Entergy

Entergy Nuclear Northeast
Indian Point Energy Center
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Fred Dacimo
Site Vice President
Administration

July 16, 2004

Re: Indian Point Unit No. 2
Docket No. 50-247
NL-04-086

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

SUBJECT: **Reply to Supplemental Request for Additional Information Regarding Indian Point 2 Stretch Power Uprate (TAC MC1865)**

References:
1. NRC letter to Entergy Nuclear Operations, Inc; "Supplemental Request for Additional Information Regarding Stretch Power Uprate", dated June 30, 2004.
2. Entergy letter to NRC (NL-04-005); "Proposed Changes to Technical Specifications: Stretch Power Uprate Increase of Licensed Thermal Power (3.26%)", dated January 29, 2004.

Dear Sir:

This letter provides additional information, requested by the NRC in Reference 1, regarding the license amendment request submitted by Entergy Nuclear Operations, Inc (Entergy), in Reference 2. This response addresses the questions pertaining to 'Fuel Design Features and Components'. Responses to the remaining questions will be provided in a separate transmittal. The proprietary and non-proprietary versions of the responses are provided in Attachments I and II, respectively.

The Westinghouse authorization letter, regarding proprietary information (CAW-04-1859, dated July 1, 2004), with the accompanying affidavit, Proprietary Information Notice, and Copyright Notice, is enclosed. As Attachment I contains information proprietary to Westinghouse Electric Company, it 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 Commission's regulations. Accordingly, it is respectfully requested that the information that is proprietary to Westinghouse be withheld from public disclosure in accordance with 10 CFR 2.390 of the Commission's regulations.

APO1

Correspondence with respect to the copyright on proprietary aspects of the items listed above or the supporting affidavit should reference CAW-04-1859 and should be addressed to J. A. Gresham, Manager, Regulatory Compliance and Plant Licensing, Westinghouse Electric Company, P. O. Box 355, Pittsburgh, Pennsylvania 15230-0355.

There are no new commitments identified in this submittal. If you have any questions or require additional information, please contact Mr. Kevin Kingsley at 914-734-6695.

I declare under penalty of perjury that the foregoing is true and correct. Executed on 3/16/04.

Sincerely,

Fred R. Dacimo
Site Vice President
Indian Point Energy Center

Attachments:

I. Replys to Request for Additional Information; Proprietary Version
II. Replys to Request for Additional Information; Non-Proprietary Version

Enclosure: Westinghouse Application for Withholding; CAW-04-1859

Mr. Patrick D. Milano, Senior Project Manager
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Division of Reactor Projects I/II
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ATTACHMENT II TO NL-04-086

REPLY TO NRC REQUEST FOR ADDITIONAL INFORMATION REGARDING

PROPOSED LICENSE AMENDMENT REQUEST FOR

INDIAN POINT 2 STRETCH POWER UPRATE

Fuel Design Features and Components – Non Proprietary
(from PU2-W-04-027, Attachment B)

ENTERGY NUCLEAR OPERATIONS, INC.
INDIAN POINT NUCLEAR GENERATING UNIT NO. 2
DOCKET NO. 50-247

Fuel Design Features and Components
Westinghouse Non-Proprietary Class 3

Question 1:

In Section 7.1 of Attachment III (Application Report) to the January 29 letter, the licensee states the fuel assembly structural integrity is not affected and the core coolable geometry is maintained for the 15x15 Vantage+ fuel assembly design and the 15x15 upgraded fuel assembly for IP2 under SPU conditions.

Provide the technical basis that shows the upgraded fuel assembly's structural integrity and the core coolable geometry are maintained under the SPU conditions

Response:

Detailed site specific fuel assembly analyses for Indian Point Unit 2 have been performed under SPU conditions in accordance with approved methodologies. These methodologies were approved by NRC in WCAP 9401-P-A, WCAP-9500-A, WCAP-12610-P-A and WCAP-12488-P-A. Results from these analyses demonstrate that for the limiting loading condition (combined seismic and LOCA loading), the fuel assembly structural integrity is maintained and the grid impact loads and component stresses remain below the allowable limits. Therefore, the requirements to maintain a coolable core geometry are met. These analyses were performed for homogenous cores of 15 x 15 upgrade fuel and transition cores with both 15 x 15 upgrade fuel and 15 x 15 VANTAGE + fuel (current resident fuel). The transition core analyses were performed considering various fuel assembly loading combinations to determine the limiting conditions. The transition core loading pattern that is limiting for the upgrade fuel occurs when the upgrade fuel is located at [ ]^{a,c} and the VANTAGE+ fuel is located at [ ]^{a,c}. The transition core loading pattern that is limiting for the VANTAGE + fuel occurs when the VANTAGE+ fuel is located at [ ]^{a,c} and the upgrade fuel is located at [ ]^{a,c}. In both limiting cases, significant margins remain for both the upgrade fuel assemblies and the VANTAGE + fuel assemblies considering combined seismic and LOCA loading.

The maximum calculated load for the combined seismic and LOCA loads was compared to the maximum load which can be applied before plastic deformation occurs in the subject grid (called the allowable limit in the analysis). In all cases the postulated load was well below the allowable limit, the closest ratio of combined seismic and LOCA loading to limit load is [ ]^{a,c} and occurs in [ ]^{a,c} fuel. This means that the strength of the [ ]^{a,c} is [ ]^{a,c} the maximum loading it is expected to experience for the combined seismic and LOCA loading. The minimum ratio (greatest margin) is [ ]^{a,c} and occurs in [ ]^{a,c}. All other grid margins are between these values. For thimble tubes and fuel rods, the range of values is narrower but the minimum margin is greater - there is no case for which the strength of the thimble tubes and fuel rods is not at least [ ]^{a,c} the calculated loading for the combined seismic and LOCA loading condition. Because all of the fuel assembly components will experience loading below their strength limit, the fuel assembly geometry is maintained for this limiting loading combination and the coolable geometry conclusions of the LOCA ECCS analyses are not affected.

Fuel Design Features and Components
Westinghouse Non-Proprietary Class 3

Question 2:

Regarding the fuel core design description of analyses and evaluations in Section 7.3.3, it states that conceptual models were developed that followed the uprate transition to an equilibrium cycle and that the SPU evaluation assumed a core thermal power level of 3216 MWt during the three transition cycles.

State whether the core is being treated as a mixed core during the transition cycles. Also, explain how fuel damage was analyzed in a seismic event for the mixed core as it transitions to a homogeneous 15x15 upgraded fuel loading and describe the worst case scenario analyzed. In addition, provide the technical justification that shows structural integrity at the SPU condition for the mixed core is maintained in a loss-of-coolant accident (LOCA) coincident with a seismic event at IP2.

Response:

The use of the 15 x 15 upgrade fuel assembly design is virtually transparent for the core analysis of the transition cycles. For neutronic applications, the only change resulting from the upgrade fuel design is a small change in grid mass. Since the grids are composed of ZIRLO™ material with a low neutron absorption cross section, small changes in grid mass will have no noticeable effect on the core models.

The fuel assembly transition is important in the core thermal hydraulic design. In order to account for the small differences in pressure drop and flow characteristics between the current and upgrade fuel assembly designs, a transition core DNBR penalty was established by Westinghouse. For the two transition cycles leading to a full core of the upgrade fuel assembly design, the largest transition core DNBR penalty was determined to be [ ]^{a,c}. Sufficient DNB margin is available to account for the DNBR transition core penalties, and there was no need to reduce peaking factor limits to aid in the fuel management of the transition cores.

The licensing basis for fuel structural integrity requires that the loading conditions address seismic loading, LOCA loading, and the combination of LOCA and seismic loading as required by the NRC. The seismic analysis of the reactor pressure vessel system was performed for the SPU conditions, including the generation of the core plate seismic motions that were used in the IP2 analysis of 15 x 15 VANTAGE + fuel and 15 x 15 upgrade fuel. The LOCA analysis of the reactor pressure vessel system was performed for the SPU conditions, including the generation of the core plate motions that were used in the IP2 analysis of 15 x 15 VANTAGE + fuel and 15 x15 upgrade fuel. These analyses are discussed in Attachment III of the IP2 SPU LAR, Section 5.2.4 of WCAP-16157-P. The LOCA analysis used LOCA hydraulic forcing functions calculated using the MULTIFLEX computer code (See LAR Attachment III Section 6.7 of WCAP-16157-P) and crediting Leak-Before-Break (LBB) for the reactor coolant loop piping. Section 5.4.2 of WCAP-16157-P evaluates the continued applicability of LBB for the IP2 SPU conditions and concludes that LBB still applies. Accordingly, the LOCA hydraulic forcing functions used for the fuel analyses are based on postulated breaks of the largest branch lines attached to the RCS.

Fuel Design Features and Components
Westinghouse Non-Proprietary Class 3

The specific analyses performed for the fuel assembly structural considerations are described in the response to RAI #1 above. The approval of the methodology is discussed in RAI # 5. As noted in the response to RAI # 1, the mixed core configuration resulted in the limiting loads for all loading conditions and had significant margin.

Question 3:

In Section 7.1 of the Application Report, the licensee states the level of fuel rod fretting, oxidation and hydriding of thimbles and grids, fuel rod growth gap, and guide thimble wear was acceptable.

Provide a reference to the document which provides the analytical results, and list the numerical values for these parameters along with their acceptable limit for the SPU conditions. Also, explain how the analysis performed for IP2 SPU conditions met the applicable regulatory criteria and indicate whether the methodology used has been previously approved by the staff.

Response:

This RAI discusses several issues as they apply to fuel rods and to fuel assembly structures. All design criteria have been shown to be met and are documented in proprietary calculation notes that can be made available for audit.

A series of hydraulic tests were performed by Westinghouse to confirm fuel assembly vibratory and fretting design performance. Based on these tests, the 15 x 15 upgrade design shows a significant performance improvement compared to the 15 x 15 VANTAGE + design. (See Letter LTR-NRC-04-8 for additional discussion of the evaluations of the 15 x 15 upgrade design changes. These evaluations used NRC-approved methods referenced in WCAP-12488-P-A.)

The fuel assembly structure formerly had a hydriding pickup limit of [ ]^{a,c}. This hydride pickup limit was recently replaced as indicated in the review and approval by the NRC of WCAP-12488-A, Addendum 1-A, January 2002. The upper bound value as specified in the topical addendum is [ ]^{a,c} Maximum grid strap and thimble thinning at IP2 is calculated at SPU conditions to be [ ]^{a,c} thus the 15 x 15 upgrade assembly meets this design criterion.

The Westinghouse criteria for fuel rods are [ ]^{a,c} for clad hydriding and [ ]^{a,c} for clad oxide steady state interface temperature. All design criteria have been shown to be met and are documented in proprietary calculation notes that are available for audit. These criteria were approved by NRC in WCAP-12610-P-A, which is applicable to the ZIRLO cladding used on the 15x15 upgrade design.

The space between the fuel rod end plugs and the fuel assembly nozzles needs to be sufficient to prevent interference of these members. All aspects of the 15 x 15 upgrade design that affect this requirement are identical to the 15 x 15 VANTAGE + design features currently in the core and have already been shown to be acceptable. These criteria were approved by NRC in WCAP-12610-P-A, which is applicable to the ZIRLO cladding used on the 15x15 upgrade design.

Fuel Design Features and Components
Westinghouse Non-Proprietary Class 3

The W design bases and criteria for guide thimble wear are that no localized perforation of the tube wall should occur and that the integrity of the guide thimble tube should be maintained throughout the normal life of a fuel assembly. These criteria were approved by NRC in WCAP-12610-P-A, which is applicable to the ZIRLO guide thimble tube used on the 15x15 upgrade design. Since the tube wall thickness has not changed and the material strengths (yield and ultimate) do not differ significantly between the Zircaloy and ZIRLO™ alloys, a negligible change would be expected in the guide thimble wear performance for the SPU.

Question 4:

In Section 7.1 of the Application Report, the licensee states that analyses verified the fuel assembly holddown spring's capability to maintain contact between the fuel assembly and the lower core plate at normal operating conditions for the SPU.

Describe the analyses performed to justify this statement. Additionally, provide the numerical values that show the design criteria are met.

Response:

The fuel assembly holddown spring analysis was performed on the 15 x 15 upgrade assembly using the same standard holddown spring methodology approved in WCAP-12488. The analysis that was completed evaluates the net holddown force on the fuel assembly throughout its design lifetime taking into account fuel assembly growth and spring relaxation on a cycle-by-cycle basis. The analysis accounts for the opposing forces that act on each fuel assembly due to assembly weight, buoyancy, spring forces, and lift force. The analysis assures that there is a positive net fuel assembly holddown force on the bottom core plate at all times except during a pump over-speed at hot conditions. During a postulated pump over-speed event, the assembly holddown force acceptance criterion allows assemblies to lift off the lower core plate but not enough to plastically deform the holddown spring during the event. This criterion is satisfied for the 15 x 15 upgrade fuel design.

The holddown spring for the 15 x 15 upgrade design satisfies all of the standard fuel assembly holddown spring requirements and provides [ ]^{a,c} holddown during normal operation.

Fuel Design Features and Components
Westinghouse Non-Proprietary Class 3

Question 5:

In the Fuel Criterion Evaluation Process (FCEP) Notification of the 15x15 Upgrade Designs submitted by Westinghouse Electric Company to the NRC on February 6, 2004, Westinghouse states that evaluations of the 15x15 upgraded fuel assembly design for seismic and LOCA loading at IP2 have been performed in accordance with the "Reference Core Report 17x17 Optimized Fuel Assembly" methodology.

Provide the technical justification showing that the 17x17 design/method referenced is applicable to the 15x15 fuel design.

Response:

On page 7 of 15, under Section e. "Fuel Assembly Structural response to Seismic/LOCA Loads" of the FCEP notification to the NRC regarding the 15 x 15 upgrade design (LTR-NRC-04-8 Dated February 6, 2004) Westinghouse states: *"Evaluations of the Upgrade fuel assembly design for seismic and LOCA loading at Indian Point Unit 2 has been performed in accordance with approved methodologies [6]."*

The indicated reference 6 cites:

6. *Davidson, S. L and Iorii, J. A. (Eds), et al., "Reference Core Report 17 x 17 Optimized Fuel Assembly," WCAP_9500-A, May 1982; Beaumont, M. D. and Skaritka, J. (Eds.), et al., "Verification testing and Analysis of the 17 x 17 Optimized Fuel Assembly," WCAP-9401-P-A March 1979; and Davidson, S. L, and Iorii, J.A (Eds.), et. Al. "Supplement Acceptance Information for NRC Approved Version of WCAP9401/9402 and WCAP-9500," February 1983.*

The references cited were approved by the NRC for the intended application in WCAP-12488–P-A; "Westinghouse Fuel Criteria Evaluation Process" by the NRC. On page 5.3 of the SER/TER "Technical Evaluation Report of the Topical Report WCAP-12488, Westinghouse Fuel Criteria Evaluation Process" by C.E. Beyer dated March 1993, under 5.4 "Fuel assembly Structural damage from External Forces"; Evaluation, it states: *"Generic analysis methods for performing combined LOCA-seismic loading analysis have been described by W in WCAP 9401-P-A (and WCAP-9402-A (Reference 26). These analysis methods not only include the fuel assembly structural response, but also fuel rod cladding loads. These methods have been approved by the NRC and therefore, PNL concludes they remain acceptable for application to W fuel design changes."*

In the SER for WCAP-9500 and WCAP-9401-P-A the NRC discusses the generic analysis methodology used to evaluate the 17 x 17 Optimized Fuel Assembly. The Methodology essentially consisted of four mathematical models: a system model, a detailed core model, a lateral Fuel Assembly model, and an Axial Fuel Assembly Model. Details of the methodology are described in WCAP-9401-P-A.

Fuel Design Features and Components
Westinghouse Non-Proprietary Class 3

In the NRC's SER approval for WCAP-9500-A, the following statement was made:

> *"The methodology described applies not only to 3 and 4 loop 17 x 17 plants but generically for plants having other standard arrays (e.g., 14 x 14, 15 x 15 and 16 x 16)."*

This methodology was captured in Chapter 18 of WCAP-9500-A, and included seismic and LOCA loads. The methodology was further described in WCAP-9401-P-A. For each fuel transition, the "new" design has been compared to the previous design. For the analysis of the combined seismic and LOCA loads, there has been no change that would invalidate the original methodology that was shown and stated to be applicable to all Westinghouse fuel arrays.

WCAP-12488 -P-A "FCEP" is not limited to any specific fuel design or geometry, and has been in use since March 1993 based on the NRC approval of this methodology for evaluating Westinghouse fuel changes. Westinghouse has been following the methodology described and approved for Seismic and LOCA Analysis. While the methodology used for IP2 is the same as that referenced in WCAP-9500/WCAP-9401, separate calculations and evaluations were conducted for IP2 based on the SPU conditions.

Further discussion of the methodology and interfaces for the fuel structural analysis methodology is provided in responses to RAI-1 and RAI-2.

Question 6:

In Section 7.4 of the Application Report, the licensee states rod internal pressure and clad fatigue criteria were met for the SPU condition. The licensee also states a vessel average temperature of 549 ^{o}F resulted in violation of the clad fatigue criterion.

Provide the technical justification explaining how maintaining a vessel temperature of 562 ± 3 ^{o}F will meet the rod internal pressure and clad fatigue criteria for the SPU operation. Also, provide the analytical basis that shows the clad fatigue criterion is met under SPU core conditions with a vessel average temperature of 562 ± 3 ^{o}F.

Response:

The Indian Point Unit 2 SPU addressed a safety analysis (i.e., "design") temperature window of 549°F to 572°F for the reactor vessel average coolant temperature (T_{avg}). However, for reload design applications, it is not economically sensible or feasible to design a core for such a large temperature window since additional burnable absorbers would be required in order to meet MTC limits and requirements. As such, the T_{avg} window for reload core designs is typically reduced to +/- 3°F to allow for optimization of secondary side steam pressure.

The fuel rod design criteria, including rod internal pressure and clad fatigue are each analyzed at their respective limiting cases. Rod internal pressure and clad fatigue were evaluated using the NRC approved code, PAD 4.0, listed as Reference 3 of Section 7.4.5 of WCAP-16157-P. For rod

Fuel Design Features and Components
Westinghouse Non-Proprietary Class 3

internal pressure, higher operating temperatures are more limiting. Using the conceptual design models discussed in Section 7.3 of WCAP-16157-P, three consecutive cycles were analyzed at SPU conditions for vessel average temperatures up to 565°F. The analysis results show that the rod internal pressure for vessel average temperatures up to 565°F is less than the pressure required for gap reopening for the conceptual reload designs for these conditions. This meets the criterion for rod internal pressure. This criterion will be confirmed for each cycle-specific reload application as part of the NRC-approved, standard reload design process defined in WCAP-9272-P-A, *Westinghouse Reload Safety Evaluation Methodology*, S. L. Davidson et al., July 1985 (Reference 2 of Section 7.3.5 of WCAP-16157-P).

For clad fatigue, lower operating temperatures and lower rod internal pressure are more limiting. Based on the results of SPU analysis performed for IP2, the clad fatigue criterion is satisfied for a minimum vessel average temperature of 559°F. This supports a proposed reactor vessel T_{avg} operating range of 562 +/- 3°F. This criterion will also be confirmed each cycle as part of the standard reload design process defined in WCAP-9272-P-A, *Westinghouse Reload Safety Evaluation Methodology*, S. L. Davidson et al., July 1985 (Reference 2 of Section 7.3.5 of WCAP-16157-P).

ENCLOSURE TO NL-04-086

Westinghouse authorization letter dated July 1, 2004 (CAW-04-1859), with the accompanying affidavit, Proprietary Information Notice, and Copyright Notice

ENTERGY NUCLEAR OPERATIONS, INC.
INDIAN POINT NUCLEAR GENERATING UNIT NO. 2
DOCKET NO. 50-247

Westinghouse Electric Company
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Our ref: CAW-04-1859

July 1, 2004

APPLICATION FOR WITHHOLDING PROPRIETARY INFORMATION FROM PUBLIC DISCLOSURE

Subject: Westinghouse Transmittal PU2-W-04-027 (IPP-04-93), Indian Point Nuclear Generating Unit No. 2 Stretch Power Uprate Project, Westinghouse Responses to NRC Fuel-Related RAIs, July 1, 2004.

The proprietary information for which withholding is being requested in the above-referenced report is further identified in Affidavit CAW-04-1859 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 the utilization of the accompanying affidavit by Entergy Nuclear Operations.

Correspondence with respect to the proprietary aspects of the application for withholding or the Westinghouse affidavit should reference this letter, CAW-04-1859, 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,

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

Enclosures

cc: W. Macon
E. Peyton

bcc: R. Bastien, 1L (Nivelles, Belgium)
C. Brinkman, 1L (Westinghouse Electric Co., 12300 Twinbrook Parkway, Suite 330, Rockville, MD 20852)
RCPL Administrative Aide (ECE 4-7A) 1L, 1A (letter and affidavit only)
S. Ira (WM F2D7) 1L, 1A
R. Laubham (ECE 419F) 1L, 1A
T. Timmons (ECE 406F) 1L, 1A
T. Gerlowski (ECE 413C) 1L, 1A
J. Stukus (ECE 419G) 1L, 1A
D. Morris (ENN) 1L, 1A
C. Jackson (ENN 1L, 1A
K. Kingsley (ENN) 1L, 1A
W. Wittich (ENN) 1L, 1A
J. Curry (ENN) 1L, 1A
J. Jawor (ENN) 1L, 1A

CAW-04-1859

AFFIDAVIT

COMMONWEALTH OF PENNSYLVANIA:

ss

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 1st day
of July, 2004

Sharon L. Fiori
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 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 Attachment A to PU2-W-04-027, "Indian Point Nuclear Generating Unit No. 2 Stretch Power Uprate Westinghouse Responses to NRC Fuel-Related RAIs" (Proprietary) dated July 1, 2004, being transmitted by the Entergy Nuclear Northeast letter and Application for Withholding Proprietary Information from Public Disclosure, to the Document Control Desk. The proprietary information as submitted for use by Westinghouse for the Indian Point Nuclear Generating Unit No. 3 is expected to be applicable for other licensee submittals in response to certain NRC requirements for justification of Stretch Power Uprate License Amendment Request.

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

(a) Provide information in support of plant power uprate licensing submittals.

(b) Provide plant specific calculations.

(c) Provide licensing documentation support for customer submittals.

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 associated with power uprate licensing submittals.

(b) Westinghouse can sell support and defense of the technology to its customers in the licensing process.

(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 calculations, evaluations, 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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