PROPRIETARY

Nuclear Innovation
North America LLC
4000 Avenue F, Suite A
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March 21, 2011
U7-C-NINA-NRC-110045
10 CFR 2.390

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
One White Flint North
11555 Rockville Pike
Rockville, MD 20852-2738

South Texas Project
Units 3 and 4
Docket Number PROJ0772
Responses to Request for Additional Information

Reference: Letter from Tekia Govan to Mark McBurnett, "Request for Additional Information Re: South Texas Project Nuclear Operating Company Topical Report (TR), WCAP-17203-P Fast Transient and ATWS Methodology (TAC No. RG17203), November 19, 2010 (ML103230418)

Attached are responses to NRC staff questions included in the reference. The following RAI questions are addressed:

RAI-6	RAI-24
RAI-7	RAI-27
RAI-17	RAI-29
RAI-18	RAI-30
RAI-23	RAI-33

The responses to RAI-17, RAI-18, RAI-24, RAI-30, and RAI-33 contain information proprietary to Westinghouse Electric Corporation. Since these responses contain information proprietary to Westinghouse Electric Company LLC, they are 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 which is proprietary to Westinghouse be withheld from public disclosure in accordance with 10 CFR Section 2.390 of the Commission's regulations.

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STI 32840911 NRO

Attachments 1 through 10 contain the responses to the above RAI questions. Attachments 11 through 15 contain the non-proprietary versions of the five proprietary responses. Attachment 16 contains the request for withholding of proprietary information, the affidavit, the proprietary information notice, and the copyright notice.

Correspondence with respect to the copyright or proprietary aspects of this information or the supporting Westinghouse Affidavit should reference letter CAW-11-3128 and should be addressed to: J. A. Gresham, Manager, Regulatory Compliance and Plant Licensing, Westinghouse Electric Company LLC, Suite 428, 1000 Westinghouse Drive, Cranberry Township, Pennsylvania, 16066.

If this letter becomes separated from the proprietary material it is no longer proprietary.

There are no commitments in this letter.

If you have any questions other than those relating to the proprietary aspects of this response, please contact me at (361) 972-7136, or Bill Mookhoek at (361) 972-7274.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on 3/21/11

Scott Head
Manager, Regulatory Affairs
South Texas Project Units 3 & 4

jet

Attachments:

1. RAI-6
2. RAI-7
3. RAI-17 (Proprietary)
4. RAI-18 (Proprietary)
5. RAI-23
6. RAI-24 (Proprietary)
7. RAI-27
8. RAI-29
9. RAI-30 (Proprietary)
10. RAI-33 (Proprietary)
11. RAI-17 (Non-Proprietary)
12. RAI-18 (Non-Proprietary)
13. RAI-24 (Non-Proprietary)
14. RAI-30 (Non-Proprietary)
15. RAI-33 (Non-Proprietary)
16. Request for Withholding Proprietary Information

cc: w/o enclosure except*
(paper copy)

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RAI-6

Section 3.2 of the LTR provides the figures-of-merit determined to be important for Fast Transients and ATWS events, and it states that "For phenomena identification purposes there is no need for evaluation against fuel enthalpy because, for the transients of interest, the fuel enthalpy limit is met if the MCPR safety limit is met. Thus, a fuel enthalpy analysis will not introduce any new phenomena that are not already covered by the MCPR figure-of-merit." For phenomena identification purposes, there is no need to evaluate the fuel enthalpy. However, the basis for assuming that the fuel enthalpy limit is met if the MCPR meets the safety limit is not clear. Clarify the relationship between the MCPR safety limit and the fuel enthalpy limit and provide the basis for the statement cited.

Response to RAI-6

The assumption that if the MCPR safety limit is met the fuel enthalpy limit is met cannot be made in general. Westinghouse excludes the fuel enthalpy from the figures of merit (for the purpose of phenomena identification relevant to fast transients) as it does not introduce new phenomena in addition to the defined figures of merit, especially the Linear Heat Generation Rate (LHGR) for clad strain and fuel centerline temperature.

The fuel enthalpy increase limit is used to protect the fuel from rapid energy deposition events that could lead to fuel failure due to pellet cladding mechanical interaction without leading to fuel melting. Such rapid and sufficiently large fuel enthalpy increase can only be expected during reactivity insertion accidents and at low thermal power. For reactor thermal power higher than 5% of the rated thermal power, the acceptance limits on the MCPR and LHGR will also protect from the fuel failure due to fuel enthalpy increase.

The fuel enthalpy limit is therefore not used as a specific event acceptance limit in the Westinghouse fast transient and ATWS analysis process because none of the events from Table 2-1 in the LTR challenge this limit. It is used only in the assessment of the reactivity initiated accidents to establish the number of calculated fuel failures used in the radiological evaluations.

The statement in Section 3.2 of the LTR will be clarified in the final version of the topical report as follows:

Original formulation:

"For AOOs, the figures-of-merit are taken to be MCPR, RVP and LHGR. For the phenomena identification purposes there is no need for evaluation against fuel enthalpy because, for the transients of interest, the fuel enthalpy limit is met if the MCPR safety limit is met. Thus, a fuel enthalpy analysis will not introduce any new phenomena that are not already covered by the MCPR figure-of-merit".

New formulation:

"For fast AOOs, the relevant figures-of-merit are the limits on MCPR, RVP and LHGR. Fuel enthalpy limit does not introduce any new phenomena not already covered by the MCPR, RVP and especially the LHGR and is therefore not used as a figure-of-merit."

RAI-7

Section 4.2.2 Table 4-4, Replace "Reactor coolant pump rotor seizure/shaft break" with trip of 3 "Reactor internal pumps". Reactor coolant pump rotor seizure/shaft break are considered accident category events. Please update/revise the LTR as appropriate.

Response to RAI-7

Section 4 of the topical report provides a general phenomenological description of the fast transients that have a similar behavior; decrease in the core flow. This LTR uses the term "transient" in a broader perspective to include all fast transients independent of their classification (AOO, Postulated Accidents, etc.).

Table 4-4 refers to the transient categorization according to the SRP. The transients listed in the SRP may in practice include several events (based on the plant design). For instance "Loss of forced reactor coolant flow including trip of pump motor and flow controller malfunctions" includes trip of one RIP, trip of more than one RIP, failures of the flow controller, etc. Trip of 3 RIPs in an ABWR is considered an event under the first group (SRP 15.3.1) of the table. All these events are analyzed using the same methodology, described in Section 6.4.2 for flow decrease transients.

The methodology described is intended to be applied to all current operating BWRs (BWR/2 through BWR/6) and the ABWR. The differences in plant designs will determine which transients are classified as AOOs and included in the determination of the plant operating limits and which transients have a lower frequency of occurrence and are evaluated against other figures of merit.

The events included in Table 4-4, including "Reactor coolant pump rotor seizure/shaft break," can be evaluated using the methodology described in the LTR and are therefore all included in the table. Thus, no changes will be made to the LTR.

Also see the responses to RAIs 2 and 3 for additional clarification on transient classification.

RAI-23

In Sections 7.3 and 7.3.2 of the LTR it is stated that Candidate Parameters judged to have very small uncertainties or an insignificant effect on the figures-of-merit will be removed from further analysis. Provide the following additional information:

(a) Describe how it will be judged that a Candidate Parameter has such a small uncertainty or minimal effect on figures-of-merit that it need not be included as a Relevant Parameter, and how/where this information will be documented.

(b) Describe how the removed Candidate Parameters will be identified with respect to the figures-of-merit upon which the uncertainty/effects of the removed Candidate Parameters were minimal.

Response to RAI-23

(a) The selection process of Relevant Parameters follows the Code Scaling, Applicability, and Uncertainty (CSAU) "Parameter assessment by analysis (step 7)" as described in Section 2.3 of Reference 1. Probabilistic distribution functions are established for Candidate Parameters. These parameters are then varied within their distribution ranges and the sensitivity of the figures-of-merit to these parameters is determined. Based on the sensitivity study, Relevant Parameters are selected[1]. The sensitivity study is performed in connection to the first-time application and is documented in a Westinghouse internal document according to Westinghouse QA procedures.

(b) Sensitivity analysis will be performed with respect to all figures-of-merit. In the case that a Candidate Parameter has an influence on any figure-of-merit that is not minimal (as judged according to the process outlined in Reference 1), it will be conservatively considered as a Relevant Parameter for all figures-of-merit. Sensitivity analyses are documented according to Westinghouse QA procedures.

References:

1) W. Wulff et al., Quantifying reactor safety margins, Part 3: Assessment and ranging of parameters, Nuclear Engineering and Design 119 (1990) 33-65.

[1] Selection process of Relevant Parameters may be omitted. In that case, all Candidate Parameters are treated further as Relevant Parameters.

RAI-27

The uncertainty analysis discussed in Section 6.2.1.1 and Appendix B of the LTR alludes to the choice and use of an estimator grade, which influences the number of calculations that must be performed. Provide:

(a) A reference to, or the method for, determining the estimator grade for a specific type of analysis. The explanation should discuss how a change in the type of analysis may affect the estimator grade.
(b) A discussion of, or reference to, the decision making process for the selection of the estimator grade as a function of the tradeoff between the number of calculations and the "risk of over conservatism."

Response to RAI-27

a) Robustness and conservatism of the order statistics method is discussed in Reference 1, including a detailed discussion on the influence of the estimator grade on the analysis output. The effort presented in this work results in the comparison of the different estimator grades, as shown in the table below. Here the effect of estimator grade is shown for different combinations of probability level/confidence interval. Values shown in the table may be derived from Equation 11 in Appendix B to the LTR.

Probability interval (quantile)	Confidence -1st estimator grade (59 Trials)	Confidence – 2nd estimator grade (93 Trials)	Confidence – 3rd estimator grade (124 Trials)	Confidence – 4th estimator grade (153 Trials)
95%	95%	95%	95%	95%
97%	83%	77%	72%	68%
98%	70%	56%	45%	37%
99%	45%	24%	13%	7%

The confidence represents the probability of exceeding an upper Xth quantile for the output parameter. Table 1 shows that using the 1st estimator grade may be seen to be bounding, as the probability (confidence) of exceeding the higher value quantiles (>95%) is largest for this case. First order estimator leads to higher estimates of 95/95 value with higher probability than higher order estimators. This estimator grade requires the lowest amount of code runs and is therefore primarily used to evaluate the figures-of-merit. Higher estimator grade may be chosen based on the analysis type. Westinghouse recognizes the importance of the estimator grade in the analysis, and this parameter (estimator grade, or corresponding number of code runs) will be determined on a case-by-case basis and documented together with the analysis result (as stated in Response to RAI-26).

Two types of analysis, influencing the choice of estimator grade, are recognized by Westinghouse:
1) Simultaneous analysis of several output parameters (figures-of-merit) – This situation may occur when evaluating an ATWS event.
2) Uncertainty analysis of one output parameter (one figure-of-merit is evaluated) – Typical for AOO analysis where MCPR is the parameter under consideration.

In the first case, where several output parameters are evaluated, the 1st estimator grade is used in the analysis. This is due to the relatively large amount of code runs necessary to fulfill the 95/95 probability/confidence criterion even for the 1st estimator grade. As discussed before, the choice of this estimator grade is considered to be bounding even for higher estimators.

In the second case, where the uncertainty in one output parameter is evaluated, the choice of estimator grade depends on the degree of conservatism in the input data. All relevant input and modeling parameters are set either to their bounding values (conservative treatment) or are an input parameter to the uncertainty analysis. In an "extreme case" all relevant input and modeling parameters are included in the uncertainty analysis and no parameters are treated conservatively. In this case, first estimator grade may be chosen, as this choice bounds all other estimators. However when extra conservatism, in a form of a bounding value of input or modeling parameter(s), is accounted for in the analysis, a higher estimator grade may be used in the analysis. As stated in the response to RAI-26, the number of code runs (and choice of estimator grade) will be documented together with the analysis result. The criterion of 95% probability at 95% confidence level is fulfilled independent of the estimator grade choice.

b) This question is addressed in part a) of the response.

References:

1. Frepoli,C., Oriani,L., "Notes of the Impementation of Non-Parametric Statistics within the Westinghouse Realistic Large Break LOCA Evaluation Model (ASTRUM)", Proceedings of ICAPP '06, Reno, NV USA, Paper 6257, June 4-8, 2006

RAI-29

Section 6.4.1.1 of the LTR states that "To ensure that the condition captured in the PIRT is valid, confirmatory analysis will be performed to ensure that: 1. The limiting case that utilizes the PIRT captures unique and significant plant specific design features. 2. The analysis of transient events includes combinations of the transient categories defined herein if these conditions are more limiting than the conditions analyzed in the PIRT." Clarify how combinations of transient categories will be determined to be more limiting than the conditions analyzed in the PIRT, including a discussion of how combinations of categories will be chosen for evaluation.

Response to RAI-29

Some of the transients events listed in Table 2-1 of the LTR may in an initial phase belong to a certain transient group and later evolve into another group. Such an example is the feedwater controller failure event. During this event, the feedwater controller system (FWCS) orders the feedwater pumps to increase the feedwater flow to maximum flow. With excess feedwater flow, the core average void decreases, leading to an increase in reactor power. The excess feedwater flow yields a mismatch in the global reactor mass balance since the steam flow is less than the feedwater flow. Consequently, the water level increases and when the water level reaches the high water level setpoint, Turbine Stop Valve closure and feedwater pump trips are activated. The Turbine Stop Valve closure causes the the feedwater increase transient to evolve into a pressure increase transient. This event, which is initially considered as a feedwater increase (FI) and evolves in a later phase as a pressure increase (PI) event is used as an example to address the RAI below:

Combinations of transient categories are not explicitly determined and analyzed as suggested by the RAI. In the proposed methodology, each transient event is classified based on the plant DCD or FSAR classification. For those limiting transient events that evolve into another transient category, confirmatory calculations are performed to ensure that the bounding parameters used in the initial event categorization are still conservative . The following process is used in these confirmatory analyses:

The selection process of input and modeling parameters requires some of the relevant input and modeling parameters to be set to their bounding value (i.e., treated conservatively), as described in Table 7-1 of the LTR. Using the example of the feedwater controller failure event, bounding value selection (lower or upper bound) is determined for the initial classification as a FI event (Section 6.4.3.2.1). These conservative assumptions may however differ from the ones for PI events (Section 6.4.1.2.1). The confirmatory analyses are performed to ensure that the selection of the bounding parameter (upper or lower bound) is conservative for this particular event in the case when this event evolves from one transient category to another.

For example, when FWCF is analyzed as a FI event, the value of fuel reactivity feedback is conservative when the fuel reactivity is least negative (upper bound). However, PI evaluation methodology defines the most negative (lower bound) fuel reactivity feedback as bounding. Assessment of the event is therefore performed with both bounding values to confirm that the initial assumption of choosing the upper bound is correct. If the initial assumption is not correct, the other bounding value is used.

RAI-17

Section 6.2.1 of the LTR states that [

]^{a,c} Describe the methods used to ensure that transient results presented as bounding will include such considerations.

<u>Response to RAI-17</u>

[

]^{a,c}

RAI-18

Subsection 6.5.1.1 of the LTR states [

]a,c Explain this statement.

<u>Response to RAI-18</u>

[

]a,c

RAI-24

Section 7.4, Uncertainty Analysis Methodology, of the LTR states that the section contains a method for determining the biases and uncertainties. LTR Section 8 presents a demonstration analysis using BISON. Please explain how bias and uncertainty components are identified and propagated in the uncertainty analysis including bias and uncertainty components from POLCA (the source for much of the BISON model), components from the BISON evaluation model, and from the components arising from the application of the techniques in the LTR.

Response to RAI-24

Section 7.4 of the LTR describes the methodology used to combine the biases and uncertainties in relevant input and modeling parameters to calculate the 95/95 estimate of operating limits and margins to event acceptance criteria. The process for selecting which parameters are inputs to the uncertainty analysis is described in Section 7.1 of the LTR and is based on the results of [ ]^{a,c}. The final list of parameters for BISON evaluation model includes all, uncertainty components from POLCA, components from BISON evaluation model and components from the application of the techniques in the LTR.

An example of an uncertainty arising from the POLCA7 part of the evaluation model is the initial core bypass flow fraction. The uncertainty components identification and propagation into the uncertainty analysis for this parameter is given below to illustrate the process:

POLCA7 uncertainty input parameter - example

- Phenomenon [ ]^{a,c} is a high ranked phenomenon for all transient groups in the PIRT (see Table 5-2 in the LTR) .
- The POLCA7 code capability to calculate the core coolant flow distribution is judged high and the input and modeling parameters used to simulate this phenomenon are subject to uncertainty analysis (According to Table 7-1).
- The initial core bypass flow fraction is an input to BISON's core model from POLCA7 and is a Relevant Parameter coupled to phenomenon A18.
  For the demonstration purpose let's assume that POLCA7's uncertainty in calculating the core bypass flow fraction is ±X% and that this parameter is uniformly distributed.
- The uncertainty in the initial core bypass flow is then accounted for by [ ]^{a,c}. This uncertainty parameter is later combined with other input and modeling parameters and uncertainty methods, described in Appendix B in the LTR, are applied to calculate the combined 95/95 probability estimate of the operating limit or margins to the event acceptance criteria.

RAI-30

LTR Section 6.2.3.2 states that "[b]ecause of the conservatism in this approach, and conservatism assumed in the event conditions, no other failures are assumed." In addition, the section discusses "reactor pressure" acceptance limits related to MSIV closure specifically, not to overpressurization events generally.

(a) SRP Section 15.2.1 states that "[t]he most limiting plant system single failure, as defined in "Definitions and Explanations," 10 CFR Part 50, Appendix A, must be assumed in the analysis according to the guidance of RG 1.53 and GDC 17." Please provide the justification that your analysis does not require the assumption of the most limiting single failure in addition to the initiating event.

(b) The staff interpretation of SRP Sections 5.2.2, 15.0, and 15.2.1–15.2.5 is that for AOOs leading to an over-pressurization event, the guidance is to apply a 110% acceptance limit to the calculated pressure in the reactor coolant and main steam systems for events generally; not just to MSIV closure related events. Please confirm that the correct over-pressurization limit for AOOs is 110 %.

(c) In collaboration with your response on RAI 4.b please identify the correct over-pressurization limit to be used for ATWS.

(d) The third bullet indicates that the methodology applies to "specific reloads." Confirm that this also applies to initial cores.

<u>**Response to RAI-30**</u>

(a) Westinghouse methodology for pressurization transients does consider the most limiting single failure in addition to the initiating event, as required by the SRP.

For the analysis of pressurization transients, Westinghouse has two types of analyses, one performed for transients classified as AOOs and another for transients classified as Special Events. The determination of event classification is consistent with a plant's licensing basis. For pressurization transients classified as AOOs, the basic event acceptance limits are the specified acceptable fuel design limits (SAFDLs) and the peak reactor vessel pressure. [

]a,c Additionally, the RCPB pressure limit (110 % of the design pressure) is used as an event acceptance limit for AOOs.

The Special Event Reactor Overpressure Protection Analysis according to the definition provided in CENPD-300 is performed to show compliance with the ASME code overpressure requirements provided in SRP Section 5.2.2. The Special Event Overpressure Protection also uses the RCPB pressure limit of 110% as an acceptance criterion. [

]a, c

The special event reactor overpressure protection analysis is the simulation of the most severe pressurization event [ ]^{a,c} Multiple failures are postulated for this particular analysis, such as:

- [ ]^{a,c}
- [ ]^{a,c}
- In addition, the most limiting plant operating conditions are assumed and the MSIVs are [ ]^{a,c}
- [ ]^{a,c}

(b) Yes, as mentioned in part (a) above the event acceptance limit regarding the maximum RCPB pressure during pressurization events classified as AOOs is 110% of the design pressure. The same limit applies for the Special Event Overpressure Protection.

(c) The event acceptance limit for the RCPB pressure to be used for ATWS is the ASME Code emergency limit of a maximum 120 % of the design pressure.

(d) The overpressure protection analysis is performed on a cycle-specific basis, including the first cores.

Errata:

Westinghouse noted that Sections 6.2.3.1 and 6.2.3.2 contain a typo. These sections refer to Reference 6, but the correct reference is instead Reference 7 (the ASME code). This error will be corrected in the approved version of the LTR.

RAI-33

In discussing parameter uncertainty, the LTR uses the undefined term "nominal" in describing (a) input to the analysis treatment (Table 7-1), (b) data that is input as part of Table 7-3, "Data Uncertainty Assessment Table – Example" (c) the treatment of the input and modeling parameters in Section 7.4.1, and (d) in the data uncertainty assessment in Section 8.6 of the LTR. Provide a definition of what is meant by "nominal" in each of these circumstances.

Response to RAI-33

a) Table 7-1 defines three different types of treatment for code input and modeling parameters:

Nominal with Uncertainty Analysis – [

]^{a,c}

Conservative – [

]^{a,c}

Nominal without Uncertainty Analysis – [

]^{a,c}

b) Code input and modeling parameters from the Data Uncertainty Assessment Table may be classified in the following groups:
- Plant parameters
- Model parameters
- Initial Conditions

A plant parameter is a plant-specific system or component quantity, such as a protection system set point, valve capacity and/or stroke time, coolant system capacity and temperature, pump head or inertia, etc. Nominal value of a plant parameter is a rated value provided by the plant technical specification or by a component manufacturer. This value does not account for manufacturing or other types of uncertainties.

Model parameters and uncertainties are applied using a bias and standard deviation of a bias in a form of a multiplier on the model output parameter. This bias and standard deviation arise from the comparison of the model results with Separate Effect Tests (SETs) and/or Integral Effect Tests (IETs). The nominal value of a model parameter represents the model output parameter which is not compensated for such a bias and deviation. An example of a modeling parameter is the heat transfer coefficient to a single phase fluid under forced convection. This parameter is usually calculated by the Dittus-Boelter type of correlation. The accuracy of this correlation is anticipated to be ±15%. The heat transfer coefficient (model output parameter) may therefore be compensated for this uncertainty by adding a bias of $\pm 15\%$. Nominal value of the model parameter, in the context of this LTR, would however be a value that is not compensated for the anticipated uncertainty.

Initial conditions are the key plant inputs that define the (steady-state) operating conditions prior to a specific transient event. Initial conditions may vary due to the allowable operating range and/or the uncertainty in the process measurements at a given operating condition. Nominal initial conditions represent the expected (unbiased) values not accounting for uncertainties. Examples are: rated core power, rated core flow and rated steam-dome pressure.

c) Treatment of the input and modeling parameters in Section 7.4.1 of the LTR is the same as described in part a) of this response.

d) Data Uncertainty Assessment parameters from Section 8.6 (Table 8-3) may be grouped into three categories, Plant Parameters, Model Parameters and Initial Conditions. The definition of "nominal" value for these types of parameters follows the part b) response to this RAI. The parameters listed in Table 8-3 are treated statistically and therefore the nominal values of these parameters are not used in the analysis. Probabilistic distributions, defined by tolerance interval (min;max) or by the mean value and standard deviation, are used instead.

AFFIDAVIT

COMMONWEALTH OF PENNSYLVANIA:

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COUNTY OF BUTLER:

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

Sworn to and subscribed before me
this 14th day of March 2011

Notary Public

COMMONWEALTH OF PENNSYLVANIA
NOTARIAL SEAL
Renee Giampole, Notary Public
Penn Township, Westmoreland County
My Commission Expires September 25, 2013

(1) I am Manager, Regulatory Compliance, 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 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 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 "Response to the NRC's Request for Additional Information for WCAP-17203, „Fast Transient and ATWS Methodology'" (Proprietary) for submittal to the Commission, being transmitted by South Texas Project Nuclear Operating Company (STPNOC) 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 the NRC review of WCAP-17203.

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

(a) Assist customers in obtaining NRC review of the Westinghouse Fast Transient and ATWS Methodology topical as applied to current BWR and ABWR plant designs.

Further this information has substantial commercial value as follows:

(a) Assist customer to obtain license changes.

(b) 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 fuel design 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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