

WBN2Public Resource

From: Boyd, Desiree L [dlboyd@tva.gov]
Sent: Thursday, September 01, 2011 3:36 PM
To: Epperson, Dan; Poole, Justin; Raghavan, Rags; Milano, Patrick; Campbell, Stephen
Cc: Crouch, William D; Hamill, Carol L; Boyd, Desiree L
Subject: TVA letter to NRC_09-01-2011_I&C RAI Response
Attachments: 09-01-2011_I&C RAI Response_Final.pdf

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

Thank You,

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

Desiree L. Boyd

WBN 2 Licensing Support

Sun Technical Services

dlboyd@tva.gov

423-365-8764

Hearing Identifier: Watts_Bar_2_Operating_LA_Public
Email Number: 510

Mail Envelope Properties (7AB41F650F76BD44B5BCAB7C0CCABFAF22994BB5)

Subject: TVA letter to NRC_09-01-2011_I&C RAI Response
Sent Date: 9/1/2011 3:36:28 PM
Received Date: 9/1/2011 3:36:32 PM
From: Boyd, Desiree L

Created By: dlboyd@tva.gov

Recipients:

"Crouch, William D" <wdcrouch@tva.gov>
Tracking Status: None
"Hamill, Carol L" <clhamill@tva.gov>
Tracking Status: None
"Boyd, Desiree L" <dlboyd@tva.gov>
Tracking Status: None
"Epperson, Dan" <Dan.Epperson@nrc.gov>
Tracking Status: None
"Poole, Justin" <Justin.Poole@nrc.gov>
Tracking Status: None
"Raghavan, Rags" <Rags.Raghavan@nrc.gov>
Tracking Status: None
"Milano, Patrick" <Patrick.Milano@nrc.gov>
Tracking Status: None
"Campbell, Stephen" <Stephen.Campbell@nrc.gov>
Tracking Status: None

Post Office: TVANUCXVS2.main.tva.gov

Files	Size	Date & Time
MESSAGE	307	9/1/2011 3:36:32 PM
09-01-2011_I&C RAI Response_Final.pdf		180461

Options

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

Attachments 2, 5, 6, 10, 13, 16, 19, 22 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

September 1, 2011

10 CFR 50.4

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

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

References: 1. Licensee Open Items to be Resolved for SER Approval List
2. SSER 23 and SSER 24 (Proposed) Appendix HH Watts Bar Unit 2 Action Items Table

The purpose of this letter is to provide TVA's responses to NRC's information requests on the "Licensee Open Items to be Resolved for SER Approval List" and SSER 23 and SSER 24 (Proposed) Appendix HH "Watts Bar Unit 2 Action Items Table." Enclosure 1 to this letter provides TVA's responses to the information requested by NRC. This letter provides responses to SSER 23 and SSER 24 (Proposed) Appendix HH action items 77, 94, 105, 108, 110, 119, 120, 122, 124, 128 and 130.

Enclosure 2 contains the listing of attached documents that support 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, 5, 6, 10, 16 and 19 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. With the exception of Attachment 5, Attachments 3, 7, 11, 17 and 20 contain the non-proprietary versions of these documents. With the exception of Attachment 5, Attachments 4, 8, 12, 18 and 21 contain the affidavits for withholding these documents. A non-proprietary version and affidavit for withholding for Attachment 5 will be submitted no later than December 1, 2011.

Attachment 13 contains information proprietary to Bechtel Power Corporation. TVA requests that the Bechtel Power Corporation proprietary information be withheld from public disclosure in accordance with 10 CFR § 2.390. Attachment 14 contains the non-proprietary version of the document. Attachment 15 contains the affidavit for withholding the document.

U.S. Nuclear Regulatory Commission
Page 2
September 1, 2011

Attachments 22 and 24 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. Attachments 23 and 25 contain the non-proprietary versions of these documents. Attachments 26 and 27 contain the affidavit for withholding these documents.

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

I declare under penalty of perjury that the foregoing is true and correct. Executed on the 1st day of September, 2011.

Respectfully,

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

David Stinson
Watts Bar Unit 2 Vice President

Enclosures:

1. Responses to SSER, Appendix HH, "Watts Bar Unit 2 Action Items Table"
2. List of Attachments
3. List of References
4. New Regulatory Commitment

cc (Enclosures):

U. S. Nuclear Regulatory Commission
Region II
Marquis One Tower
245 Peachtree Center Ave., NE Suite 1200
Atlanta, Georgia 30303-1257

NRC Resident Inspector Unit 2
Watts Bar Nuclear Plant
1260 Nuclear Plant Road
Spring City, Tennessee 37381

U.S. Nuclear Regulatory Commission
Page 3
September 1, 2011

bcc (Enclosures):

Stephen Campbell
U.S. Nuclear Regulatory Commission
MS 08H4A
One White Flint North
11555 Rockville Pike
Rockville, Maryland 20852-2738

Charles Casto, Deputy Regional Administrator for Construction
U. S. Nuclear Regulatory Commission
Region II
Marquis One Tower
245 Peachtree Center Ave., NE Suite 1200
Atlanta, Georgia 30303-1257

David Rahn
U.S. Nuclear Regulatory Commission
MS 09D2
One White Flint North
11555 Rockville Pike
Rockville, Maryland 20852-2738

George A. Wilson, Jr.
U.S. Nuclear Regulatory Commission
MS 09E3
One White Flint North
11555 Rockville Pike
Rockville, Maryland 20852-2738

Enclosure 1
TVA Letter Dated September 1, 2011
Responses to SSER, Appendix HH, “Watts Bar Unit 2 Action Items Table”

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.**”

The following acronyms/abbreviations are used in this letter:

¹ BEACON™	Best Estimate Analyzer for Core Operations Nuclear
CET	Core Exit Thermocouple
CFR	Code of Federal Regulation
EMC	Electro-Magnetic Compatibility
FMEA	Failure Modes and Effects Analysis
GA-ESI	General Atomics Electronic Systems, Inc.
HRCAR	High Range Containment Area Radiation
HVAC	Heating, Ventilating and Air Conditioning
I/O	Input/Output
² IEEE™	Institute of Electrical and Electronics Engineers
IIS	Incore Instrument System
IITA	Incore Instrument Thimble Assembly
LOCA	Loss of Coolant Accident
MCR	Main Control Room
NRC	Nuclear Regulatory Commission
PAMS	Post Accident Monitoring System
RAI	Request for Additional Information
RVLIS	Reactor Vessel Level Indicating System
SPND	Self Powered Neutron Detector (a.k.a. SPD)
SPS	Signal Processing System
SRS	Software Requirements Specification
SSER	Supplemental Safety Evaluation Report
SysRS	System Requirements Specification
TADOT	Trip Actuating Device Operational Test
TVA	Tennessee Valley Authority
UPS	Uninterruptible Power Supply
V&V	Verification and Validation
WBN	Watts Bar Nuclear Plant
³ WINCISE™	Westinghouse In-Core Information Surveillance & Engineering

¹ BEACON is a registered trademark of the Westinghouse Electric Corporation LLC

² IEEE is a registered trademark of the Institute of Electrical and Electronics Engineers Inc.

³ WINCISE is a registered trademark of the Westinghouse Electric Corporation LLC

Enclosure 1
TVA Letter Dated September 1, 2011
Responses to SSER, Appendix HH, "Watts Bar Unit 2 Action Items Table"

1. NRC Request (SSER 23 Appendix HH Item Number 77)

It is unclear to the NRC staff which software V&V documents are applicable to the HRCAR monitors. TVA should clarify which software V&V documents are applicable, in order for the staff to complete its evaluation. (SSER 23, Section 7.5.2.3)

TVA Response to NRC Request

The RM-1000 High Range Containment Area Radiation (HRCAR) monitors used by WBN Unit 2 use version 1.2 of the software. The applicable Verification and Validation (V&V) documents are:

a) Software Version 1.0 (initial issue):

General Atomics Electronic Systems, Inc. (GA-ESI) document 04507007-1TR, "RM-1000 System Verification Test Results Engineering Report Sequoyah Nuclear Plant Units 1 and 2," Original Release: July, 1999 (verified to be applicable to WBN Unit 2). This version of the software was never used in any installed monitors and was verified by test. GA-ESI provided the following clarification: ". . . the requirements (test cases) in document 04507006 are covered in document 04507007-1TR. It is on this basis that we've concluded that the version 1.0 software version was validated." Based on review of the document, TVA agrees with the GA-ESI position.

b) Software Version 1.1

GA-ESI document 04508005, "RM-1000 Version 1.1 Software Verification Report," January 2002

c) Software Version 1.2

GA-ESI document 04508006, "RM-1000 Version 1.2 Software Verification Report," Revision A, April 2008

2. NRC Request (SSER 23 Appendix HH Item Number 94)

TVA should provide to the staff either information that demonstrates that the WBN Unit 2 Common Q PAMS meets the applicable requirements in IEEE Std. 603-1991, or justification for why the Common Q PAMS should not meet those requirements. (SSER 23, Section 7.5.2.2.3)

Follow-up NRC Request

Demonstrate how the Common Q PAMS meets the design bases requirements of IEEE 603-1991 Clause 4.

TVA Response to Follow-up NRC Request

Attachment 1 contains the evaluation of the Common Q Post Accident Monitoring System (PAMS) against the requirements of Institute of Electrical and Electronics Engineers (IEEE) Standard IEEE 603-1991, Clause 4.

Enclosure 1
TVA Letter Dated September 1, 2011
Responses to SSER, Appendix HH, “Watts Bar Unit 2 Action Items Table”

3. NRC Request (SSER 23 Appendix HH Item Number 105)

TVA should produce an acceptable description of how the WBN Unit 2 Common Q PAMS SysRS and SRS implement the design basis requirements of IEEE Std. 603-1991 Clause 4. (SSER 23, Section 7.5.2.2.3.4.3.1)

TVA Response to NRC Request

Attachment 1 contains the evaluation of the Common Q PAMS against the requirements of IEEE 603-1991, Clause 4.

4. NRC Request (SSER 23 Appendix HH Item Number 108)

TVA should demonstrate to the NRC staff that there are no synergistic effects between temperature and humidity for the Common Q PAMS equipment. (SSER 23, Section 7.5.2.2.3.5.2)

TVA Response to NRC Request

Based on an analysis of TVA calculations EPM-MCP-071689, “Cooling/Heating Load & Equipment/Component Performance Analysis For The Control Building Electrical Board Room Areas (EL. 692.0 & 708.0),” Revision 19 and EPM-LCP-072489, “Cooling And Heating Load Analysis, Main Control Room HVAC,” Revision 13, the Common Q PAMS hardware is not located in an environment where it is simultaneously exposed to high temperature and high humidity. The following tables summarize the results of the analysis.

Normal Operation:

Location	Summer		Winter	
	Temperature, °F	Relative Humidity, %	Temperature, °F	Relative Humidity, %
Main Control Room (MCR)	78.1	41	74.9	46
Unit 2 Auxiliary Instrument Room (AIR)	85	33	69	55

Accident Condition:

Loss of Coolant Accident (LOCA) :

	Temperature, °F	Humidity ratio, pound moisture/ pound dry air	Relative Humidity, %
MCR	80.3	0.0070	31
Unit 2 AIR	88	0.0069	25

Enclosure 1
TVA Letter Dated September 1, 2011
Responses to SSER, Appendix HH, “Watts Bar Unit 2 Action Items Table”

5. NRC Request (SSER 23 Appendix HH Item Number 110)

TVA should provide information to the NRC staff describing how the WBN Unit 2 Common Q PAMS design supports periodic testing of the RVLIS function. (SSER 23, Section 7.5.2.2.3.9.2.6)

TVA Response to NRC Request

The Common Q PAMS does not have a set of test functions specific to the Reactor Vessel Level Indicating System (RVLIS) functions. Rather it provides a common set of test functions for periodic testing of the PAMS.

The included test functions applicable to periodic testing of RVLIS are:

1. Annunciator Test - This test allows verification that each PAMS function alarm actuates the appropriate annunciator window in the MCR.
2. Analog Output Test - Allows testing of the analog outputs on the analog output test display. The outputs can be adjusted between 0 and 100% and allows verification of the correct analog output value.
3. Input/Output (I/O) Simulator Connection - This function allows the injection of test signals and verification of outputs for the PAMS functions.

The ability to perform a software test of the RVLIS function is not required by WBN Unit 2 Technical Specifications, Revision F. WBN Unit 2 Technical Specification 3.3.3, “Post Accident Monitoring (PAM) Instrumentation,” requires that a RVLIS channel check be performed on a 31-day interval, and a loop calibration and a Trip Actuating Device Operational Test (TADOT) be performed on an 18-month interval.

Technical Specifications define a channel check as follows:

“A CHANNEL CHECK shall be the qualitative assessment, by observation, of channel behavior during operation. This determination shall include, where possible, comparison of the channel indication and status to other indications or status derived from independent instrument channels measuring the same parameter.”

Technical Specifications define a TADOT as follows:

“A TADOT shall consist of operating the trip actuating device and verifying the OPERABILITY of required alarm, interlock, display, and trip functions. The TADOT shall include adjustment, as necessary, of the trip actuating device so that it actuates at the required setpoint within the required accuracy.”

A channel calibration involves testing the loop from the sensor to the display to verify proper operation.

None of the Technical Specification required tests described above require a RVLIS software test function. However, they do fully test the RVLIS function of the PAMS.

Enclosure 1
TVA Letter Dated September 1, 2011
Responses to SSER, Appendix HH, "Watts Bar Unit 2 Action Items Table"

6. NRC Request (SSER 24 (Proposed) Appendix HH Item Number 119)

TVA should submit WNA-CN-00157-WBT, Revision 0, to the NRC by letter. The NRC staff should confirm by review of WNA-CN-00157-WBT, Revision 0, that no credible source of faulting can negatively impact the CETs or PAMS train. (SSER 24 (Proposed), Section 7.7.1.9.5)

TVA Response to NRC Request

Attachment 2 contains Westinghouse Electric Company WNA-CN-00157-WBT-P, Revision 0, "Watts Bar 2 Incore Instrument System (IIS) Signal Processing System (SPS) Isolation Requirements," (Proprietary). Attachment 3 contains Westinghouse Electric Company WNA-CN-00157-WBT-NP, Revision 0, "Watts Bar 2 Incore Instrument System (IIS) Signal Processing System (SPS) Isolation Requirements," (Non-Proprietary). Attachment 4 contains CAW-11-3215, Application for Withholding Proprietary Information from Public Disclosure, WNA-CN-00157-WBT-P, Revision 0, "Watts Bar 2 Incore Instrument System (IIS) Signal Processing System (SPS) Isolation Requirements," (Proprietary).

The impact of a failed Core Exit Thermocouple (CET) on a PAMS channel is addressed in WNA-AR-00180-WBT-P, Revision 1, "Failure Modes and Effects Analysis (FMEA) for the Post Accident Monitoring System," Page 3-6, submitted in TVA to NRC letter dated March 2, 2011 (Reference 1).

7. NRC Request (SSER 24 (Proposed) 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)

TVA Response to NRC Request

TVA Design Criteria Document NPG-DCD-WB-DC-30-27 Revision 33, "AC and DC Control Power Systems - (Unit 1 / Unit 2)," Section 4.2.2 states that the maximum uninterruptible power supply (UPS) output under fault conditions is 195 V_{peak}. During normal operation, the voltage regulation is ± 2% of 120 Vac.

As documented in Westinghouse Electric Company EQ-QR-39-WBT, "Equipment Qualification Summary Report for WINCISE Signal Processing System," Revision 0, (Attachment 5) the SPS cabinets were tested on the ac inputs to withstand a maximum surge of 4000 volts with no loss of function after the surge. A non-proprietary version of EQ-QR-39-WBT and affidavit for withholding will be submitted no later than December 1, 2011.

Based on the above, the system is not expected to see an operating voltage in excess of 195 V_{peak}. However, if it does, the system is capable of withstanding a surge up to 4000 V_{peak} with no loss of function.

Enclosure 1
TVA Letter Dated September 1, 2011
Responses to SSER, Appendix HH, “Watts Bar Unit 2 Action Items Table”

8. NRC Request (SSER 24 (Proposed) Appendix HH Item Number 122)

TVA should confirm to the NRC staff that different divisions of safety power are supplied to the IIS SPS cabinets, with the power cables routed in separate shielded conduits. (SSER 24 (Proposed), Section 7.7.1.9.5)

TVA Response to NRC Request

SPS Cabinets 2-L-201 and 2-L-202 are fed from 120V Vital Instrument Power Board III (Train A) and IV (Train B), respectively. Self-powered detector (SPD) signals coming from incore instrument thimble assemblies (IITAs) shared with Train A/PAM 1 Core Exit Thermocouples (CETs) are connected to 2-L-201 while SPD signals coming from IITAs shared with Train B/PAM 2 CETs are connected to 2-L-202.

These power cables are only routed in separate shielded conduits inside containment. Outside containment, they are routed in cable trays and/or conduits with cables of the same node voltage (V3) and train designation.

9. NRC Request (SSER 24 (Proposed) Appendix HH Item Number 124)

While the BEACON datalink on the Application server can connect to either BEACON machine, only BEACON A is used for communication. TVA should clarify to the NRC staff whether automatic switchover to the other server is not permitted. (SSER 24 (Proposed), Section 7.7.1.9.5)

TVA Response to NRC Request

Automatic switchover is not possible with the Unit 2 BEACON servers; however, if it were, there is no reason for it not to be permitted. The BEACON servers are not configured in a fully redundant manner and require minimal user intervention to swap over to the redundant backup server. Further information can be found in page 4 of 5 of Attachment 3 in TVA letter dated June 10, 2011, “Watts Bar Nuclear Plant (WBN) Unit 2 - Instrumentation and Control Staff Information Requests” (ML11167A110) (Reference 2).

10. NRC Request (SSER 24 (Proposed) Appendix HH Item Number 128)

TVA should submit the seismic qualification test report procedures and results for the SPS cabinets to the NRC staff for review. (SSER 24 (Proposed), Section 7.7.1.9.5)

TVA Response to NRC Request

Westinghouse considers test procedures to be commercially sensitive documents and has declined to provide them for submittal. The test procedure documents, listed below, are available for audit at the Westinghouse Rockville office. The results of the seismic testing are included in EQ-QR-39-WBT, “Equipment Qualification Summary Report for WINCISE Signal Processing System,” Revision 0. Attachment 5 contains the proprietary version of the report. A non-proprietary version and affidavit for withholding will be submitted no later than December 1, 2011.

Enclosure 1
TVA Letter Dated September 1, 2011
Responses to SSER, Appendix HH, “Watts Bar Unit 2 Action Items Table”

Document Title	Document #
Electromagnetic Compatibility Test Plan and Procedure for Westinghouse Incore Information Surveillance & Engineering System (WINCISE) Signal Processing System Equipment Qualification Cabinet	EQ-TP-98-WBT
Monitoring Test Procedure for Westinghouse Incore Information Surveillance & Engineering System (WINCISE) Signal Processing System Equipment Qualification Cabinet	EQ-TP-98-WBT, Appendix A
Seismic Qualification Procedure for Westinghouse Incore Information Surveillance & Engineering System (WINCISE) Signal Processing System Equipment Qualification Cabinet	EQ-TP-99-WBT
Monitoring Test Procedure for Westinghouse Incore Information Surveillance & Engineering System (WINCISE) Signal Processing System Equipment Qualification Cabinet	EQ-TP-99-WBT, Appendix B

11. NRC Request (SSER 24 (Proposed) Appendix HH Item Number 130)

TVA should provide a summary to the NRC staff of the EMC qualification test results of the SPS cabinets. (SSER 24 (Proposed), Section 7.7.1.9.5)

TVA Response to NRC Request

The summary of the Electro-Magnetic Compatibility (EMC) test results is included in EQ-QR-39-WBT, “Equipment Qualification Summary Report for WINCISE Signal Processing System,” Revision 0. Attachment 5 contains the proprietary version of the report. A non-proprietary version and affidavit for withholding will be submitted no later than December 1, 2011.

12. NRC Request

Based on FSAR Amendment 105, TVA changed its commitment from Regulatory Guide 1.152, Revision 2 to Revision 3. Based on this change, TVA to demonstrate how the Common Q PAMS meets the requirements of Regulatory Guide 1.152, Revision 3 for a secure Development and Operational Environment.

TVA Response to NRC Request

The secure development environment is addressed in WCAP-17427-P, Revision 1. Attachment 6 contains Westinghouse Electric Company WCAP-17427-P, Revision 1, “Watts Bar Nuclear Plant Unit 2 Common Q Post Accident Monitoring System Computer Security Assessment,” (Proprietary). Attachment 7 contains Westinghouse Electric Company WCAP-17427-NP, Revision 1, “Watts Bar Nuclear Plant Unit 2 Common Q Post Accident Monitoring System Computer Security Assessment,” (Non-Proprietary). Attachment 8 contains Westinghouse Electric Company CAW-11-3241, Application for Withholding Proprietary Information from Public Disclosure, WCAP-17427-P, Revision 1,

Enclosure 1
TVA Letter Dated September 1, 2011
Responses to SSER, Appendix HH, "Watts Bar Unit 2 Action Items Table"

"Watts Bar Nuclear Plant Unit 2 Common Q Post Accident Monitoring System Computer Security Assessment," (Proprietary).

Attachment 9 contains TVA document "Common Q PAMS Secure Operational Environment per Regulatory Guide 1.152 Revision 3."

13. NRC Request

TVA to provide a non-proprietary version and affidavit for withholding for the WINCISE technical manual.

TVA Response to NRC Request

Westinghouse procedures do not allow for creation of a non-proprietary technical manual. In order to submit a non-proprietary technical manual, Westinghouse converted the previously reviewed and approved technical manual into a WCAP. Because this is the same document previously approved by engineering, no engineering review of the WCAP is required.

Attachment 10 contains Westinghouse Electric Company WCAP-17458-P, Revision 0, "WINCISE™ Signal Processing System Cabinet Operation & Maintenance Manual," (Proprietary). Attachment 11 contains Westinghouse Electric Company WCAP-17458-NP, Revision 0, "WINCISE™ Signal Processing System Cabinet Operation & Maintenance Manual," (Non-Proprietary). Attachment 12 contains Westinghouse Electric Company CAW-11-3218, Application for Withholding Proprietary Information from Public Disclosure, WCAP-17458-P, Revision 0, "WINCISE™ Signal Processing System Cabinet Operation & Maintenance Manual," (Proprietary).

14. NRC Request

TVA to provide non-proprietary versions and affidavits for withholding for Bechtel proprietary material requisitions

TVA Response to NRC Request

After review by Bechtel Engineering and Procurement, it was determined that requisition 25402-011-MRA-HARA-00002 Revisions 1 and 4 submitted as Attachment 11 in TVA to NRC letter dated October 29, 2010 (Reference 3), contain no proprietary information and can be released as public records.

After review by Bechtel Engineering and Procurement, it was determined that requisition 25402-011-MRA-JD01-00001, Revision 0, submitted as Attachment 23 in TVA to NRC letter dated October 29, 2010 (Reference 3), contains proprietary information. Attachment 13 contains demarcated Bechtel Power Corporation document 25402-011-MRA-JD01-00001, "NSSS and BOP Controls Upgrade," Revision 0 (Proprietary). Attachment 14 contains Bechtel Power Corporation document 25402-011-MRA-JD01-00001, "NSSS and BOP Controls Upgrade," Revision 0 (Non-Proprietary). Attachment 15 contains Bechtel Power Corporation letter ELS-BM-TVA-U2CC-2011-0002, "Application for Withholding Proprietary Information from Public Disclosure, Material Requisition 25402-011-MRA-JD01-00001, Revision 0, "NSSS and BOP Controls Upgrade," (Proprietary).

Enclosure 1
TVA Letter Dated September 1, 2011
Responses to SSER, Appendix HH, "Watts Bar Unit 2 Action Items Table"

15. NRC Request

TVA to submit calculation note 420A90-P, "WINCISE Functional Specification for Watts Bar Unit 2," for staff review.

TVA Response to NRC Request

Attachment 16 contains Westinghouse Electric Company 420A90-P, Revision 2, "WINCISE Functional Specification for Watts Bar Unit 2," (Proprietary). Attachment 17 contains Westinghouse Electric Company 420A90-NP, Revision 2, "WINCISE Functional Specification for Watts Bar Unit 2," (Non-Proprietary). Attachment 18 contains Westinghouse Electric Company CAW-11-3216, Application for Withholding Proprietary Information From Public Disclosure, 420A90-P, Revision 2, "WINCISE Functional Specification for Watts Bar Unit 2" (Proprietary).

16. NRC Request

TVA to submit Westinghouse document WNA-DS-01811-WBT-P, "WINCISE Signal Processing System Design Requirements," for staff review.

TVA Response to NRC Request

Attachment 19 contains Westinghouse Electric Company WNA-DS-01811-WBT-P, Revision 0, "Signal Processing System Design Requirements," (Proprietary). Attachment 20 contains Westinghouse Electric Company WNA-DS-01811-WBT-NP, Revision 0, "Signal Processing System Design Requirements," (Non-Proprietary). Attachment 21 contains Westinghouse Electric Company CAW-11-3217, Application for Withholding Proprietary Information From Public Disclosure, WNA-DS-01811-WBT-P, Revision 0, "WINCISE Signal Processing System Design Requirements," (Proprietary).

17. NRC Request

TVA to submit demarcated proprietary and non-proprietary versions of General Atomics Electronic Systems 04038903-7SP, Revision C, "Qualification Basis for 04034101-001 (2-RE-90-271, -272, -273 & -274)," along with an affidavit for withholding.

TVA Response to NRC Request

Attachment 22 contains demarcated General Atomics Electronic Systems, Inc.(GA-ESI) 04038903-7SP, Revision C, "Qualification Basis for 04034101-001 (2-RE-90-271, -272, -273 & -274)" (Proprietary). Attachment 23 contains GA-ESI 04038903-7SP, Revision C, "Qualification Basis for 04034101-001 (2-RE-90-271, -272, -273 & -274)," (Non-Proprietary). Attachment 26 contains GA-ESI-4482, "Request by General Atomics Electronic Systems, Inc. to Withhold Certain Information from Public Disclosure under 10CFR2.390." Attachment 27 contains GA-ESI-4482, Enclosure "Affidavit for Withholding."

Enclosure 1
TVA Letter Dated September 1, 2011
Responses to SSER, Appendix HH, “Watts Bar Unit 2 Action Items Table”

18. NRC Request

TVA to submit demarcated proprietary and non-proprietary versions of General Atomics Electronic Systems 04508905-1SP, Revision B, “Qualification Test Report Supplement, RM-1000 Upgrades” (Proprietary) along with an affidavit for withholding.

TVA Response to NRC Request

Attachment 24 contains demarcated GA-ESI 04508905-1 SP, Revision B, “Qualification Test Report Supplement, RM-1000 Upgrades” (Proprietary). Attachment 25 contains GA-ESI 04508905-1 SP, Revision B, “Qualification Test Report Supplement, RM-1000 Upgrades” (Non-Proprietary). Attachment 26 contains GA-ESI-4482, “Request by General Atomics Electronic Systems, Inc. to Withhold Certain Information from Public Disclosure under 10CFR2.390.” Attachment 27 contains GA-ESI-4482, Enclosure “Affidavit for Withholding.”

Enclosure 2
TVA Letter Dated September 1, 2011
List of Attachments

1. TVA document titled "Common Q PAMS Conformance to the Requirements of IEEE 603-1991 Clause 4 Safety System Design Basis," dated August 29, 2011
2. Westinghouse Electric Company WNA-CN-00157-WBT-P, Revision 0, "Watts Bar 2 Incore Instrument System (IIS) Signal Processing System (SPS) Isolation Requirements," (Proprietary)
3. Westinghouse Electric Company WNA-CN-00157-WBT-NP, Revision 0, "Watts Bar 2 Incore Instrument System (IIS) Signal Processing System (SPS) Isolation Requirements," (Non-Proprietary)
4. Westinghouse Electric Company CAW-11-3215, Application for Withholding Proprietary Information from Public Disclosure, WNA-CN-00157-WBT-P, Revision 0, "Watts Bar 2 Incore Instrument System (IIS) Signal Processing System (SPS) Isolation Requirements," (Proprietary)
5. Westinghouse Electric Company EQ-QR-39-WBT, Revision 0, "Equipment Qualification Summary Report for WINCISE Signal Processing System," (Proprietary)
6. Westinghouse Electric Company WCAP-17427-P, Revision 1, "Watts Bar Nuclear Plant Unit 2 Common Q Post Accident Monitoring System Computer Security Assessment," (Proprietary)
7. Westinghouse Electric Company WCAP-17427-NP, Revision 1, "Watts Bar Nuclear Plant Unit 2 Common Q Post Accident Monitoring System Computer Security Assessment," (Non-Proprietary)
8. Westinghouse Electric Company CAW-11-3241, Application for Withholding Proprietary Information from Public Disclosure, WCAP-17427-P, Revision 1, "Watts Bar Nuclear Plant Unit 2 Common Q Post Accident Monitoring System Computer Security Assessment," (Proprietary)"
9. TVA document titled "Common Q PAMS Secure Operational Environment per Regulatory Guide 1.152 Revision 3"
10. Westinghouse Electric Company WCAP-17458-P, Revision 0, "WINCISE™ Signal Processing System Cabinet Operation & Maintenance Manual," (Proprietary)
11. Westinghouse Electric Company WCAP-17458-NP, Revision 0, "WINCISE™ Signal Processing System Cabinet Operation & Maintenance Manual," (Non-Proprietary)
12. Westinghouse Electric Company CAW-11-3218, Application for Withholding Proprietary Information from Public Disclosure, WCAP-17458-P, Revision 0, "WINCISE™ Signal Processing System Cabinet Operation & Maintenance Manual," (Proprietary)
13. Demarcated Bechtel Power Corporation document 25402-011-MRA-JD01-00001, "NSSS and BOP Controls Upgrade," Revision 0 (Proprietary)
14. Bechtel Power Corporation document 25402-011-MRA-JD01-00001, "NSSS and BOP Controls Upgrade," Revision 0 (Non-Proprietary)

Enclosure 2
TVA Letter Dated September 1, 2011
List of Attachments

15. Bechtel Power Corporation letter ELS-BM-TVA-U2CC-2011-0002, "Application for Withholding Proprietary Information from Public Disclosure, Material Requisition 25402-011-MRA-JD01-00001, Revision 0, NSSS and BOP Controls Upgrade," (Proprietary)
16. Westinghouse Electric Company 420A90-P, Revision 2, "WINCISE Functional Specification for Watts Bar Unit 2," (Proprietary)
17. Westinghouse Electric Company 420A90-NP, Revision 2, "WINCISE Functional Specification for Watts Bar Unit 2," (Non-Proprietary)
18. Westinghouse Electric Company CAW-11-3216, Application for Withholding Proprietary Information From Public Disclosure, 420A90-P, Revision 2, "WINCISE Functional Specification for Watts Bar Unit 2" (Proprietary)
19. Westinghouse Electric Company WNA-DS-01811-WBT-P, Revision 0, "WINCISE Signal Processing System Design Requirements," (Proprietary)
20. Westinghouse Electric Company WNA-DS-01811-WBT-NP, Revision 0, "WINCISE Signal Processing System Design Requirements," (Non-Proprietary)
21. Westinghouse Electric Company CAW -11-3217, Application for Withholding Proprietary Information From Public Disclosure, WNA-DS-01811-WBT-P, Revision 0, "WINCISE Signal Processing System Design Requirements," (Proprietary)
22. Demarcated General Atomics Electronic Systems 04038903-7SP, Revision C, "Qualification Basis for 04034101-001 (2-RE-90-271, -272, -273 & -274)" (Proprietary)
23. General Atomics Electronic Systems 04038903-7SP, Revision C, "Qualification Basis for 04034101-001 (2-RE-90-271, -272, -273 & -274)" (Non-Proprietary)
24. Demarcated General Atomics Electronic Systems 04508905-1 SP, Revision B, "Qualification Test Report Supplement, RM-1000 Upgrades" (Proprietary)
25. General Atomics Electronic Systems 04508905-1 SP, Revision B, "Qualification Test Report Supplement, RM-1000 Upgrades" (Non-Proprietary)
26. General Atomics Electronic Systems GA/ESI-4482, "Request by General Atomics Electronic Systems, Inc. to Withhold Certain Information from Public Disclosure under 10CFR2.390"
27. General Atomics Electronic Systems GA/ESI-4482, Enclosure "Affidavit for Withholding"

Enclosure 3
TVA Letter Dated September 1, 2011
List of References

1. TVA to NRC letter titled "Watts Bar Nuclear Plant (WBN) Unit 2 – Instrumentation And Controls Staff Information Requests," dated March 2, 2011 (Letter Item #6 [SSER 24 (Proposed) - Appendix HH action item #119])
2. TVA to NRC letter titled "Watts Bar Nuclear Plant (WBN) Unit 2 - Instrumentation and Control Staff Information Requests," dated June 10, 2011 (ML11167A110) (Letter Item #9 [SSER 24 (Proposed) - Appendix HH action item #124])
3. TVA to NRC letter titled "Watts Bar Nuclear Plant (WBN) Unit 2 – Instrumentation And Controls Staff Information Requests," dated October 29, 2010 (Letter Item #14)

Enclosure 4
TVA Letter Dated September 1, 2011
List of New Regulatory Commitment

1. A non-proprietary version of EQ-QR-39-WBT and affidavit for withholding will be submitted no later than December 1, 2011. (Letter Items #7 [SSER 24 (Proposed) - Appendix HH action item 120], #10 [SSER 24 (Proposed) - Appendix HH action item-128] and #11 [SSER 24 (Proposed) - Appendix HH action item-130])