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Attention: J. S. Wermiel, Chief
Reactor Systems Branch
Division of Systems Safety and Analysis

Our ref: LTR-NRC-05-36

June 15, 2005

Subject: Response to NRC's Draft Safety Evaluation By the Office Of Nuclear Reactor Regulation Topical Report WCAP-15836-P, "Fuel Rod Design Methods for Boiling Water Reactors - Supplement 1" (Proprietary/Non-Proprietary)

Dear Mr. Wermiel:

Enclosed is Westinghouse's proprietary review of NRC's Draft Safety Evaluation By the Office Of Nuclear Reactor Regulation Topical Report WCAP-15836-P, "Fuel Rod Design Methods for Boiling Water Reactors – Supplement 1."

Also enclosed are:

1. One (1) copy of the Application for Withholding, AW-05-2009 with Proprietary Information Notice and Copyright Notice.
2. One (1) copy of Affidavit, AW-05-2009.

This submittal contains Westinghouse proprietary information of trade secrets, commercial or financial information which we consider privileged or confidential pursuant to 10 CFR Section 2.390. Therefore, it is requested that the Westinghouse proprietary information attached hereto be handled on a confidential basis and be withheld from public disclosure.

Correspondence with respect to the affidavit or Application for Withholding should reference AW-05-2009 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,

R. M. Gresham for/

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

Enclosures

cc: G. S. Shukla, NRR
B. J. Benney, NRR
F. M. Akstulewicz, NRR
S. L. Wu, NRR
L. M. Feizollahi, NRR

1007

Westinghouse

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Attention: J. S. Wermiel, Chief
Reactor Systems Branch
Division of Systems Safety and Analysis

Our ref: AW-05-2009

June 15, 2005

APPLICATION FOR WITHHOLDING PROPRIETARY
INFORMATION FROM PUBLIC DISCLOSURE

Subject: LTR-NRC-05-36 P-Attachment, "Response to NRC's Draft Safety Evaluation By the Office Of Nuclear Reactor Regulation Topical Report WCAP-15836-P, 'Fuel Rod Design Methods for Boiling Water Reactors – Supplement 1'" (Proprietary)

Reference: Letter from James A. Gresham to J. S. Wermiel, LTR-NRC-05-36, dated June 15, 2005

Dear Mr. Wermiel:

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-05-2009 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-05-2009 and should be addressed to James A. Gresham, Manager of Regulatory Compliance and Plant Licensing, Westinghouse Electric Company LLC, P. O. Box 355, Pittsburgh, Pennsylvania 15230-0355.

Very truly yours,

R. M. Gresham for/

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

AW-05-2009

AFFIDAVIT

COMMONWEALTH OF PENNSYLVANIA:

ss

COUNTY OF ALLEGHENY:

Before me, the undersigned authority, personally appeared T. Rodack, 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:

T. Rodack, Director
Quality & Licensing Programs

Sworn to and subscribed
before me this 15th day
of June, 2005

Notary Public

Notarial Seal
Sharon L. Fiori, Notary Public
Monroeville Boro, Allegheny County
My Commission Expires January 29, 2007
Member, Pennsylvania Association Of Notaries

(1) I am Director, Quality & Licensing Programs, in Nuclear Fuel, 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 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 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 2.390, 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-NRC-05-36 P-Attachment, "Response to NRC's Draft Safety Evaluation By the Office Of Nuclear Reactor Regulation Topical Report WCAP-15836-P, 'Fuel Rod Design Methods for Boiling Water Reactors – Supplement 1'", (Proprietary), for submittal to the Commission, being transmitted by Westinghouse letter (LTR-NRC-05-36) and Application for Withholding Proprietary Information from Public Disclosure, to the Document Control Desk. The proprietary information as submitted by Westinghouse Electric Company is to provide notification to the NRC staff of that information included in the NRC's draft safety evaluation which Westinghouse considers proprietary.

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

(a) Assist customers in improving their fuel performance (zero defects).

Further this information has substantial commercial value as follows:

(a) Westinghouse plans to continue to implement corrective actions to ensure the highest quality of fuel in order to meet the customer needs.

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 2.390 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).

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 2.390 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.

Response to NRC's Draft Safety Evaluation By the Office Of Nuclear Reactor Regulation Topical Report WCAP-15836-P, "Fuel Rod Design Methods for Boiling Water Reactors – Supplement 1"

June 15, 2005

Westinghouse Electric Company
P.O. Box 355
Pittsburgh, Pennsylvania 15230-0355

Response to NRC's Draft Safety Evaluation By the Office Of Nuclear Reactor Regulation Topical Report WCAP-15836-P, "Fuel Rod Design Methods for Boiling Water Reactors – Supplement 1"

The following items have been identified as containing information proprietary to Westinghouse contained in the draft safety evaluation from the NRC Office of NRR. Brackets have been included around the information deemed to be proprietary.

1. Page 3, Line 5: "fuel thermal conductivity model is between [ ]^{a,c} percent theoretical density and [ ]^{a,c} percent"

2. Page 5, Line 16: "STAV7.2 [ ]^{a,c} fission gas release."

3. Page 5, Line 28: "state fission gas release models consisted of [ ]^{a,b,c} BWR rods and [ ]^{a,b,c} pressurized water reactor"

4. Page 5, Line 29: "(PWR) rods. The transient fission gas database consisted of power ramp data from [ ]^{a,b,c} BWR"

5. Page 5, Line 31: "characterizes the fuel rod database. The UO_2-Gd_2O_3 fuel database consists of [ ]^{a,b,c} BWR rods"

6. Page 5, Line 32: "(steady-state) and [ ]^{a,b,c} PWR rods (ramp tested). Although the STAV7.2 code will not be used for"

7. Page 8, Line 12: "measured creep down from [ ]^{a,b,c} BWR commercial fuel rods and [ ]^{a,b,c} experimental fuel rods"

8. Page 8, Line 33: "creep model was limited to a hoop stress of [ ]^{a,b,c} MPa. PNNL considered whether the model's"

9. Page 8, Line 36: "approximately [ ]^{a,b,c} Mpa for a typical BWR fuel rod is within the [ ]^{a,b,c} Mpa database), the creep"

10. Page 9, Line 5: "thickness of [ ]^{a,b,c} mils (nominal) which is the upper extent of the database used in the calibration"

11. Page 9, Line 11: "nor Westinghouse was able to produce data showing yield stress above [ ]^{a,b,c} K for RXA Zirc-2"

12. Page 9, Line 13: "limited to applications with cladding average temperature at any axial node less than [ ]^{a,b,c} K."

13. Page 9, Line 17: "Up to the applicability limit of [ ]^{a,b,c} K, the model used for Young's modulus is STAV7.2 is identical"

14. Page 9, Line 22: "clad average temperature of [ ]^{a,b,c} K ([ ]^{a,b,c} °C) at any axial node and a clad liner thickness of [ ]^{a,b,c} mils"

15. Page 10, Line 26: "database, hot cell void volume measurements were made on [ ]^{a,b,c} BWR and [ ]^{a,b,c} PWR fuel rods."

16. Page 11, Line35: "AOO case including three power pulses each lasting [ ]^{a,b,c} hours (Section 8.4 of supporting"

    NOTE: The value of [ ]^{a,b,c} hours is incorrect. It should be [ ]^{a,b,c} hour.

17. Page 12, Line 9 and 14: Refer to the figure "below". Westinghouse considers the Figure to be proprietary.

18. Page 12, Lines 16-17: "[

    ]^{a,b,c}."

    NOTE: Westinghouse considers the Figure to be proprietary, thus the wording describing the figure would also be proprietary.

19. Page 14, Line25: "c. Nominal fuel pellet density between [ ]^{a,c} percent theoretical."

20. Page 14, Line 30: "no greater than [ ]^{a,b,c} mils (nominal)."

21. Page 14, Line 39: "above [ ]^{a,b,c} K ([ ]^{a,b,c} °C) at any axial node."