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Bradford Houston
Director, Nuclear Safety Assurance
Waterford 3

W3F1-2004-0025

April 30, 2004

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

SUBJECT: Request for Exemption to the Cladding Material Specified in
10 CFR 50.46 and 10 CFR 50 Appendix K to Allow Use of
Optimized ZIRLO Lead Test Assemblies
Waterford Steam Electric Station, Unit 3
Docket No. 50-382
License No. NPF-38

Dear Sir or Madam:

Pursuant to 10 CFR 50.12, Entergy Operations, Inc. (Entergy) requests an exemption from certain requirements of 10 CFR 50.46, "Acceptance Criteria for Emergency Core Cooling Systems for Light-Water Nuclear Power Reactors" and Appendix K of 10 CFR 50, "ECCS Evaluation Models" for Waterford Steam Electric Station, Unit 3 (Waterford 3). The exemption requested relates solely to the specific types of cladding material specified in these regulations for use in light water reactors. As written, the regulations presume the use of Zircaloy or ZIRLO™ fuel rod cladding.

Entergy requests an exemption of these requirements to allow up to four Lead Test Assemblies (LTAs) containing fuel rods fabricated with a "Low Tin" version of ZIRLO™ (Optimized ZIRLO™). The exemption request is required since the tin content in the ZIRLO™ material will be below the current licensing basis of ZIRLO™ as specified in 10 CFR 50.46 and 10 CFR 50 Appendix K. The LTAs may also contain the following changes relative to the current fuel design in the core: 1) a brazed top Inconel grid, 2) advanced mid grids with "I" spring rod supports, 3) the addition of two Intermediate Flow Mixing (IFM) grids, 4) selected mid grids and IFM grids will have side supported mixing vanes, 5) the mid and IFM grids will be constructed with Optimized ZIRLO™ material, 6) the guide tubes will be fabricated with standard ZIRLO™ material, and 7) the fuel rod design will be the standard Westinghouse 0.374 inch rod instead of the standard Combustion Engineering 0.382 inch rod. The LTAs are planned to be initially inserted into the Waterford 3 core in non-limiting core locations during its next refueling outage scheduled to begin in the spring of 2005.

The bases for the exemption request are included in the Attachments to this letter. Portions of the exemption request are of a proprietary nature to Westinghouse. The non-proprietary version of the exemption is included as Attachment 1. A proprietary version is enclosed as Attachment 2.

AP01

Attachment 2, which contains information proprietary to Westinghouse Electric Company LLC (Westinghouse), a BNFL group company, is supported by an affidavit signed by Westinghouse, the owner of the information. The affidavit sets forth the basis on which the information may be withheld from public disclosure by the Commission and addresses with specificity the considerations listed in paragraph (b)(4) of Section 2.390 of the Code of Federal Regulations (CFR). Accordingly, it is respectfully requested that the information which is contained in Attachment 2 and notated as proprietary to Westinghouse be withheld from public disclosure in accordance with 10 CFR 2.390.

Attachment 3 provides a Westinghouse application for withholding, CAW-04-1812, with accompanying affidavit. Correspondence with respect to the proprietary aspects or the supporting Westinghouse affidavit should reference CAW-04-1812 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.

The proposed change does not include new commitments.

Entergy requests approval of the proposed exemption by September 9, 2004 in order to support fuel procurement and final fuel delivery for the spring 2005 refueling outage. Although this request is neither exigent nor emergency, your prompt review is requested.

If you have any questions or require additional information, please contact Dana Millar at 601-368-5445.

Sincerely,



BLH/dm/cbh

Attachments:

1. Request for Exemption from the Provisions of 10 CFR 50.46 and 10 CFR 50 Appendix K for Lead Test Assemblies (LTAs) (Non-Proprietary)
2. Request for Exemption from the Provisions of 10 CFR 50.46 and 10 CFR 50 Appendix K for Lead Test Assemblies (LTAs) (Proprietary)
3. Affidavit to Support Withholding of Westinghouse Proprietary Information from Public Disclosure

cc: Dr. Bruce S. Mallett
U. S. Nuclear Regulatory Commission
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NRC Senior Resident Inspector
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Louisiana Department of Environmental Quality
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American Nuclear Insurers
Attn: Library
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Attachment 1 to

W3F1-2004-0025

**Request for Exemption from the Provisions of 10 CFR 50.46 and 10 CFR 50 Appendix K
for Lead Test Assemblies (LTAs)
(Non-Proprietary)**

**Request for Exemption from the Provisions of 10 CFR 50.46 and 10 CFR 50 Appendix K
for Lead Test Assemblies (LTAs) (Non- Proprietary)**

[Proprietary information is enclosed in brackets. Superscripts a, b, and c refer to Affidavit paragraphs 4(ii)(a), 4(ii)(b), 4(ii)(c)]

Purpose

The purpose of this attachment is to provide supporting justification for an exemption request related to the use of "Low Tin" (Optimized) ZIRLO™ Lead Test Assemblies (LTAs). 10 CFR 50.46, "Acceptance criteria for emergency core cooling systems for light-water nuclear power reactors," specifically refers to fuel with Zircaloy or ZIRLO™ cladding, and paragraph I.A.5 of 10 CFR 50 Appendix K, "ECCS Evaluation Models," references an analysis which utilizes the Baker-Just equation which assumed use of a zirconium alloy different than Optimized ("Low Tin") ZIRLO™ used in the LTAs. Therefore, 10 CFR 50.46 and 10 CFR 50 Appendix K do not specifically apply to the proposed LTAs since the composition of tin in the LTAs will be nominally []^{a, c} which is below the current lower bound licensed limit for ZIRLO™ (i.e., 0.80%) as specified in Appendix A of WCAP-12610-P-A, "VANTAGE + Fuel Assembly Reference Core Report," dated April 1995 (Reference 1). Westinghouse Electric Company LLC (Westinghouse) has submitted Addendum 1 to WCAP-12610-P-A/CENPD-404-P-A that addresses Optimized ZIRLO™ and demonstrates that Optimized ZIRLO™ has essentially the same properties as currently licensed ZIRLO™ and fits the definition of ZIRLO™ that was used when the "Rule" change was made to 10 CFR 50.46.

Background

As the nuclear industry pursues longer operating cycles with increased fuel discharge burnup and more aggressive fuel management, the corrosion performance requirements for the nuclear fuel cladding become more demanding. Available industry data from the American Nuclear Society, the International Atomic Energy Agency, the Electric Power Research Institute, and Westinghouse indicate that corrosion resistance improves for cladding with a lower tin content. The optimum tin level provides a reduced corrosion rate while maintaining the benefits of mechanical strengthening and resistance to accelerated corrosion from abnormal chemistry conditions. In addition, fuel rod internal pressures (resulting from the increased fuel duty, use of integral fuel burnable absorbers and corrosion/temperature feedback effects) have become more limiting with respect to fuel rod design criteria. Reducing the associated corrosion buildup and thus minimizing temperature feedback effects, provides additional margin to fuel rod internal pressure design criteria.

To meet these needs, Westinghouse developed a LTA program in cooperation with Entergy Operations, Inc. (Entergy). One element of the LTA program is the use of Optimized ("Low Tin") ZIRLO™ cladding and structural material. Optimized ZIRLO™ LTA programs implemented at the Byron Station have previously received exemption approval from the NRC with respect to 10 CFR 50.44 and 10 CFR 50.46, and 10 CFR 50 Appendix K (Reference 2). These LTAs have resided in the Byron units for two cycles. (Note 10 CFR 50.44 has been changed and no longer specifies the cladding type, therefore, Entergy is not requesting an exemption from 10 CFR 50.44 as did Byron Station.) As part of the LTA program, Entergy and Westinghouse plan to include Optimized ZIRLO™ in four LTAs to be initially inserted during Waterford Steam Electric Station, Unit 3 (Waterford 3) Cycle 14. The Waterford 3 LTAs will use an Optimized ZIRLO™

material with an identical nominal tin target content []^{a,c} as that used for the Catawba Nuclear Station LTAs (Reference 3), the Millstone Unit 3 LTAs (Reference 4), and the Byron Station LTA replacement rods. The original Byron Station LTAs had a nominal tin target content of []^{a,c}.

The Waterford 3 LTAs may also contain the following changes relative to the current fuel design in the core: 1) a brazed top Inconel grid, 2) advanced Mid grids with "I" spring rod supports, 3) the addition of two Intermediate Flow Mixing (IFM) grids, 4) selected mid grids and IFM grids will have Side Supported mixing vanes, 5) the Mid and IFM grids will be constructed with Optimized ZIRLO™ material, 6) the guide tubes will be fabricated with standard ZIRLO™ material, and 7) the fuel rod design will be the standard Westinghouse 0.374 inch rod instead of the standard Combustion Engineering 0.382 inch rod.

Waterford 3 Technical Specification, Section 5.3.1, "Fuel Assemblies," specifies that each fuel assembly shall consist of a matrix of Zircaloy-4 fuel rods. Since the LTA Optimized ZIRLO™ cladding material fall outside the Zircaloy-4 material specification, an exemption from 10 CFR 50.46 and 10 CFR 50 Appendix K is required. It has been determined by Westinghouse []^{a,c}. Therefore, Westinghouse will perform a LOCA evaluation of the Waterford 3 LTAs using existing LOCA methods with a supplemental transition core assessment prior to implementation to ensure the LTAs are bounded by the current Analysis of Record (AOR). A Technical Specification change is required for the use of LTAs.

Technical Justification of Acceptability

Westinghouse will perform evaluations of the LTAs during the development program phase. These evaluations will include both testing and analyses, and address various aspects of safety, including mechanical, neutronics, thermal-hydraulic, transient, and LOCA accident analyses and will cover the design feature changes for the LTAs. The evaluations pertinent to the Optimized ZIRLO™, for which this exemption request is being made, are summarized below:

- Mechanical evaluations of the Waterford 3 LTAs with respect to criteria that govern acceptability considering its mechanical design will be performed. The design methods utilized for the current fuel will be used. No new or altered design limits for purposes of 10 CFR 50, Appendix A, General Design Criterion (GDC) 10, "Reactor Design," need to be applied or are required for this program. A fuel rod design evaluation will be performed for the Waterford 3 LTAs. The objective of this evaluation will be to show that fuel rod design criteria (i.e., Specified Acceptable Fuel Design Limits as required by GDC 10) would be met. With respect to the mechanical evaluations, inclusive of material properties, three specific areas would be potentially impacted by the Optimized ZIRLO™. These areas are material properties, corrosion and thermal creep.
 - * **Material Properties:** [] []^{a,b,c}.
 - * **Corrosion:** []^{a,b,c}.
 - * **Thermal Creep:** []^{a,b,c}. This design criterion will be confirmed in the Waterford 3 cycle specific reload evaluations.
- Westinghouse has performed nuclear design evaluations of the impact of the LTAs on the nuclear design. The standard reload methodologies can be used to model the LTAs.

The features of the LTAs do not challenge the validity of the standard methodologies. Westinghouse will use the standard reload methodologies for the Waterford 3 reload design containing the LTAs and will ensure the LTAs are not placed in limiting core locations.

- Thermal-hydraulic, LOCA and non-LOCA transient safety analysis evaluations will be performed for the LTAs. These evaluations will confirm that the LTAs will be bounded by the current Analyses of Record, accounting for transition core penalties, and will be documented in the reload safety evaluation for Waterford 3 Cycle 14. The ABB-NV and ABB-TV DNB correlations licensed in Reference 5 will be conservatively applied in the safety evaluation for the LTAs to demonstrate the LTAs are not limiting from a DNB perspective.

Justification of Exemption and Special Circumstances

10 CFR 50.12, "Specific exemptions," states that the Nuclear Regulatory Commission may grant exemptions from the requirements of the regulations of this part provided three conditions are met. The three conditions are: 1) the exemption is authorized by law, 2) the exemption will not present an undue risk to the health and safety of the public, 3) the exemption is consistent with the common defense and security. In addition, the Commission will not consider granting an exemption unless special circumstances are present.

The requested exemption to allow the use of Optimized ZIRLO™ cladding material rather than Zircaloy-4 in the LTAs to be inserted in the Waterford 3 core satisfies these criteria as described below.

1. This exemption is authorized by law

As required by 10 CFR 50.12(a)(1), this requested exemption is "authorized by law". The selection of a specific cladding material in 10 CFR 50.46 and implied in 10 CFR Part 50 Appendix K, was adopted at the discretion of the Commission consistent with its statutory authority. No statute required the NRC to adopt this specification. Additionally, the NRC has the authority under Section 50.12 to grant exemptions from the requirements of Part 50 upon showing proper justification. Further, it should be noted that, by submitting this exemption request, Entergy does not seek an exemption from the acceptance and analytical criteria of 10 CFR 50.46 and 10 CFR Part 50 Appendix K. The intent of the request is solely to allow the use of criteria set forth in these regulations for application to the Optimized ZIRLO™ cladding material.

2. This exemption will not present an undue risk to public health and safety

The LTA reload evaluation will ensure that these acceptance criteria are met following the insertion of LTAs containing Optimized ZIRLO™ material. Fuel assemblies using Optimized ZIRLO™ cladding will be evaluated using NRC-approved analytical methods and plant specific models to address the changes in the cladding material properties. The safety analysis for Waterford 3 is supported by the applicable Technical Specifications. The Waterford 3 reload cores containing Optimized ZIRLO™ cladding are required to be operated in accordance with the operating limits specified in the Technical Specifications. The LTAs utilizing Optimized ZIRLO™ cladding will be placed

in non-limiting core locations. Thus, the granting of this exemption request will not pose an undue risk to public health and safety.

3. This exemption is consistent with common defense and security

As noted above, the exemption request is only to allow the application of the aforementioned regulations to an improved cladding material. All of the requirements and acceptance criteria will be maintained. The special nuclear material in these assemblies is required to be handled and controlled in accordance with approved procedures. Use of the LTA in the Waterford 3 core will not affect plant operations and is consistent with the common defense and security.

Special circumstances support the issuance of an exemption

10 CFR 50.12(a)(2) states that the NRC will not consider granting an exemption to the regulations unless special circumstances are present. The requested exemption meets the special circumstances of 10 CFR 50.12(a)(2)(ii) which states that, "Application of the regulation in the particular circumstances would not serve the underlying purpose of the rule or is not necessary to achieve the underlying purpose of the rule." In this particular circumstance, application of the subject regulations is not necessary to achieve the underlying purpose of the rule.

10 CFR 50.46 identifies acceptance criteria for emergency core cooling system (ECCS) performance at nuclear power plants. Due to the similarities in the material properties of the Optimized ZIRLO™ and standard ZIRLO™, the current ECCS analysis approach remains applicable and unchanged. Westinghouse will perform a LOCA evaluation of the Waterford 3 LTAs using existing LOCA methods with a supplemental transition core assessment prior to implementation to ensure the LTAs are bounded by the current AOR. Therefore, it can be concluded that the ECCS performance of the Waterford 3 core will not be adversely affected by the insertion of eight Optimized ZIRLO™ LTAs.

The intent of 10 CFR 50 Appendix K, paragraph I.A.5 is to apply an equation for rates of energy release, hydrogen generation, and cladding oxidation from a metal-water reaction that conservatively bounds all post-LOCA scenarios (i.e., the Baker-Just equation). Application of the Baker-Just equation has been demonstrated to be appropriate for the Optimized ZIRLO™ alloy. Due to the similarities in the composition of the Optimized ZIRLO™ and standard ZIRLO™, the application of the Baker-Just equation will continue to conservatively bound all post-LOCA scenarios.

Conclusion

10 CFR 50.46 and 10 CFR 50 Appendix K only apply to the use of fuel rods clad with Zircaloy or ZIRLO™. 10 CFR 50.46 and 10 CFR 50 Appendix K do not apply to the proposed use of Optimized ZIRLO™ LTAs since the composition of tin in these fuel rods will be below the lower bound of the licensing limit for ZIRLO™ (i.e., 0.80%) as defined in WCAP-12610-P-A. In addition, paragraph I.A.5 of 10 CFR 50 Appendix K, "ECCS Evaluation Models," references an analysis utilizing the Baker-Just equation, which assumes use of a zirconium alloy different than Optimized ZIRLO™.

In order to support optimization of the ZIRLO™ material with regard to improved corrosion resistance, an exemption from the requirements of 10 CFR 50.46 and 10 CFR 50 Appendix K is requested. As required by 10 CFR 50.12, the requested exemption is authorized by law, does not present undue risk to public health and safety, and is consistent with common defense and security. Approval of this exemption request does not violate the underlying purpose of the rule. Special circumstances do exist to justify the approval of an exemption from the subject requirements.

References

- 1) Davidson, S. L. and Nuhfer, D. L. (Eds.), "VANTAGE + Fuel Assembly Reference Core Report," WCAP-12610-P-A, April 1995.
- 2) Letter from Mr. J. B. Hickman (NRC) to Mr. O. D. Kingsley, (President, Nuclear Generation Group, Commonwealth Edison Company), "Issuance of Exemption from the Requirements of 10 CFR 50.44, 10 CFR 50.46, and 10 CFR Part 50, Appendix K – Byron Station, Units 1 and 2 (TAC Nos. MA3930 and MA3931)," February 26, 1999.
- 3) Letter from Mr. G. R. Peterson (Catawba Nuclear Station) to Document Control Desk (NRC), "Catawba Nuclear Station, Units 1 & 2, Docket Numbers 50-413, 50-414, Request for Exemption Pursuant to 10 CFR 50.12 - Exemption to the Cladding Material Specified in 10 CFR 50.44, 10 CFR 50.46 and 10 CFR 50 Appendix K," December 3, 2002.
- 4) Letter from Mr. J. A. Price (Millstone Power Station) to Document Control Desk (NRC), "Millstone Power Station, Unit 3, Docket Number 50-423, "Request for Exemption to the Cladding Material Specified in 10 CFR 50.44, 10CFR 50.46, and 10 CFR 50 Appendix K", July 1, 2003.
- 5) CENPD-387-P-A Revision 000, "ABB Critical Heat Flux Correlations for PWR Fuel", May 2000.

Attachment 3 to

W3F1-2004-0025

Affidavit to Support Withholding of

Westinghouse Proprietary Information from Public Disclosure



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Our ref: CAW-04-1812

23 April 2004

APPLICATION FOR WITHHOLDING PROPRIETARY
INFORMATION FROM PUBLIC DISCLOSURE

Subject: Attachment 2 (Proprietary) to Entergy Operations, Inc. letter W3F1-2004-0025 and Application for Withholding Proprietary Information from Public Disclosure to the U.S. NRC Document Control Desk, "Request for Exemption to the Cladding Material Specified in 10 CFR 50.46 and 10 CFR 50 Appendix K to Allow Use of Optimized ZIRLO Lead Test Assemblies."

The proprietary information for which withholding is being requested in the above-referenced letter is further identified in Affidavit CAW-04-1812 signed by the owner of the proprietary information, Westinghouse Electric Company LLC. The affidavit, which accompanies this letter, sets forth the basis on which the information may be withheld from public disclosure by the Commission and addresses with specificity the considerations listed in paragraph (b)(4) of 10 CFR Section 2.390 of the Commission's regulations.

Accordingly, this letter authorizes use of the accompanying affidavit by Entergy Operations, Inc.

Correspondence with respect to the proprietary aspects of the application for withholding or the Westinghouse affidavit should reference this letter, CAW-04-1812, 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,


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

Enclosures

- (1) I am the Consulting Engineer, Systems and Safety Analysis, 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 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 Attachment 2 (Proprietary) to Entergy Operations, Inc. letter W3F1-2004-0025 and Application for Withholding Proprietary Information from Public Disclosure to the U.S. NRC Document Control Desk, "Request for Exemption to the Cladding Material Specified in 10 CFR 50.46 and 10 CFR 50 Appendix K to Allow Use of Optimized ZIRLO Lead Test Assemblies," for application by the Waterford Steam Electric Station Unit 3.

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

- (a) Perform UFSAR Chapter 15 safety analyses for Optimized ZIRLO™ clad fuel demonstrating compliance with NRC regulations, and

- (b) Collect cycle specific operational performance data for Optimized ZIRLO™ fuel cladding material, and
- (c) Implement Optimized ZIRLO™ clad fuel in future reloads.

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 implementing Optimized ZIRLO™ clad fuel.
- (b) Westinghouse can sell support and defense of safety analyses for Optimized ZIRLO™ clad fuel.
- (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 products 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).