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Our ref: LTR-NRC-06-56

October 4, 2006

Subject: Use of Conservatively Calculated Containment Backpressure in Westinghouse BWR ECCS Evaluation Calculations

References:

1. RPB 90-93-P-A, "Boiling Water Reactor Emergency Core Cooling System Evaluation Model: Code Description and Qualification," October 1991.
2. RPB 90-94-P-A, "Boiling Water Reactor Emergency Core Cooling System Evaluation Model: Code Sensitivity," October 1991.
3. Memorandum from G. S. Shukla to S. L. Rosenberg, "Summary of May 4, 2006 Public Meeting with Westinghouse Electric Company on Mass and Energy and Containment Analysis Methodology for Pressurized Water Reactor (PWR) and Boiling Water Reactor (BWR) Containment Designs (TAC NO. MB1365)," Accession Number ML062070641, August 1, 2006.
4. WCAP-16608-P, "Westinghouse Containment Analysis Methodology" August 2006. (Transmitted by LTR-NRC-06-49).

Attachments:

1. "Application of Conservatively Calculated Containment Backpressure to BWR ECCS Evaluation Model Calculations," Westinghouse Electric Company, October 2006 (Proprietary /Non-proprietary)
2. One (1) copy of the Application for Withholding, AW-06-2167 (Non-proprietary) with proprietary Information Notice.
3. One (1) copy of Affidavit (Non-proprietary)

Dear Mr. Landry,

As a follow up to discussions between Westinghouse personnel and NRC staff on September 28 regarding our plans to use conservatively calculated containment back pressure in ECCS calculations for BWR LOCA, additional information is being provided on this topic. The attached report describes the methodology and bases for performing these calculations. We intend to apply this methodology to ECCS calculations being performed for the Dresden and Quad Cities units.

Westinghouse's intent of applying non-atmospheric backpressure for BWR LOCA was discussed with the NRC staff on three earlier occasions: (1) during the audit of LOCA calculations for Quad Cities fuel

transition (Westinghouse Rockville Offices, 2/15/06); (2) during Westinghouse Fuel Performance Update meeting (Westinghouse Rockville Offices, 4/11/06); and (3) during the GOTHIC generic topical pre-licensing meeting, (NRC offices, 5/4/06, Reference 3).

Although not a regulatory requirement, current Westinghouse methodology simply uses atmospheric pressure throughout the transient as documented in References 1 and 2. This was accepted by the NRC and was found to meet Appendix K conservatism as documented in the safety evaluation report (Reference 1 and 2). However, the atmospheric backpressure is not a requirement or a restriction in the original or subsequent SER's issued on the methodology. The acceptability of the proposed change is considered to be consistent with requirement D.2 of Appendix K as long as the conservatism in the calculation of backpressure can be demonstrated by Westinghouse and is accepted by the NRC.

This change is part of a modernization of the Westinghouse BWR LOCA technology by introducing more realism to calculations without removing Appendix K conservatism and/or directly offsetting them. Instead of retaining this unphysical modeling assumption, we consider this change in application of the methodology to be a reasonable step. It is not our intent to use this boundary calculation in the ECCS evaluation model by crediting it towards NPSH.

It is also our understanding that applying a tool such as GOTHIC to calculate minimum ECCS backpressure does not require a generic approval. However, since it is our intent to make such boundary conditions part of our standard methodology going forward, Westinghouse has submitted the calculations explaining how conservatively low containment backpressure for ECCS are obtained as part of a generic submittal (Reference 4).

The attached report stands on its own merit and does not rely on Reference 4. It provides the bases and methodology for the application to Dresden and Quad Cities. Given that there are no prior calculations for Dresden and Quad Cities units on low containment pressure for ECCS as part of those plants' bases, the benchmarking of the model used in the calculation is done for other containment events. Then, the biases are applied to ensure that a conservatively low pressure is calculated. These biases are discussed in the attachment.

Westinghouse plans to revise the LOCA calculations for Quad Cities 1 & 2 and Dresden 2 & 3 units to credit any gain in operational margin by December 31, 2006. Therefore, we request a teleconference with the Staff shortly after your receipt of this letter. We would like to discuss your initial reaction and the process for obtaining timely concurrence that this is an acceptable approach in order to support the current schedules.

If you have questions or would like to discuss the matter further please contact Kurshad Muftuoglu, at 412-374-5771, muftuoak@westinghouse.com.

Sincerely yours,



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

cc R. Landry
H. Cruz
J. Thompson



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Our ref: AW-06-2204

October 4, 2006

APPLICATION FOR WITHHOLDING PROPRIETARY
INFORMATION FROM PUBLIC DISCLOSURE

Subject: LTR-LIS-06-602 P-Attachment, "Application of Conservatively Calculated Containment Backpressure to BWR ECCS Evaluation Model Analyses"

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-06-2204 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 2.390 of the Commission's regulations.

Correspondence with respect to this Application for Withholding or the accompanying affidavit should reference AW-06-2204 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,

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

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

Enclosures

cc: H. Cruz

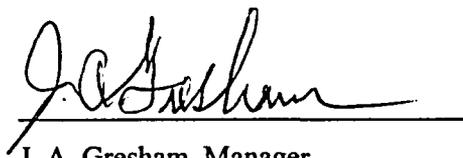
AFFIDAVIT

COMMONWEALTH OF PENNSYLVANIA:

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COUNTY OF ALLEGHENY:

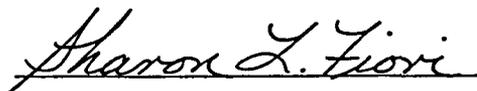
Before me, the undersigned authority, personally appeared J. A. Gresham, who, being by me duly sworn according to law, deposes and says that he is authorized to execute this Affidavit on behalf of Westinghouse Electric Company LLC (Westinghouse), and that the averments of fact set forth in this Affidavit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



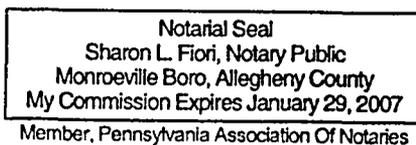
J. A. Gresham, Manager

Regulatory Compliance and Plant Licensing

Sworn to and subscribed before me
this 4th day of October, 2006



Notary Public



- (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" 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 LTR-LIS-06-602 P-Attachment, "Application of Conservatively Calculated Containment Backpressure to BWR ECCS Evaluation Model Analyses" (Proprietary), dated October 3, 2006, for submittal to the Commission, being transmitted by Westinghouse letter (LTR-NRC-06-56) and Application for Withholding Proprietary Information from Public Disclosure, to the Document Control Desk. The proprietary information as submitted by Westinghouse for the Quad Cities Units 1 and 2 and Dresden Units 2 and 3 is expected to be applicable in other licensee submittals in response to certain NRC requirements for justification of conservatively calculated containment backpressure in BWR ECCS Evaluation Model analyses.

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

- (a) Obtain NRC approval for the application of a conservatively calculated containment backpressure in the LOCA analyses for Quad Cities Units 1 and 2 and Dresden Units 2 and 3.

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 BWR LOCA analysis predictions.
- (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 analyses 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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