



Westinghouse Electric Company  
Nuclear Power Plants  
P.O. Box 355  
Pittsburgh, Pennsylvania 15230-0355  
USA

U.S. Nuclear Regulatory Commission  
ATTENTION: Document Control Desk  
Washington, D.C. 20555

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Your ref: Project Number 740  
Our ref: DCP/NRC2066

January 11, 2008

Subject: Transmittal of Proprietary Information, AP1000 Containment Recirculation and IRWST Screen Design

In support of the NRC Acceptance Review of the AP1000 request for Design Certification Amendment (AP1000 Design Control Document, Revision 16), Westinghouse is submitting report APP-GW-GLN-147 Revision 0, "AP1000 Containment Recirculation and IRWST Screen Design," Westinghouse Proprietary. The purpose of this document is to address the DCD Revision 16 Acceptance Issue to provide screen design documentation. NRC has identified that the information provided in AP1000 DCD Revision 16 and the document APP-GW-GLR-079, Revision 2, "AP1000 Verification of Water Sources for Long Term Recirculation Cooling Following a Loss-of-Coolant Accident," is insufficient to resolve COL Information Item 6.3-2.

The report submitted herein provides additional design detail of the AP1000 Incontainment Refueling Water Storage Tank (IRWST) screens and the Containment Recirculation screens to allow a safety evaluation of the acceptability of the design to be performed. In addition to providing more screen design detail, this report provides references to Design Control Document (DCD) figures and text, other previously transmitted Technical Reports, and to relevant DSER Open Item Responses that provide information about the AP1000 long term cooling design and performance evaluations. This additional design information supplements the information previously provided in DCD Revision 16 and APP-GW-GLR-079, Revision 2.

The AP1000 DCD is revised to include a reference to APP-GW-GLN-147 in Sections 6.3.2.2.7.2, 6.3.2.2.7.3 and 6.3.9.

In addition, Westinghouse is revising DCD Revision 16 Section 6.3.8.2 to add the following COL holder item to address the additional test and analyses issues requested by the NRC.

- A Combined License holder referencing the AP1000 design will provide an assessment of the acceptability of the screen performance by performing testing and analysis of the screens. Downstream effects will be assessed to confirm the coolability of the core.

These items require the selection of a specific screen to complete the testing and analyses. Per the guidance provided in Regulatory Guide 1.206, Section CIII.4.3, Item (3), COL applicants referencing the AP1000 design certification amendment application will include License Conditions to provide the

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NRC

Additional testing, analysis, and evaluation results to address the confirmation that the specific screen provides sufficient margin to the AP1000 safety limits. In addition, resolution of GSI 191 is still evolving within the industry, thereby further substantiating the definition of these items as COL License holder issues resulting in License Conditions.

COL Information Item Table, DCD Table 1.8-2 provided in DCD Revision 16 currently identifies a COL Holder item being required. However, APP-GW-GLR 134, Revision 0 deleted this requirement. Table 1.8-2 requires a revision back to reinstate the COL Holder item for COL Information Item 6.3-2.

The DCD revised pages are provided in APP-GW-GLR-134, Revision 2, "AP1000 DCD Impacts to Support COLA Standardization," transmitted in DCP/NRC2069, Andrea Sterdis to Nuclear Regulatory Commission, dated January 11, 2008.

Enclosed is one copy of the Application for Withholding, AW-07-2371 (non-proprietary) with Proprietary Information Notice, and one copy of the associated Affidavit (non-proprietary).

This submittal contains proprietary information of Westinghouse Electric Company, LLC. In conformance with the requirements of 10 CFR Section 2.390, as amended, of the Commission's regulations, we are enclosing with this submittal an Application for Withholding from Public Disclosure and an affidavit. The affidavit sets forth the basis on which the information identified as proprietary may be withheld from public disclosure by the Commission.

Correspondence with respect to the affidavit or Application for Withholding should reference AW-07-2371 and should be addressed to James A. Gresham, Manager, Regulatory Compliance and Plant Licensing, Westinghouse Electric Company, LLC, P. O. Box 355, Pittsburgh, Pennsylvania 15230-0355.

Pursuant to 10 CFR 50.30(b), APP-GW-GLN-147, Revision 0, "AP1000 Containment Recirculation and IRWST Screen Design," Technical Report Number 147, is submitted as Enclosure 1 under the attached Oath of Affirmation.

The additional design information provided in this technical report, along with the DCD revisions to DCD Sections 6.3.2.2.7.2, 6.3.2.2.7.3, 6.3.9 and 6.3.8.2 provided in APP-GW-GLR-134, Revision 2 are expected to be sufficient to address the acceptance and docketing issues raised by the NRC regarding COL Information Item 6.3-2 and the containment recirculation and IRWST screen design.

Questions or requests for additional information related to content and preparation of this report should be directed to Westinghouse. Please send copies of such questions or requests to the prospective applicants for combined licenses referencing the AP1000 Design Certification. A representative for each applicant is included on the cc: list of this letter.

If you have any questions regarding the information provided in this letter, please do not hesitate to contact me on 412-374-6306.

Very truly yours,



A. Sterdis, Manager  
Licensing and Customer Interface  
Regulatory Affairs and Standardization

/Attachment

1. "Oath of Affirmation," dated January 11, 2007

/Enclosures

1. AW-07-2371 "Application for Withholding Proprietary Information from Disclosure," dated January 11, 2008
2. AW-07-2371, Affidavit, Proprietary Information Notice, Copyright Notice dated January 11, 2007
3. APP-GW-GLN-147, Revision 0, "AP1000 Containment Recirculation and IRWST Screen Design," (Proprietary)

|     |              |                         |    |    |
|-----|--------------|-------------------------|----|----|
| cc: | D. Jaffe     | - U.S. NRC              | 1E | 1A |
|     | E. McKenna   | - U.S. NRC              | 1E | 1A |
|     | G. Curtis    | - TVA                   | 1E | 1A |
|     | P. Hastings  | - Duke Power            | 1E | 1A |
|     | C. Ionescu   | - Progress Energy       | 1E | 1A |
|     | A. Monroe    | - SCANA                 | 1E | 1A |
|     | J. Wilkinson | - Florida Power & Light | 1E | 1A |
|     | C. Pierce    | - Southern Company      | 1E | 1A |
|     | E. Schmiech  | - Westinghouse          | 1E | 1A |
|     | G. Zinke     | - NuStart/Entergy       | 1E | 1A |
|     | R. Grumbir   | - NuStart               | 1E | 1A |
|     | P. Greco     | - Westinghouse          | 1E | 1A |

ATTACHMENT 1

“Oath of Affirmation”

ATTACHMENT 1  
UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

In the Matter of: )  
NuStart Bellefonte COL Project )  
NRC Project Number 740 )

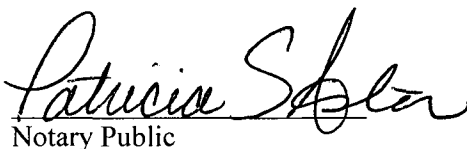
APPLICATION FOR REVIEW OF  
"AP1000 GENERAL COMBINED LICENSE INFORMATION"  
FOR COL APPLICATION PRE-APPLICATION REVIEW

W. E. Cummins, being duly sworn, states that he is Vice President, Regulatory Affairs and Standardization, for Westinghouse Electric Company; that he is authorized on the part of said company to sign and file with the Nuclear Regulatory Commission this document; that all statements made and matters set forth therein are true and correct to the best of his knowledge, information and belief.

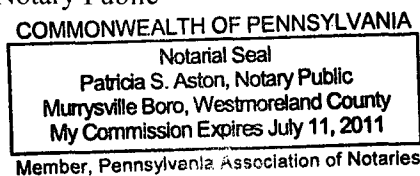


W. E. Cummins  
Vice President  
Regulatory Affairs and Standardization

Subscribed and sworn to  
before me this 11<sup>th</sup> day  
of January 2008.



Notary Public



ENCLOSURE 1

AW-07-2371

APPLICATION FOR WITHHOLDING  
PROPRIETARY INFORMATION FROM DISCLOSURE



Westinghouse Electric Company  
Nuclear Services  
P.O. Box 355  
Pittsburgh, Pennsylvania 15230-0355  
USA

U.S. Nuclear Regulatory Commission  
ATTENTION: Document Control Desk  
Washington, D.C. 20555

Direct tel: 412-374-6306  
Direct fax: 412-374-5005  
e-mail: sterdia@westinghouse.com

Your ref: Project Number 740  
Our ref: AW-07-2371

January 11, 2008

APPLICATION FOR WITHHOLDING PROPRIETARY  
INFORMATION FROM PUBLIC DISCLOSURE

Subject: Transmittal of Proprietary Information, AP1000 Recirculation and IRWST Screen Design

The Application for Withholding is submitted by Westinghouse Electric Company, LLC (Westinghouse), pursuant to the provisions of Paragraph (b) (1) of Section 2.390 of the Commission's regulations. It contains commercial strategic information proprietary to Westinghouse and customarily held in confidence.

The proprietary material for which withholding is being requested is identified in the proprietary version of the subject report. In conformance with 10 CFR Section 2.390, Affidavit AW-07-2371 accompanies this Application for Withholding, setting forth the basis on which the identified proprietary information may be withheld from public disclosure.

Accordingly, it is respectively requested that the subject 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 this Application for Withholding or the accompanying affidavit should reference AW-07-2371 and should be addressed to James A. Gresham, Manager, Regulatory Compliance and Plant Licensing, Westinghouse Electric Company, LLC, P.O. Box 355, Pittsburgh, Pennsylvania, 15230-0355.

Very truly yours,

A handwritten signature in black ink, appearing to read 'James W. Winters', written over a white background.

James W. Winters  
Manager  
Standardization and Configuration Management

cc: J. Thompson - U.S. NRC

AW-07-2371  
January 11, 2008

|      |               |  |    |
|------|---------------|--|----|
| bcc: | J. A. Gresham | - Westinghouse, Pittsburgh, PA, EC E4-7A | 1L |
|      | R. Bastien    | - Nivelles, Belgium                      | 1L |
|      | C. Brinkman   | - Westinghouse, Rockville, MD            | 1L |
|      | RCPL Admin    | - Westinghouse, Pittsburgh, PA, EC E4-7A | 1L |



AW-07-2371  
January 11, 2008

ENCLOSURE 2

Affidavit

AFFIDAVIT

COMMONWEALTH OF PENNSYLVANIA:

SS

COUNTY OF ALLEGHENY:

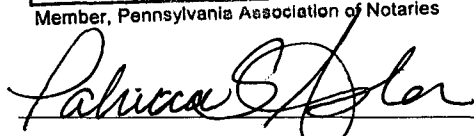
Before me, the undersigned authority, personally appeared James W. Winters, who, being by me duly sworn according to law, deposes and says that he is authorized to execute this Affidavit on behalf of Westinghouse Electric Company LLC (Westinghouse), and that the averments of fact set forth in this Affidavit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



James W. Winters  
Manager  
Standardization and Configuration Management

Sworn to and subscribed  
before me this 11<sup>th</sup> day  
of January 2008.

COMMONWEALTH OF PENNSYLVANIA  
Notarial Seal  
Patricia S. Aston, Notary Public  
Murrysville Boro, Westmoreland County  
My Commission Expires July 11, 2011  
Member, Pennsylvania Association of Notaries

  
Notary Public

ENCLOSURE 3

Westinghouse Proprietary Class 2

"APP-GW-GLN-147, Revision 0

"AP1000 Recirculation and IRWST Screen Design"

(Proprietary)

**AP1000 DOCUMENT COVER SHEET**

TDC: \_\_\_\_\_ Permanent File: \_\_\_\_\_

|                                       |               |                 |                         |                       |
|---------------------------------------|---------------|-----------------|-------------------------|-----------------------|
| AP1000 DOCUMENT NO.<br>APP-GW-GLN-147 | REVISION<br>0 | PAGE<br>1 of 13 | ASSIGNED TO<br>W-Schulz | OPEN ITEMS (Y/N)<br>N |
|---------------------------------------|---------------|-----------------|-------------------------|-----------------------|

ALTERNATE DOCUMENT NUMBER: TR-147

WORK BREAKDOWN #:

ORIGINATING ORGANIZATION: NPP/NS

**TITLE: AP1000 Containment Recirculation and IRWST Screen Design**

|                                 |  |
|---------------------------------|--|
| ATTACHMENTS:                    | DCP #/REV. INCORPORATED IN THIS DOCUMENT REVISION: |
| CALCULATION/ANALYSIS REFERENCE: |  |

|   |                                   |                             |
|---|-----------------------------------|-----------------------------|
| ELECTRONIC FILENAME<br>APP-GW-GLN-147.doc | ELECTRONIC FILE FORMAT<br>MS Word | ELECTRONIC FILE DESCRIPTION |
|---|-----------------------------------|-----------------------------|

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WESTINGHOUSE NON PROPRIETARY CLASS 3

Class 3 Documents being transmitted to the NRC require the following two review signatures in lieu of a Form 36.

|               |                  |
|---------------|------------------|
| LEGAL REVIEW  | SIGNATURE / DATE |
| PATENT REVIEW | SIGNATURE / DATE |

WESTINGHOUSE PROPRIETARY CLASS 2

This document is the property of and contains Proprietary Information owned by Westinghouse Electric Company LLC and/or its subcontractors and suppliers. It is transmitted to you in confidence and trust, and you agree to treat this document in strict accordance with the terms and conditions of the agreement under which it was provided to you.

|                            |  |  |
|----------------------------|--|--|
| ORIGINATOR(S)<br>P. Greco  | SIGNATURE / DATE<br><i>P. Greco</i> 1/11/2008    |  |
| REVIEWER(S)                | SIGNATURE / DATE                                 |  |
|                            | SIGNATURE / DATE                                 |  |
|                            | SIGNATURE / DATE                                 |  |
| VERIFIER(S)<br>D. Lindgren | SIGNATURE / DATE<br><i>D. Lindgren</i> 1/11/2008 | Verification Method Independent Review |

**\*\*Plant Applicability:**  All AP1000 plants except: No Exceptions  
 Only the following plants: \_\_\_\_\_

|  |   |
|--|---|
| <i>for</i> APPLICABILITY REVIEWER**<br>J. A. Speer | SIGNATURE / DATE<br><i>J. A. Speer</i> 1/11/08    |
| RESPONSIBLE MANAGER*<br>C. McGinnis                | SIGNATURE / DATE<br><i>C. A. McGinnis</i> 1/11/07 |

\* Approval of the responsible manager signifies that the document and all required reviews are complete, the appropriate proprietary class has been assigned, electronic file has been provided to the EDMS, and the document is released for use.

**AP1000 DOCUMENT COVER SHEET**

TDC: \_\_\_\_\_ Permanent File: \_\_\_\_\_

|                                       |               |                 |                         |                       |
|---------------------------------------|---------------|-----------------|-------------------------|-----------------------|
| AP1000 DOCUMENT NO.<br>APP-GW-GLN-147 | REVISION<br>0 | PAGE<br>1 of 13 | ASSIGNED TO<br>W-Schulz | OPEN ITEMS (Y/N)<br>N |
|---------------------------------------|---------------|-----------------|-------------------------|-----------------------|

ALTERNATE DOCUMENT NUMBER: TR-147

WORK BREAKDOWN #:

ORIGINATING ORGANIZATION: NPP/NS

**TITLE: AP1000 Containment Recirculation and IRWST Screen Design**

|                                 |  |
|---------------------------------|--|
| ATTACHMENTS:                    | DCP #/REV. INCORPORATED IN THIS DOCUMENT REVISION: |
| CALCULATION/ANALYSIS REFERENCE: |  |

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|---|-----------------------------------|-----------------------------|
| ELECTRONIC FILENAME<br>APP-GW-GLN-147.doc | ELECTRONIC FILE FORMAT<br>MS Word | ELECTRONIC FILE DESCRIPTION |
|---|-----------------------------------|-----------------------------|

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|----------------------------|--|--|
| ORIGINATOR(S)<br>P. Greco  | SIGNATURE / DATE<br><i>P. Greco</i> 1/11/2008    |  |
| REVIEWER(S)                | SIGNATURE / DATE                                 |  |
|                            | SIGNATURE / DATE                                 |  |
|                            | SIGNATURE / DATE                                 |  |
| VERIFIER(S)<br>D. Lindgren | SIGNATURE / DATE<br><i>D. Lindgren</i> 1/11/2008 | Verification Method Independent Review |

**\*\*Plant Applicability:**  All AP1000 plants except: No Exceptions  
 Only the following plants:

|   |   |
|---|---|
| APPLICABILITY REVIEWER**<br>for J. A. Speer | SIGNATURE / DATE<br><i>J. A. Speer</i> 1/11/08    |
| RESPONSIBLE MANAGER*<br>C. McGinnis         | SIGNATURE / DATE<br><i>C. A. McGinnis</i> 1/11/08 |

\* Approval of the responsible manager signifies that the document and all required reviews are complete, the appropriate proprietary class has been assigned, electronic file has been provided to the EDMS, and the document is released for use.