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

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Your ref. Docket No. 52-006
Our ref. DCP/NRC1584

May 1, 2003

SUBJECT: Transmittal of Proprietary Design Information to Support NRC RELAP Analysis of the AP1000

Attached please find proprietary AP1000 design information that was requested at the meeting held at the NRC offices on April 3, 2003. This information is provided to allow the staff to update their AP1000 small break LOCA RELAP analyses so that the results can be compared to Westinghouse NOTUMP small break LOCA analyses. Westinghouse requests that the updated RELAP analyses be discussed at your earliest convenience.

The Westinghouse Electric Company Copyright Notice, Proprietary Information Notice, Application for Withholding, and Affidavit are also attached to this submittal letter as Enclosure 1. Attachment 1 contains Westinghouse proprietary information consisting of trade secrets, commercial information or financial information which we consider privileged or confidential pursuant to 10 CFR 2.790. Therefore, it is requested that the Westinghouse proprietary information attached hereto be handled on a confidential basis and be withheld from public disclosures. Attachment 2 contains no proprietary information.

This material is for your internal use only and may be used for the purpose for which it is submitted. It should not be otherwise used, disclosed, duplicated, or disseminated, in whole or in part, to any other person or organization outside the Commission, the Office of Nuclear Reactor Regulation, the Office of Nuclear Regulatory Research and the necessary subcontractors that have signed a proprietary non-disclosure agreement with Westinghouse without the express written approval of Westinghouse.

DO63

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Docket No. 52-006

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Correspondence with respect to the application for withholding should reference AW-03-1636, and should be addressed to Hank A. Sepp, Manager of Regulatory and Licensing Engineering, Westinghouse Electric Company, P.O. Box 355, Pittsburgh, Pennsylvania, 15230-0355.

Please contact me at 412-374-5355 if you have any questions concerning this submittal.

Very truly yours,



M. M. Corletti
Passive Plant Projects & Development
AP600 & AP1000 Projects

/Enclosure

1. Westinghouse Electric Company Copyright Notice, Proprietary Information Notice, Application for Withholding, and Affidavit AW-03-1636.

/Attachments

1. Proprietary AP1000 Core Makeup Tank System Resistance Information
2. Non-proprietary version of AP1000 Core Makeup Tank System Resistance Information

DCP/NRC1584
Docket No. 52-006

May 1, 2003

Enclosure 1

Westinghouse Electric Company
Application for Withholding, Affidavit, Copyright Notice, Proprietary Information Notice



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

May 1, 2003

AW-03-1636

Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, DC 20555

ATTENTION: Mr. John Segala

APPLICATION FOR WITHHOLDING PROPRIETARY
INFORMATION FROM PUBLIC DISCLOSURE

SUBJECT: Transmittal of Proprietary Design Information to Support NRC RELAP
Analysis of the AP1000

Dear Mr. Segala

The application for withholding is submitted by Westinghouse Electric Company, LLC ("Westinghouse") pursuant to the provisions of paragraph (b)(1) of Section 2.790 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 documents. In conformance with 10 CFR Section 2.790, Affidavit AW-03-1636 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 Westinghouse be withheld from public disclosure in accordance with 10 CFR Section 2.790 of the Commission's regulations.

Correspondence with respect to this application for withholding or the accompanying affidavit should reference AW-03-1636 and should be addressed to the undersigned.

Very truly yours,

A handwritten signature in cursive script, appearing to read 'M. M. Corletti'.

M. M. Corletti
Passive Plant Projects & Development
AP600 & AP1000 Projects

/Enclosures

COMMONWEALTH OF PENNSYLVANIA:

SS

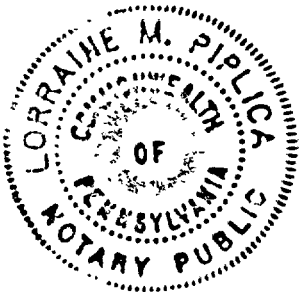
COUNTY OF ALLEGHENY:

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
Passive Plant Projects & Development
New Plants Division
Westinghouse Electric Company, LLC

Sworn to and subscribed
before me this 1st day
of May, 2003


Notary Public

Notarial Seal
Lorraine M. Piplica, Notary Public
Monroeville Boro, Allegheny County
My Commission Expires Dec. 14, 2003
Member, Pennsylvania Association of Notaries

- (1) I am Manager, Passive Plant Projects & Development, in the New Plants Division, of the 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 rulemaking proceedings, and am authorized to apply for its withholding on behalf of the Westinghouse Electric Company, LLC.
- (2) I am making this Affidavit in conformance with the provisions of 10 CFR Section 2.790 of the Commission's regulations and in conjunction with the Westinghouse application for withholding accompanying this Affidavit.
- (3) I have personal knowledge of the criteria and procedures utilized by the Westinghouse Electric Company, LLC 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 2.790 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 which 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 2.790, 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.

The proprietary information sought to be withheld in this submittal is that which is appropriately marked in Attachment 1 as Proprietary Class 2 in the Westinghouse document DCP/NRC1584 for submittal to the Commission.

This information is being transmitted by Westinghouse's letter and Application for Withholding Proprietary Information from Public Disclosure, being transmitted by Westinghouse Electric Company (W letter AW-03-1636) and to the Document Control Desk, Attention: John Segala, DIPM/NRLPO, M/S O-4D9A.

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

- (a) Provide documentation supporting determination of APP-GW-GL-700, "AP1000 Design Control Document," analysis on a plant specific basis
- (b) Provide the applicable engineering evaluation which establishes the Tier 2 requirements as identified in APP-GW-GL-700.

Further this information has substantial commercial value as follows:

- (a) Westinghouse plans to sell the use of similar information to its customers for purposes of meeting NRC requirements for Licensing Documentation.
- (b) Westinghouse can sell support and defense of AP1000 Design Certification.

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 methodologies 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 for performing and analyzing tests.

Further the deponent sayeth not.

May 1, 2003

Copyright Notice

The documents transmitted herewith each bear a Westinghouse copyright notice. The NRC is permitted to make the number of copies for 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 2.790 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 these 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.

May 1, 2003

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 2.790 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) contained within parentheses 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 2.790(b)(1).

May 1, 2003

Attachment 2

CMT System Resistance Information

May 1, 2003

Attachment 2

Table 1				
Line Segment	CMT A Loss Coefficient (ft/gpm ²)	CMT B Loss Coefficient (ft/gpm ²)	Smallest Diameter (in)	Component with Smallest Diameter
1 – 2	[ ]		] ^{a,c}	Globe Valve
2 – 3	[ ]		] ^{a,c}	Pipe
3 – 4**	[ ]		] ^{a,c}	Gate Valve
4 – 5	[ ]		] ^{a,c}	Orifice
5 – 6	[ ]		] ^{a,c}	DVI Venturi
Total (2 – 6)	[ ]	] ^{a,c}		
Total (1 – 6)	[ ]	] ^{a,c}		

** It is assumed that one of the parallel flow paths fails to open for this case as the single failure. Should the single failure be another valve in the plant (such as an ADS 4 valve) both CMT AOVs would open and the resistance of this section would be reduced to [] ^{a,c} for path A and [] ^{a,c} for path B.

In the NOTRUMP model (as in the plant), the CMT discharge paths (point 2 to 6) are assumed to be the same because the orifice in the CMT discharge will be tuned in the field to achieve the same resistance (between min and max values) (i.e. Both NOTRUMP paths use the CMT-A loss coefficient information). Therefore, the CMT-A and CMT-B loss coefficients to the Vessel region in NOTRUMP are comprised of two parts.

- The part from the CMT to the ACC-DVI tee (Sections 2 through 5) is represented in flow links 50 and 60 respectively in the NOTRUMP model. The loss coefficient over this region is [] ^{a,c} or when converted to a dimensionless K (fL/D) is [] ^{a,c}.
- The ACC-DVI tee to the reactor vessel (Sections 5-6) is represented in flow links 52 and 62 respectively in the NOTRUMP model. The loss coefficient over this region is [] ^{a,c}, or when converted to a dimensionless K (fL/D) is [] ^{a,c}.

The loss coefficients, described above, include form and friction losses for ALL components including allowances for margin from the CL through the CMT and into the reactor vessel downcomer. The values described above are those for the Maximum resistance cases and represent a conservatively high (safety basis) flow resistance for the AP1000 plant design. Under these conditions, with steam displacement in the cold leg balance lines, the injection flow characteristic is calculated to be about 135 lb/sec from each CMT with 120 F water in the CMT and 200 psia saturated steam in the CL to CMT balance line. Note that the steam flow into the CMT is conservatively assumed to be 3 times the water flow out of the CMT to account for steam condensation in the CMT.

May 1, 2003

Attachment 2

