Westinghouse

Westinghouse Non-Proprietary Class 3

RRAS
Watts Bar 2 NSSS Completion Program
I&C Projects

Post Accident Monitoring System – System Design Specification

WNA-DS-01667-WBT-NP,
Rev. 1

June 2010

APPROVALS

Function	Name and Signature
Author	Digish R. Shah* Engineer, Operating Plant Safety System 1
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	David R. Ellis, Jr.* Project Manager, Common Q PAMS
Approver	Mesut B. Uzman* Product Manager, FPGA Platform Engineering & Systems

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

LIST OF CONTRIBUTORS

Document Number	Revision	Name and Title
WNA-DS-01667-WBT	A	Shawn M. Downey Principal Engineer, I&C BOP Safety & Display Systems
WNA-DS-01667-WBT	A, 0, 1	Jenna L. Tyger Editorial Specialist, Technical Communications
WNA-DS-01667-WBT-NP	1	Jenna L. Tyger Editorial Specialist, Technical Communications

REVISION HISTORY

RECORD OF CHANGES

Document Number	Revision	Author	Description	Completed
WNA-DS-01667-WBT	A	Digish R. Shah	Draft created for customer review and comments	06/09
WNA-DS-01667-WBT	0	Digish R. Shah	Original Issue	08/09
WNA-DS-01667-WBT	1	Digish R. Shah	[a,c]	01/10

Document Number	Revision	Author	Description a,c	Completed
			[ ]	
WNA-DS-01667-WBT-NP	1		Added brackets to indicate Proprietary Information. Deleted References 8 and 9.	See EDMS

DOCUMENT TRACEABILITY & COMPLIANCE

Created to Support the Following Document(s)	Document Number	Revision
Post Accident Monitoring System - System Requirements Specifications	WNA-DS-01617-WBT	1

OPEN ITEMS

Item	Description	Status
None		

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ACRONYMS AND TRADEMARKS

Acronyms used in the document are defined in WNA-PS-00016-GEN, "Standard Acronyms and Definitions" (Reference 4), or included below to ensure unambiguous understanding of their use within this document.

Acronyms	Definition
AC	Alternating Current
AI	Analog Input
AO	Analog Output
d/p	Differential Pressure
DC	Direct Current
DI	Digital Input
DO	Digital Output
DP	Differential Pressure Transducer
ESFAS	Engineering Safety Feature Actuation System
FE	Function Enable
FOM	Fiber Optic Modem
FPD	Flat Panel Display
HISCH	Hydraulic Isolator Status Contact (Head)
HISCHL	Hydraulic Isolator Status Contact (Hot Leg)
HISCS	Hydraulic Isolator Status Contact (Seal Table)
HMI	Human Machine Interface
ICC	Inadequate Core Cooling
IRP	Interposing Relay Panel
MTP	Maintenance and Test Panel
OM	Operator's Module
PAMS	Post Accident Monitoring System
PS	Power Supply
RCS	Reactor Coolant System
RTD	Resistance Temperature Detector
RVLIS	Reactor Vessel Level Instrumentation System
SLE	Software Load Enable
TC	Thermocouple
TRBL	Trouble
TU	Termination Unit
WDT	Watchdog Timer

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ACRONYMS AND TRADEMARKS (cont.)

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GLOSSARY OF TERMS

Standard terms used in the document are defined in WNA-PS-00016-GEN, "Standard Acronyms and Definitions" (Reference 4), or included below to ensure unambiguous understanding of their use within this document.

Term	Definitions
None.	

REFERENCES

Following is a list of references used throughout this document.

1. WNA-DS-01617-WBT, Rev. 1, "Post Accident Monitoring System - System Requirements Specification," Westinghouse Electric Company LLC.

2. 00000-ICE-30155, Rev. 9, "System Requirements Specification for the Common Q Generic Flat Panel Display," Westinghouse Electric Company LLC.

3. 00000-ICE-30159, Rev. 02, "Hardware Requirements Specification for the Common Q Power Supply System," Westinghouse Electric Company LLC.

4. WNA-PS-00016-GEN, Rev. 4, "Standard Acronyms and Definitions," Westinghouse Electric Company LLC.

5. Regulatory Guide 1.75, Rev. 02, "Physical Independence of Electrical Systems," Nuclear Regulatory Commission.

6. IEEE 384-1992, "Standard Criteria for Independence of Class 1E Equipment and Circuits," Institute of Electrical and Electronics Engineers, 1992.

7. IEEE 383-2003, "Standard for Type Test of Class 1E Electric Cables, Field Splices, and Connections for Nuclear Power Generating Stations," Institute of Electrical and Electronics Engineers, 2003.

8. Deleted

9. Deleted

10. 2E10022, Rev. 2, "Safety System Standard 7721 Seismic Cabinet," Westinghouse Electric Company LLC.

REQUIREMENTS

Design and/or other requirements have been identified in this document. Following is a list of the requirement numbers and the document page on which the requirement is identified.

SECTION 1
INTRODUCTION

1.1 PURPOSE

The purpose of this document is to define the hardware design requirements and provide a high-level hardware description for the Watts Bar Unit 2 Post Accident Monitoring System (PAMS).

The hardware design requirements are necessary for the PAMS implementation specified in WNA-DS-01617-WBT, "Post Accident Monitoring System - System Requirements Specification" (Reference 1).

1.2 SCOPE

This document defines the physical hardware configuration necessary to implement the requirements provided in Reference 1.

1.3 FORMAT OF THE DOCUMENT

1.3.1 Requirement Compliance

When showing compliance to a higher tiered requirement, the specified document and requirement number are presented in ( ) following the associated design specification text. The following references are used through this document:

(SysRS R#### - ##) or *(SysRS Section ###)* is Reference 1, WNA-DS-01617-WBT, Rev. 1, "Post Accident Monitoring System - System Requirements Specification," Westinghouse Electric Company LLC.

(FPD R#### - ##) or *(FPD Section###)* is Reference 2, 00000-ICE-30155, Rev. 9, "System Requirements Specification for the Common Q Generic Flat Panel Display," Westinghouse Electric Company LLC.

(PS Section###) is Reference 3, 00000-ICE-30159, Rev. 02, "Hardware Requirements Specification for the Common Q Power Supply System," Westinghouse Electric Company LLC.

1.3.2 Requirements Specification Format

System requirements are specified throughout this document and are presented in the following format to clearly distinguish them from other text.

R### - ##
[Requirement text.]

Guidance: Guidance text.

Rationale: Rationale text.

Each requirement is uniquely numbered, although the numbers may not necessarily be in order. It is the intent that, in future revisions of this document, requirements retain their original number. New requirements are assigned a new, unique number.

Some requirements are new design requirements originating in this document and hence do not need requirement traceability. Other requirements that may need traceability are referenced in the following format.

(Reference X R###) or *(Reference X Section ###)*

1.3.3 Design Statement Format

Design statements are specified throughout this document and are presented in the following format to clearly distinguish them from other text.

SDS### - ##
[Design statement text (Requirement ID or Section).]

Guidance: Guidance text.

Rationale: Rationale text.

Each design statement is uniquely numbered, although the numbers may not necessarily be in order. It is the intent that, in future revisions of this document, design statements retain their original number. New design statements are assigned a new, unique number.

All the design statements are traced to their requirement statements in the following format.

(SysRS R#### - ##), (SysRS Section ###), (FPD R#### - ##), (FPD Section###), (PS Section###)
(Reference X R###) or *(Reference X Section ###)*

(Last Page of Section 1)

SECTION 2
PAMS ARCHITECTURE DESCRIPTION

2.1 PAMS OVERVIEW

The Watts Bar Unit 2 PAMS consists of two separate Class 1E trains that are built on an Advant® Controller 160 (AC160) platform. Each train of PAMS has a flat panel display (FPD) for its operator's module (OM) and maintenance and test panel (MTP).

The system requirements specification for the FPD is provided in 00000-ICE-30155, Rev. 9, "System Requirements Specification for the Common Q Generic Flat Panel Display," Westinghouse Electric Company LLC. (Reference 2).

Each train is mounted in a dedicated cabinet, with identical hardware. Therefore, the following discussion addresses the hardware requirements of a single PAMS train. Any differences in the hardware configuration for Train A and Train B will be described explicitly.

2.2 PAMS ARCHITECTURE

SDS2.2-1
[The major subsystems included in each train of the Watts Bar Unit 2 PAMS are as follows *(SysRS R3.1.2-2), (SysRS R3.1.3-1), (SysRS R3.3.2-1), (SysRS 3.3.2-2)*:

1. AC160 rack – Two per train
2. MTP – One per train
3. OM – One per train]

Guidance: Figure 2.1-1, "PAMS Architecture," shows the basic architecture of the Watts Bar Unit 2 PAMS.

a,c

Figure 2.1-1. [ ]a,c

(Last Page of Section 2)

SECTION 3
PAMS FUNCTIONALITY

3.1 PAMS FUNCTIONALITY OVERVIEW

SDS3.1-1
[The PAMS performs post accident monitoring functions such as reactor vessel level monitoring, subcooled margin monitoring, and core exit thermocouple (CET) monitoring. *(SysRS R2.3.1-1)*]

3.2 MTP FUNCTIONALITY

SDS3.2-1
[The MTP, located in each PAMS train, provides the human machine interface (HMI) that is used for maintenance, test, and internal alarm functions. *(SysRS R2.6.1-4), (SysRS R2.8-1)*]

Guidance: The MTP provides displays in support of the following activities:

- Surveillance testing displays to verify PAMS operability
- Maintenance displays to support corrective maintenance activities
- Setpoint displays to provide the capability to monitor, change, load, and save setpoints (adjustable parameters)
- System status displays to provide detailed PAMS status and diagnostics information
- System health displays to provide diagnostic monitoring information for the AC160 processor module, communication interface module, input modules, and output modules
- Operational displays to monitor PAMS operational status

3.3 OM FUNCTIONALITY

SDS3.3-1
[The OM, located in each PAMS train and mounted in the control room, performs all the functions performed by the MTP except for the maintenance functions. *(SysRS R2.6.2.1-1)*]

(Last Page of Section 3)

SECTION 4
PAMS HARDWARE CONFIGURATION

4.1 PAMS HARDWARE CONFIGURATION OVERVIEW

The Watts Bar Unit 2 PAMS cabinet includes the following hardware as shown in Figure 4.1-1.

a,c

[ ]

Figure 4.1-1. [ ]a,c

4.2 PAMS CABINET

The PAMS cabinet shall have the following features.

4.2.1 Cabinet Layout

SDS4.2.1-1
[The Watts Bar Unit 2 PAMS is housed in a standard Westinghouse cabinet that is seismically qualified. *(Reference 10, G04), (SysRS R3.1.7-1)]*

Guidance: The overall dimension of the Watts Bar Unit 2 PAMS cabinet is 87"h X 28"w X 29"d. The height of the cabinet includes a 4 inch base. A basic layout of the Watts Bar Unit 2 PAMS cabinet is depicted in Figure 4.2-1.

SDS4.2.1-2
[The Watts Bar Unit 2 PAMS cabinet is designed to accommodate top cable entry. *(SysRS R3.1.1-6)*]

SDS4.2.1-3 a,c

[ ]

SDS4.2.1-4 a,c

[ ]

SDS4.2.1-5 a,c

[ ]

SDS4.2.1-6 a,c

[ ]

a,c

Figure 4.2-1. [ ]a,c

4.2.1.1 Common Q Power Supply Layout

R4.2.1.1-1

[ ]a,c

SDS4.2.1.1-1 a,c

[ ]

SDS4.2.1.1-2 a,c

[ ]

SDS4.2.1.1-3 a,c

[ ]

SDS4.2.1.1-4

[ ]a,c

SDS4.2.1.1-5 a,c

[ ]

4.2.1.2 RF616 Primary Subrack Layout

R4.2.1.2-1 a,c

[ ]

R4.2.1.2-2 a,c

[ ]

R4.2.1.2-3 a,c

[ ]

R4.2.1.2-4 a,c

[ ]

R4.2.1.2-5 a,c

[ ]

SDS4.2.1.2-1 a,c

[ ]

SDS4.2.1.2-2 a,c

[ ]

a,c

[ ]

a,c

Figure 4.2-2. [ ]a,c

4.2.1.3 MTP Layout

SDS4.2.1.3-1 a,c

[ ]

SDS4.2.1.3-2 a,c

[ ]

R4.2.1.3-1 a,c

[ ]

SDS4.2.1.3-3 a,c

[ ]

R4.2.1.3-2 a,c

[ ]

R4.2.1.3-3 a,c

[ ]

R4.2.1.3-4

[ ]a,c

R4.2.1.3-5 a,c

[ ]

4.2.1.4 RF620 Extension Subrack Layout

R4.2.1.4-1 a,c

[ ]

R4.2.1.4-2

[ ]a,c

R4.2.1.4-3 a,c

[ ]

R4.2.1.4-4 a,c

[ ]

R4.2.1.4-5 a,c

[ ]

4.2.2 Cabinet Numbering

R4.2.2-1
[As per TVA requirement, the two cabinets for Train A and Train B shall be numbered 2-R-179 and 2-R-180 respectively.]

4.3 MTP/OM CONFIGURATION

SDS4.3-1 a,c

[ ]

R4.3-1 a,c

[ ]

4.3.1 Keylock Switches

SDS4.3.1-1 a,c

[ ]

SDS4.3.1-2 a,c

[ ]

R4.3.1-1 a,c

[ ]

R4.3.1-2 a,c

[ ]

a,c

[ ]

R4.3.1-3

a,c

[ ]

4.4 HARDWARE DESCRIPTION

R4.4-1
[The Common Qualified Platform (Common Q) line of qualified hardware shall be used to implement the Watts Bar Unit 2 PAMS subsystems, cabinets, cablings, and other related equipment.]

As appropriate, additional detailed hardware design requirement documents are provided for individual hardware components.

4.4.1 Common Q Qualified Hardware

The following standard Common Q hardware is used for the Watts Bar Unit 2 PAMS:

- Cabinet
- AC160 Modules
- I/O Termination Units
- FPD System
- Power Supply System

4.4.1.1 Cabinet

R4.4.1.1-1
[A Westinghouse standard nuclear grade instrumentation and control (I&C) cabinet, Reference 10, shall be used for the Watts Bar Unit 2 PAMS. *(SysRS R3.1.1-3), (SysRS R3.1.6-1)*]

4.4.1.2 AC160 Modules

SDS4.4.1.2-1 a,c

[ ]

SDS4.4.1.2-2 a,c

[ ]

SDS4.4.1.2-3 a,c

[ ]

SDS4.4.1.2-4 a,c

[ ]

R4.4.1.2-1 a,c

[ ]

Table 4.4-1. [ ][a,c] a,c

[ ]

Table 4.4-1. [ ]a,c

a,c

SDS4.4.1.2-5 a,c

R4.4.1.2-2 a,c

R4.4.1.2-3

[ ]a,c

Table 4.4-2. [ ][a,c]

a,c

Table 4.4-3. [ ]a,c

a,c

SDS4.4.1.2-6 a,c

[ ]

R4.4.1.2-4 a,c

[ ]

R4.4.1.2-5 a,c

[ ]

SDS4.4.1.2-7

[ ]a,c

SDS4.4.1.2-8 a,c

[ ]

Table 4.4-4. [ ][a,c]

a,c

Table 4.4-5. [ ][a,c]

a,c

SDS4.4.1.2-9 a,c

[ ]

R4.4.1.2-6 a,c

[ ]

Table 4.4-6. [ ][a,c]

a,c

[ ]

Table 4.4-6. [ ]a,c

a,c

SDS4.4.1.2-10 a,c

[ ]

R4.4.1.2-7 a,c

[ ]

Table 4.4-7A. [ ]a,c

a,c

Item Designator	Name	Description

Table 4.4-7B. [ ]a,c

a,c

Item Designator	Name	Description

R4.4.1.2-8

a,c

[ ]

Table 4.4-8A. [ ][a,c]

a,c

[ ]

Table 4.4-8B. [ ]a,c

a,c

R4.4.1.2-9

a,c

[ ]

Table 4.4-9A. [ ][a,c]

a,c

[ ]

Table 4.4-9B. [ ]a,c

a,c

R4.4.1.2-10

a,c

[ ]

Table 4.4-10A. [ ][a,c]

a,c

[ ]

Table 4.4-10B. [ ]a,c

a,c

4.4.1.3 I/O Termination Units

R4.4.1.3-1
[The Watts Bar Unit 2 PAMS shall utilize the standard Common Q I/O termination units.]

4.4.1.4 FPD System

SDS4.4.1.4-1 a,c

4.4.1.5 Power Supply System

R4.4.1.5-1 a,c

[ ]

SDS4.4.1.5-1 a,c

[ ]

SDS4.4.1.5-2 a,c

[ ]

R4.4.1.5-2 a,c

[ ]

SDS4.4.1.5-3 a,c

[ ]

R4.4.1.5-3

[ ]a,c

R4.4.1.5-4

[ ]a,c

R4.4.1.5-5 a,c

[ ]

R4.4.1.5-6 a,c

[ ]

R4.4.1.5-7

a,c

[ ]

R4.4.1.5-8

[ ]a,c

a,c

[ ]

Figure 4.4-1. [ ]a,c

SDS4.4.1.5-12

a,c

[ ]

a,c

[ ]

SDS4.4.1.5-13 a,c

[ ]

SDS4.4.1.5-14 a,c

[ ]

R4.4.1.5-7 a,c

[ ]

4.4.2 PAMS Standard Hardware Subassemblies

4.4.2.1 IRP

SDS4.4.2.1-1 a,c

[ ]

SDS4.4.2.1-2 a,c

[ ]

a,c

[ ]

SDS4.4.2.1-3 a,c

[ ]

R4.4.2.1-1 a,c

[ ]

R4.4.2.1-2

[ ]a,c

R4.4.2.1-3 a,c

[ ]

4.4.2.2 Cabinet Temperature Sensors

R4.4.2.2-1 a,c

[ ]

R4.4.2.2-2 a,c

[ ]

4.4.2.3 Field Terminal Blocks

R4.4.2.3-1

[ ]a,c

R4.4.2.3-2 a,c

[ ]

a,c

[ ]

4.4.2.4 Input Power Distribution Breaker Panel (AC)

R4.4.2.4-1 a,c

[ ]

R4.4.2.4-2 a,c

[ ]

R4.4.2.4-3 a,c

[ ]

4.4.2.5 DC Distribution Breaker Assembly

R2.2.1.11-1 a,c

[ ]

4.4.2.6 Auxiliary Power Supply

R4.4.2.6-1 a,c

[ ]

R4.4.2.6-2

[ ]a,c

R4.4.2.6-3 a,c

[ ]

R4.4.2.6-4

[ ]a,c

R4.4.2.6-5

[ ]a,c

R4.4.2.6-6 a,c

[ ]

4.4.2.7 Primary Subrack – USA and USB Feeds

R4.4.2.7-1 a,c

[ ]

R4.4.2.7-2 a,c

[ ]

4.4.2.8 Extension Subrack – USA and USB Feeds

R4.4.2.8-1 a,c

[ ]

a,c

[ ]

R4.4.2.8-2 a,c

[ ]

4.4.2.9 DP Cell Power Supplies

R4.4.2.9-1 a,c

[ ]

4.4.2.10 DIN Rail/TC514/Connection Units

R4.4.2.10-1

[ ]a,c

R4.4.2.10-2 a,c

[ ]

4.4.3 Cabling

R4.4.3-1 a,c

[ ]

R4.4.3-2

[ ]a,c

R4.4.3-3

[ ]a,c

R4.4.3-4

[ ]a,c

R4.4.3-5 a,c

[ ]

R4.4.3-6 a,c

[ ]

R4.4.3-7 a,c

[ ]

R4.4.3-8 a,c

[ ]

SDS4.4.3-1 a,c

[ ]

R4.4.3-9 a,c

[ ]

R4.4.3-10 a,c

[ ]

R4.4.3-11

[ ]a,c

R4.4.3-12 a,c

[ ]

R4.4.3-12 a,c

[ ]

R4.4.3-13

[ ]a,c

a,c

[ ]

R4.4.3-14

[ ]a,c

R4.4.3-15

[ ]a,c

R4.4.3-16

[ ]a,c

R4.4.3-17 a,c

[ ]

R4.4.3-18 a,c

[ ]

R4.4.3-19 a,c

[ ]

R4.4.3-20 a,c

[ ]

R4.4.3-21

[ ]a,c

SECTION 5
INTERFACES AND COMMUNICATIONS

5.1 MTP DATA LINK

SDS5.1-1 a,c

[ ]

5.2 AF100 BUS COMMUNICATION

SDS5.2-1 a,c

[ ]

SDS5.2-2 a,c

[ ]

SDS5.2-3 a,c

[ ]

a,c

a,c

Figure 5.2-1. [ ]a,c

R5.2-1 a,c

[ ]

R5.2-2 a,c

[ ]

R5.2-3 a,c

[ ]

R5.2-4 a,c

[ ]

R5.2-5

a,c

[ ]

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SECTION 6
GROUNDING AND COOLING REQUIREMENTS

6.1 EARTHING SCHEME

R6.1-1
[The Watts Bar Unit 2 PAMS cabinet shall be provided with a high quality ground bus with a connection to the plant ground grid.]

a,c
[ ]

R6.1-2 a,c
[ ]

R6.1-3
[ ]a,c

R6.1-1 a,c
[ ]

6.2 CABINET/COMPONENT COOLING

R6.2-1 a,c
[ ]

a,c

[ ]

R6.2-2

a,c

[ ]

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Enclosure 3

Application For Withholding Proprietary Information
From Public Disclosure CAW-10-2877
Dated June 30, 2010

Subject: WNA-DS-01667-WBT-P, Revision 1, "RRAS Watts Bar 2 NSSS Completion Program I&C Project Post Accident Monitoring System – System Design Specification" (Proprietary)

Westinghouse

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Proj letter: WBT-D-2095

CAW-10-2877

June 30, 2010

APPLICATION FOR WITHHOLDING PROPRIETARY INFORMATION FROM PUBLIC DISCLOSURE

Subject: WNA-DS-01667-WBT-P, Rev. 1, "RRAS Watts Bar 2 NSSS Completion Program I&C Projects Post Accident Monitoring System – System Design Specification" (Proprietary)

The proprietary information for which withholding is being requested in the above-referenced report is further identified in Affidavit CAW-10-2877 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-10-2877, and should be addressed to J. A. Gresham, Manager, Regulatory Compliance and Plant Licensing, Westinghouse Electric Company LLC, P.O. Box 355, Pittsburgh, Pennsylvania 15230-0355.

Very truly yours,

J. A. Gresham, Manager
Regulatory Compliance and Plant Licensing

Enclosures

CAW-10-2877

AFFIDAVIT

COMMONWEALTH OF PENNSYLVANIA:

ss

COUNTY OF ALLEGHENY:

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 and Plant Licensing

Sworn to and subscribed before me
this 30th day of June 2010

Renee' Giampole
Notary Public

COMMONWEALTH OF PENNSYLVANIA
NOTARIAL SEAL
Renee Giampole, Notary Public
Penn Township, Westmoreland County
My Commission Expires September 25, 2013

(1) I am Manager, Regulatory Compliance and Plant 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 WNA-DS-01667-WBT-P, Rev. 1, "RRAS Watts Bar 2 NSSS Completion Program I&C Projects Post Accident Monitoring System – System Design Specification" (Proprietary) dated June 2010, 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 NRC review of the Post Accident Monitoring System (PAMS) being designed for Watts Bar Unit 2 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 requested technical licensing information to the NRC that is required for approval of the Common Q Post Accident Monitoring system (PAMS).

Further this information has substantial commercial value as follows:

(a) Westinghouse plans to sell the use of similar information to its customers for purpose of other plant-specific applications.

(b) Its use by a competitor would improve his competitive position in the design and licensing of a similar product.

(c) The information requested to be withheld reveals the distinguishing aspects of a methodology which was 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 instrumentation & control systems 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).

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