	Closed	Closed	EICB RAI ML102861885	TVA Letter dated 10/5/10	EICB RAI ML102861885 sent to DOP
207			✓	July 27, 2010	Date: Responder:	173.	Closed	Closed			
208	7.5.2.1	7.5.1	Σ	7/27/2010	Responder: Clark	174.	Closed	Closed	EICB RAI ML102861885	TVA Letter dated 10/5/10	EICB RAI ML102861885 sent to DOP
209	7.5.2.1	7.5.1	Σ	7/27/2010	Responder: Clark	175.	Closed	Closed	EICB RAI ML102861885	TVA Letter dated 10/5/10	EICB RAI ML102861885 sent to DOP

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
210	7.5.2. 1	7.5.1	Σ	7/27/2010	Responder: Clark	176.	Closed	Closed	EICB RAI MI 102861885	TVA Letter dated 10/5/10	EICB RAI ML102861885 sent to DOPI
215			□	7/29/2010	Responder: WEC	177.	Closed	Closed			
216	7.5.1. 1	7.5.2	Σ	7/29/2010	Responder: Clark	178.	Closed	Closed	EICB RAI MI 102861885	TVA Letter dated 10/5/10	EICB RAI ML102861885 sent to DOPI
217			⊙	7/6/2010	Responder: Clark	179.	Close	Closed	EICB RAI MI 102010008	TVA Letter dated 7/30/10	
218			⊙	7/6/2010	Responder: Clark	180.	Closed	Closed	EICB RAI MI 102010008	TVA Letter dated 7/30/10	
219			⊙	8/4/2010	Responder: TVA Licensing	181.	Closed	Closed	EICB RAI MI 102010008		
220			⊙	8/4/2010	Responder: Ayala	182.	Closed	Closed	EICB RAI MI 102010008	TVA Letter dated 10/5/10	
221	7.7.1. 2	7.7.1. 2	Σ	8/4/2010	Responder: Trelease	183.	Closed	Closed	EICB RAI MI 102861885	TVA Letter dated 10/5/10	EICB RAI ML102861885 sent to DOPI
222			⊙	8/4/2010	Responder: Clark	184.	Close	Closed	EICB RAI MI 102010008	TVA Letter dated 10/5/10	
223			⊙	8/4/2010	Responder: Clark	185.	Closed	Closed	EICB RAI MI 102010008		
224	7.5.1. 1	7.5.2	Σ	8/4/2010	Responder: Norman (TVA CEG)	186.	Closed	Closed	EICB RAI MI 102861885	TVA Letter dated 10/5/10	EICB RAI ML102861885 sent to DOPI
225			⊙	8/4/2010	Responder: Scansen	187.	Close	Closed	EICB RAI MI 102010008	TVA Letter dated 10/5/10	
226			⊙	8/4/2010	Responder: TVA Licensing	188.	Closed	Closed	N/A – Information	TVA Letter dated 8/11/10	See also Open Item Nos. 41 & 270
227			⊙	8/4/2010	Responder: Clark	189.	Close	Closed	EICB RAI MI 102010008	TVA Letter dated 10/5/10	
228			⊙	8/4/2010	Responder: Clark	190.	Closed	Closed	EICB RAI MI 102080066	TVA Letter dated 10/5/10	
229			⊙	8/4/2010	Responder: Clark	191.	Closed	Closed	EICB RAI MI 102080066	TVA Letter dated 10/5/10	
230			⊙	8/4/2010	Responder: Webb	192.	Closed	Closed	EICB RAI MI 102080066	TVA Letter dated 10/5/10	
231			⊙	8/4/2010	Responder: Clark	193.	Closed	Closed	EICB RAI MI 102010008	TVA Letter dated 10/5/10	
232			⊙	8/4/2010	Responder: Clark	194.	Closed	Closed	RAI No. 5 MI 102080005	TVA Letter dated 10/5/10	
233			⊙	8/4/2010	Responder: Clark	195.	Closed	Closed	EICB RAI MI 102080066	TVA Letter dated 10/5/10	
234			⊙	8/4/2010	Responder:	196.	Closed	Closed	N/A – Duplicate Item	N/A	
235			⊙	8/4/2010	Responder: TVA Licensing	197.	Closed	Closed	EICB RAI MI 102010008		
236			⊙	8/4/2010	Responder: Clark	198.	Close	Closed	EICB RAI MI 102010008	TVA Letter dated 10/5/10	
237			⊙	8/4/2010	Responder: Clark	199.	Closed	Closed	EICB RAI MI 102080066	TVA Letter dated 10/5/10	
238			⊙	8/4/2010	Responder: Webb/Hilmes	200.	Closed	Closed	N/A – Duplicate Item	N/A	
239			⊙	8/4/2010	Responder: Hilmes	201.	Closed	Closed	N/A – Meeting request	N/A	
240			⊙	8/4/2010	Responder: Clark	202.	Close	Closed	MI102910008 Item#20	TVA Letter dated 10/5/10	
241			⊙	8/4/2010	Responder: Davies	203.	Closed	Closed	RAI No. 10 MI 102080005	TVA Letter dated 10/5/10	
242			⊙	8/4/2010	Responder: Hilmes	204.	Close	Closed	EICB RAI MI 102010008	TVA Letter dated 10/5/10	

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243			☹	8/3/2010	Responder: WEC	205.	Closed	Closed	N/A – Closed to Item No. 142	N/A	
249			☹	8/8/2010	Responder: WEC	206.	Closed	Closed			LIC-101 Rev. 3 Appendix B Section 4 "Safety Evaluation"
253			☹	8/8/2010	Responder: Clark	207.	Closed	Closed		TVA Letter dated 10/5/10	Related to Open Item no. 83.
254			☹	8/10/2010	Responder: WEC	208.	Closed	Closed	N/A - Request to make	TVA Letter dated 10/21/10	
255			☹	8/10/2010	Responder: WEC	209.	Closed	Closed	N/A - Request to make	TVA Letter dated 10/21/10	
256			☹	8/10/2010	Responder: WEC	210.	Closed	Closed	N/A - Request to make	TVA Letter dated 10/21/10	
257			☹	8/10/2010	Responder: WEC	211.	Closed	Closed	N/A - Request to make	N/A	
258			☹	8/10/2010	Responder: WEC	212.	Closed	Closed	N/A - Request to make	N/A	
259			☹	8/10/2010	Responder: WEC	213.	Closed	Closed	N/A - Request to make	TVA Letter dated 10/21/10	
260			☹	8/10/2010	Responder: WEC	214.	Closed	Closed	N/A - Request to make	N/A	
261			☹	8/10/2010	Responder: WEC	215.	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
262			☹	8/10/2010	Responder: WEC	216.	Closed	Closed	N/A - Request to make	N/A	
263			☹	8/11/2010 Based on an examination of document available at the	Responder: WEC	217.	Closed	Closed	ML101650255, Item No. 2		
264			☹	8/11/2010	Responder: WEC	218.	Closed	Closed	ML101650255, Item No. 2		
265			☹	8/11/2010	Responder: WEC	219.	Closed	Closed	ML101650255, Item No. 2		
270			☹	8/23/2010	Responder: Clark	220.	Closed	Closed			See also Open Item Nod. 41 & 245
271			☹	8/23/2010	Responder: WEC	221.	Closed	Closed	N/A – Closed to Item No. 142	NA	
272	7.5.2. 1	7.5.1	☹	8/26/2010	Responder: Clark	222.	Closed	Closed	EICB RAI MI 102861885	TVA Letter dated 10/21/10	EICB RAI ML102861885 sent to DQBI
273	7.5.2. 1	7.5.1	☹	8/26/2010	Responder: Clark	223.	Closed	Closed	EICB RAI MI 102861885	TVA Letter dated 10/5/10	EICB RAI ML102861885 sent to DQBI
274	7.5.2. 1	7.5.1	☹	8/26/2010	Responder: Clark	224.	Closed	Closed	EICB RAI MI 102861885	TVA Letter dated 10/21/10	EICB RAI ML102861885 sent to DQBI
275			☹	8/27/2010	Responder: Clark	225.	Closed	Closed	Not Required Answer exists in	N/A	
276	7.6	7.6	☹	8/27/2010	Responder: Webb	226.	Close	Closed	EICB RAI MI 102010008	TVA Letter dated 10/21/10	
278	7.6	7.6.6	☹	8/27/2010	Responder: Trelease	227.	Close	Closed	EICB RAI MI 102010008	TVA Letter dated 10/21/10	
279	7.6	7.6.6	☹	8/27/2010	Responder: Mather	228.	Close	Closed	EICB RAI MI 102010008	TVA Letter dated 10/21/10	
280	7.6	7.6.6	☹	8/27/2010	Responder: Trelease	229.	Close	Closed	EICB RAI MI 102010008	TVA Letter dated 10/21/10	
282	7.6	7.6.9	☹	8/27/2010	Responder: Trelease	230.	Close Response is acceptable	Closed	EICB RAI MI 102010008	TVA Letter dated 10/21/10	
284	7.7.3	7.4.1	☹	8/27/2010	Responder: Webber	231.	Closed	Closed	EICB RAI No.14 MI 102010017	TVA Letter dated 10/21/10	This item is a follow-up question to item 123
286	7.7.3	9.3.4. 2.1	☹	8/27/2010	Responder: Webber	232.	Closed	Closed	EICB RAI No.16 MI 102010017	TVA Letter dated 10/21/10	
290		7.7	☹	9/7/2010	Responder: Clark	233.	Closed	Closed	N/A	N/A	This item is a duplicate of item 201

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292	7.2.5	7.2	☺	9/7/2010	Responder: Craig	234.	Closed	Closed	EICB RAI ML 102910008	TVA Letter dated 10/21/10	
299			☺	Provide Common Q Software Requirements Specification Post Accident Monitoring System 00000	Attachment 41 of the 10/5 letter contains the Common Q Software Requirements Specification	235.	Closed	Closed		TVA Letter dated 10/5/10	
312		7.0	☺	By letter dated September 10,2010, TVA provided the summary evaluation of 50.59 reports which were	Responder: Stockton	236.	Close	Closed	EICB RAI ML 102910008	TVA Letter dated 10/21/10	
314	7.3	7.3	☺	The following 50.59 changes were listed in the March 12 PAI response letter (item 10) but were not included	Responder: Stockton	237.	Closed	Closed	EICB RAI No. 10	TVA Letter dated 10/21/10	Related to OI 10
315	7.5.3	7.5.3	☺	IE Bulletin 79-27 required that emergency operating procedures to be used by control room operators to	Responder: S. Smith (TVA Operations)	238.	Close	Closed	EICB RAI ML 102910008	TVA Letter dated 10/21/10	
316	7.5.2. 3	7.5	☺	TVA has provided various documents in support of PM 1000 high range monitors for WRN2	Responder: Temples/Mather	239.	Closed	Closed	RAI No. 26 ML 102980005		
320				Per Westinghouse letter WBT-D-2340, TENNESSEE VALLEY AUTHORITY WATTS BAR NUCLEAR	Responder: Clark	240.	Closed	Closed	N/A	N/A	Duplicate of item 156
321				For the purposes of measuring reactor coolant flow for Reactor Protection functions, elbow taps are used for	Responder: Clark	241.	Closed	Closed	N/A	N/A	Duplicate of OI# 157
322		7.7.1. 11	☺	Section 7.7.1.11 will be added to FSAR Amendment 101 to provide a discussion of the Distributed Control	Responder: Clark	242.	Closed	Closed			
324			☺	Per the NRC reviewer, the BISI calculation is not required to be submitted		243.	Closed	Closed			
325			☺	The Unit 2 loops in service for Unit 1 that are scheduled to be transferred to the Foxboro Spec 200	Responder: TVA Startup Olson	244.	Closed	Closed			Closed to open item ?
332	7.5.2. 1	7.5.1	EICB (Marcus)	10/26/2010 Related to 302 In response to Open Item 302 TVA provided a diskette that included a draft of Attachment 8 to the proposed 10/29/2010 letter. Attachment 8 included 14 of the 15, 50.59 documents listed in the, "RG 1.97 50.59 Listing." DCN 52389 was not included on the diskette. Identify the document and date that officially transmitted or will transmit, DCN 52389 to the NRC. If DCN 52389 has not been previously transmitted to NRC please transmit the document to the NRC.		245.N	Closed TVA to either officially transmit DCN 52389 or identify the letter that transmitted or will transmit DCN 52389.	Closed This item was corrected prior to transmittal of the response to OI 302 in the 10/29 TVA letter.	TBD	TBD	RAI is being drafted
333	7.5.2. 1	7.5.1	EICB (Marcus)	10/27/2010 Related to 44 and 303 In response to Open Item 303, TVA provided a diskette that included a draft of Attachment 9 to the proposed October 29, 2010 letter. In Attachment 9, the Unit 2 variable source for RG 1.97 variable 37, "CCS Sample Tank Level," was listed as Foxboro Spec 200. However, in response to Open Item 44, in Enclosure 1 to TVA letter dated June 18, 2010 (ML101940236), the Unit 2 variable source for RG 1.97 variable 37 was listed as Foxboro I/A. Determine which is correct and formally issue a correction.		246.N	Closed TVA to determine the correct information and officially transmit the correct information.	Closed This item was corrected prior to transmittal of the response to OI 302 in the 10/29 TVA letter.	TBD	TBD	RAI is being drafted
269			L (Poo)	8/20/2010 DORL to send the Eagle-21 Audit Report to TVA.	Responder: NRC	1. Y	Open	Open-NRC			
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:	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.	2. N	Open Response is included in letter dated 10/5/10. Revised compliance matrix	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	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

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
				<p>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.</p> <p>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.</p> <p>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.</p> <p>NRC then concluded that TVA should go through and provide a more complete and thorough compliance matrix.</p>	<p>By letter dated April 8, 2010 TVA provided the PAMS Licensing Technical Report provided additional information.</p> <p>Attachment 3 contains the revised Common Q PAMS ISG-6 Compliance Matrix, dated June 11, 2010, that addresses these items (Reference 13).</p> <p>By letter Dated June 18, 2010 (see Attachment 3) TVA provided a table, "Watts Bar 2 - Common Q PAMS ISG-6 Compliance Matrix."</p> <p>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.</p>		<p>is unacceptable.</p> <p>NNC 8/12/10: It is not quite enough to provide all of the documents requested. There are two possible routs 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.</p>			<p>TVA Letter dated 6/18/10</p> <p>TVA Letter dated 10/5/10</p>	<p>compliance evaluations. The staff is still waiting for a good compliance evaluation.</p>
050	7.5.2	7.5.1	EICB (Carte)	<p>4/8/2010</p> <p>How should the "shall" statements outside of the bracketed requirements in Common Q requirements documents be interpreted?</p>	<p>Responder: WEC Date: 5/25/10</p> <p>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 provided no later than August 31, 2010.</p> <p>The System Requirements Specification will be revised by September 30, 2010 and submitted within two of receipt from Westinghouse.</p> <p>TVA Revised Response</p> <p>This item is resolved by submittal of the revised SysRS and SysDS (attachments 7 and 8 of TVA Letter to NRC dated 10/25/10).</p>	3. N	<p>Open</p> <p>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 also SDS4.4.2.1-1 on page 4-32).</p> <p>Is there a requirement on the shall referenced above??</p> <p>Response is provided in letter dated 10/29/10.</p>	<p>Open-NRC Review</p> <p>Due 12/31/10</p>	EICB RAI ML102910002 Item No. 8	TVA Letter dated 6/18/10	
054	7.5.2	7.5.1	50	4/19/2010	<p>Responder: Slifer/Clark Date: 5/25/10</p>	4. Y	Open	Open-NRC	RAI No. 14	TVA Letter	

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 all the different environments in which the RM-1000 will be required to operate. Please group these environments into two categories (a) Harsh environment, per 10 CFR 50.49, and (b) Mild Environment.	<p>The only safety-related application for the RM-1000 is the Containment High Range radiation monitors. The Containment High Range radiation monitors will be installed in the Main Control Room, a mild environment. The detectors will be installed remotely in the containment.</p> <p>For WBN Unit 2, a mild environment is defined as:</p> <p>A defined room or building zone where (1) the temperature, pressure, or relative humidity resulting from the direct effects of a design basis event (DBE) (e.g., temperature rise due to steam release) are no more severe than those which would occur during an abnormal plant operational condition, (2) the temperature will not exceed 130°F due to the indirect effects of a DBE (e.g., increased heat loads from electrical equipment), (3) the event radiation dose is less than or equal to 1 x 10⁴ rads, and (4) the total event plus the 40 year TID (total integrated dose) is less than or equal to 5 x 10⁴ rads. (Reference 3).</p> <p>What is Reference 3?</p> <p>TVA Revised Response:</p> <p>Reference 3 is TVA Design Criteria WB-DC-40-54, Environmental Qualification To 10CFR50.49, which provides the definition of mild and harsh environments. Attachment 13 to TVA letter dated October 29, 2010 contains WB-DC-40-54, Revision 4.</p>		Revised response is included in letter dated 10/29/10.(TVA to confirm) Design Criteria is WB-DC-40-54 is attached to this letter.	<p>Review</p> <p>Response acceptable. TVA to update on issuance of letter to close item.</p> <p>Due 10/14/10</p> <p>Identify source of reference 3.</p> <p>TVA to identify when and by what letter number WB-DC-40-54 was submitted to NRC. If not previously submitted then please submit this document.</p>	ML102980005 10/26/2010	dated 6/18/10	
055	7.5.2	7.5.1	EICB (Singh)	4/19/2010 The "Qualification Test Report Supplement, RM-1000 Upgrades," Document No. 04508905-1SP Rev. A states that the qualification was done in accordance with IEEE 323-1974 and -1983. Please describe and justify all differences in this qualification methodology and that endorsed by Regulatory Guide 1.209. Specifically address EMI and RFI	<p>Responder: Slifer/Clark Date: 5/25/10</p> <p>The detectors for these loops will be located in a harsh environment (inside containment). The RM-1000 will be located in the main control room, which is a mild environment. The RM-1000 and associated I/F converters have been tested to the requirements present in IEEE Std. 323-1983 and -1974, as well as the System Requirements including EPRI TR 102323 (Sept. 94) in the design basis.</p> <p>Electro-Magnetic-Interference and Radio Frequency Interference (EMI-RFI) testing was performed (the results of the testing are included in the Equipment Qualification Test Report submitted under TVA letter dated March 12, 2010, Reference 4). Since RG 1.209 was not issued until 2007, General Atomics test reports do not reference it.</p> <p>For WBN Unit 2, a harsh environment is defined as:</p> <p>A defined room or building zone where either (1)</p>	5. Y	Open Revised response is included in letter dated 10/29/10. (TVA to confirm) Design Criteria is WB-DC-40-54 is attached to this letter.	<p>Open-NRC Review</p> <p>Response acceptable. TVA to update on issuance of letter to close item.</p> <p>Due 10/14/10</p> <p>Identify source of reference 3.</p>	RAI No. 15 ML102980005 10/26/2010	TVA Letter dated 6/18/10 10/14/10	

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
					<p>the temperature, pressure, and relative humidity resulting from the direct effects of a DBE (e.g., temperature rise due to steam release) are more severe than those which would occur during an abnormal plant operational condition, (2) the temperature will exceed 130°F due to the indirect effects of DBE (e.g., increased heat loads from electrical equipment), (3) the event radiation dose is greater than 1 x 10⁴ rads, or (4) the total event plus the 40-year TID is greater than 5 x 10⁴ rads. (Reference 3) What is Reference 3?</p> <p>TVA Revised Response:</p> <p>Reference 3 is TVA Design Criteria WB-DC-40-54, Environmental Qualification To 10CFR50.49, which provides the definition of mild and harsh environments. Attachment 13 to TVA letter dated October 29, 2010 contains WB-DC-40-54, Revision 4.</p>						
065	7.5.2	7.5.1	EICB (Carte)	By letter dated March 12, 2010 TVA stated that the target submittal date for the FMEA was August 31, 2010.	<p>Responder: WEC Date: 5/25/10</p> <p>Attachment 37 to letter dated 10/5/10 contains the proprietary version of the Common Q PAMS FMEA and the affidavit for withholding. A non-proprietary version will be provided at a later date.</p>	6. N	Open	Open-NRC Review Due 12/1/10	N/A - No question was asked. Item was opened to track commitment made by applicant.	TVA Letter dated 10/5/10	
101			DORL (Poole)	<p>4/12/2010</p> <p>The non-proprietary versions of the following RM-1000, Containment High Range Post Accident Radiation Monitor documents will be provided by June 30, 2010.</p> <ol style="list-style-type: none"> 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 	<p>Responder: Slifer</p> <p>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.</p>	7. 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.
103	7.4	7.4	EICB (Darbali)	<p>5/27/2010</p> <p>TVA to submit excerpts of EDCR 52321</p>	<p>Responder: Ayala Date: 5/27/10</p> <p>Attachment 1 contains excerpts from draft EDCR 52321 (i.e., draft Scope and Intent, Unit Difference and Technical Evaluation). The final excerpts will be submitted within two weeks after issuance of the EDCR.</p>	8. Y	Open Response is included in letter dated 10/29/10.	Open-NRC Review Due 10/31/10. Waiting for docketed version to close item.	EICB RAI No.1 ML102910017, 10/19/10		Submittal date is based on current EDCR scheduled issue date.
104	7.4	7.4	EICB (Darbali)	<p>5/27/2010</p> <p>TVA to submit excerpts of EDCR 52351</p>	<p>Responder: Merten Date: 5/27/10</p> <p>Attachment 2 contains excerpts from draft EDCR 52351 (i.e., draft Scope and Intent, Unit Difference and Technical Evaluation). The final excerpts will be submitted within two weeks after issuance of the EDCR.</p>	9. Y	Open Response is included in letter dated 10/29/10	Open-NRC Review Due 10/31/10. Waiting for docketed version to close item.	EICB RAI No.1 ML102910017, 10/19/10		Submittal date is based on current EDCR scheduled issue date.

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
114	7.2	7.2	EICB (Garg)	<p>6/1/2010</p> <p>Provide the resolution of the Eagle 21 Rack 5 lockup on update issue.</p>	<p>Responder: WEC</p> <p>The following non-proprietary response was developed from proprietary Westinghouse letter WBT-D-2027 (Reference 11), which provided the resolution of this issue. Westinghouse approved this non-proprietary response via e-mail from A. Drake to M. Clark on June 15, 2010.</p> <p>As documented in WBT-D-1917, "Eagle-21 Rack 5 LCP Diagnostic Failures", (Reference 14), during the factory acceptance testing for the Unit 2 Eagle-21 System, Westinghouse noted an occasional diagnostic failure while performing the parameter update function on Rack 5.</p> <p>Subsequently, TVA provided to Westinghouse for testing and examination, a Loop Control Processor (LCP) board removed by TVA from Unit 1 Rack 5 for life cycle-based preventive maintenance. TVA personnel familiar with Unit 1 had indicated they had not experienced problems when performing parameter updates on Unit 1 Rack 5.</p> <p>Based on Westinghouse examination and testing, a difference in hardware was identified between the Unit 1 LCP shipped to Westinghouse, the new Unit 2 Rack 5 LCP, and an older LCP (older than the Unit 1 LCP) from the Westinghouse Eagle 21 test bed. Installed on the Unit 1 LCP was a different version of an 80287 math coprocessor chip (80287 XL).</p> <p>This version of the 80287 had an improved specification for calculation speed. Use of this chip on both the Unit 2 LCP and the test bed LCP allowed proper performance of the LCP when making parameter updates using the Unit 1/Unit 2 Rack 5 software. Also, use of the slower 80287 on any of the three LCP boards caused failure in parameter update with the Unit 1/Unit 2 Rack 5 software.</p> <p>Through investigation of historical records, Westinghouse found that the 80287 XL chip had been evaluated and used by its former Process Control Division (now Emerson) for this application, but the current Westinghouse documentation had not been updated. This part has now been evaluated, and the Westinghouse documentation and drawing have been revised to allow use of the 80287 XL coprocessor. The 80287 XL coprocessor has been installed on the Unit 2 Rack 5 LCP, and the appropriate factory acceptance testing has been successfully conducted using this updated board. Additionally, the LCP boards in the balance of the Unit 2 racks have been updated with the 80287 XL</p>	10. Y	<p>Open</p> <p>TVA to provide justification that there are no more surprises.</p> <p>Revised response is included in letter dated 10/29/10</p>	<p>Open-NRC Review</p> <p>Due 10/31/10</p> <p>The write-up shows that there was differences between Unit 1 and 2 but was not identified to NRC in earlier response. Are there any more surprises like this?</p>	EICB RAI ML102910008 Item#35	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
					coprocessor. TVA Revised Response: The Eagle 21 system is installed and the Site Acceptance Test has been completed. To the best of TVA's knowledge there are no unknown issues with the system.						
118	7.4	7.4	EICB (Darballi)	6/8/2010 TVA to submit excerpts from EDCR 55385	Responder: Merten Attachment 4 contains excerpts from draft EDCR 55385 (i.e., draft Scope and Intent, Unit Difference and Technical Evaluation). The final excerpts will be submitted within two weeks after issuance of the EDCR.	11. Y	Open Response is included in letter dated 10/29/10	Open-NRC Review Due 10/31/10. Waiting for docketed version to close item.	EICB RAI No.1 ML102910017, 10/19/10		Submittal date is based on current EDCR scheduled issue date. Note: The RVLIS EDCR has been split into two EDCRs. The first EDCR is 52601 (Open Item 91) The second EDCR is 55385.
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 rationale 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	12. N	Open	Open-NRC Review Due 10/22/10	ML101650255, Item No. 4		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). (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.	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 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	13. N	Open Response provided in letter dated 10/5/10 NRC Review and WEC to complete response. b-d to be addressed at public meeting and audit. Will require information to be docketed.	Open-NRC Review Due 12/1/10 Responses to items a and e provided. Need response to b-d.	ML101650255, Item No. 8	TVA Letter dated 10/5/10	WBN2 PAMS Software Requirements Specification By letter dated April 8, 2010 (ML10101050203), TVA docketed 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). (d) N/A – Closed to Item No. 142

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
					<p>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).</p> <p>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.</p> <p>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.</p>						
154	7.2	7.2	EICB (Garg)	<p>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 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.</p>	<p>Responder: Craig/Webb</p> <p>(Q1) Refer to the response to letter item 13, RAI Matrix Item 51.</p> <p>(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.</p> <p><u>TVA Revised Response:</u></p> <p>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.</p> <p>(Q1) WBN 2 implementation of TSTF-493, Rev. 4, Option A includes addition of a discussion of the WBN setpoint</p>	14. N	<p>Open</p> <p>Response is not acceptable. A revised response will be submitted in the letter dated 10/29/10.</p>	<p>Open-NRC Review</p> <p>Due 10/31/10</p> <p>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</p>	<p>ML101720589, Item No. 6 and EICB RAI ML102861885 Item No. 8</p>	<p>TVA Letter dated 10/5/10</p>	<p>EICB RAI ML102861885 sent to DORL</p>

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
					<p>methodology in FSAR section 7.1.2.1.9.</p> <p>(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.</p> <p>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."</p>						
156	7.2	7.2	EICB (Garg)	<p>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.</p>	<p>Responder: WEC</p> <p>Per Westinghouse letter WBT-D-2340, TENNESSEE VALLEY AUTHORITY WATTS BAR NUCLEAR PLANT UNIT 2 FSAR Markups Units 1 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.</p>	15. N	<p>Open</p> <p>Response is included in letter dated 10/5/10</p>	<p>Open-NRC Review</p> <p>Amendment 101 Submitted 10/29/10.</p>	ML101720589, Item No. 8	TVA Letter dated 10/5/10	Response on hold pending Westinghouse review.
183			EICB (Carite)	<p>7/15/2010</p> <p>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 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"</p> <p>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</p>	<p>Responder: WEC</p> <p>The generic Software Requirements Specification applies except as modified by the WBN Unit 2 System Requirements Specification.</p>	16. Y	<p>Open</p> <p>Response provided in letter dated 10/21/10</p>	<p>Open-NRC Review</p> <p>Due 12/1/10</p> <p>NRC to issue RAI</p>	EICB RAI ML102980066 Item No. 9	TVA Letter dated 10/21/10 Enclosure 1 Item No. 4	

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				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?							
186	7.7.8	7.7.1.12	EICB (Darbali)	7/15/2010 Along with Amendment 96, TVA submitted a list of Bechtel changes for each section. Change number 45 addresses a change to section 7.7.1.12, AMSAC, however, the Justification column states “This change is not included. EDCR 52408 installs the AMSAC in Unit 2. It does not have a trouble alarms. The existing words better reflect the operation of the system.” Even though this change was not included in Amendment 96, will it be included in a future amendment? Also, please submit a summary of EDCR 52408.	Responder: Perkins/Clark No. The previous wording reflected operation of the computer based AMSAC system. The change reflects the operation of the relay logic based system that replaced the original computer based system in Unit 1. Unit 2 is installing a similar relay logic based system, so the change to the Unit 1 wording is applicable to Unit 2. <u>EDCR 52408 Summary</u> A Purchase Order was issued to Nutherm International to provide a Unit 2 cabinet with the same functions as the current Unit 1 AMSAC. EDCR 52408 will install the cabinet and route/install cabling to provide the necessary inputs/outputs for/from the AMSAC cabinet. In the Main Control Room, three cables will be installed for the AMSAC handswitch on 2-M-3 and “AMSAC NOT ARMED” and “AMSAC ACTUATED” annunciator windows. In the Turbine Building, two pressure transmitters will be installed in two local panels to sense turbine pressure. Cables will be routed to the transmitters to provide the signal and power. Four cables will be routed to a local panel to provide steam generator level signals. In the Control Building, three cables will be routed to separation relays which will provide the start signal for the Motor Driven Auxiliary Feedwater Pumps, Turbine Driven Auxiliary Feedwater Pump, and initiate a Turbine Trip. Additionally, a cable will be routed to Unit 2 ICS for ‘AMSAC NOT ARMED’ and ‘AMSAC ACTUATED’ log points. This EDCR is intended to configure Unit 2 AMSAC like Unit 1 when possible. TVA Revised Response: No further changes to the FSAR associated with AMSAC are planned.	17. Y	Open Response included in letter dated 10/29/10 Response is satisfactory. Issue date of Amendment 101 is not yet determined. Follow-up NRC Request: TVA to state that no further FSAR changes are planned.	Open-NRC Review Due Date 10/31/10. Waiting for docketed version to close item.	EICB RAI No.6 ML102910017, 10/19/10	TVA Letter dated 10/5/10	
200	7.2 7.3			7/21/2010	Responder: Clark The statement in SER Section 7.5.1 is supported	18. Y	Open	Open-NRC Review	EICB RAI ML102980066	TVA Letter dated 10/5/10	

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
	7.5 7.7			Amendment 99 of the Watts Bar Unit 2 FSAR Section 7.5, "Instrumentation Systems Important to Safety," does not include any description of instrumentation for normal operation; therefore, Section 7.5 of the FSAR does not support statements made in the SER Section 7.5; compare SER (ML072060490) Section 7.5.1 and FSAR Amendment 99 Section 7.5. Please identify where, in the docketed material, information exists to support the statements in the SER Section 7.5.1.	by the following: <ul style="list-style-type: none"> I&C Systems for Normal Operation FSAR Section Eagle 21 7.2 Neutron Monitoring 7.2 Foxboro Spec 200 7.3 (List of other sections in attachment 34) Foxboro I/A 7.7.11 (new section will be added by amendment 101) (other sections have been previously provided) Plant Computer 7.5.2 Rod Control 7.7.1.2 CERPI 7.7.1.2 Control Rod Drive 7.7.1.1 Incore Neutron Monitoring 7.7.1.9 Lose Part Detection/Monitoring 7.6.7 Vibration Monitoring RCP 5.5.1.2 Control Boards 7.1.1.10 RVLIS 7.5, 5.6 		Response provided in letter dated 10/5/10	Amendment 101 Submitted 10/29/10.	Item No. 2		
201	7.7.1.1.1	7.7.11	EICB (Carte)	7/21/2010 Amendment 99, FSAR Section 7.7.1.1.1, "Reactor Control Input Signals (Unit 2 Only)," contains a description of functions performed uniquely for Unit 2. Please describe the equipment that performs this function (in sufficient detail to support a regulatory evaluation), and evaluate this equipment against the appropriate regulatory criteria.	Responder: Webb These functions are within the scope of the Foxboro I/A system. Section 7.7.11 will be added to the FSAR in amendment 101 to provide a discussion of the DCS.	19. Y	Open Response provided in letter dated 10/5/10	Open-NRC Review Amendment 101 Submitted 10/29/10.	EICB RAI ML102980066 Item No. 3	TVA Letter dated 10/5/10	
211	7.5.1.1 7.5.2 7.6.1 7.7.1 7.7.2 7.7.4 7.9		EICB (Carte)	7/27/2010 FSA Table 7.1-1 shows: "The extent to which the recommendations of the applicable NRC regulatory guides and IEEE standards are followed for the Class 1E instrumentation and control systems is shown below. The symbol (F) indicates full compliance. Those which are not fully implemented are discussed in the referenced sections of the FSAR and in the footnotes as indicated." Please describe how systems that are important to safety, but not 1E, comply with 10 CFR 50.55a(a)1: "Structures, systems, and components must be designed, fabricated, erected, constructed, tested, and inspected to quality standards commensurate with the importance of the safety function to be performed."	Responder: Clark The WBN 2 FSAR Section 7.5 defines the following systems as "important to safety" 1. Post Accident Monitoring including: a. Common Q Post Accident Monitoring System (Safety-Related) i. Reactor Vessel Level ii. Core Exit Thermocouples iii. Subcooling Margin Monitor b. Eagle 21 indications (Safety-Related) c. Foxboro Spec 200 indications (Safety-Related) d. Neutron Monitoring (Source and Intermediate Range) (Safety-Related) e. Radiation Monitors (Safety-Related) f. Unit 1 and Common shared indications (Safety-Related) g. Foxboro I/A indications (Non-Safety-Related) h. Radiation Monitors (Non-Safety-Related) i. CERPI (Non-Safety-Related) j. Integrated Computer System (Non-Safety-Related) k. Unit 1 and Common shared indications (Non-Safety-Related) Post Accident Monitoring Instrumentation Design Criteria, WB-DC-30-7, Rev. 22, Appendix A	20. N	Open Response included in letter dated 10/5/10	Open-NRC Review Amendment 101 Submitted 10/29/10.	EICB RAI ML102980066 Item No. 5	TVA Letter dated 10/5/10	Relates to SE Sections: 7.5.5, Plant Computer 7.6.10, Loose Part Monitoring 7.7.1, Control System Description 7.7.2, Safety System Status Monitoring System 7.7.4, PZR & SG Overfill 7.9, Data Communications

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
					<p>provides the minimum quality requirements for each Category (1, 2 or 3) of variable. By definition, no Category 1 variable can be non-safety-related. Therefore, non-safety-related variables and the source equipment are limited to category 2 or 3. Since some variables are designated as having more than 1 category, the requirements of the highest category apply. Additional design criteria information for specific systems is contained in:</p> <p>g. Foxboro I/A – Site-Specific Engineering Specification WBN Unit 2 NSSS and BOP Controls Upgrade Specification Rev. 1 (Attachment 23)</p> <p>h. CERPI – Rod Control System Description, N3-85-4003, Rev. 12 Section 2.2, Design Requirements</p> <p>i. Radiation Monitors – Design Criteria Document WB-DC-40-24, Radiation Monitoring – (Unit 1 / Unit 2), Rev. 21</p> <p>j. Integrated Computer System – Design Criteria Document WB-DC-30-29 Plant Integrated Computer System (ICS), Rev. 8 (Submitted under TVA to NRC letter dated August __, 2010)</p> <p>2. Plant Computer (Integrated Computer System) – See Item j above.</p> <p>The WBN 2 FSAR Section 7.6, defines the following non-safety-related systems as “other systems required for safety”</p> <p>1. Foxboro I/A – While not specifically described, functions performed by the system are described in this section. The qualify requirements are described above.</p> <p>2. Lose Part Monitoring System – Design Criteria Document WB-DC-30-31, Loose Parts Monitoring System, Rev. 4, provides the quality requirements for this system. A description of the distributed control system will be added as FSAR section 7.7.1.11 in FSAR Amendment 101.</p> <p>Installation is performed in accordance with the quality requirements of either the Bechtel or TVA work order processes based on the quality classification of the equipment being installed. Vendor testing is performed in accordance with procurement specification requirements which are based on the type and quality classification of the equipment. Preoperational testing is performed in accordance with Chapter 14 of the FSAR.</p>						
213	7.5.2		E/ICB (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	Responder: WEC Conformance with IEEE 603 is documented in the revised Common Q PAMS Licensing Technical Report and the Common Q PAMS System Design	21. N	Open Response is included in letter dated 10/25/10	Open-NRC Review Due 12/31/10	E/ICB RAI ML102980066 Item No. 18		

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
				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?	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.		NNC to review and revise this question after LTR R1is received.				
214			EICB (Carte)	7/27/2010 By letter dated June 18, 2010 (ML101940236) TVA stated (Enclosure 1, Attachment 3, Item No. 10) that the approved Common Q Topical Report contains information to address the "Safety Analysis." The Common Q SPM however states that a Preliminary Hazards Analysis Report and the V&V reports document the software hazards analysis. Please Provide these documents.	Responder: WEC According to "The Software Program Manual for Common Q Systems," WCAP-16096-NP-1A, the Software Safety Plan only applies to Protection class software and PAMS is classified as Important-to-safety. Exhibit 4-1 of the SPM shows that PAMS is classified as Important-to-Safety	22. N	Open Response provided in letter dated 10/5/10 WEC References Common Q PAMS preliminary hazards analysis is referenced in the SRS. WEC to delete.	Open-NRC Review Due 12/1/10	EICB RAI ML102980066 Item No. 11	TVA Letter dated 10/5/10	
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, "Configuration Control," address process requirements for configuration control. Please explain how the above meets the intent of the approved SPM.	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.	23. N	Open Response is provided in letter dated 10/25/10.	Open-NRC Review Due 10/22/10	EICB RAI ML102980066 Item No. 14		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	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	24. N	Open Response is provided in letter dated 10/25/10	Open-NRC Review Due 10/22/10	EICB RAI ML102980066 Item No. 15		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

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				in the PQP.	"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"						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 As part of the Common Q topical report development effort, Westinghouse developed the Software Program Manual for Common Q Systems (ML050350234) to address software planning documentation. The NRC reviewed the SPM and concluded: "the SPM specifies plans that will provide a quality software life cycle process, and that these plans commit to documentation of life cycle activities that will permit the staff or others to evaluate the quality of the design features upon which the safety determination will be based. The staff will review the Implementation of the life cycle process and the software life cycle process design outputs for specific applications on a plant-specific basis." Please identify the implementation documentation produced as a result of following the SPM, and state what information will be docketed.	Responder: WEC The implementation documents required by the SPM are identified in the 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"	25. N	Open Response is provided in letter dated 10/25/10	Open-NRC Review Due 10/22/10.	EICB RAI ML102980066 Item No. 16		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."
248			EICB (Carte)	8/8/2010 As part of the Common Q topical report development effort, Westinghouse developed the Software Program Manual for Common Q Systems (ML050350234) to address software planning documentation. The NRC reviewed the SPM and concluded: "the SPM specifies plans that will provide a quality software life cycle process, and that these plans commit to documentation of life cycle activities that will permit the staff or others to evaluate the quality of the design features upon which the safety determination will be based. The staff will review the Implementation of the life cycle process and the software life cycle process design outputs for specific applications on a plant-specific basis." Please identify the design outputs produced as a result of following the SPM, and state when what information will be docketed.	Responder: WEC The documents are identified in the compliance matrix in revision 1 of the Licensing Technical Report Attachment 1 of the 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"	26. N	Open Response is provided in letter dated 10/25/10	Open-NRC Review Due 10/22/10.			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."
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 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.	Responder: WEC The software testing performed and documents created are addressed by the SPM Compliance matrix contained in 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"	27. N	Open Response is provided in letter dated 10/25/10	Open-NRC Review Due 10/22/10. NOTE: Samir please check with Norbert to see if the response is complete or partial. Thanks,			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

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								Steve			and the protection of public health and safety."
266			EICB (Carte)	8/11/2010 Please provide a high level description of the Foxboro IA equipment used at WBN2. This description should be more detailed than a brochure on the product line (or available on the web), and less detailed than a technical manual on each field replaceable unit. It is expected that such literature already exists.	Responder: Webb/Webber FSAR section 7.7.1.11 will be added in Amendment 101. In discussions with the NRC reviewer on October 4, 2010 it was agreed that the new FSAR section along with previously submitted documents should be sufficient to address this request. The NRC reviewer will notify TVA if additional documentation is required.	28. Y	Open Response provided in letter dated 10/21/10	Open-NRC Review Amendment 101 Submitted 10/29/10.		TVA Letter dated 10/21/10 Enclosure 1 Item No. 9	
267			EICB (Carte)	8/11/2010 By letter dated June 18, 2010 (ML101940236) TVA stated that the software safety plan (SSP) was not applicable to PAMS applications (see Watts Bar 2 - Common Q PAMS ISG-6 Compliance matrix Item No. 10); however, reference No. 30 of the SRS (ML101050202) is: 00000-ICE-37727, Rev. 0, "Post Accident Monitoring System Software Preliminary Hazard Analysis for the Common Q PAMS Project." A Preliminary Hazard Analysis is required by the SSP. Please explain.	Responder: WEC This is addressed in the Licensing Technical Report, Revision 1, WNA-LI-00058-WBT-P. 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"	29. N	Open Response provided in letter dated 10/25/10	Open-NRC Review Due 10/22/10			
277	7.6	7.6.3	EICB (Garg)	8/27/2010 NUREG 0847, "Safety evaluation report Related to the operation of Watts Bar Nuclear Plant, Units 1 and 2." has section 7.6.3 which discusses the, "Upper Head Injection Manual Control" system but has been removed from the FSAR. Please provide the information regarding when this system was removed, and the justification for the removal of the system and if the NRC staff has previously reviewed and accepted the removal of the system provide the reference to the staff's SE.	Responder: Clark Removal of the Upper Head Injection System was reviewed as part of the WBN Unit 1 original and was reviewed by the staff in SER Supplement 6: 1.7 Summary of Outstanding Issues - PAGE 1-3 "Supplement 7" (22) Removal of upper head injection system Opened (SSER 7) 6.3.1 (TAC 77195) When the removal of UHI System was evaluated by the NRC, this should be applied to both sections 6.3.1 and 7.6.3, since the UHI Control System has no function once the UHI System has been removed.	30. Y	Open Response is included in letter dated 10/29/10	Open-NRC Review Due 10/31	EICB RAI ML102910008 Item#61		
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.	31. N	Open Response provided in letter dated 10/29/10	Open-NRC Review Tva to docket in 10/31 letter	EICB RAI ML102910008 Item#65		
283	7.7.5	XX	EICB (Darbell)	8/27/2010 Follow-up to item 96 On Open Item 96, regarding the implementation of IEN 79-22, part of TVA's response was: The non-safety-related device/systems within the scope of IEN 79-22 are: 1. Steam generator power operated relief valve control	Responder: Clark 1. Steam generator power operated relief valve control system The potential scenario for this event is addressed in 15.2.13, Accidental Depressurization of the Main Steam System. 2. Pressurizer power operated relief valve	32. N	Open Response is included in letter dated 10/29/10	Open-NRC Review Due 10/31/10	EICB RAI No.13 ML102910017, 10/19/10		This item is a follow-up question to item 96.

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
				<p>system</p> <p>2. Pressurizer power operated relief valve control system</p> <p>3. Main feedwater control system</p> <p>4. Automatic rod control system.</p> <p>Failure of these systems/devices due to a high energy line break is fully addressed in Chapter 15, "Accident Analysis" of the WBN Unit 2 FSAR.</p> <p>Please identify the sections of FSAR Chapter 15 that address the failures of these systems.</p>	<p>control system</p> <p>The potential scenario for this event is depressurization of the reactor coolant system due to a relief valve failing open. This is addressed in 15.2.12, Accidental Depressurization of the Reactor Coolant System and 15.3.1, Loss Of Reactor Coolant From Small Ruptured Pipes Or From Cracks In Large Pipes Which Actuate The Emergency Core Cooling System.</p> <p>3. Main feedwater control system</p> <p>The potential scenarios for this event are:</p> <p>a. A loss of feedwater due a feedwater isolation valve failing closed. This is addressed in 15.2.8, Loss of Normal Feedwater.</p> <p>b. A feedwater regulating valve failing open. This is addressed in 15.2.10, Excessive heat removal due to feedwater system malfunctions.</p> <p>4. Automatic rod control system</p> <p>The potential scenarios are uncontrolled rod withdrawal events that are addressed in 15.2.1, Uncontrolled Rod Cluster Control Assembly Bank Withdrawal From A Subcritical Condition, 15.2.2, Uncontrolled Rod Cluster Control Assembly Bank Withdrawal At Power, and 15.2.3, Rod Cluster Control Assembly Misalignment.</p>						
285	7.3.3	7.3	EICB (Darball)	<p>8/27/2010</p> <p>Follow-up to item 22</p> <p>Do the control loops meet the requirements of IEEE-279? If not are they isolated from the circuit which meets the requirements of 279.</p>	<p>Responder: McNeil</p> <p>The Foxboro SPEC 200 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.</p> <p>Foxboro (Invensys) uses two IE analog modules to isolate IE to Non-IE signals. These are Contact Output Isolator (Model Number 2A0-L2C-R Relay Output) and Voltage-to-Current Converter (Model Number 2A0-VAI), both of which have the Input and Output signals isolated.</p>	33. Y	<p>Open</p> <p>Response is included in letter dated 10/29/10</p>	<p>Open-NRC Review</p> <p>Due 10/31/10. Waiting for docketed version to close item.</p>	EICB RAI No.15 ML102910017, 10/19/10		This item is a follow-up question to item 22
289			EICB (Singh)	<p>9/2/2010</p> <p>Provide an ISG 2 diversity analysis for the containment high range accident monitors RM-1000.</p>	<p>Responder: Faulkner</p> <p>There are 4 Containment High Range Radiation Monitors (HRRMs) for WBN2, a pair in upper containment and a pair in lower containment. Each pair completely meets the requirements for safety related equipment including separation, independence, electrical isolation, seismic qualification, quality requirements, etc. Each monitor channel is a standalone instrument loop</p>	34. N	<p>Open</p> <p>Response provided in letter dated 10/21/10</p>	<p>Open-NRC Review</p> <p>Please refer to highlighted sections of response that address NRC comments 1) and 2).</p>	RAI No. 24 ML102980005 10/26/2010	TVA Letter dated 10/21/10 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
					<p>with traditional individual panel readout. They are not a part of a Highly Integrated Control Room (HICR) and there is no diversity question relating to the HRRMs and any HICR infrastructure. Therefore, the response to this RAI will address the functional uses of the HRRMs and the alternate and diverse instrumentation that could be used for those functions should a common mode software issue render both trains of HRRMs non-functional.</p> <p>The Containment HRRMs have no automatic actuation function. They only provide indication as required by RG 1.97R2. They are used at WBN for 2 functions. They are used by the operators in Emergency Operating Instructions (EOI) as one of the indications of abnormal containment conditions indicative of a Loss of Coolant Accident (LOCA) after a Reactor Trip and Safety Injection and they are used in Emergency Plan Implementing Procedures (EPIP) to assist with event classification for events which involve fuel cladding degradation.</p> <p>In the EOI procedures, there are several diverse indications of containment conditions that are used to detect a LOCA and they are Containment Pressure, Containment Temperature, and Containment Sump Level. All of these instrument channels are diverse to the HRRMs in that they do not share a software platform or any integrated information or control system features. The HRRMs functional through individual, self contained, microprocessor based instrument loops. Containment Pressure and Sump Level indications are provided through Eagle 21 equipment which is completely diverse from the HRRMs. Containment Temperature is provided through Foxboro Spec 200 instrument channels which are completely diverse from the HRRMs. All of these readouts are through traditional panel meters and are not part of any HICR infrastructure.</p> <p>In the EPIPs, the HRRMs are used to indicate loss of fuel clad barrier and the potential loss of a containment barrier. Potential fuel clad damage can also be determined from samples taken from the Reactor Coolant System and from Incore Thermocouple readings. RCS sampling does not rely on plant instrumentation systems and the Incore Thermocouple System uses a Common Q software platform which is diverse from the HRRMs. 2) The accessibility required to obtain post accident samples of RCS has been demonstrated to be a viable post accident action at WBN.</p> <p>Should all 4 channels of HRRMs fail upscale,</p>			<p>Staff has the following comments on the proposed TVA response per the 10/21/submittal:</p> <p>1)Response addresses upscale failure. Please explain how downscale failure of all HRRM channels is detected and appropriate actions taken.</p> <p>2)Please confirm that the location for obtaining the RCS sample is accessible after an accident.</p> <p>Otherwise, the response is acceptable.</p> <p>Due 10/31/10</p>			

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
					<p>Annunciator Response Instructions would be followed and they call for evacuation of containment, sampling of RCS, checking other non-accident Radiation Monitors, notification of Radiological Control personnel to investigate, potential transition to Abnormal Operating procedures for management of potential radioactive material release, and evaluation under the Emergency Plan Implementing Procedures for event classification. All of these actions are conservative actions. 1) Should all 4 channels of the HRRMs fail downscale, the operators would turn to diverse indications as noted above before taking any further action.</p> <p>Therefore, there are diverse methods and equipment sets that can be used for any functions provided by the HRRMs should both channels become nonfunctional.</p>						
291		7.7	EICB (Carte)	<p>9/7/2010</p> <p>The equation at the bottom of Amendment 100 page 7.7-3 is wrong. There are two ways that this equation is inconsistent with the text above it.</p>	<p>Responder: Clark</p> <p>The errors in the terms within the equation for total rod speed error [T_E] will be corrected in FSAR Amendment 101 as shown below:</p> $T_E = T_{ref} \frac{1}{(1 + t_2s)} - T_{avg} \frac{(1 + t_3s)}{(1 + t_4s)(1 + t_5s)} + \left[(Q_{tu} - Q_n) \frac{t_1s}{(1 + t_1s)} K_1 K_2 \right]$	35. Y	<p>Open</p> <p>Response provided in letter dated 10/21/10</p>	<p>Open-NRC Review</p> <p>Amendment 101 Submitted 10/29/10.</p>		TVA Letter dated 10/21/10 Enclosure 1 Item No. 21	
293	7.7.4	7.2.2.3.5	EICB (Marcus)	<p>9/8/2010</p> <p>FSAR Amendment 100, Section 7.2.2.3.5 discusses Steam Generator Water Level and protection against low water level. However, this section does not discuss protection against Steam Generator overflow. Additionally, FSAR Section 7.2.2.3.4 discusses Pressurizer Water Level and provides minimal information concerning Pressurizer overflow. Please provide a discussion of protection against Pressurizer and Steam Generator overflow.</p>	<p>Responder: Craig</p> <p><u>Steam Generator Overfill</u> FSAR Section 7.2 discusses reactor trip functions. Section 7.2.2.3.5 describes the Low-Low steam generator level reactor trip. The steam generator High-High level interlock (P-14) protects against steam generator overflow by initiating feedwater isolation and a turbine trip. Reactor trip occurs indirectly as a result of the turbine trip if power is above 50%, the P-9 interlock. This function is identified as ESFAS interlock P-14 in FSAR Section 7.3, Table 7.3-3. The High-High level interlock is also discussed in FSAR Section 10.4.7.3. Section 15.2.10 analyzes the feedwater malfunction event which causes one or more feedwater control valves to fail to the fully open position.</p> <p><u>Pressurizer Overfill</u> The High pressurizer water level reactor trip protects against pressurizer overflow. This trip is described in FSAR Section 7.2.1.1.2 (3). Section 7.2.2.3.4 discusses specific control and protection interactions related to pressurizer level control. The high water level trip setpoint provides sufficient margin such that the undesirable condition of discharging liquid coolant through the</p>	36. Y	<p>Open</p> <p>Response is acceptable</p> <p>Response is included in letter dated 10/29/10</p>	<p>Open-NRC Review</p> <p>NRC to issue formal RAI to TVA.</p> <p>TVA formal response due 10/31/10</p>	EICB RAI ML102861885 Item No. 22	TBD	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
					safety valves is avoided. Pressurizer level is modeled in various Chapter 15 events to ensure that critical protection functions will function as required.						
300			EICB (Singh)	<p>Need Radiation Monitoring System Description/Design Criteria</p> <p>Are detectors different from Unit 1. Describe any differences.</p> <p>Are there any commercially dedicated parts in the RM-1000? If so, how are they dedicated?</p> <p>Please confirm that digital communication ports available in RM-1000 are not used.</p>	<p>Responder: Temples/Mather</p> <p>(1) The Radiation Monitoring Design Criteria Document, WB-DC-40-24, Revision 21 is contained in Attachment 6 to letter dated October 31, 2010.</p> <p>(2) Attachment 7 contains the General Atomics detector differences report. The containment high range radiation monitors are loops 271-274.</p> <p>(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.</p> <p>(4) The digital communications ports on the safety-related RM-1000 radiation monitors are not used.</p>	37. N	<p>Open</p> <p>Response is included in letter dated 10/29/10</p>	<p>Open-NRC Review</p> <p>Due 10/31/10 TVA to address the following comments:</p> <p>(1) Is it Att. 5 or Att. 6?</p> <p>(2) Pl. confirm that HRRMs are loops 271-274.</p> <p>(3) TVA to clarify that GA has a commercial dedication program in place and that GA is an approved 10CFR50, App. B supplier.</p> <p>(4) Response acceptable.</p>	RAI No. 25 ML102980005 10/26/2010		
302	7.5.2.1	7.5.1	EICB (Marcus)	<p>09/17/2010</p> <p>Item 208 requested a description of the changes that were performed under 10 CFR 50.59 for 16 Unit 1 PAM variables that were identified in Enclosure 1 Item No.6 of the letter dated June 18, 2010 (ML101940236). Please identify the specific 10 CFR 50.59 documentation that applies to each of these 16 variables.</p>	<p>Responder: Tindell</p> <p>Attachment 8 contains the requested 50.59 evaluations and the variable table cross referencing the variable to the appropriate DCN. There are two changes to the original table. Variable 9, RCS Pressurizer Level and 10, RCS Pressure Wide Range have been changed from 50.59 Y to N. The original response showed these variables as changed under 10 CFR 50.59. The response was based on the plan to replace all paper recorders in Unit 1. The assumption was that these recorders would be replaced prior to Unit 2 startup. While this may still occur, the recorders have not been replaced at this time.</p>	38. Y	<p>Open</p> <p>Response is included in letter dated 10/29/10</p>	<p>Open-NRC Review</p> <p>NRC to issue formal RAI to TVA</p> <p>TVA formal response due 10/31/10</p>	EICB RAI ML102861885 Item No. 23	TBD	EICB RAI ML102861885 sent to DORL See Item 332
303	7.5.2.1	7.5.1	EICB (Marcus)	<p>09/17/2010</p> <p>Enclosure 1 Item 6 of the letter dated June 18, 2010 included a column to indicate the Unit 2 variable source for each PAM variable and also if the variable was unique to Unit 2. For each variable that was indicated as unique to Unit 2 and the Unit 2 variable source is (1) Foxboro Spec 200, (2) Common Q PAMS, or (3) Foxboro IA, identify the Unit 1 variable</p>	<p>Responder: Tindell</p> <p>Attachment 9 contains the cross reference between the Unit 2 and Unit 1 variable sources for the unique WBN Unit 2 variables within the scope of the Foxboro Spec 200, Common Q PAMS and Foxboro I/A changes.</p> <p>NOTE: An error was identified during preparation</p>	39. Y	<p>Open</p> <p>Response is included in letter dated 10/29/10</p>	<p>Open-NRC Review</p> <p>NRC to issue formal RAI to TVA</p> <p>TVA formal response due 10/31/10</p>	EICB RAI ML102861885 Item No. 24	TBD	EICB RAI ML102861885 sent to DORL See Item 333

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
				source.	of this response. Variable 37 CCS Surge Tank Level was incorrectly identified as being within the scope of the Foxboro I/A system in TVA to NRC letter dated June 18, 2010. Variable 37 will be provided by the Foxboro Spec 200 system for Unit 2.						
304	7.5.2.1	7.5.1	EICB (Marcus)	09/17/2010 Enclosure 1 Item 6 of the letter dated June 18, 2010 indicated that the Unit 2 variable source for 14 PAM variables is Eagle 21. Please confirm that for each of these 14 variables the Unit 1 variable source is also the Eagle 21.	Responder: Tindell The source for the Unit 1 variables is the Eagle 21 System.	40. Y	Open Response is included in letter dated 10/29/10 Response is acceptable	Open-NRC Review NRC to issue formal RAI to TVA TVA formal response due 10/31/10	EICB RAI ML102861885 Item No. 25	TBD	EICB RAI ML102861885 sent to DORL
305	7.5.2.1	7.5.1	EICB (Marcus)	09/17/2010 Enclosure 1 Item 6 of the letter dated June 18, 2010 indicated that the Unit 2 variable source for 2 PAM variables is the Integrated Computer System. Please confirm that for these 2 variables the Unit 1 variable source was the Unit 1 plant computer system.	Responder: Tindell The source for the Unit 1 variables is the Integrated Computer System.	41. Y	Open Response is included in letter dated 10/29/10 Response is acceptable	Open-NRC Review NRC to issue formal RAI to TVA TVA formal response due 10/31/10	EICB RAI ML102861885 Item No. 26	TBD	EICB RAI ML102861885 sent to DORL
313	7.7.8	7.7.1.12	EICB (Darballi)	EDCR 52408 (installation of AMSAC in Unit 2) states that Design Criteria WB-DC-40-57 needs to be modified to reflect AMSAC in Unit 2. 1. Has WB-DC-40-57 been completed for Unit 2? If so, please submit. 2. If WB-DC-40-57 has not been completed for Unit 2, please give an estimated date of completion and submittal. 3. Please submit WB-DC-40-57 for Unit 1 and identify any changes to the Unit 2 version.	Responder: Ayala (1) The review of WB-DC-40-57 for Unit 2 applicability has been completed and included in Revision 4 of the document. Attachment 10 contains TVA design criteria WB-DC-40-57, Revision 4, Anticipated Transients Without Scram Mitigation System Actuation Circuitry (AMSAC). (2) The revision for Unit 2 is complete with open items as identified in item (3) below. Attachment 10 contains TVA design criteria WB-DC-40-57, Revision 4, Anticipated Transients Without Scram Mitigation System Actuation Circuitry (AMSAC) which is applicable to both WBN Unit 1 and Unit 2. There are 17 open Watts Bar Nuclear Plant Unit 2 Startup Integration Task Equipment List (WITEL) punch list items associated with Revision 4 that require resolution. A list of the punch list items is contained in Attachment 10.	42. Y	Open Response is included in letter dated 10/29/10	Open-NRC Review Due 10/31/10. Waiting for docketed version to close item.	EICB RAI No.18 ML102910017, 10/19/10		
317	7.5.2.3	7.5	EICB (Singh)	TVA has provided a proprietary and a non-proprietary version of Technical Manual for RM-1000 Digital Radiation Processor under ML101680582 and ML101680587). (i) Are these documents applicable to WBN2 as provided (October 2003 version). (ii) Why is DCN38993-A attached at the back of the proprietary version? It is for WBN1 Turbine Governor Control Valve.	Responder: Temples i. These documents are applicable to WBN Unit 2. ii. This was an error in document preparation that occurred when attachments were assembled for a previous letter. iii. The Technical Manual is not intended to include equipment requirements.	43. Y	Open Response is included in letter dated 10/29/10 (iii) Staff is looking for	Open-NRC Review Proposed response is acceptable. TVA to issue and confirm letter date.	RAI No. 27 ML102980005 10/26/2010		

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
				(iii) This document does not state the requirements for RM-1000 units. Please provide a document that states the requirements for the RM-1000 radiation monitors for WBN2.	Requirements would be found in the applicable TVA Specifications for the contract. Attachment 11 contains the Material Requisition Specification Revisions 1 and 4 which contain the requested information.		high level requirements for RM-1000 monitors. PI. provide appropriate documents.	Due 10/31/10			
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) (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.	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. 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.	44. Y	Open Note check 04508905-1QR or QR. Staff version is QR only. Response is included in letter dated 10/29/10	Open-NRC Review Due 10/31/10 Response acceptable. TVA to issue letter and confirm stated (future) dates	RAI No. 28 ML102980005 10/26/2010		
319	7.5.2.3	7.5	EICB (Singh)	TVA provided System Verification Test Results 04507007-1TR (July 1999) for Sequoyah to support test verification. However, the document states (page v) that it is not applicable for high range monitors with an action noted for fixing a problem with the high range RM-1000 monitors on page vi. TVA to respond to the following clarifications: Has the anomaly noted on page vi been resolved for the high range monitors? Provide the high range verification document for WBN2.	Responder: Temples See TVA letter to the NRC dated October 21, 2010, item 26 (RAI Matrix Item 316) for non-applicability of 04507007-1TR. The recorded anomaly was later resolved through the verification of software version 1.2, reported in RM-1000 v1.2 Software Verification Report 04508006. The high range verification documents are the Sequoyah RM-1000 v1.1 Software Verification Report 04508006 and RM-1000 v1.2 Software Verification Report 04508006.	45. Y	Open Response is included in letter dated 10/29/10	Open-NRC Review Due 10/31/10 Response acceptable. TVA to issue letter and confirm stated (future) dates	RAI No. 29 ML102980005 10/26/2010		
323			EICB(Gar g)	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: Craig Attachment 12 contains the WCAP 13869 Revision 1 to Revision 2 Change Analysis.	46. N	Open Response is included in letter dated 10/29/10	Open-NRC Review Due 10/31/10			
328	7.5.2.3	7.5	EICB (Singh)	Provide the model number for the four containment high range area monitors, RM-1000 and identify how the software V&V and qualification documents apply to them. If there is no specific model number then how is it ensured that the correct radiation monitor is received at the site and subsequently installed?	Responder: Temples The Containment High Range Radiation Monitors are model RM-1000. The monitors are uniquely identified by serial numbers which are assigned when the equipment is assembled. The	47. Y	Open Response is included in letter dated 10/29/10	Open-NRC Review Response OK. Awaiting TVA ltter to close OI.	RAI No. 30 ML102980005 10/26/2010		

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
					applicability of V&V reports and quality documentation for the RM-1000 model is in accordance with manufacturer's approved 10 CFR 50 Appendix B Quality Program and the requirements of the purchase order.			Due 10/31/10			
329	7.6.1	7.6.7	EICB (Singh)	<p>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."</p> <p>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.</p>	<p>Responder: Clark</p> <p>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.</p>	48. N	<p>Open</p> <p>Response is included in letter dated 10/29/10</p>	<p>Open-NRC Review</p> <p>Due 10/31/10</p> <p>TVA to confirm that the equipment has been seismically qualified as required and that TVA reviewed and found the report acceptable.</p>	RAI No. 1 ML102980005 10/26/2010		
092			DORL (Poole)	<p>5/20/2010</p> <p>TVA to review Licensee Open Item list and determine which items are proprietary.</p>	<p>Responder: Hilmes</p> <p>This item will close when we are no longer using this document as a communications tool.</p>	1. N	Open	<p>Open-TVA</p> <p>Continuous review as items are added</p>			
117	7.1	7.1	EICB (Garg)	<p>6/3/2010</p> <p>Does TVA use a single sided or double sided methodology for as-found and as-left instrument setpoint values. (RIS2006-7)</p>	<p>Responder: Hilmes</p> <p>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.</p> <p><u>TVA Revised Response:</u></p> <p>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.</p>	2. Y	<p>Open</p> <p>Revised response is included in letter dated 10/29/10</p>	<p>Open-TVA</p> <p>Pending FSAR Amendment 102 submittal</p> <p>Due 10/31/10</p> <p>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 and allowable value and if it is used then provide</p>	EICB RAI ML102910008 Item#21		

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
								justifications.			
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.)	3. Y	Open Response provided in letter dated 10/21/10	Open-TVA Response acceptable. TVA to complete stated action. Due 10/31/10	RAI No. 6 ML102980005 10/26/2010	TVA Letter dated 10/21/10 Enclosure 1 Item No. 12	
287	7.3	7.3-1	EICB (Darballi)	8/27/2010 In Amendment 95 of FSAR section 7.3.2.3 'Further Considerations', the list of signals that would start the auxiliary feedwater motor driven and turbine driven pumps was moved to table 7.3-1 item 3, Auxiliary Feedwater. However, item (6) 'AMSAC' was not included in table 7.3-1. Please explain this omission or state your commitment to correct this in a future amendment.	Responder: Elton Unit 2 FSAR Section 7.3 addresses Engineered Safety Features (ESF) Actuation System. AMSAC is non-safety, and thus non-ESF. Therefore, it was correct to not include AMSAC when the initiating signals were relocated from Unit 2 FSAR Section 7.3.2.3 to Table 7.3-1.	4. Y	Open Response included in next TVA Licensing Formal RAI Response Letter.	Open-TVA Due 10/31/10. Waiting for docketed version to close item. Expected letter issue date is 11/5/10	ML102390538, Item No. 1, 9/10/10 and EICB RAI No.17 ML102910017, 10/19/10		
288	7.3		EICB (Garg)	9/2/2010 Can we add a section to chapter 7 giving a brief overview of the Foxboro Spec 200 in Section 7.3?	Responder: McNeil The following new section 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 a set 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 arranged in instrument loops to provide the safety function as described in the TVA licensing basis for the Emergency Gas Treatment, Auxiliary Feedwater, and Safety-Related Balance of Plant systems. Seismic qualification of the analog modules and racks is addressed in FSAR Section 3.10. 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.	5. N	Open TVA committed to adding a description of the Foxboro Spec 200 hardware at the 10/12 NRC Public Meeting.	Open-TVA Due TBD 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		

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
					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.						
294	7.3	7.3.1.1.1	EICB (Darballi)	<p>9/9/2010</p> <p>In Amendment 95 of FSAR section 7.3.1.1.1 'Function Initiation', item (13) was arranged into paragraph form from what used to be a listing of items (a), (b) and (c).</p> <p>The second bullet under item (c) was omitted in the new paragraph.</p> <p><i>Initiates Phase B containment isolation of the following:</i></p> <ul style="list-style-type: none"> "Closure of the main steam isolation valves (MSIV) to limit reactor coolant system cooldown for breaks downstream of the MSIV's." <p>Please explain this omission or state your commitment to correct this in a future amendment.</p>	<p>Responder: Elton</p> <p>The information provided in Unit 2 FSAR Section 7.3.1.1 is not meant to describe the specific function of each item in detail; the descriptions provided are a summary listing. The omitted information provided information beyond the level of detail provided for the other items in this section.</p> <p>The level of detail contained in item (13) of Unit 2 FSAR Section 7.3.1.1 is consistent with that contained in item 13. of Unit 1 UFSAR Section 7.3.1.1.</p>	6. Y	Open Response included in next TVA Licensing Formal RAI Response Letter.	Open-TVA Due 10/31/10. Waiting for docketed version to close item. Expected letter issue date is 11/5/10	ML102390538, Item No. 2, 9/10/10		
295	7.3	7.3.1.1.2	EICB (Darballi)	<p>9/9/2010</p> <p>In Amendment 95 of FSAR section 7.3.1.1.2 'Process Protection Circuitry', item (3), references to sections 7.6 and 7.7 were removed.</p> <p>Please explain the reason for removal.</p>	<p>Responder: Elton</p> <p>The level of detail is sufficient for this section without the two removed references to other Sections.</p> <p>The level of detail contained in item (3) of Unit 2 FSAR Section 7.3.1.1.2 is consistent with that contained in item 3. of Unit 1 UFSAR Section 7.3.1.1.2.</p>	7. Y	Open Response included in next TVA Licensing Formal RAI Response Letter.	Open-TVA Due 10/31/10. Waiting for docketed version to close item. Expected letter issue date is 11/5/10	ML102390538, Item No. 3, 9/10/10		
296	7.3	7.3.1.2.1	EICB (Darballi)	<p>9/9/2010</p> <p>In Amendment 95 of FSAR section 7.3.1.2.1 'Generating Station Conditions', the new paragraph was arranged from what used to be a listing of items (1.b), (1.c), and (2.b), leaving out items (1.a) and (2.a). Even if the paragraph contains the word 'include', the breaks in items (1.a) and (2.a) should be listed.</p> <p>Please explain this omission or state your commitment to correct this in a future amendment.</p>	<p>Responder: Elton</p> <p>The information provided in Unit 2 FSAR Section 7.3.1.2.1 is not meant to provide detailed information describing what each condition includes. Deletion of the breaks described in Items (1.a) and (2.a) is justified because they are encompassed by the operating conditions primary system breaks and secondary system breaks, respectively.</p> <p>The level of detail contained in Unit 2 FSAR Section 7.3.1.2.1 is consistent with that contained in Unit 1 UFSAR Section 7.3.1.2.1.</p>	8. Y	Open Response included in next TVA Licensing Formal RAI Response Letter.	Open-TVA Due 10/31/10. Waiting for docketed version to close item. Expected letter issue date is 11/5/10	ML102390538, Item No. 4, 9/10/10		
297	7.3	7.3.1.2.2	EICB (Darballi)	<p>9/9/2010</p> <p>In Amendment 95 of FSAR section 7.3.1.2.2 'Generating Station Variables', the following sentence was erased:</p> <p><i>Post accident monitoring requirements and variables are given in Tables 7.5-1 and 7.5-2.</i></p> <p>Please explain the reason for removal.</p>	<p>Responder: Elton</p> <p>Unit 2 FSAR Section 7.3 addresses Engineered Safety Features (ESF) Actuation System. Post accident monitoring is not an ESF; thus, a reference to it is not required in 7.3.1.2.2.</p>	9. Y	Open Response included in next TVA Licensing Formal RAI Response Letter.	Open-TVA Due 10/31/10. Waiting for docketed version to close item. Expected letter issue date is 11/5/10	ML102390538, Item No. 5, 9/10/10		
298	7.3	XX	B (Darballi)	<p>9/9/2010</p>	<p>Responder: Clark</p>	10. Y	Open	Open-TVA	ML102390538, Item No. 6,		

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
				<p>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.</p> <p>In Supplement 3 of NUREG-0847, section 7.3.5, the staff approved 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.</p> <p>Please confirm whether or not the equipment that was determined in NUREG-0847 and its supplements to remain unchanged upon an ESF reset will still remain unchanged in Unit 2.</p>	<p>A review of the schematic diagrams for the WBN Unit 2 valves listed in SER 3 found the following:</p> <ol style="list-style-type: none"> (1) For feedwater isolation valves (FCV-3-33, FCV-3-47, FCV-3-87, and FCV-3-100), feedwater check valve bypass valves (FCV-3-185, FCV-3-186, FCV-3-187, and FCV-3-188), and upper tap main feedwater isolation valves (FCV 3-236, FCV-3-239, FCV-3-242, and FCV-3-245), the Unit 2 equivalent reset switch and a relay have been added for each steam generator loop. When the engineered safety feature (ESF) signal is reset, the individual valve will not change state until both the loop and the ESF train reset switches have been reset. (2) For steam generator blowdown isolation valves (FCV-43-54D, FCV-43-56D, FCV-43-59D, FCV-43-63D, FCV-43-55, FCV-43-58, FCV-43-61, and FCV-43-64), the ESF signal is sealed in by means of a seal in relay. The individual valve will not change state until a hand switch in the sample room is used to reopen the individual valve. (3) For residual heat removal heat exchanger outlet flow control valves (FCV-74-16 and FCV-74-28), the ESF signal is sealed in by the limit switch. The Unit 2 equivalent reset switch has been added at the control room control board. When the ESF signal is reset, the individual valve will not change state until the individual reset switch has been reset. 		Response included in next TVA Licensing Formal RAI Response Letter.	<p>Due 10/31/10. Waiting for docketed version to close item.</p> <p>Expected letter issue date is 11/5/10</p>	9/10/10		
306	7.1	7.1	EICB (Garg)	<p>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.</p>	<p>Responder: Hilmes</p> <p>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.</p>	11. Y	Open Response is included in letter dated 10/29/10	Open-TVA Due 10/31/10 Pending FSAR Amendment 102 submittal	EICB RAI ML102910008 Item#69		
307	7.1	7.1	EICB (Garg)	<p>(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</p>	<p>Responder: Hilmes</p> <ol style="list-style-type: none"> (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 	12. Y	Open Response is included in letter dated 10/29/10	Open-TVA Due 10/31/10 Pending FSAR Amendment 102 submittal	EICB RAI ML102910008 Item#70		

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
				issue.	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.						
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).	13. Y	Open Response is included in letter dated 10/29/10	Open-TVA Due 10/31/10 Pending FSAR Amendment 102 submittal	EICB RAI ML102910008 Item#71		
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.	14. Y	Open Response is included in letter dated 10/29/10	Open-TVA Due 10/31/10 Pending FSAR Amendment 102 submittal	EICB RAI ML102910008 Item#72		
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 AAFand 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 (1) The statement will be revised to say those present during the surveillance interval 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) The statement about using calibration history to determine the 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.	15. Y	Open Response is included in letter dated 10/29/10	Open-TVA Due 10/31/10 Pending FSAR Amendment 102 submittal	EICB RAI ML102910008 Item#73		
311	7.1	7.1	EICB (Gar)	Both Westinghouse and TVA setpoint methodology do not have any discussion on single sided calculation. Please confirm that single sided calculation has not	Responder: Hilmes A statement that single-sided corrections are not	16. Y	Open Response is included in	Open-TVA	EICB RAI ML102910008 Item#74		

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
				been used for all setpoints with TSTF-493 and provide a statement to that effect in the FSAR.	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.		letter dated 10/29/10	Due 10/31/10 Pending FSAR Amendment 102 submittal			
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.	17. Y	Open October 22, 2010 Response is included in letter dated 10/29/10	Open-TVA Due 10/31/10 Pending FSAR Amendment 102 submittal			
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 Non-Prop drawings are available for submittal.	18. N	Open	Open-TVA Due 1/31/11			
330	7.3	7.3	EICB (Darbali)	<p>Related to Item 298</p> <p>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.</p> <p>In Supplement 3 of NUREG-0847, section 7.3.5, the staff approved 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.</p> <p>Please list for Unit 1 and Unit 2 the safety-related equipment that does not remain in its emergency mode after an ESF reset.</p>	<p>Responder: Hilmes/Faulkner</p> <p>The original response to IE Bulletin 80-06 for both WBN Unit 1 and 2 was provided on TVA letter to the 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 so and some equipment has been deleted. The following is the updated list of equipment from the letter that changes state on ESF reset:</p> <ol style="list-style-type: none"> 1. Unit 1 and 2 Equipment (prefix 1- (Unit 1) or 2- (Unit 2)) <ol style="list-style-type: none"> a. Auxiliary Feedwater Pump Turbine Speed Control Valve, FCV-1-52 b. Auxiliary Feedwater (AFW) Level Control Valves as listed below: <ol style="list-style-type: none"> 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 	19. N	Open	Open-TVA Due TBD	EICB RAI No.20 ML102910017, 10/19/10		

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
					<ul style="list-style-type: none"> xiv. Control Valve LCV-3-156A - SG2 - Level Bypass Control Valve xv. Control Valve LCV-3-164A - SG1 - Level Bypass Control Valve xvi. Control Valve 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 Containment 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 <ul style="list-style-type: none"> a. Shutdown Board Room A Pressurizing Fans b. Control Building Ventilation Dampers as listed below: <ul style="list-style-type: none"> i. 0-FCO-31-9 - Spreading Room Supply Fan 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 <ul style="list-style-type: none"> 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 						

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
					f. Spent Fuel Pit Pumps Space Coolers g. EGTS Room Coolers h. Turbine Driven AFW and Boric Acid Space Coolers						
334	7	7	EICB (Darbal)	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: TBD	20. N	Open	Open-TVA Due TBD	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 environments stated in RG 1.133, position C.1.g and that TVA has reviewed the test report and found it acceptable.	Responder: WEC	21. N	Open	Open-TVA Due TBD			
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	1. 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 12/7/10 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.
067	7.5.2	7.5.1	EICB (Carte)	By letter dated March 12, 2010 TVA stated that the target submittal date for the "Commercial Grade Dedication Instructions for AI687, AI688, Upgraded PC node box and flat panels." 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 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	2. 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 commitment made by applicant.	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
					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						
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	3. 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 commitment 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	4. 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 commitment 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, (Reference 8) 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 (Reference 7). The submitted V&V did not address the Requirements Traceability Matrix and did not summarize anomalies. At the September 15 th public meeting, Westinghouse agreed to include the Concept and Definitions Phase Requirements Traceability Matrix (RTM) in the next IV&V report along with partial Design Phase updates to the RTM.	5. 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 letter dated 8/20/10.	Open-TVA/WEC Due 12/21/10	N/A - No question was asked. Item was opened to track commitment made by applicant.	TVA Letter dated 6/18/10 TVA Letter dated 8/20/10 TVA Letter dated 10/5/10	

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					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.						
071	7.5.2	7.5.1	EICB (Carte)	By letter dated March 12, 2010 TVA stated that the target submittal date for the "Design Phase V&V Report" was July 30, 2010.	Responder: WEC Date: 5/25/10	6. N	Open Awaiting for document to be docketed by TVA.	Open-TVA/WEC Due 12/21/10	N/A - No question was asked. Item was opened to track commitment made by applicant.	N/A	
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	7. N	Open Awaiting for document to be docketed by TVA.	Open-TVA/WEC Due 12/21/10	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 the "Integration Phase V&V Report" was October 29, 2010.	Responder: WEC Date: 5/25/10	8. N	Open Awaiting for document to be docketed by TVA.	Open-TVA/WEC Due 12/31/10	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 "Final V&V Report" was November 30, 2010.	Responder: WEC Date: 5/25/10	9. N	Open TVA to provide due date.	Open-TVA/WEC Due	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	10. N	Open Awaiting for document to be docketed by TVA.	Open-TVA/WEC Due 11/24/20	N/A - No question was asked. Item was opened to track commitment made by applicant.	N/A	
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:	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	11. N	Open ML101600092 Item No.1: There are three sets of regulatory criteria that relate to a Common Q application (e.g. WBN2 PAMS):	Open-TVA/WEC Due 12/31/10 TVA to provide requested information.	EICB RAI ML102910002 Item No. 9	TVA Letter dated 6/18/10	

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				<p>(1) RG 1.29 - September 1978 vs. March 2007 (2) RG 1.53 - June 1973 vs. November 2003 (a) IEEE 379-1994 vs. -2000 (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.</p>	<p>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 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.</p> <p>Bechtel to develop a matrix and work with Westinghouse to provide justification.</p>	<p>Y</p>	<p>(a) Common Q platform components – Common Q TR (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”)...’</p> <p>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.</p> <p>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</p>				

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							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. 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:	Responder: WEC Date: 6/18/10 These components can be found in the Summary 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.	12. N	Open Regulations require that the 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.	Open-TVA/WEC Revision 1, Due 10/22/10	EICB RAI ML102910002 Item No. 10	TVA Letter dated 7/30/10	
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.	13. 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	Open-TVA/WEC Due 11/24/10 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	EICB RAI ML102910002 Item No. 13		

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							as part of the safety system." Please describe how the MTP serves as the isolation device.	include data storm testing of the MTP interface due 11/24/10			
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	14. N	Open TVA to address with item OI 81.	Open-TVA/WEC Due 12/31/10	EICB RAI ML102910002 Item No. 14	TVA Letter dated 6/18/10	
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 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."	Responder: WEC <u>This item is used to track all Commercial Grade Dedication issues.</u>	15. N	Open TVA agreed to include a description of the generic Westinghouse <u>hardware</u> 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 <u>hardware</u> components against the generic critical characteristics. (see ML102920031 Item No 2) TVA agreed to include a description of the generic Westinghouse <u>software</u> commercial grade dedication process in the PAMS licensing technical report. (see ML102920031 Item No 3)	Open-TVA/WEC To be addressed by Rev. 2 of the Licensing Technical Report due 12/3. Due 12/3/10	ML101650255, Item No. 2		

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142			EICB (Carte)	<p>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...”</p> <ol style="list-style-type: none"> How did TVA ensure the traceability of each requirement in the WBN2 PAMS SysRS. 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? Clarify whether the unnumbered paragraphs in the Post Accident Monitoring System’s Software Requirements Specification, such as in the section headings, or are all such sections simply considered to be informative? <p>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.</p> <p>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).]</p> <p>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.</p> <ol style="list-style-type: none"> Are there any sources of requirements in parallel with the Post Accident Monitoring System’s 	<p>Responder: WEC</p> <p><u>This item is used to track all traceability issues with the Software Requirements Specification (SRS).</u></p> <p>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.</p> <ol style="list-style-type: none"> 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. 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. Westinghouse will add a comments column in the Requirements Traceability Matrix (RTM) to address items not in the SRS or SysRS. IEEE 830 says you shouldn’t have planning information in the SRS. Westinghouse has agreed to remove this information. IEEE 830 says you shouldn’t have process requirements in the SRS. Westinghouse has agreed to remove these requirements. Westinghouse will perform and document an evaluation of the SRS to ensure compliance with Reg. Guide 1.172 and justify any deviations. 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. Some hardware requirements are contained in the SRS instead of the System Design Specification (SDS). These will be removed 	16. N	<p>Open</p> <p>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)</p>	<p>Open-TVA/WEC</p> <p>To be addressed by Revision of the RTM, SRS, SysRS, and SysDS.</p> <p>Due 12/31/10.</p>	ML101650255, Item No. 6		<p>WBN2 PAMS System Requirements Specification</p> <p>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.</p>

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				<p>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?</p> <p>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...".</p> <p>These references are used in the body of the SRS, for example:</p> <p>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]).]</p> <p>They are also included via tables such as found in requirement R7.1.2-1</p> <p>[The Watts Bar 2 PAMS shall use the application-specific type circuits and custom PC elements listed in Table 7.1-1.]</p> <p>Do the referenced reusable software element documents include requirements not explicitly stated in the SRS? If so what is their origin?</p>	<p>from the SRS and incorporated into the next revision of the SDS.</p> <p>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.</p> <p>10. Westinghouse to improve the traceability of the tests that are performed with the function enable (FE) switch in the "ENABLE" position.</p> <p>11. Westinghouse to revise documents to be consistent with referring to the FE switch in the "ENABLE" position</p> <p>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.</p> <p>13. Westinghouse and TVA will develop a revised schedule for document submittals and provide it to the NRC no later than 9/30/10</p> <p>14. TVA will update the Procurement Requisition Resolution Matrix and submit it to show how the Common Q PAMS design meets the contract requirements.</p> <p>15. Westinghouse to add the Software Design Descriptions to the RTM</p> <p>16. Westinghouse to clarify how requirements or documents are incorporated by reference into the Common Q PAMS requirements.</p> <p>17. Westinghouse to review the use of "shall" outside of numbered paragraphs in requirements documents to ensure that all requirements are captured and clearly identified.</p> <p>18. Westinghouse to resolve the following questions concerning SDDs</p> <p>a. Is the SDD a standalone document or will it incorporate the generic SDD by reference?</p> <p>b. What are the SDDs?</p> <p>c. PAMS is a delta document so how do we capture all the generic requirements for traceability.</p> <p>For Reusable Software Elements, Westinghouse to describe as qualified libraries by following the</p>						

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					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)	<p>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 ...”</p> <p>(a) Please list and describe each of the “major software components”. Please include a description of any NRC review for each of these components.</p> <p>(b) Please list and describe each of the other software components. Please include a description of any NRC review for each of these components.</p> <p>(c) What other documents contain the requirements for the other software components?</p> <p>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 ...”</p> <p>(c) Do the WBN2 PAMS SRS and SDS, together, implement all of the requirements in the WBN2 PAMS SysRS?</p> <p>(d) Please briefly describe all of the documents that implement the WBN2 PAMS SysRS.</p>	<p>Responder: WEC</p> <p>Addressed in the 9/15 public meeting and 9/20 - 9/21 audit. A detailed explanation will be provided.</p>	17. N	Open	Open-TVA/WEC To be addressed by Revision of the RTM, SRS, SysRS, and SysDS. Due 12/31/10.	ML101650255, Item No. 7		<p>WBN2 PAMS System Requirements Specification</p> <p>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.</p>
145			EICB (Carte)	<p>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.</p> <p>(a) Does the WBN2 PAMS SDS implement all of the hardware requirements in the WBN2 PAMS SysRS?</p> <p>(b) Please briefly describe all of the documents that implement the hardware requirements of the WBN2 PAMS SysRS.</p>	<p>Responder: WEC</p> <p><u>This item is used to track all traceability issues with the System Design Specification (SDS).</u></p> <p><u>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.</u></p>	18. N	Open	Open-TVA/WEC To be addressed by Revision of the RTM, SRS, SysRS, and SysDS. Due 12/31/10.	ML101650255, Item No. 9		<p>WBN2 PAMS System Design Specification</p> <p>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.</p>

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					<ol style="list-style-type: none"> 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. 		<p>ML102920031 Item No 6)</p> <p>TVA would revise and resubmit the PAMS RTM to address all types of issues identified in the public meeting. (see ML102920031 Item No 7)</p> <p>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)</p>				
185			EICB (Carte)	<p>7/15/2010</p> <p>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.</p>	<p>Responder: WEC</p> <p>Steve Clark to look at how to combine traceability items.</p> <p>Was addressed to during the 9/15 meeting and 9/20 - 9/21 audit.</p>	19. N	Open	<p>Open-TVA/WEC</p> <p>Due 10/22/10</p>	<p>EICB RAI ML102980066 Item No. 17</p>		

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				<p>References 12, 27, 29, and 31-44 in the Post Accident Monitoring System's Software Requirements Specification are various types of "...Reusable Software Element...".</p> <p>These references are used in the body of the SRS, for example:"</p> <p>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]).]</p> <p>They are also included via tables such as found in requirement R7.1.2-1</p> <p>[The Watts Bar 2 PAMS shall use the application-specific type circuits and custom PC elements listed in Table 7.1-1.]</p> <p>Do the referenced reusable software element documents include requirements not explicitly stated in the SRS? If so what is their origin?</p>							
187			EICB (Carte)	<p>By letter dated June 18, 2010, TVA docketed responses to NRC requests for information.</p> <p>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.</p> <p>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.</p>	<p>Responder: Merten</p> <p>1) Please refer to the revised response to letter dated 10/5/10 Item 18 (RAI Matrix item 115).</p> <p>2) This is a duplicate of closed RAI Matrix Item 45.</p>	20. N	<p>Open</p> <p>Partial Response provided in letter dated 10/5/10</p> <p>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?</p>	<p>Open-TVA/WEC</p> <p>Revise Response</p> <p>Due 12/31</p>	ML101970033, Item No. 1 & 2	TVA Letter dated 10/5/10	Are these connections already docketed?
202	7.5.2		EICB (Carte)	<p>7/22/2010</p> <p>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.</p>	<p>Responder: WEC</p> <p>Revision 1 of the Licensing Technical Report will provide more detailed information on the changes to the platform.</p> <p>Rev. 2 of the Licensing Technical Report will include the applicability of guidance.</p>	21. N	<p>Open</p> <p>Partial Response provided in letter dated 10/5/10</p>	<p>Open-TVA/WEC</p> <p>Licensing Technical Report R2 Due 12/3</p>	EICB RAI ML102980066 Item No. 4	TVA Letter dated 10/5/10	
212	7.5.2		U	<p>7/27/2010</p>	<p>Responder: WEC</p>	22. N	<p>Open</p>	<p>Open-TVA/WEC</p>	EICB RAI		

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				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.	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.			Due 12/31/10	ML102980066 Item No. 10		
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	23. N	Open	Open-TVA/WEC Due 12/7/10	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."
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.	24. N	Open	Open-TVA/WEC Due 10/22/10			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."
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.	25. N	Open Read ML091560352	Open-TVA/WEC RTM Revision due 12/31 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

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											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."
268			EICB (Carte)	<p>8/19/2010</p> <p>By letter dated March 12, 2010 (ML101680577), TVA stated that the application specific hardware and software architecture descriptions are addressed in the WBN2 PAMS System Design Specification (ML101680579, ML102040481, & ML102040482) and Software Requirements Specification (ML101050202, ML102040486, & ML1022040487).</p> <p>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.</p>	<p>Responder: WEC</p> <p>Andy to see what can be done.</p>	26. N	Open	<p>Open-TVA/WEC</p> <p>Due 12/31/10</p> <p>HILMES Check on This</p>			
301			EICB (Singh)	<p>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).</p> <p>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.</p> <p>3. Provide FMEA in support of your response.</p> <p>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?</p> <p>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?</p> <p>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.</p>	<p>Responder: WEC/Davies/Clark</p> <p>TVA Partial Response:</p> <p>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.</p> <p>(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:</p> <p>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:</p> <p>MODE 3 within 7 hours; MODE 4 within 13 hours; and MODE 5 within 37 hours.</p> <p>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.</p>	27. N	Open	<p>Open-TVA/WEC</p> <p>Due TBD</p> <p>1) Please address how fail-as-is is detected i.e. alarms, rod position deviation alarms, etc.</p> <p>2) Response acceptable.</p> <p>3) Response acceptable.</p> <p>4) a. Response acceptable. b. Pl. address failure mode on fail-as-is.</p> <p>5) Response acceptable.</p> <p>6) Response acceptable.</p>	RAI No. 11 ML102980005 10/26/2010		

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					<p>(2) CERPI common mode software failure will be addressed in a future RAI response letter.</p> <p>(3) There is no FMEA for the CERPI system.</p> <p>(4) Control Bank D Automatic Rod Withdrawal Limit would be assured by Operations and control circuitry by the following 2 methods:</p> <ul style="list-style-type: none"> 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. 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." <p>(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.</p> <p>(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:</p> <p>"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</p>						

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					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.						
331	7.6.1	7.6.7	EICB (Singh)	<p>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.</p> <p>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.</p> <p>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.”</p> <p>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.</p> <p>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.</p> <p>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™</p>	<p>Responder: WEC/Harless/Clark</p> <p>TVA Partial Response:</p> <p>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-DXTM Loose Part Detection System Description,” Revision 1.</p> <p>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.</p> <p>3) The entries for the following items in FSAR Section 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.”</p> <p>Sensors (In Containment) Softline Cable (In Containment) Preamplifier (In Containment)</p> <p>Attachment 3 contains the FSAR Amendment 102 Change Markups that reflect these changes.</p> <p>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.</p> <p>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</p>	28. N	Open	Open-TVA/WEC Pending FSAR Amendment 102 submittal	RAI No. 8 ML102980005 10/26/2010		Follow-up of OI-190.

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				<p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p>	<p>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.</p> <p>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.</p>						