

WBN2Public Resource

From: Boyd, Desiree L [dlboyd@tva.gov]
Sent: Thursday, October 13, 2011 1:56 PM
To: Epperson, Dan; Poole, Justin; Raghavan, Rags; Milano, Patrick; Campbell, Stephen
Cc: Arent, Gordon; Hamill, Carol L; Boyd, Desiree L
Subject: TVA letter to NRC_10-13-11_I&C RAI Response Letter
Attachments: 10-13-11_I&C RAI Response_Final.pdf

Please see attached TVA letter that was sent to the NRC today.

Thank You,

~*~*~*~*~*~*~*~*~*

Desirée L. Boyd

WBN 2 Licensing Support

Sun Technical Services

dlboyd@tva.gov

423-365-8764

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Subject: TVA letter to NRC-_10-13-11_I&C RAI Response Letter
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From: Boyd, Desiree L

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Options

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Attachments 2, 3, 6, 9, 13, 14, 15, 18, 19, 20, 21 and 24 are to be withheld from public disclosure under 10 CFR § 2.390.

When separated from these attachments, this letter is decontrolled.



Tennessee Valley Authority, Post Office Box 2000, Spring City, Tennessee 37381-2000

October 13, 2011

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555-0001

Watts Bar Nuclear Plant, Unit 2
NRC Docket No. 50-391

10 CFR 50.4

Subject: WATTS BAR NUCLEAR PLANT (WBN) UNIT 2 – INSTRUMENTATION AND CONTROLS STAFF INFORMATION REQUESTS

References: 1. Supplemental Safety Evaluation Report (SSER) 22, 23 and 24 Appendix HH Watts Bar Unit 2 Action Items Table
2. NRC letter to TVA dated September 21, 2011, "Watts Bar Nuclear Plant, Unit 2 - Request for Additional Information Regarding Supplemental Safety Evaluation Report Open Item 80 (TAC No. ME0853)," ML112590046

The purpose of this letter is to provide TVA's responses to NRC's information requests on:

- SSER 22, 23 and 24 Appendix HH "Watts Bar Unit 2 Action Items Table," action items 81, 101, 118, 120, 121 and 131
- Items 1 and 2.i of NRC to TVA letter dated September 21, 2011, "Watts Bar Nuclear Plant, Unit 2 - Request for Additional Information Regarding Supplemental Safety Evaluation Report Open Item 80 (TAC No. ME0853)"
- Various commitments

Enclosure 1 to this letter provides TVA's responses to the information requested by NRC. Enclosure 2 contains the supporting documents for TVA's responses to NRC's requests/questions provided in Enclosure 1. Enclosure 3 contains a list of references on which TVA's responses are based. Enclosure 4 contains a list of new regulatory commitments.

Attachments 2, 13, 14, 18, 19 and 20 contain information proprietary to General Atomics-Electronic Systems, Inc. (GA-ESI). TVA requests that the GA-ESI proprietary information be withheld from public disclosure in accordance with 10 CFR § 2.390.

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Attachments 3, 6, 9, 15, 21 and 24 contain information proprietary to Westinghouse Electric Company LLC (WEC). TVA requests that the WEC proprietary information be withheld from public disclosure in accordance with 10 CFR § 2.390.

If you have any questions, please contact Gordon Arent at (423) 365-2004.

I declare under penalty of perjury that the foregoing is true and correct. Executed on the 13th day of October, 2011.

Respectfully,

A handwritten signature in black ink, appearing to read 'David Stinson', with a stylized flourish at the end.

David Stinson
Watts Bar Unit 2 Vice President

Enclosures:

1. TVA Responses to Instrumentation and Controls Staff Information Requests
2. List of Attachments
3. List of References
4. List of New Regulatory Commitments

cc (Enclosures):

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NRC Resident Inspector Unit 2
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Enclosure 1
TVA Letter Dated October 14, 2011
TVA Responses to Instrumentation and Controls Staff Information Requests

Notes:

1. For some NRC requests for additional information (RAIs), this letter provides TVA's initial response. For the other NRC RAIs in this letter, a response has been provided in previous TVA letters to the NRC, and the NRC has subsequently requested additional information. For these requests, the initial TVA response is not repeated below. The additional NRC information requests are identified in this letter as "**Follow-up NRC Requests.**" TVA responses to these items are identified as "**TVA Response to Follow-up NRC Request.**"
2. The following acronyms/abbreviations are used in this letter:

CET	Core Exit Thermocouple
CFR	Code of Federal Regulations
CGD	Commercial Grade Dedication
CGI	Commercial Grade Item
EMC	Electro-Magnetic Compatibility
EMI	Electro-Magnetic Interference
EOP	Emergency Operating Procedure
¹ EPRI®	Electric Power Research Institute®
GA	General Atomics
GA-ESI	General Atomics-Electronic Systems, Inc.
I/F	Current to Frequency
ICRDS	Integrated Cable and Raceway Design System
IITA	Incore Instrument Thimble Assembly
MI	Mineral Insulated
OM	Operators Module
NRC	Nuclear Regulatory Commission
NRR	Nuclear Reactor Regulation
PAMS	Post Accident Monitoring System
RAI	Request for Additional Information
RFI	Radio Frequency Interference
RG	Regulatory Guide
SPD	Self Powered Detector
SPM	Software Program Manual
SPND	Self Powered Neutron Detector
SPS	Signal Processing System
SSER	Supplemental Safety Evaluation Report
TVA	Tennessee Valley Authority
VAC	Volts Alternating Current
VDC	Volts Direct Current
WBN	Watts Bar Nuclear Plant
WEC	Westinghouse Electric Corporation
² WINCISE™	Westinghouse In-Core Information Surveillance & Engineering

¹ EPRI and Electric Power Research Institute are registered service marks of the Electric Power Research Institute Inc.

² WINCISE is a registered trademark of the Westinghouse Electric Corporation LLC

Enclosure 1
TVA Letter Dated October 14, 2011
TVA Responses to Instrumentation and Controls Staff Information Requests

Notes (continued):

3. In some instances the term Self Powered Neutron Detector (SPND) is used. In other instances the term Self Powered Detector (SPD) is used. The terms SPD and SPND are interchangeable and refer to the vanadium neutron detectors contained in the Incore Instrument Thimble Assemblies (IITA).
4. In some instances the abbreviation GA is used to refer to General Atomics. In some instances, the abbreviation GA-ESI is used to refer to General Atomics-Electronic Systems Inc. GA and GA-ESI are the same company and the abbreviations can be used interchangeably.

TVA Responses to Instrumentation and Controls Staff Information Requests

1. NRC Request (SSER 23 Appendix HH Item Number 81)

The extent to which TVA's supplier, General Atomics (GA), complies with EPRI TR-106439 and the methods that GA used for its commercial dedication process should be provided by TVA to the NRC staff for review. (SSER 23, Section 7.5.2.3, pg 7-117)

TVA Partial Response to NRC Request

General Atomics-Electronics Systems Inc. (GA-ESI) compliance with Electric Power Research Institute (EPRI) TR-106439 is documented in GA-ESI procedure OP-7.3-240, Revision K, "Safety-Related Commercial Grade Item Parts Acceptance." The procedure was submitted to the NRC for review in TVA to NRC letter dated September 30, 2011 (Reference 1). In addition to submitting the procedure, TVA agreed to provide supplemental documentation showing the compliance of the GA-ESI commercial grade dedication program (CGD) to NRC regulations. The additional documentation is provided in GA-ESI white paper "Qualification of RM-1000 Processors" and its attachment which describes how the GA-ESI CGD process meets regulatory requirements.

As committed to in Enclosure 4 of TVA letter to NRC dated September 30, 2011 (Reference 1), Attachment 1 contains non-proprietary GA-ESI white paper "Qualification of RM-1000 Processors" (Bechtel Document No. 25402-011-V1 A-HARA-00203-001). Attachment 2 contains the proprietary GA-ESI white paper attachment (Bechtel Document No. 25402-011-V1 A-HARA-00204-001). A non-proprietary version of the GA-ESI white paper attachment and affidavit for withholding will be provided by November 30, 2011.

TVA has reviewed the documents, and they resolve the issues with the GA-ESI CGD of commercial grade items (CGI) used in the WBN Unit 2 RM-1000 radiation monitors.

This response completes the following commitments:

- a. Enclosure 4 of TVA to NRC letter dated April 15, 2011 (Reference 4):

TVA will resolve the issues with the GA-ESI CGD of CGI used in the WBN Unit 2 monitors and submit documentation of the resolution to the NRC by:

- *GA-ESI procedure OP-7.3-240 revision: April 30, 2011*

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- *Resolution of CGD of CGI used in WBN Unit 2 RM-1000 monitors: September 15, 2011*

b. Enclosure 4 of TVA letter to NRC dated September 30, 2011 (Reference 1):

A white paper describing the GA commercial grade dedication program and how it conforms to current regulatory requirements is being prepared and will be submitted after it is received from GA.

2. NRC Request (SSER 24 Appendix HH Item Number 101)

TVA should demonstrate that the WBN Unit 2 Common Q PAMS application software is in conformance with RG 1.168, Revision 1, or provide justification for not conforming. (SSER 23, Section 7.5.2.2.3, pg 7-54, 7-60, 7-65)

Follow up NRC Request

Provide revised response demonstrating that the approved Software Program Manual (SPM) is in compliance with RG 1.168 Revision 1.

TVA Response to Follow Up Request

In response to the NRC follow up request, TVA requested Westinghouse to perform an analysis of the SPM against the requirements of RG 1.168, Revision 1. The results of the analysis are documented in proprietary Westinghouse letter IC-11-130-P, "Watts Bar Unit 2 Post Accident Monitoring System RG 1.168 Compliance," dated October 3, 2011. TVA reviewed the analysis and agrees it demonstrates that the SPM is in compliance with RG 1.168, Revision 1.

Attachment 2 contains proprietary Westinghouse letter IC-11-130-P, "Watts Bar Unit 2 Post Accident Monitoring System RG 1.168 Compliance," dated October 3, 2011.
Attachment 4 contains non-proprietary Westinghouse letter IC-11-130-NP, "Watts Bar Unit 2 Post Accident Monitoring System RG 1.168 Compliance," dated October 3, 2011.
Attachment 5 contains Westinghouse document CAW-11-3260, "Application For Withholding Proprietary Information From Public Disclosure, IC-11-130-P, "Watts Bar Unit 2 Post Accident Monitoring System RG 1.168 Compliance,' (Proprietary)" dated October 3, 2011.

3. NRC Request (SSER 24 Appendix HH Item Number 118)

TVA should provide to the NRC staff a description of how the other vanadium detectors within the IITA would be operable following the failure of an SPND. (SSER 24, Section 7.7.1.9.2)

Enclosure 1
TVA Letter Dated October 14, 2011
TVA Responses to Instrumentation and Controls Staff Information Requests

Follow up TVA Request

The response contained in the TVA to NRC letter dated September 30, 2011 primarily focused on the hardware. TVA requested Westinghouse to provide additional detail on how the software uses the SPDs in an IITA where one or more SPD elements has failed.

TVA Response to Follow Up Request

Westinghouse provided an additional response providing the requested information describing how the software uses the SPDs in an IITA where one or more SPD elements has failed. The additional response is contained in Westinghouse C-11-131-P, "Watts Bar Unit 2 WINCISE: Westinghouse Revised Response to item 6 SSER Item 118," dated October 5, 2011.

Attachment 6, proprietary Westinghouse letter IC-11-131-P, "Watts Bar Unit 2 WINCISE: Westinghouse Revised Response to item 6 SSER Item 118," dated October 5, 2011. Attachment 7 contains non-proprietary Westinghouse letter IC-11-131-NP, "Watts Bar Unit 2 WINCISE: Westinghouse Revised Response to item 6 SSER Item 118," dated October 5, 2011. Attachment 8 contains Westinghouse document CAW-11-3261, "Application For Withholding Proprietary Information From Public Disclosure, IC-11-131-P, Watts Bar Unit 2 WINCISE: Westinghouse Revised Response to item 6 SSER Item 118," (Proprietary)" dated October 5, 2011.

4. NRC Request (SSER 24 Appendix HH Item Number 120)

TVA should confirm to the NRC staff that the maximum over-voltage or surge voltage that could affect the system is 264 VAC, assuming that the power supply cable to the SPS cabinet is not routed with other cables greater than 264 VAC. (SSER 24, Section 7.7.1.9.5)

Follow up NRC Request

NRR tech staff has reviewed September 1, 2011, letter and determined that additional information is required. NRR staff needs confirmation that the power supply cable to the SPS is not routed with other cables greater than the maximum steady voltage allowed in WNA-CN-00157-WBT-P, Revision 0.

TVA Response to Follow Up Request

TVA reviewed the cable routing and confirmed that the power supply cables for the Signal Processing System (SPS) cabinets are not routed with any cables with greater than the maximum steady voltage allowed in WNA-CN-00157-WBT-P, Revision 0. The cable routes will be locked in the Integrated Cable and Raceway Design System (ICRDS) to prevent future cables greater than the maximum steady voltage allowed in WNA-CN-00157-WBT-P, Revision 0, from being routed with the SPS cabinet power supply cables.

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5. NRC Request (SSER 24 Appendix HH Item Number 121)

TVA should submit the results to the NRC staff of the dielectric strength test performed on the IITA assembly. (SSER 24, Section 7.7.1.9.5)

TVA Partial Response

Westinghouse calculation note WNA-CN-00157-WBT-P "Watts Bar 2 Incore Instrument System (IIS) Signal Processing System (SPS) Isolation Requirements," section 4.2 open item 1 requires that the 1 to 2 transition cable assembly and the incore detector assembly (IITA) be tested.

Dielectric withstand testing of the 1 to 2 transition cables is documented in proprietary Westinghouse Report WBT-D-3518 P-Enclosure, "Partial Response to Item 9 SSER Item 121 Testing of Completed WINCISE 1 to 2 Transition MI Cable Assemblies - Watts Bar 2," dated October 2011.

Attachment 9 contains proprietary Westinghouse Report WBT-D-3518 P-Enclosure, "Partial Response to Item 9 SSER Item 121 Testing of Completed WINCISE 1 to 2 Transition MI Cable Assemblies - Watts Bar 2," dated October 2011. Attachment 10 contains non-proprietary Westinghouse Report WBT-D-3518 NP-Enclosure, "Partial Response to Item 9 SSER Item 121 Testing of Completed WINCISE 1 to 2 Transition MI Cable Assemblies - Watts Bar 2," dated October 2011. Attachment 11 contains Westinghouse document CAW-11-3259, "Application For Withholding Proprietary Information From Public Disclosure, WBT-D-3518 P-Enclosure, 'Partial Response to Item 9 SSER Item 121 Testing of Completed WINCISE 1 to 2 Transition MI Cable Assemblies - Watts Bar 2' (Proprietary)," dated October 6, 2011. The test reports referenced in the document are available for NRC audit at the Westinghouse Rockville office.

Documentation of testing of the IITA SPD cables will be provided by November 30, 2011.

6. NRC Request (SSER 24 Appendix HH Item Number 131)

TVA should review the EOP action level setpoint to account for the difference between core exit temperature readings for Unit 1 and Unit 2 and confirm the EOP action level setpoint to the NRC staff. (SSER 24, Section 7.7.1.9.5)

TVA Response

The change in the Emergency Operating Procedure (EOP) action level setpoint due to the difference between core exit temperature readings caused by the location change of the core exit thermocouples (CETs) was evaluated in TVA calculation WBNOSG4188, "EOP Setpoints Verification Document, Appendix 1: Standard Setpoints Table," Revision 21. The calculation shows that the Unit 1 EOP CET setpoint is 727°F, while the Unit 2 EOP CET setpoint is 700°F. Attachment 12 contains the relevant pages from the calculation showing the difference in EOP setpoints between Unit 1 and Unit 2.

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7. NRC Request (SSER 23 Appendix HH Item Number TVA 5)

All safety related work must be quality controlled per 10CFR50, App. B. TVA to confirm that the procedure used for the RM-1000 system verification tests (04507007) was actually a procedure that was prepared per 10CFR50, Appendix B. (SSER section 7.5.2.3)

TVA Response

10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures and Drawings" requires the following:

"V. Instructions, Procedures, and Drawings Activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings. Instructions, procedures, or drawings shall include appropriate quantitative or qualitative acceptance criteria for determining that important activities have been satisfactorily accomplished."

The GA-ESI project manager reviewed test procedure 04507007 against the requirements of 10 CFR 50, Appendix B, Criterion. Test procedure 04507007 was prepared for the RM-1000 System Verification Test for Sequoyah and is referenced as the verification test for the WBN RM-1000. The procedure was reviewed and approved by GA-ESI Engineering and Quality Assurance. Based on the results of the GA-ESI Project Manager review, this procedure satisfies the applicable requirements under 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures and Drawings." TVA agrees with the GA-ESI Project Manager conclusions.

8. NRC Requests related to SSER 23 Appendix HH Item Number 80 (Item 1)

TVA to provide the EMI/RFI test report for the updated I/F converter.

TVA Response

In response to this request, GA-ESI created document 04038800-1SP, "RM-1000 EMC Test Report Supplement 1." TVA reviewed the document and determined that it demonstrates that the WBN Unit 2 current-to-frequency (I/F) converter meets the specified Electro-Magnetic Compatibility (EMC) requirements.

Attachment 14 contains proprietary GA-ESI document 04038800-1SP, "RM-1000 EMC Test Report Supplement 1," Revision A. The non-proprietary version of this document and affidavit for withholding will be submitted by November 30, 2011.

Enclosure 1
TVA Letter Dated October 14, 2011
TVA Responses to Instrumentation and Controls Staff Information Requests

9. NRC Requests related to SSER 23 Appendix HH Item Number 80 (Item 2.i)

The following clarifications apply to Nemko test report 04509050 (89 pages):

TVA to confirm that the power supply part numbers 04502250-001 and the line filter/surge suppressor part number 50015670-001 are applicable to WBN Unit 2 (page 4 of 89). The test setup used two RM-1000 units and labels them as Channel 1 (Type I) and Channel 2 (Type II). TVA to confirm that both channels are the same because they both reflect part number 04501200-002 and that this part number is used for WBN Unit 2.

TVA Response

GA-ESI document 04038800-1SP, (Attachment 14) "RM-1000 EMC Test Report Supplement 1," section 2.4, "RM-1000 24 Volt Power Supply," confirms that the power supply part number 04502250-001 is the part used in the WBN Unit 2 and documents the EMC compatibility testing of the power supply.

GA-ESI document 04038800-1SP (Attachment 14), "RM-1000 EMC Test Report Supplement 1," section 2.6, "EMI/RFI Filter and Surge Suppressor," confirms that the EMI/RFI Filter and Surge Suppressor (line filter/surge suppressor) part number 50015790-001 is the part number applicable to WBN Unit 2. It documents the differences between this part and the original part 50015670-001 that was tested and concludes that the EMC testing of the original part is applicable to the part used for WBN Unit 2.

Based on the above, TVA confirms that both channels are the same.

Attachment 14 contains proprietary GA-ESI document 04038800-1SP, "RM-1000 EMC Test Report Supplement 1," Revision A. The non-proprietary version of this document and affidavit for withholding will be submitted by November 30, 2011.

10. TVA Commitment

The nonproprietary versions of Westinghouse documents Post Accident Monitoring System (PAMS) Test Plan (Attachment 9), PAMS Channel Integration Test/Factory Acceptance Test (Attachment 12), IV&V Summary Reports for PAMS (Attachments 14 and 16), and PAMS Licensing Technical Report (Attachment 19) will be provided upon issuance of the final proprietary documents.

Enclosure 1
TVA Letter Dated October 14, 2011
TVA Responses to Instrumentation and Controls Staff Information Requests

Commitment Closure

The PAMS Channel Integration Test/Factory Acceptance Test, IV&V Summary Reports for PAMS, and PAMS Licensing Technical Report were previously submitted. As committed to in Enclosure 4 of TVA letter to NRC dated December 3, 2010 (Reference 5), Attachment 15 contains proprietary Westinghouse document WNA-PT-00138-WBT-P, "Post Accident Monitoring System Test Plan," Revision 0. Attachment 16 contains non-proprietary Westinghouse document WNA-PT-00138-WBT-NP, "Post Accident Monitoring System Test Plan," Revision 0. Attachment 17 contains Westinghouse document CAW-11-3252, "Application For Withholding Proprietary Information From Public Disclosure, WNA-PT-00138-WBT-P, Rev. 0, "Post Accident Monitoring System Test Plan (Proprietary)," dated September 23, 2011. This completes this commitment.

11. TVA Commitment

TVA Engineering reviewed and approved proprietary versions of GA-ESI documents 04507007-1TR, 04508005 and 04508006 and these documents will be submitted within two weeks of receipt from GA-ESI.

Commitment Closure

As committed to in TVA letter to NRC dated April 15, 2011 (Reference 4), Attachment 18 contains proprietary GA-ESI document 04507007-1TR, "RM-1000 System Verification Test Results Engineering Report," Initial Issue. Attachment 19 contains proprietary GA-ESI document 04508005, "RM-1000 Version 1.1 Software Verification Report," Initial Issue. Attachment 20 contains proprietary GA-ESI document 04508006, "RM-1000 Version 1.2 Software Verification and Validation Report," Revision A. Non-proprietary versions of these documents and the application for withholding were submitted in TVA to NRC letter dated July 15, 2010 (Reference 7).

12. TVA Commitment

The non-proprietary version of Westinghouse report DAR-ME-09-10, Revision 0, Qualification Summary Report for the WINCISE Cable and Connector Upgrade at Watts Bar Unit 2 and the affidavit for withholding will be submitted within two weeks of receipt from Westinghouse.

Enclosure 1
TVA Letter Dated October 14, 2011
TVA Responses to Instrumentation and Controls Staff Information Requests

Commitment Closure

As committed to in Enclosure 4 of TVA to NRC letter dated May 6, 2011 (Reference 3), Attachment 21 contains proprietary Westinghouse Report DAR-ME-09-10-P, "Qualification Summary Report for the WINCISE Cable and Connector Upgrade at Watts Bar Unit 2," Revision 0. Attachment 22 contains non-proprietary Westinghouse Report DAR-ME-09-10-NP, "Qualification Summary Report for the WINCISE Cable and Connector Upgrade at Watts Bar Unit 2," Revision 0. Attachment 23 contains Westinghouse document CAW-11-3255, "Application For Withholding Proprietary Information From Public Disclosure, DAR-ME-09-10-P, Rev. 0, 'Qualification Summary Report for the WINCISE Cable and Connector Upgrade at Watts Bar Unit 2,' (Proprietary)," dated September 23, 2011.

13. TVA Commitment

Responses to NRC items 1 and 2.i of NRC RAI letter to TVA dated September 21, 2011 (Reference 2) will be provided within two weeks of receipt from GA-ESI.

Commitment Closure

As committed to in Enclosure 4 of TVA to NRC letter dated September 30, 2011, (Reference 1) the responses to these items are included as letter items 8 and 9 in this letter.

14. TVA Commitment

The evaluation concluded that the Common Q PAMS meets all requirements of Reg. Guide 1.97 Rev. 2. This evaluation will be added to design criteria document WB-DC-30-7, "Post Accident Monitoring Instrumentation," by October 1, 2010.

Commitment Closure

As committed to in TVA to NRC letter dated July 30, 2010 (Reference 6), TVA Design Criteria Document WB-DC-30-7, "Post Accident Monitoring Instrumentation," has been revised. Revision 23 incorporated the evaluation showing that the Common Q PAMS meets all requirements of RG 1.97, Revision 2. Attachment 26 contains TVA Design Criteria Document WB-DC-30-7, "Post Accident Monitoring Instrumentation," Revision 23.

15. TVA Commitment

The Common Q PAMS Licensing Technical Report has been revised to reflect the deletion of the OM connection to the plant computer. The remaining Common Q PAMS documents will be corrected at the next revision. The Common Q PAMS schedule is currently under revision. The revised schedule will be submitted to NRC by October 22, 2010.

Enclosure 1
TVA Letter Dated October 14, 2011
TVA Responses to Instrumentation and Controls Staff Information Requests

Commitment Closure

As committed to in Enclosure 4 of TVA letter to NRC dated October 5, 2010 (Reference 8), WNA-AR-00189-WBT revision 1 reflects the deletion of the connection between the Operators Module (OM) and the plant computer. Attachment 24 contains proprietary Westinghouse document WNA-AR-00189-WBT-P, "Post Accident Monitoring System Reliability Analysis," Revision 1. Attachment 25 contains non-proprietary Westinghouse document WNA-AR-00189-WBT-NP, "Post Accident Monitoring System Reliability Analysis," Revision 1. Attachment 26 contains Westinghouse document CAW-11-3262, "Application For Withholding Proprietary Information From Public Disclosure, WNA-AR-00189-WBT-P, Rev. 1, 'Post Accident Monitoring System Reliability Analysis' (Proprietary)," dated October 7, 2011.

This is the final document requiring revision for the OM to plant computer connection issue and completes this commitment.

16. TVA Commitment

Due to revisions to other GA-ESI qualification documents to resolve TVA and NRC concerns, the upper tier GA-ESI qualification report 04038903-QSR, "Qualification Summary Report for Watts Bar Nuclear Plant Unit 2 Replacement Radiation Monitors," submitted in TVA to NRC letter dated February 25, 2011 (Reference 9), has been revised. Submit the revised document to the NRC.

Commitment Closure

Attachment 13 contains proprietary GA-ESI document 04038903-QSR, "Qualification Summary Report for Watts Bar Nuclear Plant Unit 2 Replacement Radiation Monitors," Revision D.

Enclosure 2
TVA Letter Dated October 14, 2011
List of Attachments

Note: While project coversheets have not been included for all documents, all attachments have been reviewed and approved by Engineering prior to submittal.

1. Non-proprietary GA-ESI white paper "Qualification of RM-1000 Processors" (Bechtel Document Number 25402-011-V1 A-HARA-00203-001) (Letter Item 1, SSER 23 Appendix HH Item Number 81)
2. Proprietary GA-ESI white paper attachment (Bechtel Document Number 25402-011-V1 A-HARA-00203-001) (Letter Item 1, SSER 23 Appendix HH Item Number 81)
3. Proprietary Westinghouse letter IC-11-130-P, "Watts Bar Unit 2 Post Accident Monitoring System RG 1.168 Compliance," dated October 3, 2011 (Letter Item 2, SSER 24 Appendix HH Item Number 101)
4. Non-proprietary Westinghouse letter IC-11-130-NP, "Watts Bar Unit 2 Post Accident Monitoring System RG 1.168 Compliance," dated October 3, 2011 (Letter Item 2, SSER 24 Appendix HH Item Number 101)
5. Westinghouse document CAW-11-3260, "Application For Withholding Proprietary Information From Public Disclosure, IC-11-130-P, 'Watts Bar Unit 2 Post Accident Monitoring System RG 1.168 Compliance,' (Proprietary)" dated October 3, 2011 (Letter Item 2, SSER 24 Appendix HH Item Number 101)
6. Proprietary Westinghouse letter IC-11-131-P, "Watts Bar Unit 2 WINCISE: Westinghouse Revised Response to item 6 SSER Item 118," dated October 5, 2011 (Letter Item 3, SSER 24 Appendix HH Item Number 118)
7. Non-proprietary Westinghouse letter IC-11-131-NP, "Watts Bar Unit 2 WINCISE: Westinghouse Revised Response to item 6 SSER Item 118," dated October 5, 2011 (Letter Item 3, SSER 24 Appendix HH Item Number 118)
8. Westinghouse document CAW-11-3261, "Application For Withholding Proprietary Information From Public Disclosure, IC-11-131-P, Watts Bar Unit 2 WINCISE: Westinghouse Revised Response to item 6 SSER Item 118," (Proprietary) dated October 5, 2011 (Letter Item 3, SSER 24 Appendix HH Item Number 118)
9. Proprietary Westinghouse Report WBT-D-3518 P-Enclosure, "Partial Response to Item 9 SSER Item 121 Testing of Completed WINCISE 1 to 2 Transition MI Cable Assemblies - Watts Bar 2," dated October 2011 (Letter Item 5, SSER 24 Appendix HH Item Number 121)
10. Non-Proprietary Westinghouse Report WBT-D-3518 NP-Enclosure, "Partial Response to Item 9 SSER Item 121 Testing of Completed WINCISE 1 to 2 Transition MI Cable Assemblies - Watts Bar 2," dated October 2011 (Letter Item 5, SSER 24 Appendix HH Item Number 121)

Enclosure 2
TVA Letter Dated October 14, 2011
List of Attachments

11. Westinghouse document CAW-11-3259, "Application For Withholding Proprietary Information From Public Disclosure, WBT-D-3518 P-Enclosure, 'Partial Response to Item 9 SSER Item 121 Testing of Completed WINCISE 1 to 2 Transition MI Cable Assemblies - Watts Bar 2' (Proprietary)," dated October 6, 2011 (Letter Item 5, SSER 24 Appendix HH Item Number 121)
12. Relevant pages from TVA calculation WBNOSG4188, "EOP Setpoints Verification Document, Appendix 1: Standard Setpoints Table" Revision 21 showing the difference between Unit 1 and Unit 2 (Letter Item 6, SSER 24 Appendix HH Item Number 131)
13. Proprietary GA-ESI document 04038903-QSR, "Qualification Summary Report for Watts Bar Nuclear Plant Unit 2 Replacement Radiation Monitors," revision D (Letter Item 16)
14. Proprietary GA-ESI report 04038800-1SP, "RM-1000 EMC Test Report Supplement 1," Revision A (Letter Items 8 and 9, NRC Requests related to SSER 23 Appendix HH Item Number 80 [Items 1 and 2.i])
15. Proprietary Westinghouse document WNA-PT-00138-WBT-P, "Post Accident Monitoring System Test Plan," Revision 0 (Letter Item 10)
16. Non-proprietary Westinghouse document WNA-PT-00138-WBT-NP, "Post Accident Monitoring System Test Plan," Revision 0 (Letter Item 10)
17. Westinghouse document CAW-11-3252, "Application For Withholding Proprietary Information From Public Disclosure, WNA-PT-00138-WBT-P, Rev. 0, 'Post Accident Monitoring System Test Plan,' (Proprietary)" dated September 23, 2011 (Letter Item 10)
18. Proprietary GA-ESI document 04507007-1TR, "RM-1000 System Verification Test Results Engineering Report," Initial Issue (Letter Item 11)
19. Proprietary GA-ESI document 04508005, "RM-1000 Version 1.1 Software Verification Report," Initial Issue (Letter Item 11)
20. Proprietary GA-ESI document 04508006, "RM-1000 Version 1.2 Software Verification and Validation Report," Revision A (Letter Item 11)
21. Proprietary Westinghouse Report DAR-ME-09-10-P "Qualification Summary Report for the WINCISE Cable and Connector Upgrade at Watts Bar Unit 2," Revision 0 (Letter Item 12)
22. Non-proprietary Westinghouse Report DAR-ME-09-10-NP, "Qualification Summary Report for the WINCISE Cable and Connector Upgrade at Watts Bar Unit 2," Revision 0 (Letter Item 12)
23. Westinghouse document CAW-11-3255, "Application For Withholding Proprietary Information From Public Disclosure, DAR-ME-09-10-P, Rev. 0, 'Qualification Summary Report for the WINCISE Cable and Connector Upgrade at Watts Bar Unit 2,' (Proprietary)" (Letter Item 12)

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24. Proprietary Westinghouse Electric Company document WNA-AR-00189-WBT-P, "Post Accident Monitoring System Reliability Analysis," Revision 1 (Letter Item 15)
25. Non-proprietary Westinghouse document WNA-AR-00189-WBT-NP, "Post Accident Monitoring System Reliability Analysis," Revision 1 (Letter Item 15)
26. Westinghouse document CAW-11-3262, "Application For Withholding Proprietary Information From Public Disclosure, WNA-AR-00189-WBT-P, Rev. 1, 'Post Accident Monitoring System Reliability Analysis,' (Proprietary)" dated October 7, 2011 (Letter Item 15)
27. TVA Design Criteria Document WB-DC-30-7, "Post Accident Monitoring Instrumentation," Revision 23 (Letter Item 14)

Enclosure 3
TVA Letter Dated October 14, 2011
List of References

1. TVA to NRC letter dated September 30, 2011, "Watts Bar Nuclear Plant (WBN) Unit 2 – Instrumentation and Controls Staff Information Requests" (Letter Item 1 SSER 23 Appendix HH Item Number 81)
2. NRC to TVA letter dated September 21, 2011, "Watts Bar Nuclear Plant, Unit 2 - Request for Additional Information Regarding Supplemental Safety Evaluation Report Open Item 80 (TAC No. ME0853)," ML112590046 (Letter Item 13)
3. TVA to NRC letter dated May 6, 2011, "Watts Bar Nuclear Plant (WBN) Unit 2 – Instrumentation and Controls Staff Information Requests" (Letter Item 12)
4. TVA to NRC letter dated April 15, 2011, "Watts Bar Nuclear Plant (WBN) Unit 2 – Instrumentation and Controls Staff Information Requests" (Letter Items 1 and 11)
5. TVA to NRC letter dated December 3, 2010, "Watts Bar Nuclear Plant (WBN) Unit 2 – Instrumentation and Controls Staff Information Requests" (Letter Item 10)
6. TVA to NRC letter dated July 30, 2010, "Watts Bar Nuclear Plant (WBN) Unit 2 – Instrumentation and Controls Staff Information Requests, and NRC/TVA Telecon on July 6, 2010, Information Requests" (Letter Item 14)
7. TVA to NRC letter dated July 15, 2010, "Watts Bar Nuclear Plant (WBN) Unit 2 – Instrumentation and Controls Staff Information Requests" (Letter Item 11)
8. TVA to NRC letter dated October 5, 2010, "Watts Bar Nuclear Plant (WBN) Unit 2 – Instrumentation and Controls Staff Information Requests" (Letter Item 15)
9. TVA to NRC letter dated February 25, 2011, "Watts Bar Nuclear Plant (WBN) Unit 2 – Instrumentation and Controls Staff Information Requests" (Letter Item 16)

Enclosure 4
TVA Letter Dated October 14, 2011
List of New Regulatory Commitments

1. A non-proprietary version of GA-ESI white paper attachment (Bechtel Document Number 25402-011-V1 A-HARA-00204-001) and an affidavit for withholding will be provided by November 30, 2011.
(Letter Item 1 SSER 23 Appendix HH Item Number 81)
2. The non-proprietary version of 04038800-1SP, "RM-1000 EMC Test Report Supplement 1," Revision A and affidavit for withholding will be submitted by November 30, 2011.
(Letter items 8 and 9, NRC Requests related to SSER 23 Appendix HH Item Number 80 [Item 1 and 2.i])
3. The cable routes will be locked in the Integrated Cable and Raceway Design System (ICRDS) to prevent future cables greater than the maximum steady voltage allowed in WNA-CN-00157-WBT-P, Revision 0 from being routed with the SPS cabinet power supply cables.
(Letter Item 4, SSER 24 Appendix HH Item Number 120)