



Westinghouse Electric Company  
Nuclear Power Plants  
P.O. Box 355  
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USA

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

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Direct fax: 412-374-5005  
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Your ref: Project Number 740  
Our ref: DCP/NRC2030

October 26, 2007

Subject: Submittal of APP-SSAR-GSC-642 Support Document for APP-GW-GLN-122 (TR 122)

Submittal of Proprietary and Non-Proprietary Technical Document Information, APP-SSAR-GSC-642, Revision 0 and APP-SSAR-GSC-642-NP, Revision 0, "Assessment of Basis for Aerosol Plugging in AP1000 Containment Leak Paths for Radiological Design Bases Accidents"

This document provides supporting information for the review of APP-GW-GLN-122 (Technical Report Number 122), "Offsite and Control Room Dose Changes", submitted under Westinghouse letter DCP/NRC1952, dated July 27, 2007. This document is being submitted as the result of multiple teleconferences held between Westinghouse and the NRC regarding TR 122.

Pursuant to 10 CFR 50.30(b), APP-SSAR-GSC-642, Revision 0 (Proprietary) and APP-SSAR-GSC-642- NP (Non-Proprietary) are submitted as Enclosures 3 and 4 under the attached Oath of Affirmation.

Also enclosed is one copy of the Application for Withholding, AW-07-2350 (non-proprietary) with Proprietary Information Notice, and one copy of the associated Affidavit (non-proprietary).

This submittal contains proprietary information of Polestar Applied Technology, Inc. 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-07-2350 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.

Questions or requests for additional information related to the 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.

DO63  
DO79  
NEO

Very truly yours,



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

/Attachment

1. "Oath of Affirmation," dated October 26, 2007

/Enclosures

1. AW-07-2350 "Application for Withholding Proprietary Information from Disclosure," dated October 26, 2007
2. Affidavit, Polestar Applied Technology, Inc., dated October 9, 2007
3. APP-SSAR-GSC-642, Rev. 0 (Proprietary), "Assessment of Basis for Aerosol Plugging in AP1000 Containment Leak Paths for Radiological Design Bases Accidents," dated October 2007
4. APP-SSAR-GSC-642-NP, Rev. 0 (Non-Proprietary), "Assessment of Basis for Aerosol Plugging in AP1000 Containment Leak Paths for Radiological Design Bases Accidents," dated October 2007

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
	M. Moran	- Florida Power & Light	1E	1A
	C. Pierce	- Southern Company	1E	1A
	E. Schmiech	- Westinghouse	1E	1A
	G. Zinke	- NuStart/Entergy	1E	1A
	R. Wright	- Westinghouse	1E	1A

ATTACHMENT 1

“Oath of Affirmation”

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

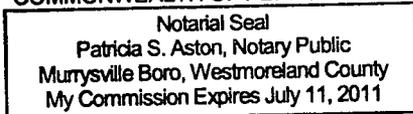
W. E. Cummins, being duly sworn, states that he is Vice President, Regulatory Affairs and Standardization, for Westinghouse Electric Company; that he is authorized on the part of said company to sign and file with the Nuclear Regulatory Commission this document; that all statements made and matters set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



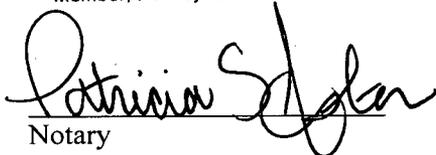
W. E. Cummins  
Vice President  
Regulatory Affairs and Standardization

Subscribed and sworn to  
before me this 26<sup>th</sup> day  
of October 2007.

COMMONWEALTH OF PENNSYLVANIA



Member, Pennsylvania Association of Notaries

  
Notary

ENCLOSURE 1

AW-07-2350

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  
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Direct tel: 412-374-6306  
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Your ref: Project Number 740  
Our ref: AW-07-2350

October 26, 2007

APPLICATION FOR WITHHOLDING PROPRIETARY  
INFORMATION FROM PUBLIC DISCLOSURE

Subject: Submittal of Proprietary and Non-Proprietary Technical Document Information, APP-SSAR-GSC-642, Revision 0 and APP-SSAR-GSC-642-NP, Revision 0, "Assessment of Basis for Aerosol Plugging in AP1000 Containment Leak Paths for Radiological Design Bases Accidents"

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 Polestar Applied Technology, Inc., a subcontractor of Westinghouse on AP1000, and is 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, an Affidavit from Polestar Applied Technology, Inc. accompanies this Application for Withholding, setting forth the basis on which the identified proprietary information may be withheld from public disclosure.

Accordingly, it is respectfully requested that the subject information which is proprietary to Polestar Applied Technology, Inc. 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-07-2350 and should be addressed to James A. Gresham, Manager, Regulatory Compliance and Plant Licensing, Westinghouse Electric Company, LLC, P.O. Box, Pittsburgh, Pennsylvania, 15230-0355.

Very truly yours,

A handwritten signature in black ink, appearing to read 'James W. Winters'.

James W. Winters  
Manager  
Standardization and Configuration Management

cc: J. Thompson - U.S. NRC

ENCLOSURE 2

Affidavit

**Polestar Applied Technology, Inc.****AFFIDAVIT**

I, David E.W. Leaver, being duly sworn, depose and state as follows:

- (1) I am a Principal and an Officer of Polestar Applied Technology, Inc. ("Polestar") and am responsible for the function of reviewing the information described in paragraphs (2) and (8) which is sought to be withheld, and have been authorized to apply for its withholding.
- (2) The information sought to be withheld is contained in portions of Polestar-prepared report PSAT 3023CT.QA.01.05 (see paragraph (8)). This report has been prepared for Westinghouse Electric Co. LLC (Westinghouse) in support of AP1000 containment fission product aerosol mitigation. The Polestar report addresses radiological design basis accident fission product aerosol plugging in AP1000 containment leak paths.
- (3) In making this application for withholding of proprietary information of which it is the owner, Polestar relies upon the exemption from disclosure set forth in the NRC regulations 10 CFR 9.17(a)(4), 2.390(a)(4), and 2.390(b)(1) for "trade secrets and commercial or financial information obtained from a person and privileged or confidential" (Exemption 2.390(a)(4)). The material for which exemption from disclosure is here sought is all "confidential commercial information".
- (4) Some examples of categories of information which fit into the definition of proprietary information are:
  - a. Information that discloses a process or method, including supporting data, analyses, and design insights based on integration of the data and analyses, to where prevention of its use by Polestar's competitors without license from Polestar constitutes a competitive economic advantage over other companies.
  - b. Information which, if used by a competitor, would significantly reduce his expenditure of resources or improve his competitive position in the analysis, design, assurance of quality, or licensing of a similar product;
  - c. Information which reveals cost or price information, production capacities, budget levels, or commercial strategies of Polestar, its customers, or its suppliers;
  - d. Information which reveals aspects of past, present, or future Polestar customer-funded development plans and programs, of potential commercial value to Polestar;
  - e. Information which discloses patentable subject matter for which it may be desirable to obtain patent protection.

The information sought to be withheld is considered to be proprietary for the reasons set forth in both paragraphs (4)a and (4)b, above.

- (5) The information sought to be withheld was submitted to Westinghouse (and, we trust, to NRC) in confidence. The information is of a sort customarily held in confidence by Polestar, and is in fact so held. The information sought to be withheld has, to the best of my knowledge and belief, consistently been held in confidence by Polestar, no public disclosure has been made, and it is not available in public sources. All disclosures to third parties including any required transmittals to NRC, have been made, or must be made, pursuant to regulatory provisions or proprietary agreements which provide for maintenance of the information in confidence. Its initial designation as proprietary information, and the subsequent steps taken to prevent its unauthorized disclosure, are as set forth in paragraphs (6) and (7) following.
- (6) Initial approval of proprietary treatment of a document is made by the manager of the originating component, the person most likely to be acquainted with the value and sensitivity of the information in relation to industry knowledge. Distribution of such documents within Polestar is limited to those with a need to know.
- (7) The approval of external release of such a document typically requires review by the project manager, and the Polestar Principal closest to the work, for technical content, competitive effect, and determination of the accuracy of the proprietary designation. Disclosures outside Polestar are limited to regulatory bodies, customers, and potential customers, and their agents, suppliers, and licensees, and others with a legitimate need for the information, and then only in accordance with appropriate regulatory provisions or proprietary agreements.
- (8) The information identified in paragraph (2), above, is classified as proprietary because it contains detailed information on and results from trade secret methodologies developed by Polestar and applied under the Polestar 10 CFR 50, Appendix B Quality Assurance Program. The trade secret information is identified in **[[double bold brackets]]** in the calculation. Specifically:

Page 4 – discusses key aspects of the plugging phenomenon to be applied in the calculation based on Polestar's accumulated knowledge and insights on aerosol phenomena

Pages 5, 6, and 7 – a discussion of insights derived from experimental information based on Polestar's accumulated knowledge and insights on aerosol phenomena

Pages 9, 10, and 11 – key aspects of theoretical basis for plugging based on Polestar's accumulated knowledge and insights on aerosol phenomena

Page 11 – key assumptions on the AP1000 problem based on Polestar's accumulated knowledge and insights on aerosol phenomena

Pages 15 – 18 – details on decontamination factor calculation and results based on Polestar's accumulated knowledge and insights on aerosol phenomena

The trade secrets used in this AP1000 work are several of a number of Polestar developed methods, models, and codes. Development of these methods, models, and codes was achieved at a significant cost to Polestar, well over \$200,000, which is a significant fraction of internal research and development resources available to a company the size of Polestar.

The development of the methods, models and codes, along with the interpretation and application of the results, is derived from the extensive experience database that constitutes a major Polestar asset.

- (9) Public disclosure of the information sought to be withheld is likely to cause substantial harm to Polestar's competitive position and foreclose or reduce the availability of profit-making opportunities. The information is part of Polestar's comprehensive technology base on application of the alternative source term (AST) to operating plants and advanced light water reactors, and its commercial value extends beyond the original development cost. The value of the technology base goes beyond the extensive physical database and analytical methodology and includes development of the expertise to determine and apply the appropriate evaluation process. In addition, the technology base includes the value derived from providing analyses done with methods which have been developed and are being maintained in accordance with 10 CFR 50, Appendix B requirements.

The research, development, engineering, analytical and review costs comprise a substantial investment of time and money by Polestar.

The precise value of the expertise to devise an evaluation process and apply the correct analytical methodology is difficult to quantify, but it clearly is substantial.

Polestar's competitive advantage will be lost if its competitors are able to use the results of the Polestar experience to normalize or verify their own process or if they are able to claim an equivalent understanding by demonstrating that they can arrive at the same or similar conclusions.

The value of this information to Polestar would be lost if the information were disclosed to the public. Making such information available to competitors without their having been required to undertake a similar expenditure of resources would unfairly provide competitors with a windfall, and deprive Polestar of the opportunity to exercise its competitive advantage to seek an adequate return on its relatively large investment in developing these very valuable analytical tools.

STATE OF CALIFORNIA            )  
                                           )  
 COUNTY OF SANTA CLARA        )

ss:

David E.W. Leaver, is being duly sworn, deposes and says:

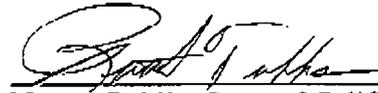
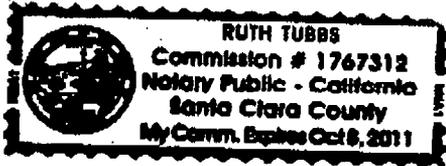
That he has read the foregoing affidavit and the matters stated therein are true and correct to the best of his knowledge, information, and belief.

Executed at Los Altos, California, this 9<sup>th</sup> day of October 2007.



David E.W. Leaver  
Polestar Applied Technology, Inc.

Subscribed and sworn before me this 9<sup>th</sup> day of October 2007.

  
Notary Public, State of California