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Our ref: LTR-NRC-03-14

April 25, 2003

Subject: Submittal of WCAP-16072-P, Revision 0, "Implementation of Zirconium Diboride Burnable Absorber Coatings in CE Nuclear Power Fuel Assembly Designs" (Proprietary / Non-proprietary)

- References:
1. Letter C. O. Thomas (NRC) to E. P. Rahe (Westinghouse), "Acceptance for Referencing of Licensing Topical Report WCAP-10444, 'VANTAGE 5 Fuel Assembly'," July 1985
 2. Letter, C. E. Rossi (NRC) to E. P. Rahe (Westinghouse), "Acceptance for Referencing of Licensing Topical Report WCAP-10444, 'Reference Core Report VANTAGE 5 Fuel Assembly'," Addendum 1, March 1986

Enclosed are copies of the Proprietary and Non-Proprietary versions of WCAP-16072-P, Revision 0 / WCAP-16072-NP, Revision 0, "Implementation of Zirconium Diboride Burnable Absorber Coatings in CE Nuclear Power Fuel Assembly Designs," being submitted for review and approval. The NRC has previously reviewed and approved the use of zirconium diboride integral fuel burnable absorber (ZrB_2 IFBA) in conjunction with Westinghouse fuel assembly designs (References 1 and 2). This submittal (WCAP-16072-P) simply extends the same ZrB_2 IFBA models already approved for Westinghouse fuel designs to CE fuel designs, albeit imbedded in the NRC-approved CE rather than Westinghouse safety analysis methodologies. Westinghouse respectfully requests issuance of the NRC Safety Evaluation Report for WCAP-16072-P, Revision 0 no later than December 31, 2003, to support implementation of ZrB_2 IFBA in licensing applications. Both the Calvert Cliffs Nuclear Power Plant Units 1 and 2 and Entergy Nuclear South Arkansas Nuclear One Unit 2 (ANO-2) nuclear power plant are expected to be the initial CE NSSL licensees implementing ZrB_2 IFBA.

On December 19, 2002, Westinghouse met with members of the NRC staff to discuss the upcoming submittal of WCAP-16072-P. The overall conclusion of that meeting, and of WCAP-16072-P, is that the effect of implementing ZrB_2 IFBA in CE fuel assembly designs is relatively minor and should have no significant design or licensing issues associated with its introduction. The NRC staff did indicate that the Axial Offset Deviation (AOD) effect recently associated with ZrB_2 IFBA for Westinghouse fuel designs should be addressed in some manner. In separate discussions on this subject, Westinghouse indicated that it was conducting a Root Cause Analysis (RCA) regarding the AOD effect and would provide the NRC with the results when they became available. The RCA has been completed and it will be presented to the NRC staff at the upcoming Semi-Annual Fuel Performance Update Meeting in June 2003. At this point, it is sufficient to note that the AOD effect is not an inherent characteristic of ZrB_2 IFBA (i.e., it does not have to be accounted for phenomenologically), rather the primary cause has been identified as an unintended consequence of the manufacturing process. Consequently, appropriate adjustments in the manufacturing process will be performed and are expected to significantly reduce the AOD effect to within an acceptable axial offset range. Furthermore, since the AOD effect is generic to all ZrB_2 IFBA fuel, and WCAP-16072-P applies only to CE fuel assembly designs, explicit discussion in the topical report is not considered appropriate.

The staff also requested that Westinghouse address any effect that ZrB₂ IFBA implementation would have on Anticipated Transients Without Scram (ATWS). Since CE NSSS designs have a diverse scram installed, the implementation of ZrB₂ IFBA will have no effect on ATWS.

Also enclosed are:

1. One (1) copy of the Application for Withholding, AW-03-1631 with Proprietary Information Notice and Copyright Notice.
2. One (1) copy of Affidavit, AW-03-1631.

This submittal contains Westinghouse proprietary information of trade secrets, commercial or financial information which we consider privilege or confidential pursuant to 10 CFR 9.17(a)(4). Therefore, it is requested that the Westinghouse proprietary information attached hereto be handled on a confidential basis and be withheld from public disclosure.

This material is for your internal use only and may be used solely 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 Office of Nuclear Reactor Regulation without the expressed prior written approval of Westinghouse.

Correspondence with respect to any Application for Withholding should reference AW-03-1631 and should be addressed to H. A. Sepp, Manager of Regulatory Compliance and Plant Licensing, Westinghouse Electric Company, P. O. Box 355, Pittsburgh, Pennsylvania 15230-0355.

Very truly yours,



for Henry A. Sepp, Manager
Regulatory Compliance and Plant Licensing

Copies to: F. Akstulewicz, NRR
D. Holland, NRR
U. Shoop, NRR
S. L. Wu, NRR



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Our ref: AW-03-1631

April 25, 2003

**APPLICATION FOR WITHHOLDING PROPRIETARY
INFORMATION FROM PUBLIC DISCLOSURE**

Subject: Submittal of WCAP-16072-P, Revision 0, "Implementation of Zirconium Diboride Burnable Absorber Coatings in CE Nuclear Power Fuel Assembly Designs" (Proprietary / Non-proprietary)

Reference: Letter from H. A. Sepp (Westinghouse) to J. S. Wermiel (NRC), "Submittal of WCAP-16072-P, Revision 0, 'Implementation of Zirconium Diboride Burnable Absorber Coatings in CE Nuclear Power Fuel Assembly Designs' (Proprietary / Non-proprietary)," LTR-NRC-03-14, dated April 25, 2003

The Application for Withholding is submitted by Westinghouse Electric Company LLC, a Delaware limited liability company ("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-03-1631 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-03-1631 and should be addressed to the undersigned.

Very truly yours,

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

for Henry A. Sepp, Manager
Regulatory Compliance and Plant Licensing

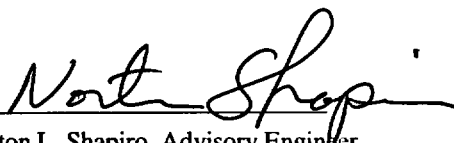
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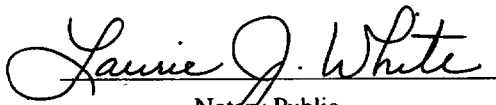
ss: TOWN OF WINDSOR

COUNTY OF HARTFORD:

Before me, the undersigned authority, personally appeared Norton L. Shapiro, 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, a Delaware limited liability company ("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:


Norton L. Shapiro, Advisory Engineer
CE Engineering Technology
Westinghouse Electric Company LLC

Sworn to and subscribed
before me this 25th day
of April, 2003.


Notary Public

My commission expires: 8/31/04

- (1) I am the Advisory Engineer, CE Engineering Technology, in Nuclear Services, of the Westinghouse Electric Company LLC, a Delaware limited liability company ("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.
- (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 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.
- (v) The proprietary information sought to be withheld in this submittal is that which is appropriately marked " Submittal of WCAP-16072-P, Revision 0, "Implementation of Zirconium Diboride Burnable Absorber Coatings in CE Nuclear Power Fuel Assembly Designs" (Proprietary / Non-proprietary), April 25, 2003, for submittal to the Commission, being transmitted by Westinghouse Electric Company letter (LTR-NRC-03-14) and Application for Withholding Proprietary Information from Public Disclosure, to the Document Control Desk. The proprietary information as submitted by Westinghouse Electric Company LLC is expected to be applicable in other licensee submittals in response to certain NRC requirements for justification for implementing ZrB₂ IFBA in CE fuel designs and safety analysis methodologies.

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

- (a) Conduct analyses of ZrB₂ IFBA implemented in CE fuel designs and ensure appropriate safety limits are met.
- (b) Support licensee in implementing ZrB₂ IFBA in CE fuel designs to obtain improved fuel economics.

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 ZrB₂ IFBA implementation for CE fuel assembly designs and safety analysis methodologies.
- (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 technical 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 for developing the enclosed improved core thermal performance methodology.

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 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.