ATTACHMENT 6 TO NL-15-144

Entergy Response to BVPS, FNP and VEGP RAI Questions

(Non-Proprietary)

Conditional Exemption from End-of Life Moderator

Temperature Coefficient Measurement

ENTERGY NUCLEAR OPERATIONS, INC. INDIAN
POINT NUCLEAR GENERATING UNIT Nos. 2 & 3
Docket Nos. 50-247 and 50-286
License Nos. DPR-26 and DPR-64

BVPS RAI Question 1:

In accordance with the second condition in the NRC staff's safety evaluation for WCAP-13749-P-A, the licensee proposed to confirm, on a cycle-specific basis, that core fuel design changes or data from MTC predictions and measurements do not show a significant effect on the predictive correction. Please clarify the process and criteria for making this determination and justify their adequacy (e.g., statistical testing, engineering judgment, etc).

Response:

As described in WCAP-13749-P-A, "Safety Evaluation Supporting the Conditional Exemption of the Most Negative EOL Moderator Temperature Coefficient Measurement," approved in March 1997, the HFP predictive correction accounts for the observed differences between the measured and predictive (M-P) MTCs. "The hot full power (HFP) predictive correction ([ ]^{a,c}) was "derived by summing the hot zero power (HZP) predictive correction, the xenon sensitivity and the burnup sensitivity." The HZP predictive correction is provided in WCAP-13749-P-A. As long as the beginning of life (BOL) HZP MTC (M-P) is less negative than the HZP predictive correction, the HFP predictive correction is valid for use during the cycle.

Table 1 and 2 provide Beginning-of-Life (BOL) HZP Isothermal Temperature Coefficient (ITC) measured values (ITC M), predicted values (ITC P), and the measured minus the predicted values (M-P) for each cycle listed for Indian Point Unit 2 and Unit 3. The ITC M-P for both units is consistently more positive than [ ]^{a,c}, and therefore is conservative for evaluating the continued use of the HFP predictive correction value of [ ]^{a,c}. Note that the BOL HZP ITC data was included instead of BOL HZP MTC data as the measured BOL HZP MTC is just the predicted BOL HZP Doppler Temperature Coefficient (DTC) subtracted from the measured BOL HZP ITC. Therefore, the same M-P value will be calculated for the BOL HZP MTC and BOL HZP ITC data sets. Thus, the conclusion that the HFP predictive correction is valid for use during the Indian Point Unit 2 and Unit 3 cycles is still valid.

Table 1: Indian Point Unit 2 BOL HZP ITC Data (all values in pcm/°F)

Cycle	ITC M	ITC P	(M-P)
20	-4.75	[ ]^{a,c}	[ ]^{a,c}
21	-6.00	[ ]^{a,c}	[ ]^{a,c}
22	-4.32	[ ]^{a,c}	[ ]^{a,c}

Table 2: Indian Point Unit 3 BOL HZP ITC Data (all values in pcm/°F)

Cycle	ITC M	ITC P	(M-P)
17	-6.10	[ ]^{a,c}	[ ]^{a,c}
18	-4.71	[ ]^{a,c}	[ ]^{a,c}
19	-4.26	[ ]^{a,c}	[ ]^{a,c}

WCAP-13749-P-A states, "...the (HFP) predictive correction is reexamined if changes in core fuel designs or continued MTC calculation/measurement data show significant effect on the predictive correction." During the Indian Point core design process for each cycle, Entergy would calculate the HFP predictive correction and would verify that the predictive correction remains valid for the applicable fuel cycle by performing the following two qualitative assessments.

1. Entergy would identify fuel and core design methodology changes by using the "Reload Process" procedure. Prior to each reload, the "Reload Risk Assessment and Evaluation" is used to identify and determine the risk of major fuel design changes or core design methodology changes. This risk assessment would identify whether the reload will use revised or different methodologies, and assesses the impact of these changes on the existing analyses. This evaluation would provide initial indication of a possible change in the BOL HZP MTC (M-P) relationship prior to startup of the fuel cycle.

2. Per TS 3.1.3, each cycle during low power physics testing, Entergy measures the BOL HZP MTC. Prior to each conditional exemption of the end of life (EOL) HFP MTC measurement test, Entergy would compare Indian Point specific MTC (M-P) data each cycle against previous cycles to determine if there is a change to the measured vs. predicted MTC relationship.

If the value of the BOL HZP MTC (M-P) approaches the HZP predictive correction given in WCAP-13749-P-A then Entergy would evaluate the use of the HFP MTC predictive correction to show that the value of [ ][a,c] is conservative or measure the EOL HFP MTC in accordance with the Technical Specifications. The above tools and assessments would be used each cycle to verify continued consistency and validity of the BOL HZP MTC (M-P) relationship as it pertains to the predictive correction of WCAP-13749-P-A.

BVPS RAI Question 2:

The predictive correction term defined in WCAP-13749-P-A is based, in part, on a tolerance limit that Westinghouse derived from differences between a set of measured and predicted values of the MTC at the beginning of an operating cycle at hot, zero-power conditions. Specifically, the predicted MTC values in WCAP-13749-P-A were determined from calculations using the PHOENIX-P/ANC code package for a variety of pressurized-water reactor (PWR) core designs prior to 1995. Although the NRC staff has approved the PARAGON lattice physics code as a replacement to PHOENIX-P, it cannot not be concluded that the statistical database, and hence the predictive correction terms, for the two codes will be equivalent. Therefore, if approval for the use of the predictive correction term derived for the PHOENIX-P code for calculations with the PARAGON code is sought under this license amendment request, please provide unbiased and statistically significant data analogous to that reported in Table 3-1 of WCAP-13749-P-A for calculations performed with the PARAGON code for contemporary PWR core designs, along with: (1) justification that this data belongs to the same population as the pre-1995 data in WCAP-13749-P-A, generated with the PHOENIX-P code; or (2) a new predictive correction term for the PARAGON code for contemporary cores that is based on a 95/95 tolerance limit appropriate for modifying end-of-cycle MTC predictions made with this code.

Response:

A database of plants is used for regression testing and continued qualification of core design system code releases. This database consists of multiple cycles of plants chosen to encompass the variety of plant, fuel lattice types, and fuel management strategies that the code will be used to analyze. Comparison of the results for any release with those of previous releases assures continued compliance of the code with its licensing basis

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This set of contemporary PWR cores has been selected as representative of the statistical database used in WCAP-13749-P-A. These cores have been modeled using both PHOENIX-P/ANC and NEXUS/ANC (the NEXUS cross-section generation system uses PARAGON as the lattice transport code).

Table 1 below lists data analogous to that reported in Table 3-1 of WCAP-13749-P-A for calculations performed with NEXUS/ANC. Benchmarks for both PHOENIX-P/ANC and NEXUS/ANC are listed in the table to show a comparison between the two code sets. Measured End-Of-Cycle (EOC) Hot Full Power (HFP) Moderator Temperature Coefficient (MTC) data is not readily available for most of the benchmark cores, and therefore, for this parameter, measured-minus-predicted data was only provided for Indian Point for PHOENIX-P/ANC. Additionally, Beginning-of-Cycle (BOC) Hot Zero Power (HZP) Isothermal Temperature Coefficient (ITC) data was included instead of BOC HZP MTC data as the measured BOC HZP MTC is just the predicted BOC HZP Doppler Temperature Coefficient (DTC) subtracted from the measured BOC HZP ITC.

The results in Table 1 show that [ ]^{a,c} Using the measured-minus-predicted values in Table 1, the predictive correction term from WCAP-13749-P-A [ ]^{a,c}

Using commercial statistics software, the BOC HZP ITC M-P data points in Table 1 have been demonstrated to fall within a normal distribution per the Anderson-Darling and Ryan-Joiner tests, with a M-P mean of [ ]^{a,c} pcm/°F and a standard deviation of [ ]^{a,c} pcm/°F. From this data, a 95/95 one-sided tolerance limit for the HZP predictive correction of [ ]^{a,c} pcm/°F can be calculated using a K-value of [ ]^{a,c} Applying [ ]^{a,c} from WCAP-13749-P-A [ ]^{a,c} yields a HFP predictive correction of [ ]^{a,c} pcm/°F. [ ]^{a,c}

Additionally, the predictive correction term for PHOENIX-P/ANC was recalculated for comparison (for contemporary cores). [ ]^{a,c} using the K-value of [ ]^{a,c} a HZP predictive correction of [ ]^{a,c} pcm/°F was calculated. [ ]^{a,c} yields a HFP predictive correction of [ ]^{a,c} pcm/°F. [ ]^{a,c} This shows that: (1) the PHOENIX-P/ANC results in WCAP-13749-P-A are reproducible with the contemporary PWR cores and latest code versions, and (2) the set of cores chosen represents a good unbiased sample of the larger data set used in WCAP-13749-P-A.

Table 1: Summary of Statistics for Measured Minus Predicted Differences of Critical boron, ITC, MTC, and Rod Worths for Westinghouse Cores

Parameter	PHOENIX-P/ANC Mean	PHOENIX-P/ANC Std. Dev.	NEXUS/ANC Mean	NEXUS/ANC Std. Dev.	No. Pts.

a,c

Farley and Vogtle RAI Question 1:

On December 28, 2012, the NRC issued requests for additional information (RAIs) for a similar license amendment request (LAR) at Beaver Valley Power Station (BVPS). In Enclosure 9, SNC provided their responses to these RAIs. Table 1 of Enclosure 9 provides a summary of statistics to compare PHOENIX-P/ANC and NEXUS/ANC results. Though the PHOENIX-P/ANC and NEXUS/ANC results compare favorably to each other, they appear to differ significantly from the values found in Table 3-1 of WCAP-13749-P-A. Please discuss this discrepancy.

In this discussion, emphasis should be placed on the differences in the means and standard deviations between the two tables, particularly for the end-of-cycle (EOC) hot full power (HFP) moderator temperature coefficient (MTC). The discussion should present a statistical analysis of the datasets used to generate the two tables to explain whether or not the results presented belong to the same population.

"The discussion should also address the deviation between measured and predicted critical boron throughout the cycle. Based on the statistics provided, many of the calculated values would apparently violate the generally-used acceptance criterion of ± 50 ppm for comparison to measurements (as discussed in ANSI/ ANS-19.6.1, the PARAGON topical report WCAP-16045-P-A, and others).

Response

Response to Paragraphs 1 and 2

The plants and cycles used for benchmarking Westinghouse PWR nuclear analysis methods are continuously updated to reflect the changes that occur in fuel management and operations. Westinghouse does not use one single consistent set of plant/cycles for code qualification, because that would restrict the validation basis to include only old operating cycles that do not reflect today's modern fuel designs, power uprates, increased fuel burnups, and longer cycles with higher operating capacity factors.

Table 3-1 in WCAP-13749-P-A compares the measured to predicted EOL HFP MTC. The Table 3-1 results show a mean difference of [ ]^{a,c} pcm/°F and a standard deviation of [ ]^{a,c} pcm/°F based on [ ]^{a,c} data points. Based on RAIs received for the EOL MTC topical report, additional data was also provided in Section G, Table 2 of that topical report. The EOC HFP MTC data is expanded to include [ ]^{a,c} data points with a mean difference of [ ]^{a,c} pcm/°F and a standard deviation of [ ]^{a,c} pcm/°F.

The response to BVPS RAI Question 2 compared recent NEXUS/ANC code system predictions to recent PHOENIX-P/ANC code system predictions to establish the similarity of predictions for MTC and ITC between the two code systems. The data presented was from the qualification of the NEXUS/ANC code system (the NEXUS cross-section generation system uses PARAGON as the lattice transport code), so it used the more recent plant/cycle data used in that code system qualification. However, EOL HFP MTC comparisons of measured and predicted data were not available for this qualification effort, so only comparisons of predictions for EOL HFP MTC between the NEXUS/ANC and PHOENIX-P/ANC code systems were presented. These comparisons demonstrate the predictive capability for the NEXUS/ANC code system is comparable to the predictive capability for the PHOENIX-P/ANC code system.

Table 1 in the response to BVPS RAI Question 2 provides the ITC and MTC comparisons. Using the more recent plant/cycle data, the BOC, HZP ITC predictions from [ ]^{a,c} data points using the PHOENIX-P/ANC code system show a mean difference of [ ]^{a,c} pcm/°F and a standard deviation of [ ]^{a,c} pcm/°F. This code performance is comparable to the data presented in the EOL MTC topical report. The comparable NEXUS/ANC code system data shows a mean difference of [ ]^{a,c} pcm/°F and a standard deviation of [ ]^{a,c} pcm/°F. The NEXUS/ANC code system appears to be slightly more accurate for BOC, HZP ITC predictions compared to the PHOENIX-P/ANC code system, although the differences are relatively small. Absolute comparisons of predicted EOL, HFP MTC are also presented in that table for both code systems to again demonstrate the similarity of the predictions. These are not measured minus predicted comparisons, but just comparisons of absolute MTC predicted values. For the PHOENIX-P/ANC code system, the mean prediction is [ ]^{a,c} pcm/°F with a standard deviation of [ ]^{a,c} pcm/°F. For the NEXUS/ANC code system the mean prediction is [ ]^{a,c} pcm/°F with a standard deviation of [ ]^{a,c} pcm/°F. This comparison again demonstrates that the code systems provide comparable predictive capability, so the conclusions of the EOL MTC topical report, WCAP-13749-P-A would not change based on substitution of the NEXUS code system for the PHOENIX-P/ANC code system.

Some comparisons of PHOENIX-P/ANC code system predictions of EOL HFP MTC to measurements are also provided to illustrate that data comparisons using more recent plant/cycles show behavior that is as good as or better than that presented in the EOL MTC measurement elimination topical report, WCAP-13749-P-A. The more recent PHOENIX-P/ANC code system EOL, HFP MTC measured to predicted comparisons show a mean difference of [ ]^{a,c} pcm/°F and a standard deviation of [ ]^{a,c} pcm/°F. These comparisons show somewhat better performance compared to the EOL MTC measurement elimination topical report, WCAP-13749-P-A, but are also taken from a smaller set of plant cycles, where [ ]^{a,c} plant cycles are presented. Based on the close agreement between PHOENIX-P/ANC and NEXUS/ANC, as described above, comparable measured to predicted statistics for the EOL HFP MTC are expected when the predictions are based on NEXUS/ANC.

Response to Paragraph 3

Regarding the question on deviation between measured and predicted critical boron concentrations throughout the cycle, the measured data includes the effects of boron-10 (^{10}B) depletion in the coolant during the cycle, while the predictions assume the nominal (no ^{10}B depletion) ^{10}B fractions. During operation, the ^{10}B in the coolant will deplete due to exposure to neutron flux from the reactor core. As a result, the measured concentration at the middle of the cycle will be higher to maintain critical conditions than if no ^{10}B depletion occurred. Westinghouse chose to present the comparison data without accounting for depletion effects in the predictions, since we do not have access to the actual measured ^{10}B fractions for all of the cycles where we compare it to measured data. The effect of ^{10}B depletion is largest at the middle of cycle, where the a,c

[ ]

a,c

[ ]

measured concentrations are typically 50-100 ppm higher than if no ^{10}B depletion were occurring. Based on Westinghouse's experience with modeling ^{10}B depletion when the data is available, accounting for this effect would significantly reduce the mean error in the presented MOC data such that it would compare with or be better than previously reported performance statistics.

To illustrate this point, two plant cycles were simulated to predict the effects of ^{10}B depletion in the coolant. One is a three loop plant and the other is a four loop plant. The three loop plant shows that accounting for ^{10}B depletion increased the MOC boron concentration by [ ]^{a,c} ppm, while the four loop result is a [ ]^{a,c} ppm increase in predicted boron. These results are consistent with the reported MOC difference in boron concentration where ^{10}B depletion effects were not included in the predictions.

<u>Response Conclusion</u>

In conclusion, the plants/cycles chosen for code validation are always being updated as new data from more recent, modern core and fuel design become available. A comparison of the code performance for MTC predictions shows a general improvement over time. The NEXUS/ANC code system also shows slightly better performance compared to the older

PHOENIX-P/ANC code system. As such, the conclusions of the EOL MTC measurement elimination topical report, WCAP-13749-P-A remain applicable when either code system is used.

Farley and Vogtle RAI Question 2:

The LAR states that the 'FNP [Farley Nuclear Plant] and VEGP [Vogtle Electric Generating Plant] core design calculations are currently being transitioned from nuclear calculations that are performed with the PHOENIX-P lattice code to generate cross-section data to those that will be performed with the PARAGON lattice code.' Farley TS 5.6.5.b, the Core Operating Limits Report (COLR) reference list, includes references for PHOENIX-P as well as the PARAGON and NEXUS methodologies. Vogtle TS 5.6.5.b, on the other hand, does not include any of these references.

In both sites' TS, WCAP-9272-P-A, 'Westinghouse Reload Safety Evaluation Methodology' is referenced for calculation of the moderator temperature coefficient. WCAP-9272 states that 'the values of all measured parameters are calculated using the design codes described in Table 3.1.' Table 3.1 is a list of older neutronics codes, such as LEOPARD and TURTLE, which were in use at the time when WCAP-9272-P-A was first published in 1978. While the Vogtle and Farley Final Safety Analysis Reports (FSARs) include references to these older codes as well as newer codes like PHOENIX-P and ANC, they both indicate that the newer codes are used for core design.

a. **Please discuss how WCAP-9272-P-A is being used for calculation of the MTC limits for TS 3.1.3 when the codes being used for design are not part of the WCAP-9272-P-A methodology.**

b. **Please provide a justification for why the COLR reference list for Vogtle does not need to be updated to include PHOENIX-P, PARAGON, and/or NEXUS. This is especially pertinent given that Farley submitted an LAR on August 14, 2012 (ADAMS Accession No. ML 12227A884), specifically to include NEXUS in their COLR reference list.**

Response to a.

WCAP-9272-P-A is currently being used at Indian Point Units 2 and 3 as is currently identified in TS 5.6.5. As noted in the RAI, the computer codes cited in WCAP-9272-P-A, LEOPARD and TURTLE have been superseded by newer codes, specifically PHOENIX-P and ANC. ANC was approved by the NRC via WCAP-10965-P-A, which states: "The intended usage of the Advanced Nodal Code encompasses all applications described in the reload safety evaluation methodology topical report. [3]", where [3] refers to WCAP-9272-P-A. The NRC then approved the use of PHOENIX-P and ANC based on qualification work that was documented in WCAP-11596-P-A, which incorporates WCAP-10965-P-A by reference. This reference (WCAP-11596-P-A) thus supports the use of PHOENIX-P and ANC in lieu of LEOPARD and TURTLE.

Subsequent to the approval of PHOENIX/ANC, Westinghouse developed the PARAGON code for use with ANC and received NRC approval for its use in core design work via WCAP-16045-P-A.

The supporting Safety Evaluation Report for WCAP-9272-P-A acknowledges that "significant changes to codes and methods are extensively documented in topical reports to the NRC staff in order that generic approval be obtained." Likewise, as updated codes and methods are approved and used in reactor core designs they follow the design guideline provided in WCAP-9272-P-A and incorporated into the design using 10 CFR 50.59 because they are previously approved methods.

Response to b.

Like Vogtle, Indian Point also does not include PHOENIX-P in the list of COLR methodologies. As stated, PHOENIX-P has been generically approved. When the PHOENIX-P method and other updated codes and methods are generically approved they can be incorporated into the plant's design using 10 CFR 50.59. Furthermore, these methods are tools used to confirm that reload parameters are bounded by the values used in the safety analysis. These tools are not methodologies used to calculate core operating limits. As such, Indian Point does not propose to add PHOENIX-P or PARAGON to the listed COLR references in the technical specifications.

ATTACHMENT 7 TO NL-15-144

Westinghouse Affidavit Requesting Withholding of Attachment 5

Conditional Exemption from End-of Life Moderator

Temperature Coefficient Measurement

ENTERGY NUCLEAR OPERATIONS, INC. INDIAN POINT
NUCLEAR GENERATING UNIT Nos. 2 & 3
Docket Nos. 50-247 and 50-286
License Nos. DPR-26 and DPR-64

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CAW-15-4337

November 18, 2015

APPLICATION FOR WITHHOLDING PROPRIETARY
INFORMATION FROM PUBLIC DISCLOSURE

Subject: **Indian Point Units 2 and 3 Docket Nos. 50-247 and 50-286 License Amendment Request NL-2015-144 Conditional Exemption from End-of Life Moderator Temperature Coefficient Measurement, Entergy Response to BVPS, FNP and VEGP RAI Questions (Proprietary)**

The Application for Withholding Proprietary Information from Public Disclosure 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 information for which withholding is being requested in the above-referenced report is further identified in Affidavit CAW-15-4337 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.

Correspondence with respect to the proprietary aspects of the Application for Withholding or the Westinghouse Affidavit should reference CAW-15-4337, and should be addressed to James A. Gresham, Manager, Regulatory Compliance, Westinghouse Electric Company, 1000 Westinghouse Drive, Building 3 Suite 310, Cranberry Township, Pennsylvania 16066.

John T. Crane for

James A. Gresham, Manager

Regulatory Compliance

CAW-15-4337
November 18, 2015

AFFIDAVIT

COMMONWEALTH OF PENNSYLVANIA:

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COUNTY OF BUTLER:

I, Henry A. Sepp, am 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 my knowledge, information, and belief.

Henry A. Sepp, Director
CRE-Systems and Components Engineering

(1) I am Director, CRE-Systems and Components Engineering, 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 Proprietary Information from Public Disclosure 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 constitute Westinghouse policy and provide 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.

(iii) 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.

(iv) The information is being transmitted to the Commission in confidence and, under the provisions of 10 CFR Section 2.390, is to be received in confidence by the Commission.

(v) 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.

(vi) The proprietary information sought to be withheld in this submittal is that which is appropriately marked in "Indian Point Units 2 and 3 Docket Nos. 50-247 and 50-286 License Amendment Request NL-2015-144 Conditional Exemption from End-of Life Moderator Temperature Coefficient Measurement, Entergy Response to BVPS, FNP and VEGP RAI Questions" (Proprietary), for submittal to the Commission, being transmitted by Entergy letter and Application for Withholding Proprietary Information from Public Disclosure, to the Document Control Desk. The proprietary information as submitted by Westinghouse is that associated with Entergy's request for NRC approval of a License Amendment Request that would allow a change to the Indian Point Units 2 and 3 Technical Specifications to provide a conditional exemption from Moderator Temperature Coefficient measurement, and may be used only for that purpose.

(a) This information is part of that which will enable Westinghouse to

(i) Assist Entergy with obtaining NRC approval of a License Amendment Request that would allow a change to the Technical Specifications to provide a conditional exemption from Moderator Temperature Coefficient measurement.

(ii) Provide Results of customer specific calculations.

(iii) Provide licensing support for customer submittals.

(b) Further, this information has substantial commercial value as follows:

(i) Westinghouse plans to sell the use of similar information to its customers for the purpose of meeting NRC requirements for licensing documentation associated with End of Life Moderator Temperature Coefficient Elimination submittals.

(ii) Westinghouse can sell support and defense of industry guidelines and acceptance criteria for plant-specific applications.

(iii) 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.

Further the deponent sayeth not.

PROPRIETARY INFORMATION NOTICE

Transmitted herewith are proprietary and non-proprietary versions of a document, 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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