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USA

U.S. Nuclear Regulatory Commission  
Document Control Desk  
Washington, DC 20555-0001

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Our ref: LTR-NRC-03-22

June 2, 2003

Subject: Request for Review and Approval of Realistic Large Break LOCA Evaluation Methodology Using Automated Statistical Treatment of Uncertainty Method (ASTRUM)

Enclosed are three copies of the proprietary and non-proprietary versions of the Westinghouse document "Realistic Large Break LOCA Evaluation Methodology Using Automated Statistical Treatment of Uncertainty Method (ASTRUM)", WCAP-16009-P (Proprietary) and WCAP-16009-NP (Non-Proprietary). This document is being submitted for Nuclear Regulatory Commission (NRC) review and approval. WCAP-16009 describes the best-estimate large break LOCA analysis methodology proposed for Westinghouse design 3- and 4-loop plants with cold leg ECCS injection, 2-loop plants with low head safety injection into the upper plenum, and plants designed by Combustion Engineering. The proposed methodology depends on and shares aspects with current NRC-approved Westinghouse best-estimate large break LOCA analysis methodology as described in WCAP-12945-P-A and WCAP-14449-P-A. The most significant difference is in the application of the uncertainty analysis.

Sections 2 through 10 of the enclosed report describe the models and correlations used in WCOBRA/TRAC MOD7A Revision 6, which is the systems thermal-hydraulic computer code used to implement ASTRUM. These sections are nearly identical to Sections 2 through 10 of WCAP-12945-P-A, with differences clearly identified. To facilitate your review, we have retained in these sections the cross references to Requests for Additional Information (RAI) generated during the licensing of WCAP-12945-P-A. For your convenience, those RAI and the accepted Westinghouse responses are also attached as electronic files of scanned image.

We would like to meet with your staff to discuss the attachments, and a schedule for performing the review. We would like the schedule to support issuance of a Safety Evaluation Report by April 2004, so that we can use ASTRUM to support a number of anticipated plant modifications by our customers. We will be contacting you to arrange such a meeting.

This submittal 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. Accordingly, correspondence with respect to this letter should reference the Application for Withholding and accompanying Affidavit (AW-03-1644) submitted on June 2, 2003. Parts of the transmittal which contains Appendix C of WCAP-12945-P-A (RAI responses) also includes proprietary information. The affidavit AW-95-781 submitted on February 1, 1995 is still applicable for that information.

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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.

Please contact Mitch Nissley at (412) 374-4303 if you have any questions concerning this transmittal.

Very truly yours,



H. A. Sepp, Manager  
Regulatory Compliance and Plant Licensing

Enclosures

cc: J. S. Wermiel  
D. Holland  
B. Benney

June 2, 2003

bcc: H. A. Sepp (ECE 4-7A) 1L  
RLE Administrative Aide (ECE 4-7A) 1L  
R. Bastien, (Nivelles, Belgium) 1L, 1A  
C. Brinkman, (Rockville Office) 1L, 1A  
J. J. McInerney (WECe 4-1a) 1L, 1A  
J. P. Sechrist (WECe 4-11) 1L, 1A  
M. J. Gancarz (Windsor 9612-1915) 1L, 1A  
M. E. Nissley (WECe 4-11) 1L, 1A  
A. K. Muftuoglu (WECe 4-11) 1L, 1A  
K. Ohkawa (WECe 4-11) 1L, 1A  
C. Frepoli (WECe 4-11) 1L, 1A  
J. J. Besspiata (WECe 4-11) 1L, 1A  
A. M. Everhard (WECe 4-11) 1L, 1A  
M. B. Cerrone (WECe 4-11) 1L, 1A



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Our ref: AW-03-1644

June 2, 2003

APPLICATION FOR WITHHOLDING PROPRIETARY  
INFORMATION FROM PUBLIC DISCLOSURE

Subject: Submittal of WCAP-16009-P/WCAP-16009-NP, "Realistic Large Break LOCA Evaluation Methodology Using Automated Statistical Treatment of Uncertainty Method (ASTRUM)"

Reference: Letter from H. A. Sepp to the Document Control Desk, LTR-NRC-03-22, dated May 28, 2003.

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 report. In conformance with 10 CFR Section 2.790, Affidavit AW-03-1644 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 (or which must be treated as proprietary by Westinghouse according to agreements with the owner) be withheld from public disclosure in accordance with 10CFR Section 2.790 of the Commission's regulations.

Correspondence with respect to this application for withholding or the accompanying affidavit should reference AW-03-1644 and should be addressed to the undersigned.

Very truly yours,

A handwritten signature in black ink, appearing to read "H. A. Sepp".

H. A. Sepp, Manager  
Regulatory Compliance and Plant Licensing

Enclosures

cc: J. S. Wermiel  
D. Holland  
B. Benney

bcc: H. A. Sepp (ECE 4-7A) 1L  
RLE Administrative Aide (ECE 4-7A) 1L  
R. Bastien, (Nivelles, Belgium) 1L, 1A  
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M. B. Cerrone (WECe 4-11) 1L, 1A

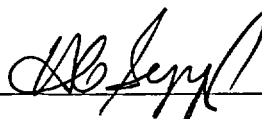
AFFIDAVIT

COMMONWEALTH OF PENNSYLVANIA:

ss

COUNTY OF ALLEGHENY:

Before me, the undersigned authority, personally appeared H. A. Sepp, 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:



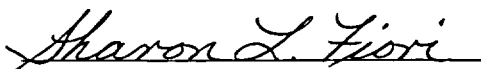
H. A. Sepp, Manager

Regulatory Compliance and Plant Licensing

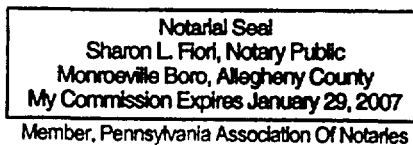
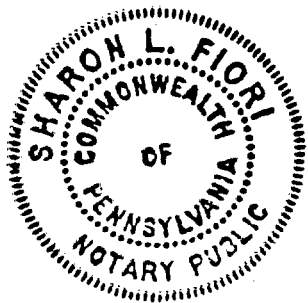
Sworn to and subscribed

before me this 2nd day

of June, 2003



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 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 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 2.790, 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.
- (v) The proprietary information sought to be withheld in this submittal is that which is appropriately marked in WCAP-16009-P, "Realistic Large Break LOCA Evaluation Methodology Using Automated Statistical Treatment of Uncertainty Method (ASTRUM)", Revision 0, May 2003, (Proprietary), for submittal to the Commission, being transmitted by Westinghouse Electric Company (LTR-NRC-03-22) letter and Application for Withholding Proprietary Information from Public Disclosure, to the Document Control Desk. The proprietary information as submitted for use by Westinghouse Electric Company LLC proposes a method for satisfying 10 CFR 50.46 analysis requirements for best-estimate large break LOCA methodology, and is expected to be applicable to licensees who utilize this methodology.

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

- (a) Analyze postulated large break LOCA events on a best-estimate basis, and support licensees in meeting the requirements of 10 CFR 50.46.
- (b) Assist customers to obtain license changes resulting from improved large break LOCA margins.

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 demonstrating compliance with the 10 CFR 50.46 acceptance criteria.
- (b) 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 evaluation justifications 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 2.790 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) 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).

## **COPYRIGHT NOTICE**

The reports transmitted herewith each bear a Westinghouse copyright notice. The NRC is permitted to make the number of copies of 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 those 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.