

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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NRR

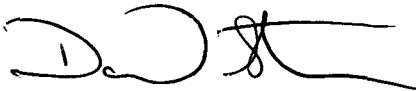
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Attachments 3, 6, 9, 15, 21 and 24 contain information proprietary to Westinghouse Electric Company LLC (WEC). TVA requests that the WEC proprietary information be withheld from public disclosure in accordance with 10 CFR § 2.390.

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 'D. 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):

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

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

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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)

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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
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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.

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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.

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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.

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TVA Letter Dated October 14, 2011
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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
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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
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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)

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

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)

Attachment 1

**Non-proprietary General Atomics-Electronic Systems Inc.
White Paper "Qualification of RM-1000 Processors"
Bechtel Document Number 25402-011-V1 A-HARA-00203-001)**

WHITE PAPER QUALIFICATION OF RM-1000 PROCESSORS

BACKGROUND INFORMATION ON QUALIFICATION OF GA-ESI RADIATION MONITORS

GA-ESI has been designing and manufacturing the RM-1000 digital radiation monitor processor for commercial nuclear power plants since the mid-1990's. The processors are typically supplied as part of a complete Radiation Monitoring System (RMS), and/or can also function with a stand-alone detector.

GA-ESI designs, manufactures, inspects and tests the RM-1000 assemblies under its Quality Assurance Program, which is in compliance with the requirements delineated in Title 10 of the Code of Federal Regulations (10CFR), Part 50, Appendix B, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants." Following manufacture, the assembly is inspected and subjected to qualification testing to demonstrate compliance with applicable regulatory required standards, including environmental requirements specified in IEEE 323-1974 and seismic requirements specified in IEEE 344-1974. The monitors are also qualified per applicable regulatory requirements for electromagnetic compatibility and software validation.

While the majority of components that comprise the RM-1000 are tested as part of the full assembly test, there are some sub-components procured as commercial grade items and dedicated under GA-ESI's Commercial Grade Item (CGI) dedication program. This program meets the requirements of a dedication program as defined in 10 CFR Part 21, and demonstrates the commercial grade items are equivalent to components designed and manufactured under a 10 CFR 50, Appendix B, Quality Assurance Program. GA-ESI maintains complete CGI dedication documentation packages for all such items. Each CGI sub-component undergoes receipt inspection and testing as required by applicable GA-ESI procedures.

GA-ESI RADIATION MONITORS SUPPLIED TO WATTS BAR NUCLEAR UNIT 2

GA-ESI has supplied Watts Bar Nuclear Unit 2 (WBN-2) with RM-1000 radiation monitors as part of complete RMS assemblies that are utilized in safety-related applications. The primary GA-ESI document to support full qualification of the RM-1000 safety-related digital radiation monitors at WBN-2 is Qualification Summary Report (QSR) 04038903-QSR, "Qualification Summary Report for Watts Bar Nuclear Plan Unit 2 Replacement Radiation Monitors." This document references and specifies the seismic, environmental, EMC, and software qualification bases, which are based on equipment testing, and software verification and validation. Testing results are documented in appropriate GA-ESI test reports including, in part,:

- 0457007-1TR, "RM-1000 System Verification Test Results"
- 04508904, "Functional Test Procedure for RM-1000 and I/F Converter"
- 04508802, "RM-1000 Processor Uncertainty Analysis"
- 04508808, "Instrument Uncertainty for a High Range Area Monitor"
- 04508005, "RM-1000 Version 1.1 Software Verification Report"

- 04508006, "RM-1000 Version 1.2 Software Verification Report"
- 04034101-1AT, "Acceptance Test Procedure (ATP) High Range Area Monitor"
- 04508809, "Failure Modes and Effects Analysis (FMEA) for Watts Bar RM-1000 PAMS Safety Monitor"

Commercially supplied sub-components of safety-related monitors, which may not be included in the full RMS assembly test, are dedicated via GA-ESI's CGI dedication program. The program requirements are delineated in GA-ESI procedure OP-7.3-240, "Safety-Related Commercial Grade Item Parts Acceptance." This procedure implements the applicable regulatory guidance provided in EPRI NP-6562, "Guideline For The Utilization of Commercial Grade Items in Safety Related Applications," EPRI TR-102260, "Supplemental Guidance for the Application of EPRI Report NP-6562 on the Utilization of Commercial Grade Items," IEEE 7-4.3.2, "IEEE Standard Criteria for Digital Computers in Safety Systems of Nuclear Power Generating Stations," and EPRI TR-106439, "Guideline on Evaluation and Acceptance of Commercial Grade Digital Equipment for Nuclear Safety Applications." In accordance with regulatory requirements, GA-ESI utilizes multiple methods for dedicating commercial grade items in RMS systems.

For example, the RM-1000 High Range Area Monitors supplied to Watts Bar utilize a commercial grade 120 VAC Filter (sub-component), which is dedicated in accordance with procedure GA-ESI OP-7.3-240. Per procedure requirements, GA-ESI performs a complete Receipt Inspection of the component. Additionally, per procedure requirements, a Quality Control Critical Characteristic Acceptance Plan (CCAP) was developed, which included identification of all critical characteristics, and a Commercial Grade Item Engineering Evaluation (CGIEE) was conducted to verify the critical characteristics. The procedure also required that the vendor provide a Certificate of Conformance certifying the component was fully manufactured, tested, and inspected to ensure compliance with all applicable specifications and requirements. GA-ESI also performs Supplier Surveys of the component vendor. The attachment to this White Paper includes the Receipt Inspection Documentation, including the CCAP and the CGIEE for the AC Filter. The process used by GA-ESI to dedicate this commercial grade component is consistent with the applicable regulatory requirements and NRC-endorsed guidance for CGI Dedication Programs.

SUMMARY

GA-ESI designs, manufactures, inspects and tests the RM-1000 digital radiation monitors in accordance with its Quality Assurance Program which complies with the requirements of 10 CFR 50, Appendix B.

Some sub-components of the RM-1000 are procured as commercial grade items and dedicated under GA-ESI's CGI Program. GA-ESI's CGI Dedication Program meets the definition and requirements specified in 10 CFR 21, and is consistent with the NRC-endorsed guidance in EPRI NP-6562, "Guideline For The Utilization of Commercial Grade Items in Safety Related Applications," EPRI TR-102260, "Supplemental Guidance for the Application of EPRI Report NP-6562 on the Utilization of Commercial Grade Items," IEEE 7-4.3.2, "IEEE Standard Criteria for Digital Computers in Safety Systems of Nuclear Power Generating Stations," and EPRI TR-106439, "Guideline on Evaluation and Acceptance of Commercial Grade Digital Equipment for Nuclear Safety Applications."

Attachment 4

**Non-proprietary Westinghouse Electric Company letter IC-11-130-NP, "Watts Bar Unit 2
Post Accident Monitoring System RG 1.168 Compliance," dated October 3, 2011**



Westinghouse Electric Company
Nuclear Automation
20 International Drive
Windsor, Connecticut 06095
USA

To: Mark J. Stofko

Direct tel: (860) 731-6260

Direct fax: (860) 731-6256

CC:

e-mail: shakunma@westinghouse.com

Your ref: N/A

Our ref: IC-11-130-NP

October 3, 2011

Subject: Watts Bar Unit 2 Post Accident Monitoring System RG 1.168 Compliance

SSER 23 Open Item 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)."

Westinghouse Response: Regulatory Guide 1.168, Revision 1, "Verification, Validation, Reviews, and Audits for Digital Computer Software Used in Safety Systems of Nuclear Power Plants" endorses IEEE Std. 1012-1998, "IEEE Standard for Software Verification and Validation", as an acceptable method for meeting the requirements of 10 CFR Part 50 as they apply to the verification and validation of safety system software. The Regulatory Guide also endorses IEEE Std. 1028-1997 as an acceptable approach for carrying out software reviews, inspections, walkthroughs, and audits.

In order to show compliance to IEEE Std. 1012-1998, Westinghouse has created the following compliance table showing how WBN2 PAMS meets the new Table 2 of the standard. The numeric section numbers listed in the table are from WCAP-16096-NP-A, Rev. 1A, "Software Program Manual for Common Q Systems".

In regards to IEEE 1028-1997 endorsed in RG 1.168, Revision 1, the SER for the SPM made no direct evaluated position on the SPM's compliance to IEEE 1028-1997. The only citation to IEEE 1028-1997 in the SPM is in the Software Quality Assurance Plan as follows:

References to the SVVP are provided in this section to address specific areas of the review and audit process. The intent of this section is to provide guidelines to conduct reviews and audits consistent with the requirements of Reference 16. In some cases, the procedural aspects of the review are contained in the SVVP.

The changes in the IEEE standard from 1988 to 1997 are not substantive in regards to the criteria for the reviews (e.g., the changes include expansion on roles and responsibilities or changes to use the word shall). The reviews defined in IEEE 1028 are either conducted by the IV&V team per the requirements of the NRC-approved SPM, or by QA or Management in accordance with Westinghouse Level 2 procedures

of the NRC-approved Westinghouse Quality Management System. The following reviews called out in IEEE 1028-1997 are conducted as follows:

1. Management Reviews – performed in accordance with Westinghouse Level 2 Procedure WEC 3.1.4 of the NRC-approved Westinghouse Quality Management System
2. Technical Reviews – performed in accordance with Westinghouse Level 2 Procedures WEC 3.3.1 and NSNP 3.3.3 of the NRC-approved Westinghouse Quality Management System, and the IV&V requirements in the SPM
3. Inspections – performed in accordance with Westinghouse Level 2 Procedures WEC 10.1 and WEC 14.1 of the NRC-approved Westinghouse Quality Management System
4. Walk-throughs – performed in accordance with Westinghouse Level 2 Procedure WEC 3.3.1 of the NRC-approved Westinghouse Quality Management System, and the IV&V requirements in the SPM
5. Audits – performed in accordance with Westinghouse Level 2 Procedures 18.1 and 18.4 of the NRC-approved Westinghouse Quality Management System, and to some extent the IV&V requirements in the NRC-approved SPM

The new SPM will be revised to clarify the relationship between the SPM and IEEE 1028-1997.

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Author: *Electronically Approved**
Matthew Shakun*
Engineer, Nuclear Automation Licensing

Verifier: *Electronically Approved**
Warren Odess-Gillett*
Fellow Engineer, Nuclear Automation Licensing

*Electronically approved records are authenticated in the electronic document management system.

Attachment 5

**Westinghouse Electric Company 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**



Westinghouse Electric Company
Nuclear Services
1000 Westinghouse Drive
Cranberry Township, Pennsylvania 16066
USA

U.S. Nuclear Regulatory Commission
Document Control Desk
11555 Rockville Pike
Rockville, MD 20852

Direct tel: (412) 374-4643
Direct fax: (724) 720-0754
e-mail: greshaja@westinghouse.com
Proj letter: WBT-D-3521

CAW-11-3260

October 6, 2011

APPLICATION FOR WITHHOLDING PROPRIETARY
INFORMATION FROM PUBLIC DISCLOSURE

Subject: IC-11-130-P, "Watts Bar Unit 2 Post Accident Monitoring System RG 1.168 Compliance"
(Proprietary), dated October 3, 2011

The proprietary information for which withholding is being requested in the above-referenced report is further identified in Affidavit CAW-11-3260 signed by the owner of the proprietary information, Westinghouse Electric Company LLC. The affidavit, which accompanies this letter, sets forth the basis on which the information may be withheld from public disclosure by the Commission and addresses with specificity the considerations listed in paragraph (b)(4) of 10 CFR Section 2.390 of the Commission's regulations.

Accordingly, this letter authorizes the utilization of the accompanying affidavit by Tennessee Valley Authority.

Correspondence with respect to the proprietary aspects of the application for withholding or the Westinghouse affidavit should reference this letter, CAW-11-3260, and should be addressed to J. A. Gresham, Manager, Regulatory Compliance, Westinghouse Electric Company LLC, Suite 428, 1000 Westinghouse Drive, Cranberry Township, Pennsylvania 16066.

Very truly yours,

J. A. Gresham / FOR
J. A. Gresham, Manager
Regulatory Compliance

Enclosures

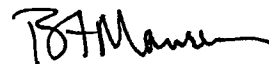
AFFIDAVIT

COMMONWEALTH OF PENNSYLVANIA:

SS

COUNTY OF BUTLER:

Before me, the undersigned authority, personally appeared B. F. Maurer, who, being by me duly sworn according to law, deposes and says that he is authorized to execute this Affidavit on behalf of Westinghouse Electric Company LLC (Westinghouse), and that the averments of fact set forth in this Affidavit are true and correct to the best of his knowledge, information, and belief:



B. F. Maurer, Manager

ABWR Licensing

Sworn to and subscribed before me
this 6th day of October 2011


Notary Public

COMMONWEALTH OF PENNSYLVANIA

Notarial Seal

Cynthia Olesky, Notary Public
Manor Boro, Westmoreland County
My Commission Expires July 16, 2014

Member, Pennsylvania Association of Notaries

- (1) I am Manager, ABWR Licensing, in Nuclear Services, Westinghouse Electric Company LLC (Westinghouse), and as such, I have been specifically delegated the function of reviewing the proprietary information sought to be withheld from public disclosure in connection with nuclear power plant licensing and rule making proceedings, and am authorized to apply for its withholding on behalf of Westinghouse.
- (2) I am making this Affidavit in conformance with the provisions of 10 CFR Section 2.390 of the Commission's regulations and in conjunction with the Westinghouse Application for Withholding Proprietary Information from Public Disclosure accompanying this Affidavit.
- (3) I have personal knowledge of the criteria and procedures utilized by Westinghouse in designating information as a trade secret, privileged or as confidential commercial or financial information.
- (4) Pursuant to the provisions of paragraph (b)(4) of Section 2.390 of the Commission's regulations, the following is furnished for consideration by the Commission in determining whether the information sought to be withheld from public disclosure should be withheld.
 - (i) The information sought to be withheld from public disclosure is owned and has been held in confidence by Westinghouse.
 - (ii) The information is of a type customarily held in confidence by Westinghouse and not customarily disclosed to the public. Westinghouse has a rational basis for determining the types of information customarily held in confidence by it and, in that connection, utilizes a system to determine when and whether to hold certain types of information in confidence. The application of that system and the substance of that system constitutes Westinghouse policy and provides the rational basis required.

Under that system, information is held in confidence if it falls in one or more of several types, the release of which might result in the loss of an existing or potential competitive advantage, as follows:

 - (a) The information reveals the distinguishing aspects of a process (or component, structure, tool, method, etc.) where prevention of its use by any of

Westinghouse's competitors without license from Westinghouse constitutes a competitive economic advantage over other companies.

- (b) It consists of supporting data, including test data, relative to a process (or component, structure, tool, method, etc.), the application of which data secures a competitive economic advantage, e.g., by optimization or improved marketability.
- (c) Its use by a competitor would reduce his expenditure of resources or improve his competitive position in the design, manufacture, shipment, installation, assurance of quality, or licensing a similar product.
- (d) It reveals cost or price information, production capacities, budget levels, or commercial strategies of Westinghouse, its customers or suppliers.
- (e) It reveals aspects of past, present, or future Westinghouse or customer funded development plans and programs of potential commercial value to Westinghouse.
- (f) It contains patentable ideas, for which patent protection may be desirable.

There are sound policy reasons behind the Westinghouse system which include the following:

- (a) The use of such information by Westinghouse gives Westinghouse a competitive advantage over its competitors. It is, therefore, withheld from disclosure to protect the Westinghouse competitive position.
- (b) It is information that is marketable in many ways. The extent to which such information is available to competitors diminishes the Westinghouse ability to sell products and services involving the use of the information.
- (c) Use by our competitor would put Westinghouse at a competitive disadvantage by reducing his expenditure of resources at our expense.

- (d) Each component of proprietary information pertinent to a particular competitive advantage is potentially as valuable as the total competitive advantage. If competitors acquire components of proprietary information, any one component may be the key to the entire puzzle, thereby depriving Westinghouse of a competitive advantage.
 - (e) Unrestricted disclosure would jeopardize the position of prominence of Westinghouse in the world market, and thereby give a market advantage to the competition of those countries.
 - (f) The Westinghouse capacity to invest corporate assets in research and development depends upon the success in obtaining and maintaining a competitive advantage.
- (iii) The information is being transmitted to the Commission in confidence and, under the provisions of 10 CFR Section 2.390; it is to be received in confidence by the Commission.
- (iv) The information sought to be protected is not available in public sources or available information has not been previously employed in the same original manner or method to the best of our knowledge and belief.
- (v) The proprietary information sought to be withheld in this submittal is that which is appropriately marked in IC-11-130-P, "Watts Bar Unit 2 Post Accident Monitoring System RG 1.168 Compliance" (Proprietary), dated October 3, 2011, for submittal to the Commission, being transmitted by Tennessee Valley Authority letter and Application for Withholding Proprietary Information from Public Disclosure, to the Document Control Desk. The proprietary information as submitted by Westinghouse is that associated with the Post Accident Monitoring System (PAMS) and may be used only for that purpose.

This information is part of that which will enable Westinghouse to:

- (a) Assist the customer in providing technical licensing information to the NRC that is required for approval of the Watts Bar Nuclear Unit 2 PAMS System.

Further this information has substantial commercial value as follows:

- (a) Westinghouse plans to sell the use of similar information to its customers for the purpose of licensing in-core instrumentation systems.
- (b) Its use by a competitor would improve his competitive position in the development and licensing of a similar product.
- (c) The information requested to be withheld reveals the distinguishing aspects of a design developed by Westinghouse.

Public disclosure of this proprietary information is likely to cause substantial harm to the competitive position of Westinghouse because it would enhance the ability of competitors to provide similar calculations, analysis and licensing defense services for commercial power reactors without commensurate expenses. Also, public disclosure of the information would enable others to use the information to meet NRC requirements for licensing documentation without purchasing the right to use the information.

The development of the technology described in part by the information is the result of applying the results of many years of experience in an intensive Westinghouse effort and the expenditure of a considerable sum of money.

In order for competitors of Westinghouse to duplicate this information, similar technical programs would have to be performed and a significant manpower effort, having the requisite talent and experience, would have to be expended.

Further the deponent sayeth not.

PROPRIETARY INFORMATION NOTICE

Transmitted herewith are proprietary and/or non-proprietary versions of documents furnished to the NRC in connection with requests for generic and/or plant-specific review and approval.

In order to conform to the requirements of 10 CFR 2.390 of the Commission's regulations concerning the protection of proprietary information so submitted to the NRC, the information which is proprietary in the proprietary versions is contained within brackets, and where the proprietary information has been deleted in the non-proprietary versions, only the brackets remain (the information that was contained within the brackets in the proprietary versions having been deleted). The justification for claiming the information so designated as proprietary is indicated in both versions by means of lower case letters (a) through (f) located as a superscript immediately following the brackets enclosing each item of information being identified as proprietary or in the margin opposite such information. These lower case letters refer to the types of information Westinghouse customarily holds in confidence identified in Sections (4)(ii)(a) through (4)(ii)(f) of the affidavit accompanying this transmittal pursuant to 10 CFR 2.390(b)(1).

COPYRIGHT NOTICE

The reports transmitted herewith each bear a Westinghouse copyright notice. The NRC is permitted to make the number of copies of the information contained in these reports which are necessary for its internal use in connection with generic and plant-specific reviews and approvals as well as the issuance, denial, amendment, transfer, renewal, modification, suspension, revocation, or violation of a license, permit, order, or regulation subject to the requirements of 10 CFR 2.390 regarding restrictions on public disclosure to the extent such information has been identified as proprietary by Westinghouse, copyright protection notwithstanding. With respect to the non-proprietary versions of these reports, the NRC is permitted to make the number of copies beyond those necessary for its internal use which are necessary in order to have one copy available for public viewing in the appropriate docket files in the public document room in Washington, DC and in local public document rooms as may be required by NRC regulations if the number of copies submitted is insufficient for this purpose. Copies made by the NRC must include the copyright notice in all instances and the proprietary notice if the original was identified as proprietary.

Tennessee Valley Authority
Letter for Transmittal to the NRC

The following paragraphs should be included in your letter to the NRC:

Enclosed are:

1. ___ copies of IC-11-130-P, "Watts Bar Unit 2 Post Accident Monitoring System RG 1.168 Compliance" (Proprietary)
2. ___ copies of IC-11-130-NP, "Watts Bar Unit 2 Post Accident Monitoring System RG 1.168 Compliance" (Non-Proprietary)

Also enclosed is the Westinghouse Application for Withholding Proprietary Information from Public Disclosure CAW-11-3260, accompanying Affidavit, Proprietary Information Notice, and Copyright Notice.

As Item 1 contains information proprietary to Westinghouse Electric Company LLC, it is supported by an affidavit signed by Westinghouse, the owner of the information. The affidavit sets forth the basis on which the information may be withheld from public disclosure by the Commission and addresses with specificity the considerations listed in paragraph (b) (4) of Section 2.390 of the Commission's regulations.

Accordingly, it is respectfully requested that the information which is proprietary to Westinghouse be withheld from public disclosure in accordance with 10 CFR Section 2.390 of the Commission's regulations.

Correspondence with respect to the copyright or proprietary aspects of the items listed above or the supporting Westinghouse affidavit should reference CAW-11-3260 and should be addressed to J. A. Gresham, Manager, Regulatory Compliance, Westinghouse Electric Company LLC, Suite 428, 1000 Westinghouse Drive, Cranberry Township, Pennsylvania 16066.

Attachment 7

**Non-proprietary Westinghouse Electric Company letter IC-11-131-NP,
“Watts Bar Unit 2 WINCISE: Westinghouse Revised Response to item 6 SSER Item 118,”
Dated October 5, 2011**



Westinghouse Electric Company
1000 Westinghouse Drive
Cranberry Township, Pennsylvania 16066
USA

To: Warren R. Odess-Gillett

Direct tel: (412) 374-4939

Direct fax: (412) 374-4477

CC:

e-mail: KistleDP@westinghouse.com

Your ref: N/A

Our ref: IC-11-131-NP

October 5, 2011

Subject: Watts Bar Unit 2 WINCISE: Westinghouse Revised Response to item 6 SSER Item 118

TVA's Response to item 6 SSER Item 118:

The response focuses only on operability from a hardware viewpoint. The other part of the question is how the rest of the detectors in an IITA with one or more failed detectors are used by the software. Revise the response to include a software operability discussion.

Westinghouse's Revised Response:

PDMS is operable if the total number of SPDs is greater than a parameter specified in the model. Per WCAP-12472-P-A, Addendum 1, the sample TRM uses a value of []^{a,c}. Also, per Addendum 2, at least []^{a,c} SPDs must be operable in the top and bottom halves of each quadrant, and a total of at least []^{a,c} SPDs must be operable in every quadrant. The IITA design features overlapping SPDs that are sequentially increasing in length.
[

] ^{a,c}

Author: *Electronically Approved**
Daniel P. Kistler*
Senior Engineer, Nuclear Operations

Verifier: *Electronically Approved**
B. Alan Guthrie III*
Principal Engineer, Software Development

*Electronically approved records are authenticated in the electronic document management system.

Attachment 8

**Westinghouse Electric Company 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**



Westinghouse Electric Company
Nuclear Services
1000 Westinghouse Drive
Cranberry Township, Pennsylvania 16066
USA

U.S. Nuclear Regulatory Commission
Document Control Desk
11555 Rockville Pike
Rockville, MD 20852

Direct tel: (412) 374-4643
Direct fax: (724) 720-0754
e-mail: greshaja@westinghouse.com
Proj letter: WBT-D-3533

CAW-11-3261

October 7, 2011

APPLICATION FOR WITHHOLDING PROPRIETARY
INFORMATION FROM PUBLIC DISCLOSURE

Subject: IC-11-131-P, "Watts Bar Unit 2 WINCISE: Westinghouse Revised Response to Item 6 SSER Item 118" (Proprietary)

The proprietary information for which withholding is being requested in the above-referenced report is further identified in Affidavit CAW-11-3261 signed by the owner of the proprietary information, Westinghouse Electric Company LLC. The affidavit, which accompanies this letter, sets forth the basis on which the information may be withheld from public disclosure by the Commission and addresses with specificity the considerations listed in paragraph (b)(4) of 10 CFR Section 2.390 of the Commission's regulations.

Accordingly, this letter authorizes the utilization of the accompanying affidavit by Tennessee Valley Authority.

Correspondence with respect to the proprietary aspects of the application for withholding or the Westinghouse affidavit should reference this letter, CAW-11-3261, and should be addressed to J. A. Gresham, Manager, Regulatory Compliance, Westinghouse Electric Company LLC, Suite 428, 1000 Westinghouse Drive, Cranberry Township, Pennsylvania 16066.

Very truly yours,

A handwritten signature in black ink, appearing to read 'J. A. Gresham'.

J. A. Gresham, Manager
Regulatory Compliance

Enclosures

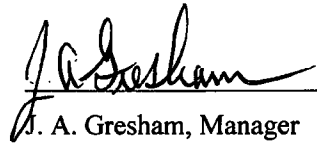
AFFIDAVIT

COMMONWEALTH OF PENNSYLVANIA:

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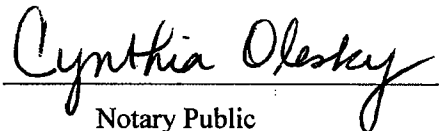
COUNTY OF BUTLER:

Before me, the undersigned authority, personally appeared J. A. Gresham, who, being by me duly sworn according to law, deposes and says that he is authorized to execute this Affidavit on behalf of Westinghouse Electric Company LLC (Westinghouse), and that the averments of fact set forth in this Affidavit are true and correct to the best of his knowledge, information, and belief:



J. A. Gresham, Manager
Regulatory Compliance

Sworn to and subscribed before me
this 7th day of October 2011



Notary Public

COMMONWEALTH OF PENNSYLVANIA
Notarial Seal
Cynthia Olesky, Notary Public
Manor Boro, Westmoreland County
My Commission Expires July 16, 2014
Member, Pennsylvania Association of Notaries

- (1) I am Manager, Regulatory Compliance, in Nuclear Services, Westinghouse Electric Company LLC (Westinghouse), and as such, I have been specifically delegated the function of reviewing the proprietary information sought to be withheld from public disclosure in connection with nuclear power plant licensing and rule making proceedings, and am authorized to apply for its withholding on behalf of Westinghouse.
- (2) I am making this Affidavit in conformance with the provisions of 10 CFR Section 2.390 of the Commission's regulations and in conjunction with the Westinghouse Application for Withholding Proprietary Information from Public Disclosure accompanying this Affidavit.
- (3) I have personal knowledge of the criteria and procedures utilized by Westinghouse in designating information as a trade secret, privileged or as confidential commercial or financial information.
- (4) Pursuant to the provisions of paragraph (b)(4) of Section 2.390 of the Commission's regulations, the following is furnished for consideration by the Commission in determining whether the information sought to be withheld from public disclosure should be withheld.
 - (i) The information sought to be withheld from public disclosure is owned and has been held in confidence by Westinghouse.
 - (ii) The information is of a type customarily held in confidence by Westinghouse and not customarily disclosed to the public. Westinghouse has a rational basis for determining the types of information customarily held in confidence by it and, in that connection, utilizes a system to determine when and whether to hold certain types of information in confidence. The application of that system and the substance of that system constitutes Westinghouse policy and provides the rational basis required.

Under that system, information is held in confidence if it falls in one or more of several types, the release of which might result in the loss of an existing or potential competitive advantage, as follows:

 - (a) The information reveals the distinguishing aspects of a process (or component, structure, tool, method, etc.) where prevention of its use by any of

Westinghouse's competitors without license from Westinghouse constitutes a competitive economic advantage over other companies.

- (b) It consists of supporting data, including test data, relative to a process (or component, structure, tool, method, etc.), the application of which data secures a competitive economic advantage, e.g., by optimization or improved marketability.
- (c) Its use by a competitor would reduce his expenditure of resources or improve his competitive position in the design, manufacture, shipment, installation, assurance of quality, or licensing a similar product.
- (d) It reveals cost or price information, production capacities, budget levels, or commercial strategies of Westinghouse, its customers or suppliers.
- (e) It reveals aspects of past, present, or future Westinghouse or customer funded development plans and programs of potential commercial value to Westinghouse.
- (f) It contains patentable ideas, for which patent protection may be desirable.

There are sound policy reasons behind the Westinghouse system which include the following:

- (a) The use of such information by Westinghouse gives Westinghouse a competitive advantage over its competitors. It is, therefore, withheld from disclosure to protect the Westinghouse competitive position.
- (b) It is information that is marketable in many ways. The extent to which such information is available to competitors diminishes the Westinghouse ability to sell products and services involving the use of the information.
- (c) Use by our competitor would put Westinghouse at a competitive disadvantage by reducing his expenditure of resources at our expense.

- (d) Each component of proprietary information pertinent to a particular competitive advantage is potentially as valuable as the total competitive advantage. If competitors acquire components of proprietary information, any one component may be the key to the entire puzzle, thereby depriving Westinghouse of a competitive advantage.
 - (e) Unrestricted disclosure would jeopardize the position of prominence of Westinghouse in the world market, and thereby give a market advantage to the competition of those countries.
 - (f) The Westinghouse capacity to invest corporate assets in research and development depends upon the success in obtaining and maintaining a competitive advantage.
- (iii) The information is being transmitted to the Commission in confidence and, under the provisions of 10 CFR Section 2.390; it is to be received in confidence by the Commission.
- (iv) The information sought to be protected is not available in public sources or available information has not been previously employed in the same original manner or method to the best of our knowledge and belief.
- (v) The proprietary information sought to be withheld in this submittal is that which is appropriately marked in IC-11-131-P, "Watts Bar Unit 2 WINCISE: Westinghouse Revised Response to Item 6 SSER Item 118" (Proprietary), dated October 5, 2011, for submittal to the Commission, being transmitted by Tennessee Valley Authority letter and Application for Withholding Proprietary Information from Public Disclosure, to the Document Control Desk. The proprietary information as submitted by Westinghouse is that associated with the Incore Instrument System (IIS) and may be used only for that purpose.

This information is part of that which will enable Westinghouse to:

- (a) Assist the customer in providing technical licensing information to the NRC that is required for approval of the Watts Bar Nuclear Unit 2 IIS System.

Further this information has substantial commercial value as follows:

- (a) Westinghouse plans to sell the use of similar information to its customers for the purpose of licensing in-core instrumentation systems.
- (b) Its use by a competitor would improve his competitive position in the development and licensing of a similar product.
- (c) The information requested to be withheld reveals the distinguishing aspects of a design developed by Westinghouse.

Public disclosure of this proprietary information is likely to cause substantial harm to the competitive position of Westinghouse because it would enhance the ability of competitors to provide similar calculations, analysis and licensing defense services for commercial power reactors without commensurate expenses. Also, public disclosure of the information would enable others to use the information to meet NRC requirements for licensing documentation without purchasing the right to use the information.

The development of the technology described in part by the information is the result of applying the results of many years of experience in an intensive Westinghouse effort and the expenditure of a considerable sum of money.

In order for competitors of Westinghouse to duplicate this information, similar technical programs would have to be performed and a significant manpower effort, having the requisite talent and experience, would have to be expended.

Further the deponent sayeth not.

PROPRIETARY INFORMATION NOTICE

Transmitted herewith are proprietary and/or non-proprietary versions of documents furnished to the NRC in connection with requests for generic and/or plant-specific review and approval.

In order to conform to the requirements of 10 CFR 2.390 of the Commission's regulations concerning the protection of proprietary information so submitted to the NRC, the information which is proprietary in the proprietary versions is contained within brackets, and where the proprietary information has been deleted in the non-proprietary versions, only the brackets remain (the information that was contained within the brackets in the proprietary versions having been deleted). The justification for claiming the information so designated as proprietary is indicated in both versions by means of lower case letters (a) through (f) located as a superscript immediately following the brackets enclosing each item of information being identified as proprietary or in the margin opposite such information. These lower case letters refer to the types of information Westinghouse customarily holds in confidence identified in Sections (4)(ii)(a) through (4)(ii)(f) of the affidavit accompanying this transmittal pursuant to 10 CFR 2.390(b)(1).

COPYRIGHT NOTICE

The reports transmitted herewith each bear a Westinghouse copyright notice. The NRC is permitted to make the number of copies of the information contained in these reports which are necessary for its internal use in connection with generic and plant-specific reviews and approvals as well as the issuance, denial, amendment, transfer, renewal, modification, suspension, revocation, or violation of a license, permit, order, or regulation subject to the requirements of 10 CFR 2.390 regarding restrictions on public disclosure to the extent such information has been identified as proprietary by Westinghouse, copyright protection notwithstanding. With respect to the non-proprietary versions of these reports, the NRC is permitted to make the number of copies beyond those necessary for its internal use which are necessary in order to have one copy available for public viewing in the appropriate docket files in the public document room in Washington, DC and in local public document rooms as may be required by NRC regulations if the number of copies submitted is insufficient for this purpose. Copies made by the NRC must include the copyright notice in all instances and the proprietary notice if the original was identified as proprietary.

Tennessee Valley Authority
Letter for Transmittal to the NRC

The following paragraphs should be included in your letter to the NRC:

Enclosed are:

1. ___ copies of IC-11-131-P, "Watts Bar Unit 2 WINCISE: Westinghouse Revised Response to Item 6 SSER Item 118 (Proprietary)
2. ___ copies of IC-11-131-NP, "Watts Bar Unit 2 WINCISE: Westinghouse Revised Response to Item 6 SSER Item 118 (Non-Proprietary)

Also enclosed is the Westinghouse Application for Withholding Proprietary Information from Public Disclosure CAW-11-3261, accompanying Affidavit, Proprietary Information Notice, and Copyright Notice.

As Item 1 contains information proprietary to Westinghouse Electric Company LLC, it is supported by an affidavit signed by Westinghouse, the owner of the information. The affidavit sets forth the basis on which the information may be withheld from public disclosure by the Commission and addresses with specificity the considerations listed in paragraph (b) (4) of Section 2.390 of the Commission's regulations.

Accordingly, it is respectfully requested that the information which is proprietary to Westinghouse be withheld from public disclosure in accordance with 10 CFR Section 2.390 of the Commission's regulations.

Correspondence with respect to the copyright or proprietary aspects of the items listed above or the supporting Westinghouse affidavit should reference CAW-11-3261 and should be addressed to J. A. Gresham, Manager, Regulatory Compliance, Westinghouse Electric Company LLC, Suite 428, 1000 Westinghouse Drive, Cranberry Township, Pennsylvania 16066.

Attachment 10

**Non-Proprietary Westinghouse Electric Company 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**

**Partial Response to Item 9 SSER Item 121, Testing of Completed
WINCISE 1 to 2 Transition MI Cable Assemblies**

Watts Bar 2

October 2011

Westinghouse Electric Company LLC
1000 Westinghouse Drive
Cranberry Township, PA 16066

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Watts Bar 2 Incore Instrument System
[]^{a,c} Testing of Completed WINCISE 1 to 2 Transition MI Cable Assemblies

- References:
1. Westinghouse Drawing Number E-WBN2-155-002, Revision 01, "WINCISE 1 to 2 Transition Cable Assemblies".
 2. Westinghouse Letter LTR-ME-10-3, "Watts Bar 2 Incore Instrument System []^{a,c} of Completed MI Cable Assemblies", dated January 11, 2010.
 3. Westinghouse Document WNA-CN-00157-WBT, Revision 0, "Watts Bar 2 Incore Instrument System (IIS) Signal Processing System (SPS) Isolation Requirements".
 4. Westinghouse Quality Release Number QR-121284-01, Revision 01.
 5. Westinghouse Letter WBT-D-1973, "Quality Documentation for Shipment of WINCISE 1E Cable Assemblies".

Background

This document addresses the WINCISE Project Action Item confirming that []^{a,c} the as-built production unit WINCISE 1 to 2 Transition Cable Assemblies as shown in Reference 1 were subjected to and successfully passed []^{a,c}

This document:

a) Confirms the information provided in Reference 2 for the closure of Open Item 1 in Reference 3 to provide []^{a,c} test results for the WINCISE 1 to 2 Transition Cable Assemblies. Reference 2 of this document was incorporated as Reference 16 of Reference 3 of this document to close out this item.

b) Provides input for RAI on this subject as forwarded to Westinghouse by TVA.

Results of []^{a,c} Testing

The production unit cable assemblies tested are []^{a,c} Westinghouse Drawing E-WBN2-155-002, Revision 01.

[]

[]^{a,c}

Westinghouse Non-Proprietary Class 3

[]^{a,c} testing was completed as part of the Factory Acceptance Test (FAT) program for the production cable assemblies that were delivered to Watts Bar Unit 2 for the WINCISE system.

The test results of the Factory Acceptance Test program were part of the Westinghouse Quality Release package included with the hardware shipment to Watts Bar Unit 2, Reference 4. In addition, the Quality Release was forwarded to TVA via Reference 5.

Quality

This document has been reviewed in accordance with Westinghouse Procedure NSNP 3.3.3.

Attachment 11

Westinghouse Electric Company 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



Westinghouse Electric Company
Nuclear Services
1000 Westinghouse Drive
Cranberry Township, Pennsylvania 16066
USA

U.S. Nuclear Regulatory Commission
Document Control Desk
11555 Rockville Pike
Rockville, MD 20852

Direct tel: (412) 374-4643
Direct fax: (724) 720-0754
e-mail: greshaja@westinghouse.com
Proj letter: WBT-D-3518

CAW-11-3259

October 6, 2011

APPLICATION FOR WITHHOLDING PROPRIETARY
INFORMATION FROM PUBLIC DISCLOSURE

Subject: 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)

The proprietary information for which withholding is being requested in the above-referenced report is further identified in Affidavit CAW-11-3259 signed by the owner of the proprietary information, Westinghouse Electric Company LLC. The affidavit, which accompanies this letter, sets forth the basis on which the information may be withheld from public disclosure by the Commission and addresses with specificity the considerations listed in paragraph (b)(4) of 10 CFR Section 2.390 of the Commission's regulations.

Accordingly, this letter authorizes the utilization of the accompanying affidavit by Tennessee Valley Authority.

Correspondence with respect to the proprietary aspects of the application for withholding or the Westinghouse affidavit should reference this letter, CAW-11-3259, and should be addressed to J. A. Gresham, Manager, Regulatory Compliance, Westinghouse Electric Company LLC, Suite 428, 1000 Westinghouse Drive, Cranberry Township, Pennsylvania 16066.

Very truly yours,

W. J. Smoody / FOR

J. A. Gresham, Manager
Regulatory Compliance

Enclosures

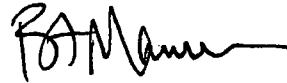
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COMMONWEALTH OF PENNSYLVANIA:

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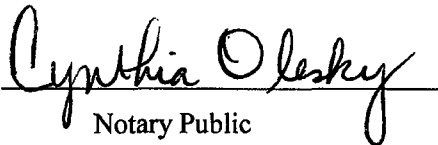
COUNTY OF BUTLER:

Before me, the undersigned authority, personally appeared B. F. Maurer, who, being by me duly sworn according to law, deposes and says that he is authorized to execute this Affidavit on behalf of Westinghouse Electric Company LLC (Westinghouse), and that the averments of fact set forth in this Affidavit are true and correct to the best of his knowledge, information, and belief:



B. F. Maurer, Manager
ABWR Licensing

Sworn to and subscribed before me
this 6th day of October 2011


Notary Public

COMMONWEALTH OF PENNSYLVANIA

Notarial Seal
Cynthia Olesky, Notary Public
Manor Boro, Westmoreland County
My Commission Expires July 16, 2014
Member, Pennsylvania Association of Notaries

- (1) I am Manager, ABWR Licensing, in Nuclear Services, Westinghouse Electric Company LLC (Westinghouse), and as such, I have been specifically delegated the function of reviewing the proprietary information sought to be withheld from public disclosure in connection with nuclear power plant licensing and rule making proceedings, and am authorized to apply for its withholding on behalf of Westinghouse.
- (2) I am making this Affidavit in conformance with the provisions of 10 CFR Section 2.390 of the Commission's regulations and in conjunction with the Westinghouse Application for Withholding Proprietary Information from Public Disclosure accompanying this Affidavit.
- (3) I have personal knowledge of the criteria and procedures utilized by Westinghouse in designating information as a trade secret, privileged or as confidential commercial or financial information.
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 - (ii) The information is of a type customarily held in confidence by Westinghouse and not customarily disclosed to the public. Westinghouse has a rational basis for determining the types of information customarily held in confidence by it and, in that connection, utilizes a system to determine when and whether to hold certain types of information in confidence. The application of that system and the substance of that system constitutes Westinghouse policy and provides the rational basis required.

Under that system, information is held in confidence if it falls in one or more of several types, the release of which might result in the loss of an existing or potential competitive advantage, as follows:

 - (a) The information reveals the distinguishing aspects of a process (or component, structure, tool, method, etc.) where prevention of its use by any of

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- (f) It contains patentable ideas, for which patent protection may be desirable.

There are sound policy reasons behind the Westinghouse system which include the following:

- (a) The use of such information by Westinghouse gives Westinghouse a competitive advantage over its competitors. It is, therefore, withheld from disclosure to protect the Westinghouse competitive position.
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- (d) Each component of proprietary information pertinent to a particular competitive advantage is potentially as valuable as the total competitive advantage. If competitors acquire components of proprietary information, any one component may be the key to the entire puzzle, thereby depriving Westinghouse of a competitive advantage.
 - (e) Unrestricted disclosure would jeopardize the position of prominence of Westinghouse in the world market, and thereby give a market advantage to the competition of those countries.
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- (iii) The information is being transmitted to the Commission in confidence and, under the provisions of 10 CFR Section 2.390; it is to be received in confidence by the Commission.
- (iv) The information sought to be protected is not available in public sources or available information has not been previously employed in the same original manner or method to the best of our knowledge and belief.
- (v) The proprietary information sought to be withheld in this submittal is that which is appropriately marked in 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 2011, for submittal to the Commission, being transmitted by Tennessee Valley Authority letter and Application for Withholding Proprietary Information from Public Disclosure, to the Document Control Desk. The proprietary information as submitted by Westinghouse is that associated with the Incore Instrument System (IIS) and may be used only for that purpose.

This information is part of that which will enable Westinghouse to:

- (a) Assist the customer in providing technical licensing information to the NRC that is required for approval of the Watts Bar Nuclear Unit 2 IIS System.

Further this information has substantial commercial value as follows:

- (a) Westinghouse plans to sell the use of similar information to its customers for the purpose of licensing in-core instrumentation systems.
- (b) Its use by a competitor would improve his competitive position in the development and licensing of a similar product.
- (c) The information requested to be withheld reveals the distinguishing aspects of a design developed by Westinghouse.

Public disclosure of this proprietary information is likely to cause substantial harm to the competitive position of Westinghouse because it would enhance the ability of competitors to provide similar calculations, analysis and licensing defense services for commercial power reactors without commensurate expenses. Also, public disclosure of the information would enable others to use the information to meet NRC requirements for licensing documentation without purchasing the right to use the information.

The development of the technology described in part by the information is the result of applying the results of many years of experience in an intensive Westinghouse effort and the expenditure of a considerable sum of money.

In order for competitors of Westinghouse to duplicate this information, similar technical programs would have to be performed and a significant manpower effort, having the requisite talent and experience, would have to be expended.

Further the deponent sayeth not.

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In order to conform to the requirements of 10 CFR 2.390 of the Commission's regulations concerning the protection of proprietary information so submitted to the NRC, the information which is proprietary in the proprietary versions is contained within brackets, and where the proprietary information has been deleted in the non-proprietary versions, only the brackets remain (the information that was contained within the brackets in the proprietary versions having been deleted). The justification for claiming the information so designated as proprietary is indicated in both versions by means of lower case letters (a) through (f) located as a superscript immediately following the brackets enclosing each item of information being identified as proprietary or in the margin opposite such information. These lower case letters refer to the types of information Westinghouse customarily holds in confidence identified in Sections (4)(ii)(a) through (4)(ii)(f) of the affidavit accompanying this transmittal pursuant to 10 CFR 2.390(b)(1).

COPYRIGHT NOTICE

The reports transmitted herewith each bear a Westinghouse copyright notice. The NRC is permitted to make the number of copies of the information contained in these reports which are necessary for its internal use in connection with generic and plant-specific reviews and approvals as well as the issuance, denial, amendment, transfer, renewal, modification, suspension, revocation, or violation of a license, permit, order, or regulation subject to the requirements of 10 CFR 2.390 regarding restrictions on public disclosure to the extent such information has been identified as proprietary by Westinghouse, copyright protection notwithstanding. With respect to the non-proprietary versions of these reports, the NRC is permitted to make the number of copies beyond those necessary for its internal use which are necessary in order to have one copy available for public viewing in the appropriate docket files in the public document room in Washington, DC and in local public document rooms as may be required by NRC regulations if the number of copies submitted is insufficient for this purpose. Copies made by the NRC must include the copyright notice in all instances and the proprietary notice if the original was identified as proprietary.

Tennessee Valley Authority
Letter for Transmittal to the NRC

The following paragraphs should be included in your letter to the NRC:

Enclosed are:

1. ___ copies of 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)
2. ___ copies of 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" (Non-Proprietary)

Also enclosed is the Westinghouse Application for Withholding Proprietary Information from Public Disclosure CAW-11-3259, accompanying Affidavit, Proprietary Information Notice, and Copyright Notice.

As Item 1 contains information proprietary to Westinghouse Electric Company LLC, it is supported by an affidavit signed by Westinghouse, the owner of the information. The affidavit sets forth the basis on which the information may be withheld from public disclosure by the Commission and addresses with specificity the considerations listed in paragraph (b) (4) of Section 2.390 of the Commission's regulations.

Accordingly, it is respectfully requested that the information which is proprietary to Westinghouse be withheld from public disclosure in accordance with 10 CFR Section 2.390 of the Commission's regulations.

Correspondence with respect to the copyright or proprietary aspects of the items listed above or the supporting Westinghouse affidavit should reference CAW-11-3259 and should be addressed to J. A. Gresham, Manager, Regulatory Compliance, Westinghouse Electric Company LLC, Suite 428, 1000 Westinghouse Drive, Cranberry Township, Pennsylvania 16066.

Attachment 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

SETPOINT IDENTIFIER*: G02VALUE: See G02 Table in Appendix 1A**DESCRIPTION:**

Core exit temperature corresponding to 20 °F subcooling at the ruptured SG pressure - accident accuracy

TABLE:

WOG/ERG Requirement: Temperature corresponding to 20 °F subcooling at the ruptured SG pressure, including allowances for normal channel accuracy and post accident transmitter errors, not to exceed 100 °F. Refer to Background Document for guideline E-3.

Instrument ID: 1-XI-68-100, -110

Basis: See Table G02 for determination of core exit temperatures for various ruptured steam generator pressures.

Reference: 5.1.27, Page 7

Cross Reference: HE-3

Unit
1
SETPOINT IDENTIFIER*: G03VALUE: 727 °F**DESCRIPTION:**

Core exit temperature of 670 °F plus normal channel accuracy and post accident transmitter error or 700 °F, whichever is greater

TABLE:

WOG/ERG Requirement: Temperature corresponding to 670 °F plus normal channel accuracy and post accident transmitter errors or 700 °F, whichever is greater.

Instrument ID: 1-XI-68-100, -110

Basis: This value is based on Reference 5.1.27, page 9. Instrument error is +57 °F resulting in a required setpoint of 727 °F (57 + 670).

Reference: 5.1.27

Cross Reference: HF-0.2; HFR-C.1; HFR-C.2

* See Record of Revision, Rev. 15, of this calculation for Important Note regarding setpoint identifiers.



WBN-OSG4-188, R23: EOP SETPOINTS VERIFICATION DOCUMENT
APPENDIX 2: STANDARD SETPOINTS TABLE

Page 53

SETPOINT IDENTIFIER: G03

VALUE: 700 °F

Unit 2

DESCRIPTION:

Core exit temperature of 670 °F plus normal channel accuracy and post accident transmitter error or 700 °F, whichever is greater

TABLE:

WOG/ERG Requirement: Temperature corresponding to 670 °F plus normal channel accuracy and post accident transmitter errors or 700 °F, whichever is greater.

Instrument ID: 2-XI-68-100, -110

Basis: This value is based on Reference 5.1.57, page 3-29. A single CET (core uncovered @ 700 °F) could read 30.7 °F above the true temperature (-30.7), resulting in a value of 700.1 °F (670 - (-30.7)). Use 700 °F.

Reference: 5.1.57

Cross Reference: HF-0.2; HFR-C.1; HFR-C.2

SETPOINT IDENTIFIER: G99

VALUE: 1200 °F

DESCRIPTION:

Core exit TC to respond to inadequate core cooling

TABLE:

WOG/ERG Requirement: Symptoms and Entry Condition for inadequate core cooling. See Background Document for cross-referenced procedures.

Instrument: 2-XI-68-100, -110

Basis: The setpoint value is the value in Section FR-C.1 of Reference 5.1.19 to be used as a condition to enter into Procedure FR-C.1.

Reference: 5.1.19

Cross Reference: N/A